An Examination of Actualization and It's Degree of Relationship To Death Concern

by

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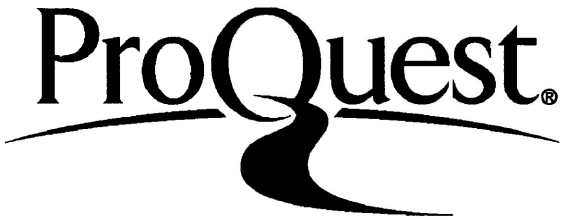

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Abstract

The Threat Index (TI) is purported to tap the cognitive dimensions of an individuals personal meaning of death. Viewed by many researchers as the best validated measurement of death orientation in the literature today, the test yields an "integration" score, determining the extent that an individual can anticipate death as a personal reality. Recently, research on the TI has included an "actualization" score (ACT) based on the discrepancy between an individual's ratings of self and preferred self on a sample of personal constructs. Although researchers have been investigating the utility of such a measure, it has not been clearly established that this is in fact measuring actualization. Traditionally, the Personal Orientation Inventory (POI) is considered by many to be the most widely used and best measure of actualization.

This study investigated the relationship of actualization to an individual's death concerns. Specifically, actualization as measured by the TI was compared to actualization as measured by the POI. Questionnaire packages were distributed to 176 introductory Psychology students. Various analyses were conducted to investigate the role of actualization in an individual's concerns over death. The results of these analyses revealed that the POI was a more sensitive measure of actualization than the measure of ACT.

Over the last few years there has been a significant increase in the amount of research concerned with attitudes toward death and dying. In particular, fear of death has been closely scrutinized. Unfortunately, the results of this research have been contradictory and confusing (Lester, 1967; Pollak, 1979).

In general, research in this area can be divided into two different approaches. The first approach, referred to as the "indirect" method, has utilized response latencies, physiological responses and projective techniques to provide information thought to be relevant to subconcious fears, anxieties, and concerns about death (Alexander, Colley, and Adlerstein, 1957; Meissner, 1958; Feifel, 1974; Golding, Atwood, and Goodman, 1966; Kastenbaum and Costa, 1977; Kurlychek, 1978; Templer, 1971a). The second approach, referred to as the "direct" method, has attempted to evaluate death anxiety, fear of death or death concerns through the use of self-report scales, questionnaires, interviews and so on.

An early study using the direct approach was carried out by Middleton (1936) when he administered a 14 item questionnaire related to death and future life to 825 college students (488 males and 337 females). Foremost among his results was the finding that most individuals (93% of the subjects surveyed) rarely entertained thoughts of their own death. Moreover, of those who did think about their own death, 52% only thought of it in terms of being killed in an accident (the majority being automobile

accidents).

In contrast to the above study, an investigation conducted by Shneidman (1970-71) reported that individuals did indeed possess personal death concerns. He distributed a 75 item multiple choice questionnaire through "Psychology Today" (a monthly publication that boasts a large readership throughout North America). The questionnaire examined such topics as: concerns regarding an afterlife, thoughts of one's own death, suicide, and death rituals such as wills and furnerals. The response was enormous as over 30,000 readers returned the survey and over 2,000 attached supplementary letters to their completed forms. As a result of the response to his questionnaire, the author concluded that there has been a heightened awareness of death within the last 25 years. To further support this contention, he reported that nearly half of the respondents attributed the increase in death concern within the last 25 years to wars and to nuclear weapons. An additional 10% cited domestic violence as a cause for the heightened awareness of death.

A number of crucial questions remain unanswered in the Shneidman study, illustrating Kurlychek's (1978) criticism of the use of such questionnaires. Kurlychek stated that standardization and interpretation were problems in this type of research. For example, what percentage of "Psychology Today" circulation did Shneidman's 30,000 respondents represent? Are people who respond to such questionnaires representative of those who don't respond? If not, how generalizable were these findings? Can the

researcher make an acceptable interpretation if the standardization of the questionnaire is in doubt? On a positive note, Kurlychek suggested that questionnaires (such as the one used by Shneidman) could serve as a supplement to the more reliable procedures. In general, however, these questionnaires should be employed with caution.

In 1970, Donald Templer attempted to develop an instrument that could be standardized and clearly interpreted; in brief, an instrument that would be psychometrically sound and would successfully tap into an individual's anxiety towards death. The result was the Death Anxiety Scale (DAS), an instrument consisting of 15 statements related to death and dying. The respondent is simply required to answer true or false to these statements as they would apply to him or her. The higher the score on the DAS, the greater the magnitude of death anxiety the individual is assumed to possess.

In addition to the research validating the DAS, (Templer, 1970), Templer and Ruff (1971) also reported normative data for the instrument. Other research utilizing the DAS include investigations of death anxiety as it compares to age, sex, and parental resemblance (Templer, Ruff, and Franks, 1971); extraversion, neuroticism, and cigarette smoking (Templer, 1972a); religion (Templer, 1972b); suicide attempters (Tarter, Templer, and Perley, 1974); femininity (Templer, Lester, and Ruff, 1974); vocational interests (Salter and Templer, 1979); and mental ability (Templer and Salter, 1979).

In spite of the research and interest generated by this instrument, the DAS is liable to two major criticisms. One is that the DAS treats fear of death as though it were unidimensional. In fact, Warren and Chopra (1978-79) found, through factor analysis, that the DAS had three factors. From these factors, they assumed that the DAS consisted of three subscales: a "pure anxiety" subscale, a "general concern" subscale, and a "fear of pain and operations" subscale. Similarly, Devins (1979) found five sources of death anxiety through the use of a principal components analysis on the DAS: fear of personal death, concerns about suffering and lingering death, subjective proximity to death, death related fears, and disturbing death thoughts. Taken together, these studies suggest that death anxiety as measured by the DAS taps into a number of related concerns.

The other major criticism of the DAS was reported by Lonetto, Fleming, and Mercer (1979). They conducted research which, through a Principal Axes factor analytic technique, found a number of unique factors associated with differing groups of respondents (for example, concern over having a heart attack shown by funeral service students and concern over having an operation by graduate nursing students). Therefore, it is difficult to determine what is being measured with any one population. Nevertheless, although genuinely validational evidence for the DAS is fairly meager, it continues to be a widely used research instrument.

Dissatisfied with the available methods for measuring

death concerns, Dickstein (1972) devised a Death Concern Scale in an attempt to establish a more reliable and valid measure of death concern. The death concern scale consisted of 3Ø statements regarding death and dying to which an individual was required to indicate his or her personal agreement or disagreement. Although Dickstein's efforts were commendable, two major criticisms were directed at this scale. The first was that a social desirability factor was found in the scale. Such a factor suggests that respondents have a tendency to respond to items in the questionnaire in a socially desirable way and not in a manner which reflects their true attitudes or feelings. The second drawback was that the death concern scale (like the DAS) treated death as if it were a unidimensional phenomenon.

With the problem of unidimensionality in mind, some authors (Boyer, 1964; Collett and Lester, 1969) have devised scales that have examined a variety of death themes. For example, Collett and Lester thought it was important "to distinguish the fear of death from the fear of the process of dying and to differentiate between these fears depending upon whether they are for oneself or for another" (1969, p.179). As a result of this concern, the Collett-Lester Fear of Death Scale was constructed. This scale requires the respondent to rate 36 items concerned with death and dying on a 6 point scale. The score on each of the 36 items is then used to provide an overall score plus scores on four subscales: the fear of yourself dying (DYS), the fear of someone else dying (DYO), the fear of your own death (DS),

and the fear of someone else's death (DO).

In constructing the Fear of Death Scale, the authors found low correlations between each of the subscales, suggesting the distinguishability of the four factors. Further research by Dickstein (1977-78) provided support for the construct validity of the Collett-Lester scale, and Durlak (1972) found evidence of concurrent validity with other measures of death concern. Durlak also failed to find any significant association between the Collett-Lester scales and social desirability response sets. The major criticism of the Collett-Lester Fear of Death Scale is that it has never been factor analyzed to determine if in fact it contains four, less than four, or greater than four factors.

Yet another scale, a "Death Attitudes Questionnaire", was constructed by Nelson and Nelson (1975). Through factor analytic procedures, the authors identified four dimensions of death attitudes: death avoidance, death fear, death denial, and the reluctance to interact with the dying. Due to poor internal consistency, Nelson revised the questionnaire so that it contained 15 items and tapped three factors: death avoidance, disengagement from death, and death fear. Although the internal consistency of the new questionnaire was adequate, subsequent use of the instrument has not been reported in the literature.

In addition to the considerable limitations already discussed, there are a number of methodical issues that continue to surround the direct approach of measuring death attitudes. One such issue was reported by Lester (1967) who

stated that individuals rarely experience a conscious expression of death concern and therefore claim indifference to death thoughts. In addition to Lester's criticism, Fulton (1961) stated that only surface-level concerns towards death were being tapped by this approach. Another methodological concern was voiced by Kastenbaum and Costa (1977) who suggested that we may not know what is meant by a low score on many of the present scales, such as the Death Anxiety Scale (Templer 197Ø). The score may indicate reduced anxiety derived from vigorous defense or simply that the subject is not concerned with death. Although many scales are unidimensional (view death fear as a unitary emotion), Bell (1975) has suggested that death attitudes may be more complex than this. He argued that there are separate components to a death attitudes construct. As stated earlier, Collett and Lester (1969) agree with this contention. Another methodological concern is the lack of demonstrated reliability and validity data for many of the instruments used to measure death concerns. The issues of reliability and validity are the subject of Dickstein's (1972) argument that most of the measurements fail to tap an individual's concern regarding the personal reality of death. He cited questionnaire items from the work of Handal (1969) and Feldman and Hersen (1967) as evidence of ambiguous indicators of an individual's personal concern about death that abound in the literature. Similarly, Neimeyer (1983) suggests that some thanatological investigators fail to devote enough attention to the

construct, as opposed to the face validity of their measures.

In summary, both direct and indirect approaches have been used in the investigation of death concerns. The bulk of this research, however, regardless of the approach taken, has been shown to have serious shortcomings. Moreover, the research has fallen short of adequately tapping an individual's personal meaning of death. As Kastenbaum and Costa (1977) suggested, the model for future research is one which taps the cognitive dimensions of an individual's death concerns. To this end, Kreiger, Epting, and Leitner (1974) developed the Threat Index, a direct assessment device that is now viewed by many researchers as the best validated measurement of death orientation in the literature today (Robinson and Wood, 1982).

The Threat Index

The Threat Index is theoretically based on Kelly's Psychology of Personal Constructs (Kelly,1955). This theory..."is designed to be inextricably tied to personal meaning and takes into account individual personality structure as it is defined within personal construct theory" (Kreiger, et al, 1974, p.3ØØ).

In brief, Kelly argues that individuals attempt to anticipate and understand events in their world through a personally constructed interpretation of any interaction they experience in their daily living. Kelly suggests that, although an individual's constructions may be unique, certain organizational features of the system are common to all people. That is, each person employs bipolar personal constructs (such as good-bad, high-low, etc.) to aid him or her in organizing and understanding any event. For example, a person may employ personally significant constructs like "gentle vs. harsh" or "clever vs. dull" to make sense of interpersonal events. By applying one or the other pole of each of these constructs to the self as well as other people, the individual is able to discern important similarities and differences between him- or herself and various acquaintances.

Central to Kelly's theory is the concept of "core" constructs. Stated simply, "core" constructs are those basic constructs that allow an individual to possess a sense

of "self" and a knowledge of who he or she is. As Bannister and Mair (1968) explain, core constructs are especially important because they "govern a person's maintenance processes; they enable him to maintain his identity and sense of continuing existence...they cannot be changed in any way without disturbing the very roots of a person's existence" (1968, P.30). Threat occurs when changes to any core constructs are required. Kreiger, Epting, and Leitner (1974) state that threat occurs when an individual realizes that he or she has lost anticipatory security within the environment. Kelly views death as an extreme threat. Although everyone realizes (at least at a cognitive level) that they will eventually die, Kelly proposes that they will still experience threat. That is, "one is threatened when that which he thought all along might happen to his core construct at last looks as if it were about to arrive" (1955, p.490).

Elaborating on Kelly's position, Krieger et al (1974) point out that death may not pose a threat to everyone. They suggest that there are many individuals who have death integrated into their "core" constructs, and as a result, the concept of their own death is not threatening. Moreover, the degree of threat will be directly related to the extent that core constructs have to be changed in order for "own death" to become fully integrated.

Using this theoretical position as a basis, Krieger et al (1974) developed the Threat Index (TI). These authors argue that "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.3Ø1). Following this line of reasoning, a person who views himself or herself and death on the same pole of a personal construct has integrated the concern of personal death and can anticipate death as a personal reality (and little or no threat is experienced). The person who places death and "self" on opposite poles does not have the concept of death integrated into his or her core constructs and thus would experience threat with the introduction of the possibility of personal death.

The Threat Index diversified into a number of formats (Krieger, Epting, and Leitner, 1974; Neimeyer, Dingemans, and Epting, 1977; Rigdon, Epting, et al, 1979) including a self- administered questionnaire (Krieger, Epting, and Hays, 1979). In this form the subject is asked to rate "self", "preferred self", and "own death" on each of 4Ø bipolar dimensions specified on the questionnaire. A death threat score is obtained by counting the number of times that "self" and "own death" are placed at the opposite poles of each of the 4Ø bipolar constructs.

Extensive investigations have yielded positive and adequate evidence that the various forms of the TI are psychometrically sound (Krieger et al, 1979; Rainey and Epting, 1977; Neimeyer and Dingemans, 1980-81; Wood and Robinson, 1981a; Epting, Rainey, and Weiss, 1979). Other research (Tobacyk and Eckstein, 1980-81) has investigated

the Threat Index's sensitivity to change over time. The results indicate that a significant decline in death threat can occur under conducive circumstances (e.g., following a course in death education). Moreover, Krieger, Epting, and Hays (1979) clearly established the absence of a social desireability factor on the TI.

The "preferred self" dimension of the TI had not been used to any great extent until it was explored by Neimeyer and Chapman (1980-81). Basing their argument on existential philosophy, they reasoned that

> "one would expect that a given person would regard death as threatening to the extent that he or she viewed his or her primary life projects as incomplete, or "unfinished". To the individual whose central ideals remain unactualized, death threatens to destroy those expectations which granted life it's significance; it aborts the development of a cherished identity still unborn. In contrast, to the individual whose major projects have been fulfilled, death is a source of less anxiety: it appropriately punctuates a meaningful life which has permitted the self to approximate its chosen ideals" (1980-1981, p.234).

As a result the authors hypothesized that the more actualized a person's possibilities were, the less he or she would be threatened by death. The degree to which an individual had actualized his or her possibilities was assumed to be reflected by the number of self/ideal self discrepancies on the TI. The lower the number of such discrepancies, the less anxious an individual would be concerning death. Comparing 50 high discrepant and 50 low

discrepant adult respondents from a number of community groups, the authors found that the degree of self/ideal self discrepancy on an individual's TI was predictive of death fear (as defined by the Collett Lester Fear of Death Scale), and death anxiety (as defined by the Death Anxiety Scale).

In a related study, Wood and Robinson (1982) also reasoned that the rating of "self" and "ideal self" on the same pole of each of the constructs would indicate that the individual would not see any difference between who he is and the person he would prefer to be. This score would then reflect the degree to which the respondent was self-actualized. Futhermore Robinson and Wood (1982) hypothesized that simultaneously considering actualization (self/ideal self score) and integration (self/death score) would result in an increase in predictive ability of the TI. To test this hypothesis, they administered the TI, the CL, and the DAS to 12Ø students enrolled in an introductory Psychology course. Using median splits the authors divided their sample into groups of high and low actualization (scores greater than or equal to 35, and less than 35 respectively) and groups of high and low integration (scores greater than or equal to 19, and less than 19 respectively). They conducted two multivariate analyses of variance (MANOVAs) on these four groups. In the first MANOVA, these groups were analysed with the DAS and CL scores; in the second MANOVA the groups were analysed with the CL subscales (DO, DYO, DYS, DS). Results of both MANOVAs indicated that there was an overall main effect for integration, but no

main effect for actualization, nor was there a significant actualization by integration interaction effect.

In another statistical procedure the authors, using the same cut-off scoring procedure described earlier, divided their sample into four groups: (1) High Actualization-High Integration group (Hi ACT-Hi INT), (2) High Actualization-Low Integration group (Hi ACT-Lo INT), (3) Low Actualization-High Integraton (Lo ACT-Hi INT), (4) Low Actualization-Low Integration (Lo ACT-Lo INT). The authors also performed an a priori contrast between the Hi Act-Hi Int group to the other three groups combined. Results indicated that the Hi Act-Hi Int was significantly less anxious and fearful of death than the other three groups combined on the measures of the DAS and CL and the DO, DYO, and DS subscales. The authors concluded that by looking at more than one variable simultaneously the researcher would be more sensitive to how these variables related to death attitudes.

Further research using the above additive model was conducted by Robinson (1982). He administered the Threat Index, the Collett-Lester and the Death Anxiety Scale to 100 subjects (69 females and 31 males) who belonged to one of five groups; 1) healthy people, 2) healthy people who were attending their family physician for a check up, 3) Rheumatoid Arthritis patients, 4) Diabetes patients, 5) cancer patients. The results of correlational and regression analysis led the author to conclude that anxiety and fear were more likely to be influenced by the level of

actualization than by the level of integration. Indeed he stated that the results indicated that essentially no information could have been gained from looking at the additive effects of these two variables, that could not have been determined by looking at the effects of actualization alone.

Thus, although researchers have recently been investigating the utility of a measure of actualization in predicting threat in a death orientation (Neimeyer and Chapman, 1980-81; Wood and Robinson, 1982; Robinson and Wood 1982; Robinson, 1982), it has not been clearly established that the self/ideal self discrepancy is in fact a measure of actualization. Traditionally, the instrument that researchers have used to assess self-actualization, and the one considered by many to be the best measure of actualization, has been the Personal Orientation Inventory (Shostrom, 1964).

This instrument has as it's theroretical basis the humanistic writings of Maslow, and the actual item pool of the POI was derived from observer's value judgements of both clinically healthy and troubled patients. From the original item pool, 150 two choice comparative value judgement items were selected for inclusion in the inventory. The individual is required to choose the statement from each pair that is most true of him or her self. The items are grouped into four major scales and 10 subscales. The major scales are: (1) Inner Directed (I), which measures the degree to which the individual is independent; (2) Other

Directed (Ø), which measures the degree of an individual's dependence on others; (3) Time Competent (Tc), which measures the degree to which an individual may live in the present; (4) Time Incompetent (Ti), which measures the degree to which an individual lives in the past or future. Taken together the (I) and (Ø) are called the support ratio which Shostrom, Knapp and Knapp (1976) define as a measure of autonomy. When the (Tc) and (Ti) scales are taken together, they form a time ratio which the authors believe "assesses the degree to which one is reality oriented in the present and is able to bring past experiences and future expectations into meaningful continuity" (Shostrom, Knapp, and Knapp, 1976, p.33).

In addition to the above four scales, the POI has 1Ø other subscales that are believed to tap into important values of a self-actualizing individual. These scales are: Self-Actualizing Value (SAV), Existentiality (Ex), Nature of Man (Nc), Synergy (Sy), Feeling Reactivity (Fr), Spontaneity (S), Self-Regard (Sr), Self-Acceptance (Sa), Acceptance of Aggression (A), and Capacity for Initimate Contact (C).

Shostrom et al believe the POI provides the investigator with an objective measure of a person's present level of actualization. The term "present level" is important because Shostrom defines self-actualization "as an active process of being and becoming increasingly inner-directed and integrated at the levels of thinking, feeling, and bodily response. It is, therefore, not an endpoint, but a process of moving from normal manipulation

toward growth, development, and the unfolding of human potential" (1976, p.65).

Concerning the issue of an overall actualization score, Knapp (1965) noted that the Inner-Directed scale contained 123 of the entire 150 items on the POI, and argued that this scale was the best single estimate of self-actualization. In his POI manual, Shostrom claims that a quick estimate of an individuals self-actualization level may be obtained by scoring only the Time Competence and Inner Directed scales. Damm (1969, 1972) investigated this claim with four populations: (1) 411 university freshman students enrolled in a personality and development course (205 males and 206 females); (2) 139 nursing students; (3) 106 adults enrolled in the division of continuing education (75 males and 31 females); (4) 208 high school students (95 males and 113 females). His results indicated that the best overall measure of actualization could be obtained by combining the raw scores of the Inner Directed and Time Competence scales for each subject. Furthermore, he found no major sex differences through this method of scoring.

Exhaustive investigations have been carried out to determine the reliability and validity of the Personal Orientation Inventory, the results of which indicate it to be an adequate instrument for the measurement of self-actualization (Knapp, 1976). Some of the studies reported include: Shostroms' original validation study in which he successfully differentiated a group of actualized individuals from a group of relatively non-actualized

subjects (Shostrom, 1964); data concerning the validity of the POI and the relationship of age, sex, hospitalization, and ego factors to self-actualizing (Fox, 1965a; Fox, Knapp, and Michael, 1968); data concerning the intercorrelations of the POI scale scores with the MMPI scales (Shostrom and Knapp, 1966); test-retest reliability of the POI (Klavetter and Mogar, 1967); and studies investigating the stability of POI scores over long periods of time (Iiardi and May, 1968; Lafferty, 1969).

Although only four studies have been conducted in which the POI has been employed in thanatological research, what little work that has been done seems to indicate that the more self actualized individuals are , the less anxious they are concerning their own death (Wesch 1970; Vargo and Batsel 1981). Wesch attempted to validate the hypothesis that there was an inverse relationship between self actualization and death anxiety by administering the POI and the DAS to 91 Psychology students (40 males and 51 females). In addition to finding that females were more religious and more self-actualized than their male counterparts, his analysis indicated that 3 subscales of the POI correlated negatively with the DAS, thus his hypothesis received some support (the 3 significant scale's names were not revealed in the research article). In a similar manner Vargo and Batsel administered the POI and the DAS to 35 nursing students. Their results indicated that the Self-Acceptance, Nature of Man-Constructive, and Time Competance Scales produced significant negative correlations with Templer's

DAS. It should be noted, however, that Vargo and Batsel reported that they found different POI scales negatively correlating with the DAS than those reported by Wesch. In an attempt to explain their conflicting results with Wesch's study, Vargo and Batsel point out that the differing nature of the populations sampled may account for the different results (Wesch employed Psychology students, Vargo and Batsel utilized nurses). Further complicating the issue, Pollak (1978) reported a study in which he administered the POI and the DAS to 114 graduate students (44 males and 70 females) predominately pursuing education careers. His results indicated that only Time Competance significantly correlated with the DAS.

In an attempt to determine the relationship between fear of death and actualization, Lester and Colvin (1977) administered the CL and the POI to 26 Psychology students (8 females and 18 males). They calculated 48 correlation coefficients among scores on the four subscales on the CL and the twelve scales of the POI. Although the correlations were not reported, the authors found 38 of the correlations were significantly negative, indicating that the higher the student's self actualization, the less they feared death and dying.

As previously mentioned, recent researchers using the Threat Index have suggested that the TI also contains "a measure of actualization" (self/ideal self splits) and that, like the POI, this measure of actualization is also a good predictor of fear of death (Neimeyer and Chapman, 1980-81;

Robinson and Wood, 1982; Robinson, 1982).

Although both the POI's and the TI's measures of actualization have yielded promising results in their ability to predict an individual's death fear, it has not been clearly established that they are indeed measuring the same variable. In fact it would seem quite unlikely that they would both be measuring actualization. The measure of actualization on the TI occurred as an afterthought, that is to say, the TI was not originally constructed to measure actualization. On the other hand, it may be possible that these two instruments are measuring different aspects or types of actualization. For Robinson and Wood (1982) to accept the actualization measure as being indicative of an individual's degree of self-actualization may be premature. Therefore it is of considerable interest to researchers who employ the Threat Index to determine if the self/ideal self score on the questionnaire is in fact a measure of actualization. The rather consistent positive results reported in the TI studies may be contrasted against the somewhat conflicting yet nevertheless positive results reported in the POI studies. This contrast may be indicative that actualization (as measured by the POI), and the self/ideal self score (presently labeled as a measure of actualization called "ACT") on the TI are not the same variable and may be tapping somewhat different areas. The present study compared the correlations of the measure of actualization on ACT and the measure of actualization on the POI with the fear of death and death anxiety. In addition,

as part of the on going research in Thanatology at this University, this study tested Robinson and Wood's model of the additive effects of actualization and integration using actualization as measured by both the TI and the POI.

METHOD

Respondents

The respondents were 176 students enrolled in an Introductory Psychology course at Lakehead University located in Thunder Bay, Ontario, Canada. The subjects consisted of 113 females with a mean age of 20 years and 63 males with a mean age of 21.6 years.

Assessment Materials

1) Threat Index (TI). Developed by Krieger, et al (1974) and modified by Rigdon et al (1979), the TI consists of 40 bipolar dimensions on which the respondent rates his "self", "ideal self", and "own death". An actualization (ACT) score is derived by counting the number of self/ideal self congruencies (Wood and Robinson, 1982). An integration (INT) score, indicating the degree "own death" is integrated into concepts of self, is derived by counting the number of

self/death congruencies (Krieger et al, 1974). A high integration score would indicate low death threat.

2) Death Anxiety Scale (DAS). Developed by Templer (197Ø), the DAS consists of 15 statements concerning death and dying to which the respondent is asked to indicate "true" or "false" as they would apply to him. The higher the resulting score, the more death anxiety the respondent is assumed to possess.

3) Collett-Lester Fear Of Death Scale (CL). Developed by Collett and Lester (1969), the CL consists of 36 statements related to death and dying to which the respondent is asked to indicate his degree of agreement or disagreement on a six point scale. In addition to an overall fear of death, four separate fears are evaluated through the use of this questionnaire: fear of death of self (DS), fear of death of others (DO), fear of dying of self (DYS), and fear of dying of others (DYO).

4) Personal Orientation Inventory (POI). Developed by Shostrom (1964), the POI consists of 15Ø two-choice paired opposite statements of values which Shostrom argues are important in determining self-actualization. The best overall actualization score may be obtained by combining the raw scores of the Inner Directed and Time Competence scales for each subject (Damm, 1969;1972).

Procedure

A questionnaire package consisting of the Threat Index, the Personal Orientation Inventory, the Death Anxiety Scale, and the Collett-Lester Fear Of Death Scale were distributed to 176 students who were asked to volunteer for the study in return for bonus marks in their course.

Data Analysis

Pearson Product Moment Correlations were calculated between each of the subject's ACT and POI score in order to determine if convergent validity existed (convergent validity, if it were present, would result in correlations of a high magnitude). To examine the effects of actualization and integration on death concern, 2x2 MANOVAS were conducted using both the ACT and POI measures of actualizaton, and the TI measure of integraton. Significant MANOVAS were followed by 2x2 ANOVAS.

RESULTS

As a first step in investigating the two measures of actualization, a correlation between the POI and ACT was calculated, resulting in a significant positive correlation ($r=.38$, $p<.001$). The POI and ACT were then individually correlated with each of eight variables (INT, DAS, DO, DYO, DYS, DS, SEX, and overall CL) across 176 subjects. The

results are presented in Table 1.

The calculations revealed that the POI significantly correlated with the DAS ($r = -.23$, $p < .01$), the CL ($r = -.23$, $p < .01$), and with the DYS ($r = -.21$, $p < .01$) and DYO ($r = -.31$, $p < .01$) indicating that, in general, the more actualized an indivdual was, the less he would be afraid of the process of dying. It should be noted that no significant correlation was obtained between the DO and DS, on the one hand, and the POI on the other. This may imply that the POI is a better predictor of feelings about the process of dying, rather than the state of death. A totally unexpected finding was that there were no significant correlations between ACT and the various measures of death concern. Moreover, neither the POI nor the ACT measure significantly correlated with INT suggesting that the degree to which personal death is integrated into constructs of self is unaffected by the degree to which one is actualized. However, INT, in the predicted fashion, significantly correlated with the DAS, the CL, the DYS, the DYO, and the DS (see Table 2).

As a second step in analyzing the data, a replication of Robinson and Woods' (1982) study on the additive effects of ACT and INT was undertaken. As previously explained, the analysis consisted of using median splits to divide the sample into groups of high and low actualization (scores on ACT greater than or equal to 35, and less than 35 respectively) and groups of high and low integration (scores greater than or equal to 19, and less than 19 respectively). Following this, two MANOVAs were calculated. In the first,

Table 1

Pearson Product-Moment Correlations of ACT and POI Between Each Other and With Various Measures of Death Anxiety and Fear of Death (n=176)

	ACT	INT	DAS	CL	SEX
POI	.38**	.Ø5	-.23**	-.23**	.13
ACT	-----	.Ø5	-.Ø8	-.Ø7	.Ø6

CL Subscales

	DO	DYS	DYO	DS
POI	-.12	-.21**	-.31**	-.Ø8
ACT	-.Ø3	-.Ø7	-.11	-.Ø2

* p<.Ø5
** p<.Ø1

Table 2

Pearson Product Moment Correlations Between INT and Various Measures Of Death Anxiety and Fear

	ACT	DAS	CL	SEX
INT	.Ø5	-.19*	-.28**	-.Ø5

CL Subscales

	DO	DYS	DYO	DS
INT	-.12	-.3Ø**	-.16*	-.22**

* p<.Ø5
** p<.Ø1

differences between the four groups were analysed using the DAS and CL scores as the dependent variables; in the second MANOVA differences between groups were analysed using the four CL subscales (DO, DYO, DYS, DS) as dependent variables (see Appendix A).

The present analysis indicated virtually the same results as that obtained by Robinson and Wood. There was a main effect of integration for both the DAS and CL ($F=8.07$, $p<.01$) and DO, DYO, DYS, and DS ($F=4.19$, $p<.01$) analyses, no main effect for actualization, nor actualization by integration interaction. These results indicated that an individual's INT score predicted his or her degree of death concern (as measured by the DAS, CL, DO, DYS, DYO, and DS). The ACT score, however, failed to predict his or her degree of death concern. Furthermore, the interaction effect of simultaneously examining his ACT and INT scores failed to predict an individual's degree of death concern.

In order to examine the effects of actualization as measured by the POI, a similar set of MANOVAs was calculated. Median splits divided the sample into groups of high and low actualization (using POI scores which were greater than or equal to 97 and less than 97 respectively) and groups of high and low integration (scores greater than or equal to 19 and less than 19 respectively). The results of these analyses (see Appendix B) indicated main effects of both the INT ($F=9.68$, $p<.01$) and POI ($F=4.30$, $p<.05$) for the DAS and CL analyses and of both INT ($F=5.02$, $p<.01$) and POI ($F=4.10$, $p<.01$) for the DO, DYS, DYO, and DS analyses, but

no interaction effects. These results indicated that an individual's POI and INT scores independently predicted his degree of death concern. This is in contrast to the failure of ACT to predict degree of death concern.

To determine which scales produced the significant MANOVAs, 2x2 ANOVAs were conducted on all six scales for both the ACT and POI dichotomies. The results (Appendix C) indicate that INT was significant for all of the scales, and POI was significant for the DAS, CL, DYS, and DYO scales.

As a third step in analyzing the data, a frequency distribution of scores on both the POI and ACT was plotted to examine the range of scores and how groups of subjects clustered around these scores. The analysis revealed that, although the POI had a relatively normal frequency distribution, the distribution of ACT was extremely skewed. It was so skewed that approximately 57% or 1Ø1/176 of the subjects obtained a score of 36 or better on the 4Ø item scale. This suggests that the ACT measure was unable to discriminate among the relatively "healthy" college students studied in the present research.

Finally, a One Way Analysis of Variance investigating the religious preference of the subjects and their scores on various measures was conducted. The religious preference was divided into six general groups; (1) Catholic, (2) Protestant, (3) Anglican, (4) Atheist, (5) Agnostic, (6) a group labeled "Others" ,consisting of religions too small in frequency to demand separate categories, or people who refused to state their religious preference (see Appendix

Table 3

One Way Analysis of Variance
of Self-Actualization as Measured
With the POI by Religion

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob
Btwn Grps	5	3455.93	691.19	3.52	<.Ø1
Wthn Grps	17Ø	33361.28	196.24		
Total	175	36817.22			

Death of Others as Measured With the CL by Religion

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob
Btwn Grps	5	35Ø9.29	7Ø1.86	4.69	<.ØØ1
Wthn Grps	17Ø	25451.92	149.72		
Total	175	28961.21			

D). Results indicated that the POI and the DO measures were affected by religious preference (see Table 3).

A post hoc Student Newman-Keuls Analysis indicated that Protestants were significantly more actualized (as measured by the POI) than any of the other groups. The analysis also indicated that the religious groups consisting of the Catholics and "Others" were significantly less actualized than the other groups.

A Student Newman-Keuls was conducted to investigate the relationship between the DO measure and religious preference. The results indicated that Catholics were significantly more fearful of the death of others than any of the other religious groups. The Protestants, Anglicans, Atheists, and "Others" were significantly less fearful of the death of others than the Catholics or Agnostics.

DISCUSSION

The primary obective of this experiment was to determine if the POI (an established measure of actualization) and ACT were both instruments that were sensitive to detecting the level of actualization an individual possessed in regards to death concerns. The results of this study indicate that the Personal Orientation Inventory (POI) adequately correlates with the Templers' Death Anxiety Scale and the Collett-Lester Fear of Death

Scale. The measure of ACT on the Threat Index moderately correlates with the actualization score on the POI. This indicates that both instruments are measuring a degree of actualization that the individual possesses.

The unexpected finding in this study was that ACT did not correlate with either the DAS or the CL. This was particularly unusual since previous research has consistently found that ACT significantly correlated with various measures of death concern. Specifically, Neimeyer and Chapman (198Ø-81) found that persons who obtained few self/ideal self discrepancies on the TI (a high ACT score) were significantly less anxious about death as measured by the DAS and CL than were persons who obtained many self/ideal self discrepancies (a low ACT score). Similarly Robinson and Wood (1982) found that the simultaneous examination of ACT and INT provided significantly more information about attitudes concerning death anxiety and fear than did the separate examination of these variables. However, in the absence of significant main effect or interaction of ACT, conclusions from their analyses should be made with caution, since they may just reflect the influence of INT.

The results of Robinsons' (1982) correlational and regression analysis on 5 diverse groups of medical patients found that anxiety and fear were much more likely to be influenced by a subjects' level of actualization (as measured by ACT), and to a lesser extent, his level of integration. Therefore it appears that ACT, while

predictive of death concern in non student populations, is not related to death concern in the present relatively "healthy" student population.

The results of MANOVAS and subsequent 2x2 ANOVAS that tested Robinson and Woods' model of additive effects of actualization and integration indicated that the POI, rather than ACT, was the better measure for this population.

Approximately 57% of the subjects in the present study obtained a score of 36 or better on ACT. This finding is similar to the ACT scores of previous studies (Robinson, 1982; Robinson and Wood, 1982; Wood and Robinson, 1982). Considering that only 40 items make up the ACT measure on the Threat Index, the distribution obtained was clearly skewed, exhibiting little in the way of discrimination among subjects. Essentially, everybody scored very high on the measure of ACT.

An analysis of variance found that the main effect of religion on the POI was significant, leading to the conclusion that Protestants were significantly more actualized than any other group and that Catholics and a group designated "Others" were significantly less actualized than the other religious groups. There are, however, no theoretical basis to explain these findings.

The comparison of the findings with the POI and ACT clearly show a superiority for POI in predicting death concern in this sample. The results of the correlational and 2x2 ANOVA analyses are in complete correspondence, i.e. ACT neither correlated with any of the measures or was

significant in any of the ANOVAS. Conversely, POI correlated with DAS, CL, DYS, DYO and was a significant main effect in the corresponding ANOVAS.

An interesting result of this study was the lack of relationship (on both the correlational and 2x2 ANOVA analyses) between the DO and DS scales on the one hand and the POI on the other. This may imply that it is the dying process, and not the state of death, that is the important variable when investigating the level of actualization among indivduals.

The measure of integration or "INT" (the original and primary measure on the Threat Index) correlated in the predicted fashion. Significant negative correlations were found between the measure of integration and the DAS and CL. In essence, the intercorrelations between the POI, INT, DAS, CL (and its' four subscales) were in the predicted direction. In fact, of all of the measures used in the study, ACT was the least useful.

In summary, it would appear that the general theory espoused by Neimeyer and Chapman (1980-81) receives support in the present study. That is, as actualization increases death concern decreases. The results of this study, however, indicate that the POI (rather than ACT) may be a more sensitive measure of actualization, especially with student populations. Results of the previous research indicate that ACT is a factor with non college samples, but is not with this sample. This needs replication, but suggests that the POI may be a better measure of

actualization for studies of death concern with college subects. The superiority of the POI over ACT in this study raises the possibility that the POI may also be more sensitive than ACT with non college populations and should be investigated further in future research.

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Appendix A

Results of MANOVAS (F ratios and Probabilities)

	sources	F	P
DAS and CL by ACT and INT	I	8.Ø7	<.Ø1
	A	.96	n.s.
	A*I	.Ø9	n.s.
DO, DYS, DYO, and DS by ACT and INT	I	4.19	<.Ø1
	A	.64	n.s.
	A*I	.29	n.s.

Appendix B

Results of MANOVAS (F ratios and Probabilities)

	sources	F	P
DAS and CL by POI and INT	I	9.68	<.Ø1
	P	4.3Ø	<.Ø5
	P*I	1.47	n.s.
DO, DYS, DYO, and DS by POI and INT	I	5.Ø2	<.Ø1
	P	4.1Ø	<.Ø1
	P*I	.71	n.s.

Appendix C

Results of 2x2 ANOVAS (F ratios and Probabilities)

	sources	F	P
DAS by ACT and INT	A	1.86	n.s.
	I	7.71	<.Ø1
	A*I	.17	n.s.
CL by ACT and INT	A	.68	n.s.
	I	16.Ø5	<.Ø1
	A*I	.Ø9	n.s.
DO by ACT and INT	A	.23	n.s.
	I	4.63	<.Ø5
	A*I	.Ø9	n.s.
DYS by ACT and INT	A	.75	n.s.
	I	13.Ø6	<.Ø1
	A*I	.43	n.s.
DYO by ACT and INT	A	1.72	n.s.
	I	4.99	<.Ø5
	A*I	.Ø8	n.s.
DS by ACT and INT	A	.ØØ	n.s.
	I	11.21	<.Ø1
	A*I	.28	n.s.
DAS by POI and INT	P	3.95	<.Ø5
	I	8.74	<.Ø1
	P*I	.Ø7	n.s.
CL by POI and INT	P	1Ø.82	<.Ø1
	I	19.34	<.Ø1
	P*I	1.43	n.s.
DO by POI and INT	P	1.38	n.s.
	I	5.11	<.Ø5
	P*I	1.67	n.s.
DYS by POI and INT	P	7.57	<.Ø1
	I	15.2Ø	<.Ø1
	P*I	.Ø5	n.s.
DYO by POI and INT	P	16.17	<.Ø1
	I	7.Ø9	<.Ø1
	P*I	1.65	n.s.
DS by POI and INT	P	3.22	n.s.
	I	12.37	<.Ø1
	P*I	.65	n.s.

Appendix D

Group numbers, means, and standard deviations of a one way ANOVA on various religious groups

variable	religious group	n	mean	standard deviation
POI	1	62	93.84	13.20
	2	16	105.19	11.06
	3	13	100.69	9.15
	4	11	99.45	21.12
	5	22	102.82	12.10
	6	52	93.08	15.57
ACT	1	62	34.23	4.61
	2	16	36.69	2.55
	3	13	35.15	4.83
	4	11	33.36	5.94
	5	22	34.32	6.63
	6	52	34.46	5.26
INT	1	62	19.48	10.52
	2	16	21.81	11.27
	3	13	21.92	10.47
	4	11	19.27	10.00
	5	22	24.95	9.52
	6	52	20.75	10.77
DAS	1	62	8.29	3.73
	2	16	6.81	2.90
	3	13	6.77	2.49
	4	11	7.27	4.10
	5	22	8.00	3.87
	6	52	8.15	3.20
DO	1	62	63.61	11.38
	2	16	54.44	14.74
	3	13	52.77	13.28
	4	11	50.27	13.01
	5	22	59.23	14.56
	6	52	55.54	10.88
DYS	1	62	63.52	14.90
	2	16	52.25	18.43
	3	13	52.15	24.02
	4	11	58.00	16.66
	5	22	56.45	17.98
	6	52	54.56	14.55
DYO	1	62	41.79	15.47
	2	16	32.31	12.08
	3	13	31.23	14.25
	4	11	39.27	13.08
	5	22	38.32	12.93
	6	52	39.52	14.57

DS	1	62	58.31	21.Ø6
	2	16	52.5Ø	17.98
	3	13	5Ø.46	2Ø.3Ø
	4	11	57.45	24.79
	5	22	62.68	22.23
	6	52	52.54	2Ø.48
CL	1	62	56.85	11.61
	2	16	48.Ø6	1Ø.81
	3	13	46.54	14.25
	4	11	51.27	12.56
	5	22	54.14	13.Ø3
	6	52	5Ø.62	11.Ø7