DEATH ANXIETY, COPING STRATEGIES, AND EMPATHY AMONG THAI PHYSICIANS IN CHIANG MAI

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Abstract: This study investigates the relationship of years of experience and death anxiety to the empathy of Thai physicians in Chiang Mai toward their patients, as mediated by coping strategies (engaged, disengaged, and both). A total of 143 physicians (ages of 25 and 75) from four hospitals in Chiang Mai, who completed a self-administered questionnaire that was designed to measure the study's variables, namely demography, death anxiety, coping strategy, and empathy. The results of the study indicate that the years of experience of Chiang Mai's physicians directly and significantly relate to their reported level of death anxiety and empathy. Meanwhile, death anxiety is indirectly related to empathy when mediated by coping strategies. The results also reveal that physicians with a higher level of death anxiety tended to employ disengagement and coping strategies. Lastly, physicians who utilized all types of coping strategies reported higher levels of empathy toward their patients. These findings suggest that as Thai physicians in Chiang Mai become more anxious about death and feel more empathy toward their patients as they gain professional experience. While contending with death anxiety, they are more apt to employ disengagement or coping strategies; however, an engaged coping strategy is more likely to promote empathy in comparison to other strategies. The implications of these findings may assist physicians in further understanding death anxiety and identifying the most strategy to cope and generate empathy toward their patients.

Key Words: death Anxiety, coping strategies, empathy

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Introduction

For thousands of years, speculation about the afterlife and a fear of death and dying have prompted a human desire to live forever (Bryer, 1979). The mystery of death can also cause individuals to experience various phenomena, such as momentous anxiety. Anxiety could entail excessive unreasonable fear, unease, or nervousness in relation to the expectancy of a forthcoming menace (American Psychiatric Association, 2013). Researchers have claimed that anxiety increases when humans witness the death of other living beings (Kübler-Ross, 2002).

Human beings have a common tendency to subconsciously use defense mechanisms to avoid experiencing death anxiety and to escape the overwhelming fear of death by repressing such fear (Becker, 1973), or thoughts of their own death (Kastenbaum, 2003). If the terror of death is overwhelming and persistent, individuals may encounter conditions that are disruptive to life, such as recurring thoughts about death and dying, avoidant behavior, distorted relationships, and the production of neuro-physiological life-threatening reactions (Furer & Walker, 2008).

Thoughts about death can be addressed at a conscious level if humans have to train themselves to cope consciously in dealing with and thinking about death (Freud, 1949; Kübler-Ross, 2002). Coping mechanisms offer requisite assistance and should be scrutinized to support individuals in managing their death anxiety. For example, people who believe in the existence of life after death have a higher degree of forbearance toward death anxiety and death depression and a higher degree of life satisfaction compared to those who do not (Cohen, Pierce, Chambers, Meade, Gorvine, & Koenig, 2005).

Healthcare professionals, mental healthcare providers, and behavioral scientists have long treated death as a forbidden topic (Templer, 1970; Halliday 2008). Neimeyer, Moser, and Wittkowski (2004) have hypothesized that some physicians avoid admitting their involvement with terminal patients because of their own inward struggle with death rather than because of their terminal condition. Moreover, medical doctors have been found to exhibit two types of behavior toward terminal patients: avoiding contact with the patient or distancing themselves from the patient (Carver & Scheier, 1990). These behaviors could reduce communication and relatedness, time spent with patients, and attention to their mental health. Furthermore, some doctors in the study started to view their patients in biochemical or mechanical terms rather than as human beings (Carver & Scheier, 1990).

Kübler-Ross (2002)have suggested that society should be more open to discussing death and dying and provide more humane, empathetic care for terminally ill patients to help them prepare for their passing. The process of building interpersonal relationships requires an understanding of other people from their frame

of reference or of the world from their viewpoint. The ability to empathize is also a factor since it shapes prosocial, helpful behavior (Eisenburg & Miller, 1987) and establishes a human ability to imagine an existence in the internal state of others (Deutsch & Madle, 1975).

Objectives

Hospital physicians contend with death and dying every day. Physicians arecommonly believed to be experts on this topic, as they encounter it more frequently among the professions. Furthermore, they are perceived as courageous in facing the end stage of life—not of their own lives, but those of others. However, these assumptions are not completely accurate in reality. Medical professionals have exhibited a remarkable propensity to avoid addressing issue of death and dying (Cochrane, Levy, Fryer, & Oglesby, 1990; Kane & Hogan, 1985; Hamama-Raz, Solomon, & Ohry, 2000). Death anxiety is a serious mental phenomenon among physicians (Matsui & Braun, 2010). If this disrupted emotional state of a physician remains unresolved, it can diminish the quality of care for his or her patients. To protect themselves from death anxiety, exhausted physicians ultimately treat their patients as objects that need to be fixed instead of as human beings (Granek, 2012).

The present research examines the effect of patient death on physicians and raises questions about the current medical training in Thailand. In particular, it assesses the relationship between death anxiety and empathy among Thai physicians. The study evaluates the association between physicians' death anxiety and the factor of experience in medical professions, with coping styles mediating the relationship between death anxiety and empathy.

Literature Review

Death anxiety refers to an unstructured, collective appellation of a general undesirable emotional response to the idea of death (Neimeyer, Wittkowski, & Moser, 2004). Neimeyer et al. (2004) have described death anxiety as having no clear object, and it thus arises, not from a particular death but from the undeniable recognition of death as a fact of existence. DePaola, Griffin, Young, and Neimeyer (2003) have proposed two types of death anxiety. The first is the fear of death itself, which causes individuals to be terrorized by the inescapable nature of death. The other type is the fear of the process toward death. This second manifestation of death anxiety emphasizes the mental discomfort that individuals experience by knowing that they are approaching death.

According to Templer (1976), two main components define an individual's experience of death anxiety. The first component is his or her own life experiences

that have involved death and dying. The other component is involving with death and dying of his or her close associates. People might view death as a terrible and unfair life experience. However, those who have prior experiences of death might be desensitized.

Theoretical Framework
Death anxiety is complex and compass multiple dimensions that activate physical, psychological, and emotional reactions. Six concepts to death anxiety. In each dimension, death anxiety has a particular function, and individuals have particular responses to death anxiety.

Biology: Death anxiety closely is the fear of losing one's existence (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). People are fundamentally inclined to react adversely to death because of limbic structures that are deep within the brain and prioritize a survival instinct (Panksepp, 1998). When threatened by death, or when an individual considers death, a feeling of unease is the natural result, as death and dying are in opposition to the person's natural instinct of survival. Death anxiety is founded upon individual experiences that are recorded in the memory systems that are constituted by the amygdala, the hippocampus, and the related cortical areas (LeDoux, Lanuza, & Moncho-Bogani, 2008). Interplay occurs between the implicit fear memories of the amygdala and the explicit fear memories of the hippocampus and cortical areas. Because of death's foundation in negative emotionality, images such as that of a corpse can heighten death anxiety (Lonetto, 1982).

Cognitive: Key cognitive components of death anxiety are attitudes, the conceptual ability to predict and anticipate the future, and an awareness of the salience of death. Attitude may include beliefs or ideas about the dying process, thoughts of losing one's life or significant others, ideas about decomposition of the body after death, and thoughts of premature death (DePaola et al., 2003). Death attitudes provoke anticipation of losing one's life, which in turn increases the perceived salience of death (Tomer & Eliason, 1996). The certainty of death is a reminder of personal mortality and affects death anxiety by activating regret of loss, thoughts about the meaning of death, beliefs about the self, life reviews, and cultural identification (Tomer & Eliason, 1996).

Experiential: According to Becker (1973), death anxiety definitely has a destructive psychological effect on people, but individuals are able to acclimate and adapt to the reality of death. A common response is death denial or the repression of death anxiety to alleviate the paralyzing discomfort due to death anxiety (Becker, 1973). Research by Greenberg et al. (1994) has found that the use of distraction

lowered the effect of conscious death anxiety.

Developmental: Erikson (1959) has characterized an individual's life journey as a healthy vital process wherein age-specific identity crises occur. These crises are opportunities for the individual to mature and enhance his or her ego. However, they also prompt a raise in death anxiety, as they are reminders of aging and, consequently, of the inevitability of death. According to Sterling and Van Horn (1989), heightened death anxiety increases apprehension. This developmental purview on death anxiety emphasizes how age influence the extent of death anxiety that a person experience. Fortner and Neimeyer (1992) have found that death anxiety is highest when a person is middle-aged, whereas it declines during late adulthood and stabilizes in old age. According to Cicirelli (2006), the peak in middle age occurs because individuals usually experiences the most notable life crisis in this stage, which forces them to assess their position in life and their success in accomplishing the goals they had expected to by that particular age.

Sociocultural shaping: Becker (1973) has argued that a main responsibility that is ascribed to culture is the protection of individuals from the knowledge and fear of death. Culture achieves this by shrouding death through a diversion of the individual's attention to the vitality of their daily experiences. Kübler-Ross (2002) has noted that cultures vary in their ways of articulating and assigning meaning to experience of death. Accordingly, some cultures cope more effectively than others. For instance, Martz and Livneh (2003) have identified denial as the most common coping mechanism in the United States, where they found death anxiety to be notably low. On the other hand, Schumaker, Warren, and Groth-Marnat (1991) have measured a higher level of death anxiety among Japanese and Australian males. Their study has clarified that these cultures have fewer death-related defense mechanisms and are therefore challenged by the impact of experiences of death anxiety (Schumaker et al., 1991).

Source of motivation: Although death anxiety can be problematic for the psychological health of a person when he or she encounters it to a high degree, it is nonetheless universal to the human experience. Moreover, responses to death anxiety can even be positive. The desire to engage with the reality of death that death anxiety fosters can often induce individuals to take productive actions, such as creating death-inspired art (Landau, Greenberg, Solomon, Pyszczynski, & Martens, 2006). Basset (2007) has argued that death anxiety is a motivating force for a variety of human behaviors. Death anxiety reminds individuals of their temporary existence, and this knowledge prompts individuals to take action to cope with and respond to the reality of death.

Interrelationships Among the Key Variables

Depending on the extent to which it manifests in an individual, death anxiety has a varying impact on a person's daily life and can affect how he or she operates. (Granek, 2012). A fundamental conceptual characteristic of death anxiety is its developmental progression. This progression is indicative of physicians' years of experience with encountering patient deaths and relates to the measure of death anxiety. Researchers have remarked that healthcare providers who have more experience can engage with terminal patients more easily than those who are inexperienced. However, rather than an indicator of effective death anxiety management, years of experience refers only to technical expertise based on length of practice (Kastenbaum & Aisenberg, 1972). However, Hamama-Raz et al. (2000) have provided a more definitive understanding. These authors have concluded that older physicians with longer careers demonstrated lower levels of death anxiety compared to their younger colleagues in the field.

In many cases, individuals employ disengagement coping strategies, such as avoidance, to cope with the distress and fear of death (Chambers-Klien, 2012). Thereby, some doctors tend to modify their approach to presenting a diagnosis based on their assumption about how a patient may react, which are founded on their own experiences of death anxiety. Further, Granek (2012) has found that doctors who experience high death anxiety also reacted by distancing themselves from patients or shunning any attempt by the patient to connect further. Such responses were due to a fear of being greatly affected should the patient die under their care. In addition, Deffner and Bell (2005) have observed the same effect of distancing among nurses.

A physician's ability to empathize may diminish over time. Studies have illustrated that the empathy of intern medical students declined over the course of their clinical clerkship (Benbassat & Baumal, 2004). Physicians exhibited difficulty with discussing death and dying with patients because they sought to avoid confronting their vulnerabilities (Kübler-Ross, 2002). Although doctors have clear reasons for not asking patients in an emergency state or a coma about their needs for their life and time of death, doctors often demonstrate an inability to treat their patients humanely (Kübler-Ross, 2002). For instance, physicians will do take extreme measure to save patients' lives without asking for their opinions or consent, and they may sometimes distance themselves from their patients by referring to them by their room number, their bed, or the name of their disease.

According to Reynolds (2006), doctors to tend demonstrate less empathy alongside lower levels of death anxiety because of the commonality of dying in their profession. In this sense, death anxiety and empathy are positively correlated concepts. Firth-Cozens and Field (1991) have reported a moderate relationship between death anxiety and empathy among female medical interns. Moreover, those

with higher death anxiety scores had higher scores for empathy. The study also found that medical doctors who scored more highly on a death anxiety self-report mechanism were more empathetic toward patients and preferred more supportive coping styles (Viswanathan, 1996).

Conceptual Framework

This study hypothesizes that the demographic variable, "years of experience" has a significant relationship with the independent variable, "death anxiety." Furthermore, it expects the latter to have significant links to the mediator variables, "engagement coping strategy," "disengagement coping strategy," and "coping strategies," as well as have significant connection to the dependent variable, "empathy."

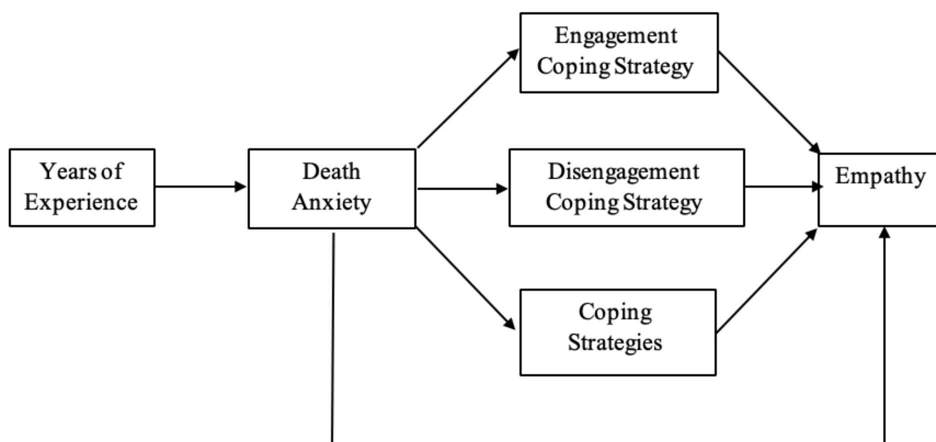

Figure 1: Hypothesized path model of the direct effect of years of experience on death anxiety and the direct and indirect effect of death anxiety on empathy as mediated by engagement coping strategy, disengagement coping strategy, and coping strategies

Based on a thorough review of the literature and the conceptual framework of the study, the research questions are as follows:

(1) Do the years of experience influence death anxiety in physicians?
(2) What is the relationship between death anxiety and physician empathy?
(3) Which coping styles mediate the relationship between death anxiety and physician empathy?

Research Hypotheses

According to the conceptual framework, the study to proposes the following hypotheses to address the research questions posed.

H_1: There is a direct negative relationship between the physicians' years of experience and their levels of death anxiety.

H_2: There is a direct positive relationship between the physician's years of experience and their levels of empathy.

H_3: There is an indirect positive relationship between the physicians' death anxiety and their levels of empathy mediated by coping strategies. I.e., physicians with higher levels of death anxiety tend to employ more disengagement coping strategies, coping strategies, and engagement coping strategies, respectively. In turn, those who use more coping strategies have higher empathy levels.

Methodology

Procedure and Participants

This study applied convenience sampling to select potential participants. With the permission of the relevant authorities, this study solicited the entire physician population of four hospitals in Chiang Mai. Physicians who took part in the study, were fully briefed on the research topic and data collection process and given a written consent form.

All participants who provided consent subsequently received the measurement package. The participants were debriefed upon completion and were assured that their data would remain confidential and be used only for research.

A total of 143 Thai physicians were recruited from Chiang Mai Ram Hospital, Lanna Hospital, Chang Phueak Hospital, and Thepanya Hospital. Of the 143 respondents, 94 (65.7%) were men and 49 (34.4%) were women. Their ages ranged from 25 to 75 years. In addition, their years of experience ranged from two to 50 years, with a mean of 19.80 years.

Research Instruments

1. This study used the death anxiety scale (DAS) by Templer (1970) to measure physicians' death anxiety. This instrument is a self-report survey that consist of 15 questions with the binary response choices of true or false, which score as 0 and 1, respectively. The score is calculated by finding the sum of the items; accordingly, total scores range from 0 to 15. Higher scores indicate higher levels of death anxiety.

2. The coping strategies inventory (CSI) by was employed to measure physicians' coping strategies. This self-report instrument comprised of 72 questions

with response options on a five-point scale of "not at all," "a little," "somewhat," "much," and "very much."

The scoring follows the Likert scale (0-1-2-3-4). The CSI has two subscales for engagement coping strategy and disengagement coping strategy, respectively. The sum of the items determines the score, and the score of each subscale is between 0 and 144. Thus, the total scores have a range of 0 to 288, with higher scores indicating higher employment of coping strategies.

3. The empathic concern subscale (EC) of the interpersonal reactivity index (IRI) by Davis (1983) was applied to measure physicians' sense of empathy toward their patients. This self-report instrument consists of seven questions from the IRI-EC and a five-point response scale that ranges from "doesn't describe me well" to "describes me well."

The scoring follows the Likert scale (0-1-2-3-4). Items 2, 4, and 5 are reverse scored (i.e. as 4-3-2-1-0). The score is calculated as the sum of the items. Total scores range from 0 to 28, with higher scores representing higher levels of empathy.

Statistical Analysis

First, the frequency and percentage distributions were considered to analyze the demographic data of respondents. Next, a reliability analysis was conducted to assess the internal consistency of the questionnaires.

The means and standard deviations were then utilized for analysis of the respondents' scores. Next, Correlation was subsequently employed to evaluate the relationship between the variables.

Lastly, path analysis via multiple regression analysis was performed to test the hypothesized direct and indirect impacts of death anxiety on empathy as mediated by engagement, disengagement, both coping strategies.

Results of the Study

Reliability of the Questionnaire

Reliability analysis was conducted on the DAS, CSI, and IRI-EC to maximize the internal consistency of these three measures by validating items that were internally consistent (i.e. reliable) and discarding those that were not. The criteria for retaining items were (1) any item with "corrected item-total (I-T) correlation" (I-T) > .33 would be retained ($.33^2$ represents that approximately 10% of the variance of the total scale is explained), and (2) deletion of the item would not lower the Cronbach's alpha of the scale. Table 1 presents the items for the two scales together with their I-T coefficients and Cronbach's alphas.

Table 1: Scale Items Together with Their Corrected Item-Total Correlations and Cronbach's Alpha

	Corrected Item-Total Correlation	Cronbach's Alphas if Item Deleted
Death Anxiety Item-Total Statistics		
• It doesn't make me nervous when people talk about death. (DAS3)	.42	.69
• I am not at all afraid to die. (DAS5)	.50	.66
• I am not particularly afraid of getting cancer. (DAS6)	.44	.68
• The thought of death never bothers me. (DAS7)	.53	.65
• I feel that the future holds nothing for me to fear. (DAS15)	.48	.67
Cronbach's Alpha = .72		
Coping Strategy Item-Total Statistics		
• No item removed.		
Cronbach's Alpha =.92		
Empathy Item-Total Statistics		
• I often have tender, concerned feelings for people less fortunate than me. (IRI1)	.35	.48
• When I see someone being taken advantage of, I feel kind of protective towards them. (IRI3)	.33	.50
• I am often quite touched by things that I see happen. (IRI6)	.36	.48
• I would describe myself as a pretty softhearted person. (IRI7)	.34	.49
Cronbach's Alpha = .56		

The reliability analysis indicated that 10 items from the death anxiety scale and 3 items from empathy scale returned particularly low corrected I-T correlations and their deletion would increase the scale's overall Cronbach's alpha.

Therefore, these 10 items were deleted. The computed Cronbach's alpha coefficients for three scales were .72, .92, and .56, respectively.

Table 2 presents the means and standard deviations of scores for years of experience,

death anxiety, engagement coping strategy, disengagement coping strategy, coping strategies, and empathy. The mean and mid-point reflect the respondents reported 19 to 20 years of experience on average as well as average levels of death anxiety and employment of both coping strategies, above-average levels of empathy and employment of engagement coping strategy, and below-average level of disengagement coping strategy use.

Table 2: Means and Standard Deviations for the Computed Variables

	Mean	S.D.	Mid-point
Year of Experience	19.80	12.06	
Death Anxiety	.51	.32	.50
Engagement Coping Strategy	2.20	.46	2.00
Disengagement Coping Strategy	1.70	.46	2.00
Coping Strategies	1.95	.42	2.00
Empathy	2.27	.57	2.00

Correlation Analysis to Test for Relationship between Variables

Correlation analysis was performed to measure significant relationships between the following variables: 1) years of experience and death anxiety, 2) death anxiety and empathy, 3) death anxiety and engagement strategy, 4) death anxiety and disengagement strategy, 5) death anxiety and coping strategy, 6) empathy and engagement strategy, 7) empathy and disengagement strategy, and 8) empathy and coping strategy. The purpose was to determine connections and interactions between variables.

Table 3: Pearson Correlation of the Computed Variables

	1	2	3	4	5	6
1. Years of experience	-					
2. Death anxiety	-.22**	-				
3. Empathy		-.01	-			
3. Engagement strategy		.14	.37**	-		
4. Disengagement strategy		.22**	.27**		-	
5. Coping strategies		.20**	.35**			-

**. Correlation is significant at the .01 level (two-tailed).
*. Correlation is significant at the .05 level (two-tailed).

Table 3 reveals a statistically significant positive relationship between years of

experience and death anxiety (r = -.222, p < .01). However, there is no significant relationship between empathy and death anxiety (r = -.003, p > .05). There is also a statistically significant negative relationship between empathy and disengagement strategy (r = .2.24, p < .01) as well as between death anxiety and coping strategies (r = .201, p < .05). However, there is no significant relationship between death anxiety and engagement strategies (r = .140, p > .05). There are statistically significant, positive relationships between empathy and engagement strategy (r = .370, p < .01), empathy and disengagement strategy (r = .269, p < .01), and empathy and coping strategies (r = .352, p < .01).

Path Analysis to Test the Hypothesized Path Model

To test the hypothesized direct and indirect relationships, path analysis via multiple regression analysis was conducted. The analysis involved the following steps:

(1) regressing the dependent variable of empathy by the predictor variables of death anxiety, engagement coping strategy, disengagement coping strategy, and coping strategies;
(2) regressing the mediator variable of engagement coping strategy by the predictor variable of death anxiety;
(3) regressing the mediator variable of disengagement coping strategy by the predictor variable of death anxiety;
(4) regressing the mediator variable of coping strategies by the predictor variable of death anxiety; *and*
(5) regressing the years of experience by death anxiety.

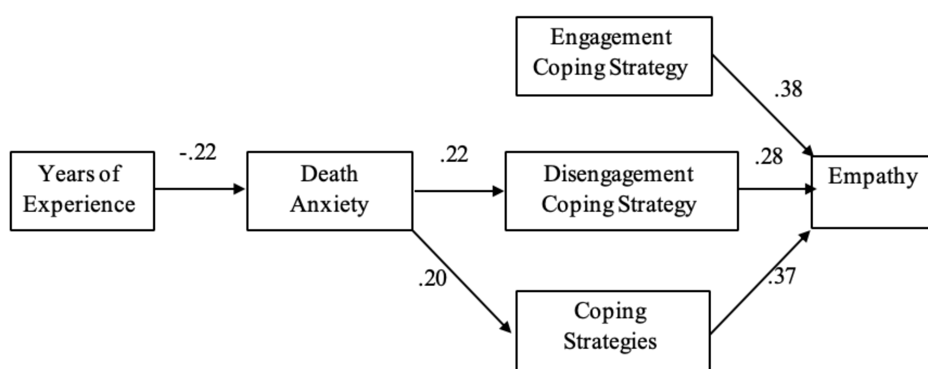

Figure 2: Results of path analyses of the direct effect of years of experience on death anxiety, and the direct and indirect effect of death anxiety on empathy as mediated by engagement coping strategy, disengagement coping strategy, and coping strategies

There is a significant, direct relationship between years of experience and death

anxiety (Beta = -.22, p < .01). There is no significant direct relationship between death anxiety and empathy (Beta = .003, p > .05). However, there are indirect relationships between death anxiety and empathy that are mediated by disengagement coping strategy (Beta = .22, p < .01; Beta = .28, p < .01), and coping strategies (Beta = .20, p < .01; Beta = .37, p < .01). There is no indirect influence of death anxiety on empathy that is mediated by engagement coping strategy, but a direct relationship exists between engagement coping strategy and empathy. (Beta = .14, p > .05; Beta=.38, p < .01).

Summary of Findings and Interpretations

The results reveal a significant negative relationship between years of experience and death anxiety as well as significant positive relationships between (1) death anxiety and disengagement coping strategy, (2) death anxiety and coping strategies, (3) engagement coping strategy and empathy, (4) disengagement coping strategy and empathy, and (5) coping strategies and empathy. The results also demonstrate no significant relationship between death anxiety and empathy or between death anxiety and engagement coping strategy.

Path analyses illustrate that years of experience directly relates to death anxiety. However, death anxiety has no direct relationship with empathy but has an indirect relationship with it when mediated by disengagement strategies and the application of both strategies. Death anxiety has a direct relationship with disengagement strategy and the application of both strategies but no direct relationship with engagement strategy. Engagement strategy, coping strategies, and disengagement strategy have direct relationships with empathy.

Higher levels of death anxiety corresponded to a stronger tendency to employ a disengagement coping strategy, whereas physicians who applied an engagement coping strategy reported higher empathy levels. These findings indicate that levels pf death anxiety among Thai physicians diminish as the physicians gain experience in their profession, physicians with higher levels of death anxiety, were more inclined to employed a disengagement strategy or coping strategies, and physicians who more often utilized engagement, disengagement, and coping strategies exhibited more empathy toward their patients.

Discussion

Measures of death anxiety and coping strategies were used to determine the functional relationship of these variables with empathy. The hypothesis regarding the negative relationship between years of experience and death anxiety proposed that physicians with more experience feel less death anxiety. The results support the finding of

Hamama-Raz et al. (2000) that older physicians with longer careers demonstrate lower level of death anxiety compared to their younger colleagues in the field.

This study evidences no relationship between death anxiety and empathy. Thus, the results do not support the conclusion of Reynolds (2006) and Firth-Cozens and Field (1991), who have reported a positive relationship between death anxiety and empathy among medical doctors. However, the findings partially support the hypothesis of an indirect relationship between death anxiety and empathy as mediated by disengagement coping strategy, coping strategies, and engagement coping strategy. The results reflect an indirect relationship between death anxiety and empathy that is mediated by disengagement coping strategy and coping strategies.

A positive, direct relationship exists between death anxiety and disengagement strategy as well as between death anxiety and coping strategies, but no relationship is present between death anxiety and engagement coping strategy. These insights imply that Thai physicians with higher levels of death anxiety are more likely to employ a disengagement coping strategy and both engaged and disengaged coping strategies, respectively, than an engagement coping strategy. This finding supports that of Firth-Cozens and Field (1991), who have stated that physicians with higher reported levels of death anxiety adopted disengaged copings strategies.

The results also illustrate a direct positive relationship of engagement coping strategy, coping strategies, and disengagement coping strategy with empathy. Thus, Thai physicians who employ an engagement strategy, coping strategies, and a disengagement strategy exhibit higher levels of empathy toward patients. This finding is consistent with Viswanathan's (1996) conclusion that medical doctors who scored more highly on death anxiety demonstrated a preference for more supportive coping styles.

The lack of a relationship between death anxiety and empathy, or between death anxiety and engagement coping strategy may be explained by the perception of death. In Asian culture, people avoid talking about death and dying because it is considered a "taboo" topic (Searight & Gafford, 2005a; Kagawa-Singer & Backhall, 2001). Additionally, Buddhist views of death may differ from those of Western philosophy; while the latter often motivates people to explore the idea; the former only encourage its acceptance. Thus, Thai people often learn that death is an inevitable fact of life; thus, they may maintain more passive perceptions and reactions regarding death compared to Westerners as noted in Kübler-Ross (2002) that each culture has its ways of assigning meaning to death and thus, some cultures cope more effectively than others.

Limitations

There are several limitations to the present study that should be noted. Like many

studies, it is exploratory in nature, so the path model hypothesizes relationships between the model's variables and mediators. As such, the correlation and path to test these relationships were essentially correlational and not experimental. The results of this study can therefore be interpreted variable in terms of relationships between variables and predictability. Accordingly, the results cannot explain causation when one variable may or may not influence another.

The methodology presented few limitations. Since this study employed a convenience sample, it is possible that the results are unique to physicians in hospitals in Chiang Mai. In view of this, the interpretation of results cannot be generalized to Thai physicians in other regions and can apply only to physicians in Chiang Mai. In addition, this study explored the experience of physicians but not potentially relevant demographic variables such as gender, religion, and medical specialty. Furthermore, several items were removed from questionnaire that may have represented specific dimensions of a variable. Thus, removing these items could have entirely or partially affected the representation of that variable.

Finally, most of the literature and measurements that underpin the present study are Western-based and thus may not be relevant to the Thai cultural context. The literature on definitions and findings regarding death anxiety, coping strategies, and empathy assume a Western perspective and might not adequately represent the perspective of physicians in Thailand, which features differences in culture, beliefs, and behaviors. For example, the predominant religion in the West might be Christianity which values the right to life. Thailand, on the other hand, is influenced by Buddhist teachings, which position suffering and death as parts of life that one must accept, and could in turn lead some Thai people to feel apathetic toward life and death. Likewise, psychometric properties of measurements were tested within the Western context but not within the Thai context. Given the questionable direct relevance of Western-based literature and measurements and the possibility of confounding variables, the validity of this study's findings is uncertain.

Recommendations

Based on the research findings and limitations, the study provides several recommendations. The research has evidenced relationships between predictive variables and the dependent variable. The present research could serve as a pilot study since certain death anxiety and empathy patterns emerged in accordance with statistical criteria despite the use of a specific sample of respondents. For more generalizable results, a follow-up study could employ more detailed questionnaires and achieve representative sampling in other regions or obtain a random sample of physicians from around the country, rather than utilizing a sample of convenience of

one region.

Research on causation is also recommend to identify which coping strategies, for example engagement and disengagement, have a stronger influence on the empathy of physicians toward their patients. Additionally, an examination of the subscales of coping strategies could reveal which strategy types (e.g. problem solving, problem avoidance, wishful thinking) respondents tend to employ. Future studies should examine possibly related variables. Additional areas of study are if gender, religion, and medical specialty have predictive relationships with death anxiety and empathy, as these constructs have been evidenced to influence attitude toward death and empathy.

As Western-based literature and measurements may be neither reliable nor valid measures of non-Western cultures, future research on death acceptance could revise the data collection methods, particularly in regard to locating a valid, reliable instrument to assess variables within the Thai cultural context. Validating the psychometric properties of these measurements within a non-Western context may encourage the completion of more research in an Asian context, and thereby contribute to the development of knowledge on the variables of interest within the Asian cultural and belief system.

Conclusion

This study of death anxiety engages with an important field of psychology. Several anxious thoughts and behaviors relate to death anxiety which in turn impacts how physicians cope with such anxiety and empathy toward their patients. In view of this, it could be beneficial to examine possible predictors of death anxiety could be beneficial for the development of more effective coping skills, counseling, and therapy.

The results of the present study suggest that the experience of Thai physicians negatively relates to death anxiety. No direct relationship was found between death anxiety and empathy, but there was an indirect relationship between the two that was mediated by the use of a disengaged coping strategy as well as the application of both engaged and disengaged coping strategies. While death anxiety does not predict the use of an engaged coping strategy, physicians who employ this strategy are predicted to exhibit greater empathy toward their patients compared to those who use the other two strategies

The findings of this study could inform efforts to establish new approaches to measuring death anxiety and related concepts in multiple disciplines. Additionally, they could support training for physicians, assist medical institutions in pursuing more programs, and enhance initiatives to promote empathy within the medical

population. Mental health practitioners can also use the study for assessment to aid in conceptualization, diagnosis, and potential treatment.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: American Psychiatric Publishing.

Bassett, J. F. (2007). Psychological defenses against death anxiety: Integrating terror management theory and Firestone's separation theory. *Death Studies, 31*, 727–750.

Becker, E. (1973). *The Denial of Death*. New York: The Free Press.

Benbassat, J., & Baumal, R. (2004). What is empathy, and how can it be promoted during clinical clerkships? *Academic Medicine, 79*, 832–839.

Bryer, K. (1979). Amish way of death: A study of family support systems. *American Psychologist, 34*, 255-261.

Carver. C. S., & Scheier, M. F. (1990). Principles of self-regulation: Action and emotion. In E. T. Higgins & R. M. Soffenlino (Eds.). *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 3-52). New York: Guilford.

Chambers-Klein, J.A. (2012). *Death anxiety amongst medical facility staff working with medically fragile individuals*. PCOM Psychology Dissertations. Paper 213.

Cicirelli, V. G. (2006). Fear of death in mid-old age. *Journal of Gerontology: Psychological Science, 61B*, 75-81.

Cochrane, J. B., Levy, M. R., Fryer, J. E., & Oglesby, C. A. (1990). Death anxiety, disclosure behaviors, and attitudes of oncologist toward terminal care. *Journal of death and dying, 22(1)*, 1-12.

Cohen, A. B., Pierce, J. D., Chambers, J., Meade, R., Gorvine, B. J., & Koenig, H. G. (2005). Intrinsic and extrinsic religiosity, belief in the afterlife, death anxiety, and life satisfaction in young Catholics and Protestants. *Journal of Research in Personality, 39*, 307-324.

Davis, M. H. (1983). Measuring individual differences in empathy: evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44(1)*, 113-126.

Deffner, J. M., & Bell, S. K. (2005). Nurses' death anxiety, comfort level during communication with patients and families regarding death, and exposure to communication education. *Journal for Nurses in Staff Development, 21(1)*, 19-23.

DePaola, S. J., Griffin, M., Young, J. R., Neimeyer, R. A. (2003). Death anxiety and attitudes toward the elderly among older adults; the role of gender and ethnicity.

Death Studies 27(4), 336-354.

Deutsch, F., & Madle, R.A. (1975). Empathy: Historic and current conceptualizations, measurement, and a cognitive theoretical perspective. *Humn Development, 18*, 267-287.

Eisenberg, N., & Miller, P.A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological Bulletin, 1010*, 91-119.

Erikson, E. H. (1959). *Identity and the life cycle; Selected papers, with a historical introduction by David Rapaport*. New York: International University Press.

Firth-Cozens, J. & Field, D. (1991). Fear of death and strategies for coping with patient death among medical trainees. *The British journal of medical psychology, 64*, 263-71.

Fortner, B. V., & Neimeyer, R. A. (1999). Death anxiety in older adults: A quantitative review. *Death Studies, 23*, 387-412.

Freud, S. (1949). *An outline of psychoanalysis*. New York: Norton.

Furer, P. & Walker, J. R. (2008). Death anxiety: A cognitive-behavioral approach. *Journal of Cognitive Behavioral Psychotherapy: An International Quarterly, 22*, 167-168.

Granek, L. (2012). *When doctors grieve*. New York Time, May 25.

Greenberg, J., Pyszczynski, T., Solomon, S., Simon, L. & Breus, M. (1994). Role of consciousness and accessibility of death-related thoughts in mortality salience effects. *Journal of Personality and Social Psychology, 67*, 627-637.

Halliday, L. E. (2008). The moderating effect of death experience on death anxiety: Implications for nursing education. *Journal of Hospice and Palliative Nursing, 10(2).*

Hamama-Raz, Y., Solomon, Z., & Ohry, A. (2000). Fear of personal death among physicians. *Omega, 41(2)*, 97-108.

Kagawa-Singer, M., & Backhall, L. (2001). Negotiating cross-cultural issues at end of life. *Journal of American Medical Association, 286(3001)*, 2993.

Kane, A. C., & Hogan, J. D. (1985). Death anxiety in physicians: Defensive style, medical specialty, and exposure to death. *Journal of Death and Dying, 16(1)*, 11–22.

Kastenbaum, R. J. (2003). *Macmillan encyclopedia of death and dying*. New York: Thomson Gale.

Kastenbaum, R. J., & Aisenberg, I. (1972). *The psychology of death*. New York: Springer.

Kübler-Ross, E. (2002). *On death and dying; Questions and answers on death and dying; On life after death*. New York: Quality Paper Book Club.

Landau, M. J., Greenberg, J., Solomon, S., Pyszczynski, T., & Martens, A. (2006).

Windows into nothingness: Terror management, meaninglessness, and negative reactions to art. *Journal of Personality and Social Psychology, 90*, 879–892.

LeDoux, J. E., Lanuza, E., & Moncho-Bogani, J. (2008). Unconditioned stimulus pathways to the amygdala: effects of lesions of the posterior intralaminar thalamus on footshock-induced c-Fos expression in the subdivisions of the lateral amygdala. *Neuroscience, 155*, 959-968.

Lonetto, R. (1982). Personifications of death and death anxiety. *Journal of Personality Assessment, 46*, 404–408.

Martz, E., & Livneh, H. (2003). Death anxiety as a predictor of future time orientation among individuals with spinal cord injuries. *Disability and Rehabilitation, 25*, 1024–1032.

Matsui, M., & Braun, K. (2010). Nurses' and care workers' attitudes toward death and caring for dying older adults in Japan. *International Journal of Palliative Nursing, 16(12)*, 593–598.

Neimeyer, R. A., Moser, R. & Wittkowski, J. (2003). Assessing attitudes toward death: Psychometric considerations. *Omega, 47*, 45-76.

Neimeyer, R. A., Wittkowski, J., &Moser, R. (2004). Psychological research on death attitudes: An overview and evaluation. *Death Studies, 28*, 309-340.

Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. New York: Oxford University Press.

Reynolds, F. (2006). How doctors cope with death. *BMJ: Arch Dis Child., 91(9)*, 727.

Schumaker, J. F., Warren, W. G., & Groth-Marnat, G. (1991). Death anxiety in Japan and Australia. *Journal of Social Psychology, 131*, 511–518.

Searight, H., & Gafford, J. (2005a). Cultural diversity at the end of life: issues and guidelines for family physicians. *American Family Physicians, 71(3)*, 515-522.

Sterling, C. M., & Van Horn, K. R. (1989). Identity and death anxiety. *Adolescence, 24*, 321-326.

Templer, D. (1970). The construction and validation of the Death Anxiety Scale. *Journal of General Psychology, 82*, 165 - 177.

Templer, D. (1976). Two actor theory of death anxiety: A note. *Essence, 1*, 91-93.

Tobin, D.L. (1984, 2001). *User manual for the Coping Strategies Inventory*. Retrieved from http://www.ohioupsychology.com/files/images/holroyd_lab/Manual%20Coping%20Strategies%20Inventory.pdf.

Tomer, A., & Eliason, G. (1996). Toward a comprehensive model of death anxiety. *Death Studies, 20*, 343-365.

Viswanathan, R. (1996). Death anxiety, locus of control, and purpose in life of physicians: Their relationship to patient death notification. *The Academy of*

Psychosomatic Medicine, 37(4), 339-345.