Death anxiety and well-being; coping with life-threatening events.

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Research was conducted among people who have experienced trauma to see the influence of coping factors on death anxiety, PTSD, and psychiatric comorbidity. The intent was to consider the role of death anxiety in relationship to PTSD and mental health among people who have experienced a life-threatening event. It examined both self-efficacy and religious coping as possible factors of death anxiety resilience in relation to trauma. This study was conducted using undergraduate university students in Lithuania. The study (N = 104) did not find evidence to support the significance of religious coping as important factor; however, self-efficacy emerged as significantly related to psychiatric comorbidity and death anxiety. However the results found that self-efficacy did not act as a mediating factor and was independently related to death anxiety and psychiatric comorbidity. Results were discussed in light of theories regarding death anxiety and the agentic model.

Death anxiety has been associated with high levels of psychiatric symptoms such as anxiety and depression (Chung, Werret, Easthope, Farmer, & Chung, 2002; Cox, 1996; Cox, Fuentes, Borger, & Taylor, 2001; Florian, Mikulincer, & Green, 1993; Hintze, Templer, Cappalletty, & Federick, 1993; Sinha & Nigan, 1993; Strachan et al., 2007; Templer, Lavoie, Chalgujan & Thomas-Dobson, 1990). Death anxiety can also be heightened following exposure to traumatic life events or the development of posttraumatic stress disorder (PTSD; Lonetto & Templer, 1986; Tolstikova, Fleming, & Chartier, 2005). This has been found among people who were exposed to traumatic events such as toxic contamination (Barak, Archicron, Rotsein, Elizur, & Noy, 1998), technological disasters (Chung, Berger, Jones, & Rudd, 2006; Chung, Dennis, Easthope, Werrett, & Farmer, 2005; Chung et al., 2002; Chung, Werrett, Farmer, Easthope, & Chung, 2000; Lifton & Olson, 1976), witnessing loved ones suffering from influenza A/H1N1 (Elizarràs-Rivas et al., 2010), and involved in war situations (Roshdieh et al., 1998-1999) and a range of other traumas (Floyd et al., 2005).

According to the studies above, death anxiety has been interpreted as an outcome variable. Studies exploring the relationship between death anxiety, PTSD, and psychiatric comorbidity with death anxiety as the independent variable are somewhat limited. That is, studies with death anxiety interpreted as a predisposition to PTSD and psychiatric comorbidity are largely neglected. Therefore one aim of this study was to expand this area of research on death anxiety. One study showed that patients with spinal cord injury and high levels of death anxiety tended to show high severity of PTSD symptoms after controlling for demographic and disability-related variables (Martz, 2004). Similarly, patients who contracted HIV and had high death anxiety were shown to have high levels of PTSD symptoms after adjusting for psychiatric comorbidity and social support (Gershuny & Hendriksen, 2003; Safren, Gershuny, & Hendriken, 2003).

Also, little is known regarding factors that may influence the relationship between death anxiety, PTSD, and psychiatric comorbidity. We know very little, for example, about whether coping

strategies may influence said relationship. It is important to look at coping because we know from PTSD research that coping is a factor influencing PTSD symptomatology and psychiatric comorbidity (Benight & Bandura, 2004; Benight et al., 1997; Guillet, Hermand, & Mullet, 2002; Lehtsaar & Noor, 2006). A good understanding of this relationship would help us understand which coping strategy can serve as a resilient coping for people who have different levels of death anxiety as well as PTSD. In addition, cross-cultural research on death anxiety is limited, specifically with an Eastern European population.

The first coping strategy on which we focused for the present study is self-efficacy. Self-efficacy is an important proactive "agentic" factor in posttraumatic recovery as well as other psychiatric disorders (Bandura, 1997; Benight & Bandura, 2004). Agentic refers to intentionally being an agent of change through one's actions. Self-efficacy plays a proactive role in adaptation to extremely stressful events and thus influences the development of PTSD. It has been found to be an adaptive factor buffering against PTSD and promoting posttraumatic recovery. That is, self-efficacy has an inverse association with PTSD severity and psychiatric comorbidity, which has in fact been shown among people who have experienced a whole range of traumatic events including natural disasters (Benight & Harper, 2002; Hirschel & Schulenberg, 2009; Hyre et al., 2009), physical injury (Flatten, Wälte, & Perlitz, 2008), combat (Weisenberg, Schwarzwald, & Solomon, 1991), childhood traumas (Walter, Palmieri, & Gunstad, 2010), and motor vehicle accidents (Benight, Cieslak, Molton, & Johnson, 2008). In addition, it has been shown to buffer against general distress and to promote better somatic health (Pyszczynski & Kesebir, 2011).

Self-efficacy has also been associated with death anxiety (Cheng, 1997; Wu, Tang, & Kwok, 2002). Hampered belief in self-ability is associated with death anxiety (Lonetto & Templer, 1986). Similarly, difficulties in self-perception is consistently found to correlate with death anxiety (Aronow, Rauchway, Peller, & DeVito, 1980; Davis, Bremer, Anderson, & Tramill, 1983; Nelson, 1978).

While literature seems to suggest that death anxiety is associated with PTSD and psychiatric comorbidity, and that self-efficacy can impact on health outcomes and relates to death anxiety, the interrelationship between death anxiety, self-efficacy, PTSD, and psychiatric comorbidity remains to be investigated systematically. For example, it is unclear whether self-efficacy would mediate the relationship between death anxiety, PTSD, and psychiatric comorbidity. This is one question the present study intended to address.

The second coping strategy that we focused on in this study was religious coping. Religious coping behaviors such as prayer to manage the traumatic circumstances are often used for managing traumatic events (Chung, 1995; Frankl, 1988; Henderson & Bostock, 1977; Pargament, 2001; Thompson & Vardaman, 1997). It has been argued as an effective way of managing traumatic reactions because it focuses on the resolution of guilt, surrenders to a higher power, emphasizes spiritual power over victimization, the search for meaning, and control of fear (Brende & Parson 1985; Lee & Lu, 1989). As a result, instead of believing that life is being controlled by the trauma, people believe that life has now become controllable and meaningful. These characteristics have been shown to allow people to experience the stressor as less threatening, to cope more effectively with it, and to maintain their well-being (Antonovsky, 1987; George, Ellison, & Larson, 2002).

Religious coping has been shown to buffer against the severity of PTSD symptoms (Carver, Scheier, & Weintraub, 1989; Fallot & Heckman, 2005; Martz, 2004; McClain-Jacobson et al., 2004) and may

function as a mechanism that disrupts the PTSD symptoms cycle. Religious coping affects hope and optimism, which in turn counteract the anxiousness of PTSD. In a sense, religious copings supports the belief that things will get better, despite negative traumatic stressors. Religious beliefs have also been found to moderate the effects between exposure and posttraumatic avoidance (Maercker & Herrle, 2003). In addition to PTSD symptoms, studies exist to show that religious coping can also buffer against the severity of other psychiatric disorders. People who have experienced life threatening events and had higher levels of religiosity and spirituality adapted with better coping, adjustment, health, and overall quality of life versus those with lower levels of religiosity (Glas, 2007; Konstam, Moser, & Jong, 2005). Religiousness was also found to buffer against depression. Low-religiousness, on the other hand, was related to high severity in depression (Wink & Scott, 2005). Similarly, religious people showed lower levels of anxiety (Koenig, 2001). Epidemiological studies found that among young people, religious behavior showed significant relationship with anxiety disorders; more frequent religious behavior meant less frequency of mental health difficulties (Koenig, 2001; Koenig, Ford, George, Blazer, & Meador, 1993; Maltby & Lewis, 1999).

Similar to self-efficacy, while death anxiety is associated with PTSD and psychiatric comorbidity, and religious coping can impact on these health outcomes, what is not clear is the interrelationship between death anxiety, religious coping, PTSD, and psychiatric comorbidity. It is not clear whether religious coping would mediate the relationship between death anxiety, PTSD, and psychiatric comorbidity. This is another question the present study intended to address.

The aims of this study were to examine the interrelationship between death anxiety, self-efficacy, religious coping, PTSD, and psychiatric comorbidity. Specifically, it examined whether self-efficacy and religious coping would mediate the relationship between death anxiety, PTSD, and psychiatric comorbidity. Considering the contradictions in previous literature, we cannot generate a hypothesis specifically. However we can ask a research question about whether self-efficacy would mediate the relationship between death anxiety, PTSD, and psychiatric comorbidity. In addition, does religious coping mediate the relationship between the preceding health outcomes?

Method

Participants

In this study, 104 university students participated in the study (M = 42, F = 62) with an average age 19.63 (SD = 1.78). Almost all (95%) of the students were single. A majority of the students were Lithuanians (66%) and were a lower level year group (67%) at the time of the study. Most students (72%) participants reported experiencing a past traumatic event. The remainder formed a control group for the study.

Procedure

To recruit participants, Lithuanian and Russian versions of the questionnaires were created by organizing two translation teams. These teams comprised of members of the university translation club; two teams of four students working on Lithuanian and Russian translations. After the translations were created, they were reviewed for accuracy by a member of the university linguistics department, all under supervision of the primary author. They were then back translated into

English and compared with the original questionnaires. The lengthy process was crucial to ensure accuracy and representation of the original surveys.

Before the data collection began, the study was submitted to the university International Review Board for approval. The study was given clearance to be conducted after all ethical and procedural issues were considered. Recruitment was facilitated by taking participants from social science students during a module lecture with the permission of the tutor. Part of the learning process for this module was the expectation that students participated in different credit-based activities; one option available was to participate in this research project. In this module, all students had the option not to participate in any of these activities. The standardized consent form identified the benefits, risks, voluntary nature, and confidentiality assurances of this study. The participants were informed of their right to withdraw at any point during the study. Most importantly, due to the nature of recruitment, it was made clear to students that their lack of participation did not have any bearing on the overall mark. It should be noted that no one opted for nonparticipation among the students. The lead researcher distributed the self-administered questionnaires during the lecture and was available to participants to provide any clarification. They were asked to complete demographic information, Posttraumatic Stress Diagnostic Scale (PDS), General Health Questionnaire-28 (GHQ-28), Death Anxiety Scale (DAS), Perceived Self-efficacy Scale (SES) and Ways of Religious Coping Scale (WORCS). Student volunteers collected the assessments and returned them to the primary researcher.

Measures

Demographics information: Information gathered identified the following characteristics: Age, gender, year level, marital status and national identity.

The Posttraumatic Stress Diagnostic Scale (PDS; Foa, 1995) assesses posttraumatic stress disorder symptoms resulting from experiencing a traumatic event, according to DSM-IV criteria. Participants were classified into the following groups: "no PTSD" (not meeting the diagnostic criteria) and "full-PTSD" (meeting all the symptom criteria for reexperiencing, avoidance and hyperarousal along with helplessness, terror, and an impact on daily function). In part I, participants were asked to identify whether they had experienced any past traumatic life events including natural disasters, accidents, physical or sexual assault, combat or exposure to a war zone, sudden violent or unexpected death of someone close, and life-threatening injury. If they experienced more than one of these events, they were asked to select the one that bothered them the most. They also responded to the questionnaire and asked how long ago this most traumatic event happened and whether they were physically injured or someone else was injured. They also indicated whether they felt that life was in danger and that they felt helpless or terrified during the event.

Part II assesses PTSD symptoms resulting from having experienced the most traumatic life experience. It is composed of the 17 questions contained in the DSM-IV diagnostic criteria and generates three subscales: reexperiencing, avoidance, and hyperarousal. Participants were asked to rate the severity of the symptoms according to the rating scale: 0 = not at all, 1 = once a week or less/once in a while, 2 = 2 to 4 times a week/half the time, 3 = 5 or more times a week/almost always. Excellent internal consistency (α = .97), and test-retest reliability over a 2- to 3-day period (0.96) have been recorded. This is known to be strongly correlated with other measures of PTSD such as the Mississippi Scale (0.93) and the Impact of Event Scale (0.90). This scale has shown good

reliability, validity, and good agreement with the Structured Clinical Interview for Diagnosis (κ = 0.65, agreement = 82%, sensitivity = .89 and specificity = 0.75). In addition, this measure has been used previously in a wide-ranging population (Duffy, Gillespie, & Clark, 2007; Foa, 1995; Foa, Cashman, Jaycox, & Perry, 1997).

The General Health Questionnaire-28 (GHQ-28) (Goldberg & Hillier, 1979) measures general psychological morbidity and global dysfunction. The mean scores of the GHQ-28 were based on the analyses of the rating scale of 1-2-3-4. The questionnaire yields four subscales: somatic problems, anxiety, social dysfunction and depression. The GHQ-28 has shown a sensitivity value of 88% at a specificity of 84.2% and an overall misclassification rate of 14.5%.

The Death Anxiety Scale (DAS; Templar, 1970) is self-report instrument for measuring death anxiety, which consists of 15 true or false items. Templer's 15-item Death Anxiety Scale, first published in 1970, has been used extensively and has been translated into many different languages. It has been shown to have good reliability and internal consistency. The questionnaire has a test-retest reliability of 0.83, and an internal consistency coefficient of 0.73.

Perceived Self-Efficacy Scale (SES; Schwarzer, 1992) aims to assess perceived self-efficacy and to predict coping with daily problems as well as adaptation after experiencing all kinds of stressors. The scale is self-administered and scoring responses are made on a 4-point scale and then summed. The responses to all 10 items yield the final composite score with a range from 10 to 40. The construct of Perceived Self-Efficacy reflects an optimistic self-belief; beliefs that one can perform difficult tasks, and cope with adversity in various domains of human functioning. Perceived self-efficacy facilitates goal-setting, effort investment, persistence in face of barriers and recovery. The scale is unidimensional and criterion-related validity is documented in numerous correlation studies where positive coefficients were found with favorable emotions, dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout, and health complaints (Schwarzer, 1992). The Self-Efficacy scale was analyzed using item alpha reliability and showed good internal consistency (α = .843).

Ways of Religious Coping Scale (WORCS) aims to measure religious coping strategies (Boudreaux, Catz, Ryan, Amaral-Melendez, & Brantley 1995). The scale is a 40-item self-report instrument for assessing the degree and kind of religious conditions and behaviors people use to cope with stress. Results indicate that the WORCS is a valid and reliable instrument (Boudreaux et al., 1995). The assessment contains two subscales; internal/private and external/social. This scale is measured on a 4-point scale with religious behavior being used on a range from not at all to used always. The Ways of Religious Coping Scale has been shown to have a high internal consistency (= 0.971) overall and for each subscale internal/private (= 0.955) and external/social (= 0.937).

Data analysis plan

Descriptive statistics were used to describe the demographic information of the participants. To compare the traumatic life event and control groups in terms of the differences of mean and percentage scores, t test, chi-square, and multivariate analysis of variance were used. Correlation coefficients including point biserial correlation (rpb) were used to establish the relationship between demographic variables and outcome variables. Point biserial correlation was used when one of the variables in the correlational analysis was dichotomous. Partial Least Squares (PLS) analysis was used

to examine the interrelationship between the constructs in the hypothesized model. The mediation procedure recommended by Baron and Kenny (1986), and the Sobel test, were used to investigate mediational relationships indentified in the final model.

The assumptions and diagnostics related to multiple linear analyses. Due to nonnormality, the variables in the GHQ-28 total, the PDS total, and Religious Coping Scale (internal, external) were reflected and subjected to a square root transformation. In addition, self-efficacy total was also subjected to a logarithmic transformation. No outliers were detected during the exploration of diagnostics (Mahalanobis ≥ 3 SD). Following exploration and transformation, assumptions relating to multivariate normality, linearity, and homoscedasticity were met. Regression imputation was used to address the missing data with less than 1% of it imputed.

Results

Looking at the entire sample, 72% (n = 75) of the participants reported a traumatic life event and the remaining (28%) did not. Out of the trauma group, over a third (38%) experienced one event, while some (15%) at least 2 events. The remaining participants experienced 3 or more events. Of the participants who experienced traumatic life events, using the diagnostic criteria of the PDS, 29 (39%) participants met the criteria for PTSD and 46 (61%) did not. Table 1 shows the demographic information of the full-PTSD, no-PTSD, and the control groups. Comparing demographic variables across three groups, there were no significant differences in age, $F(2, 101) = 1.63$, ns, in the proportion of females and males participating in the study ($\chi2 = 5.04$, df = 2, ns), year levels (dummy variables: upper vs. lower: $\chi2 = 2.95$, df = 2, ns), marital status (dummy variables: single vs. not-single Fisher's exact test, $\chi2 = 2.44$, df = 2, ns), and nationality (dummy variables: Lithuania vs. not-Lithuania, $\chi2 = 0.12$, df = 2, ns).

Table 1. Demographic Details of the Three Groups.

	Full-PTSD		No-PTSD		Control	
	Mean	SD	Mean	SD	Mean	SD
Age	19.41	1.61	19.45	1.51	20.13	2.23
	N	%	N	%	N	%
Male	8	27.6	24	52.2	10	34.5
Female	21	72.4	22	47.8	19	65.5
Level						
Year 1	17	58.6	28	60.9	12	41.4
Year 2	4	13.8	5	10.9	4	13.8
Year 3	6	20.7	6	13.0	11	37.9
Year 4	2	6.9	7	15.2	2	6.9
Marital Status						
Single	28	96.6	45	97.8	26	89.7
Married	—	—	—	—	1	3.4
Cohabitating	1	3.4	1	2.2	2	6.9
Country on your passport						
Lithuania	19	65.5	30	65.2	20	69.0
Latvia	—	—	5	10.9	—	—
Belarus	2	6.9	5	10.9	4	13.8
Russia	1	3.4	—	—	1	3.4
Ukraine	4	13.8	1	2.2	—	—
USA	1	3.4	2	4.3	1	3.4
Other	2	6.8	3	6.5	3	10.3

Demographic Details of the Three Groups

Comparing the traumatic life event groups, there was no significant difference between them in the number of traumatic events that they experienced (t = −0.70, df = 73, ns). The full-PSTD group on average experienced the traumatic life event that bothered them almost 3 years ago while the no-PTSD group experienced this event just over 2 years ago; there were no significant differences between groups (t = −0.49, df = 73, ns; see Table 2).

Table 2. Traumatic Life Events Between Groups.

	Full-PTSD		No-PTSD
Life threatening events	N	%	N
Serious accident	17	58.62	21
Physical assault by family member or someone you know	2	6.90	5
Physical assault by a stranger	5	17.24	10
Sexual assault	3	10.34	5
Life-threatening illness	2	6.90	5
	Mean	SD	Mean
Onset of the event (in months)	34.41	34.46	26.57
Number of life-threatening events	2.03	1.82	1.85

Traumatic Life Events Between Groups

Table 3 describes the means and standard deviations of psychiatric comorbidity, death anxiety, self-efficacy, and religious coping. The results show that the three groups did not differ significantly in somatic problems, $F_{(2, 97)} = 1.34$, ns; anxiety, $F_{(2, 97)} = 2.51$, ns; social dysfunction, $F_{(2, 97)} = 0.87$, ns and depression $F_{(2, 97)} = 1.04$, ns. In terms of death anxiety, there were no significant differences between groups, $F_{(2, 97)} = 0.41$, ns. Turning to self-efficacy, there was a significant difference across the three groups, $F_{(2, 97)} = 3.72$, $p < .05$, with the no-PTSD differed significantly from the control group ($p < .05$; Post Hoc, LSD). Finally, in regard to religious coping, there were no significant differences between groups in terms of internal/private coping, $F_{(2, 97)} = 2.38$, ns and external/social coping, $F_{(2, 97)} = 1.28$, ns].

Table 3. Differences Between Groups in Psychiatric Comorbidity, Death Anxiety, Self-Efficacy and Religious Coping.

	Full-PTSD		No-PTSD		Control	
	Mean	SD	Mean	SD	Mean	SD
GHQ-28						
Somatic	14.51	4.04	13.08	3.66	13.64	3.47
Anxiety	14.17	4.23	12.04	3.66	13.20	4.61
Social Dysfunction	14.34	2.91	13.71	2.73	14.72	3.14
Depression	12.03	5.03	10.76	3.91	10.44	2.80
DAS						
	6.31	1.89	5.97	1.69	5.96	2.06
Self-efficacy						
Total Score	30.03	4.77	31.93	3.72	29.27	3.97
Religious Coping						
Internal/Private	17.93	14.43	15.91	15.98	22.31	15.40
External/Social	5.93	6.92	4.60	8.67	4.86	6.95

Differences Between Groups in Psychiatric Comorbidity, Death Anxiety, Self-Efficacy and Religious Coping

Prior to the Partial Least Squares (PLS) analysis of establishing the relationship between death anxiety, PTSD, psychiatric comorbidity, self-efficacy, and religious coping, the "victim variables" (i.e., all the demographic variables, the number traumatic life events and time of onset) needed to be controlled for since research shows that they have been related to PTSD outcome (Friedman, Keane, & Resick, 2007; Vogt, King, & King, 2007). To this end, correlation coefficients were carried out to examine which demographic variables were related to outcomes. The results showed that gender was significantly correlated with PTSD and psychiatric comorbidity; age was significantly correlated with PTSD (see Table 4). Therefore, in the PLS analysis, gender and age were factored into the model.

Table 4. Correlation Coefficients Between Demographic Variables, PTSD and Psychiatric Comorbidity.

	PTSD	Psychiatric comorbidity
Age	0.251*	−0.15
Gender[a]	0.314**	0.275*
Year level[a,b]	0.137	−0.142
Marital status[a,b]	−0.023	0.102
Country on your passport[a,b]	−0.081	−0.150
Number of traumatic events	−0.082	−0.080
Onset of traumatic events	−0.063	−0.024

[a]point biserial correlations (r_{pb}). [b]Dummy variables: year level = lower vs. upper; marital status = single vs. not single; country on your passport = Lithuania vs. Non-Lithuania
*$p < .05$. **$p < .01$.

Correlation Coefficients Between Demographic Variables, PTSD and Psychiatric Comorbidity

To test the hypothesized model of the relationships between death anxiety, self-efficacy, religious coping, PTSD, and psychiatric comorbidity, we carried out partial least squares (PLS) analysis using PLS-Graph 3.00 (Chin, 2001; Chin & Newsted, 1999). PLS is an alternative to standard structural equation modeling (SEM). PLS models, like SEM models, incorporate latent variables (constructs) with multiple indicators. One of the advantages of PLS over SEM, and a major factor in choosing it for the current work, is that, in contrast to SEM which requires a large sample size, it can be used with modest sample sizes even for relatively complex models. Arguably, the sample size in this study was too small for SEM.

Unlike SEM, PLS makes no distributional assumptions and models may incorporate formative, as well as reflective, indicators. Having multiple indicators of the construct would increase the reliability of what the construct represents. PLS generates outer and inner model estimates. The outer model estimates refer to the loadings or weights for each indicator and show how strongly it relates to the construct. The inner model estimates refer to the linear relationship between constructs by means of regression coefficients. PLS does not generate a test of model fit but provides estimates of path coefficients for the paths in the model and tests of whether these path coefficients differ significantly from zero. The tests were carried out using bootstrap resampling to generate t statistics. Two hundred bootstrap samples were produced.

Less than 1% of responses were missing due to participants omitting questionnaire items. PLS have no procedures for dealing with incomplete observations so regression imputation was used to replace the missing data. Regression imputation has been shown to be a valid method in dealing with missing data (Schafer & Graham, 2002). It should be noted that PLS analysis requires multiple indicators for each construct. Therefore in situations were there are not specific subscales, multiple indicators needed to be created. To provide multiple indicators for death anxiety and self-efficacy, 3-item and 2-item parcels were computed, respectively. Death anxiety indicators were created by using questions that reflected three types; fear of dying, death caused by external circumstances, and thinking about death. The indicators of self-efficacy were created by taking the items from the scale and dividing them into two items: SE1, SE2.

Table 5 shows the estimated loadings of the scale items death anxiety (afraid to die, thoughts of death, & external death), self-efficacy (Self-efficacy 1 and Self-efficacy 2), PTSD (Intrusion, avoidance, & hyperarousal) and psychiatric comorbidity (somatic problems, anxiety, social dysfunction, & depression). Reflective indicators with loadings that were not significantly different from zero were removed to ensure construct validity. Accordingly, the indicator of thinking about death was dropped from the PLS analysis. The correlation matrix for the indicators used in the modeling is given in Table 6. The final structural model can be seen in Figure 1. The resulting path coefficients for relationships between constructs are shown in the figure, which also indicates their significance. Unlike SEM, PLS analysis does not tell us the degree of model-fit. Instead, it examines predictive capability of the model characterized by the presence of strong construct loadings (> 0.60), standardized path coefficients (> 0.20) and at least moderate R^2 values. Most of the construct loadings were strong. The path coefficients of the significant paths were also strong (see later) and the average R^2 of the overall model was .0861 (average communality = 0.6568, average redundancy = 0.0799). Death anxiety was significantly associated with self-efficacy (B = −0.2010, SE = 0.1337, $p <$ .05), which was in turn associated with psychiatric comorbidity (B = −0.2600, SE = 0.1399, $p < .05$). Psychiatric comorbidity was influenced by the demographic variables age and gender (B = 0.2120, SE = 0.1467, $p < 0.05$). In addition, PTSD was also influenced by the demographic variables age and gender (B = 0.3230, SE = 0.1598, $p < .05$).

Table 5. Loadings and Weights of Indicators on the Constructs (Latent Variables).

Latent variable	Indicator[a]	SE	Loading	Weight
Death anxiety	Afraid to die	0.3685	0.5704*	--
	Thoughts of death	0.2280	0.7092**	--
	External death	1.9734	0.6554**	--
Self-efficacy	Self-efficacy 1	0.1075	0.8551**	--
	Self-efficacy 2	0.0451	0.9471**	--
Religious coping	Internal/private	0.0138	0.9603**	--
	External/social	0.0157	0.9606**	--
PTSD	Intrusion	0.0469	0.8829**	--
	Avoidance	0.0707	0.8167**	--
	Hyperarousal	0.0481	0.8312**	--
Psychiatric comorbidity	Somatic problems	0.0452	0.8129**	--
	Anxiety	0.0404	0.8809**	--
	Social dysfunction	0.1208	0.6310**	--
	Depression	0.0590	0.8244**	--
Demographic	Gender	0.1468	0.9678**	6.23**
	Age	--	--	0.70

[a]The indicators for demographics are formative and all other indicators are reflective.
*$p < .05$. **$p < .01$. ***$p < .001$. Significance levels are based on bootstrapped standard errors.

Loadings and Weights of Indicators on the Constructs (Latent Variables)

Table 6. Estimated Correlations Between the Transformed Variables Used in the PLS Model.

	AfraidDie	ThoughtDeath	ExtDeath	Soma	Anx	SocDys	Dep	Intru	Avoid	Arou	SE1	SE2	Rellnt
AfraidDie	1.0	0.080	0.052	0.101	0.116	−0.065	0.065	0.146	0.140	0.098	−0.067	−0.177	0.042
ThoughtDeath		1.0	0.243*	0.006	0.109	−0.024	0.213	0.170	−0.048	0.163	0.024	−0.234	0.023
ExtDeath			1.0	0.135	0.237*	0.149	0.260*	0.230*	0.066	0.173	0.028	−0.152	0.178
Soma				1.0	0.680**	0.352**	0.554**	0.233*	0.236*	0.345**	−0.204	−0.249*	0.071
Anx					1.0	0.405**	0.594**	0.291*	0.259*	0.385**	−0.280*	−0.264*	0.163
SocDys						1.0	0.430**	0.053	0.087	0.175	−0.214	−0.217	0.102
Dep							1.0	0.167	0.141	0.305**	−0.252*	−0.289	0.163
Intrusion								1.0	0.532**	0.616**	−0.070	−0.164	0.329**
Avoid									1.0	0.574**	−0.140	−0.228*	0.192
Arousal										1.0	−0.158	−0.191	0.296**
SE1											1.0	0.644**	−0.016
SE2												1.0	0.039
Rellnt													1.0
RelExt													

AfraidDie = feeling that you were going to die; ThoughtDeath = having thoughts about death; ExtDeath = fear something would kill you; Soma = s... problems; Anx = anxiety; SocDys = social dysfunction; Dep = depression; Intru = intrusion; Avoid = avoidance behaviour; Arou = hyperarousal; SE ... Self-efficacy pt 1; SE2 = Self-efficacy pt 2; Rellnt = Religious coping internal; RelExt = Religious coping external.
*$p < .05$. **$p < .01$.

Estimated Correlations Between the Transformed Variables Used in the PLS Model
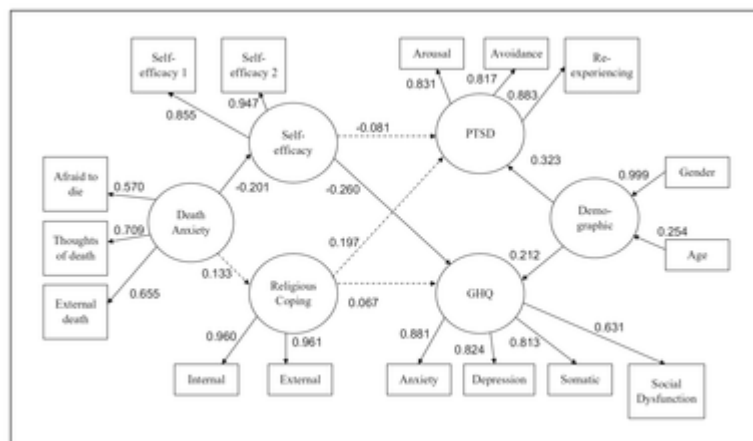

Figure 1. PLS pathway analysis.

Conceptually, the PLS analysis suggested that participants' self-efficacy mediated the relationship between death anxiety and psychiatric comorbidity. To verify this, the mediation analysis recommended by Baron and Kenny (1986) was used. To begin with, the association between the independent variable (IV) and dependent variable (DV) needs to be significantly established. Then, for complete mediation, three conditions need to be met: (a) The IV must be significantly associated with the mediator, (b) the mediator must be significantly associated with the DV, (c) the relationship between the IV and DV becomes nonsignificant when the mediator is controlled. For partial mediation, the three conditions remain the same except that for condition (c), the relationship between the IV and the DV remains significant when the mediator is controlled. The Sobel test was also used to confirm the mediation further. The correlation between death anxiety and psychiatric comorbidity was not significant (B = 0.101, SE B = 0.053, β = .218, ns). The Sobel test also confirmed this result suggesting that self-efficacy did not mediate the relationship between death and psychiatric comorbidity (Z = 1.40, ns).

Discussion

This study aimed to investigate the interrelationship between death anxiety, self-efficacy, religious coping, PTSD, and psychiatric comorbidity. It specifically examined whether self-efficacy and religious coping would mediate the relationship between death anxiety, PTSD, and psychiatric comorbidity. The results did not confirm the hypotheses. Neither self-efficacy nor religious coping mediated the correlation between death anxiety and psychiatric comorbidity. Gender did influence the outcome variables, which is not surprising as with other research, gender does affect mental health outcomes, specifically in instances of symptom reporting (Kroenke & Spitzer, 1998).

The finding that religious coping is not related to the other variables is not entirely surprising considering previous literature. In some studies, religious coping was not a significant variable for death anxiety and found the relationship unsupported and inconclusive (Abdel-Khalek & Lester, 2009; Azaiza, Ron, Shoham, & Gigini, 2010; Salter & Salter, 1976; Suhail, 2001). In regard to PTSD, some studies, religious coping has not been demonstrated as an effective means to handling trauma (Connor, Davidson, & Lee, 2003; Glas, 2007; McCoubrie & Davies, 2006; Thomson & Vardaman, 1997). Therefore although the insignificance of religious coping may come as a surprise, other studies have also struggled conclusively demonstrating its importance.

One could argue that religion, as purported by the participants, is actually a personal experience that does not affect health and well-being. For example, research with cancer patients shows that a significant negative correlation was found between the existential well-being scores and the anxiety and depression scores (McCoubrie & Davies, 2006). However, no correlation was found between the religious coping and well-being scores for anxiety and depression. This study may shed some light on the nature of religious coping; what they conclude is that it is not religious coping that has an effect on mental health, instead it is finding meaning in the trauma (McCoubrie & Davies, 2006). This concept was supported in another study among hospice patients, which found that a strong sense of purpose in life, rather than religious coping has a direct positive effect on psychiatric comorbidity and a direct negative effect on death anxiety (Ardelt & Koenig, 2006). The literature supports that although religious coping is a personal experience, it is helpful to death anxiety and well-being if it elicits a sense of purpose and hope (Ai, Peterson, & Huang, 2003; Ardelt & Koenig, 2006; Glas, 2007).

It should be noted that this sample did not have high religious coping scores. The question arises whether this type of religious faith leads to a significant degree of commitment and action. This goes back to the idea of religiosity, which as stated earlier shows the degree of faith is important when considering its mediational role (e.g., fellowship, health-related behavior, optimism) on health. In this sample, it appears that the degree of faith is somewhat weak and that their behavior does not lead them to engage in a kind of mediational religious coping. When reviewing the responses made on the WRCS, it appears that the participants do not have a very action-oriented faith. Consider the following responses in Table 7.

Table 7. Sample Questions Reflecting Religiosity.

I do not pray or pray sometimes	69%
I do not read scripture or sometimes read it	85%
I do not attend religious group or sometimes do so	85%
I did not allow or sometimes allow Holy Sprit to guide action	72%
Do not or sometimes confess to God	63%
I do not or sometimes get support from church member	82%
Do not or sometime talk to church leaders	89%
Do not look or sometimes look for lessons from God	64%
Do not or sometimes put problems in God's hand	72%
Do or sometimes pray for strength	61%
Do not or sometimes talk to church members	86%
Do not or sometimes recall a Bible passage	86%
Do not or sometimes go to religious service	86%
Do not or sometime get help from clergy or pastor	91%
Do not or sometimes read a Bible story to solve problems	86%
Do not or sometimes solve problem with Gods help	70%
Do not or sometimes donate time to religious cause	84%
Do not or sometimes share religious beliefs with others	75%
Do not or sometimes or sometimes get involved in church activities	84%
Do not or sometimes base life decisions on religious beliefs	74%
Do not or sometimes find peace by going to a religious place	65%
Do not or sometimes ask someone to pray for them	79%

Sample Questions Reflecting Religiosity

However, the sample did indicate a level of morality in their responses. About half (60%) "often try not to be sinful" and (79%) "often try to make up for mistakes." It should also be noted that there was no point in comparing because the variations are so small. This lack of religiosity could be due to cultural factors. Western cultures have demonstrated the role of religious coping; however, this leads to questions about the role of religious coping in countries where religion was politically repressed historically. Most of the students come from post-Soviet societies and were raised by parents who grew up in a world where outward religious expression was dangerous. Does the political and historical environment of eastern and northern Europe suggest religious coping is not as widely used as in western cultures? Perhaps, but research indicates that people in post-Soviet culture did rely on religion as a method of coping with trauma (Lehtsaar & Noor, 2006). Yet due to the historical role of institutionalized religion being largely absent, there is a greater emphasis on personal spirituality. Although not the crux of this thesis, cultural factors surrounding the role of religion as a coping mechanism should be considered when interpreting the results.

An important consideration of this study lies specifically with the assessment of religious coping. Considering the aforementioned idea of personal spirituality, religious coping may not accurately capture this sense of spiritual awareness in the participants. The WORCS definition of religion could be considered an oversimplified model of religion; some researchers have called for a multidimensional and narrative framework for understanding people's experience of religion (Brown, 1987; Ganzevoort, 1998). This limitation on understanding religious coping did not differentiate religious identity, belief, knowledge, attitude, groups, experiences, and tradition.

It could also be argued that because of the age group, even if a more spiritual and personal faith could be measured, there would not be significant differences. Due to this limitation, further research need to go beyond a university sample, broadening the sample to include more religiously diverse people. In addition, this study did not identify whether a participant was religious or not. Future research should explore levels of religiosity and strength of faith in relation to death anxiety and outcome variables.

One possible explanation for the insignificance of religious coping is that when entering self-efficacy into the PLS analysis, much of the variance of religious coping was accounted for. Yet further analysis revealed that this is not the case. To verify this, regression analysis was carried out. Before entering self-efficacy into regression equation, religious coping did not predict the DAS total (B = 0.072, std 0.083, β = .086, ns). Nor did religious coping predict psychiatric comorbidity (B = 0.042, stdb = 0.036, β = .118, ns). In other words, we cannot say that self-efficacy accounted for a large amount of variance in religious coping.

Although the results show a relationship between religious coping and PTSD, as consistent with previous studies, this relationship is not an active one. The actual coping appears to be effected by a separate mechanism. People want to overcome PTSD, so self-efficacy is the intention to do something about it. The drive and the belief that you can overcome is the important thing, not the actual behavior (e.g., religious coping). Therefore we conclude that religious coping is not as significant as the belief that one can rise above it. Self-efficacy appears to be the mechanism of action. These findings support the theory that self-efficacy is the pivotal coping factor that occurs between a death anxiety and mental health outcomes in the agentic model.

This emphasis on self-efficacy is consistent with previous research and demonstrates a connection with death anxiety (Aronow et al., 1980; Cheng, 1997; Davis et al., 1983; Fry, 2003; Furer & Walker, 2008; Lonetto & Templer, 1986; Nelson, 1978; Pon, 2009; Tang, Wu & Yan, 2002; Tomer & Eliason, 1996; Tomer, Eliason, & Wong, 2008). Surprisingly, self-efficacy was not found to be related to PTSD, which is inconsistent with previous research, which identifies self-efficacy as related to posttraumatic symptoms (Bandura, 1997; Benight & Bandura, 2004; Rachman, 1980; Williams, Eisler, Hersen, & Miller, 1990). However, some studies have indicated that other factors in combination with self-efficacy demonstrate greater influences on PTSD (Benight, Swift, Sanger, Smith, & Zepplein, 1999; Cheung & Sun, 2000; Cutrona & Troutman, 1986).

The research question was answered in part, self-efficacy influences psychiatric comorbidity; other research has shown self-efficacy is correlated positively with mental health as well (Bandura, 1997; Benight & Bandura, 2004; Grembowski et al., 1993). In regard to the earlier stated model of death anxiety resilience, it should be noted that self-efficacy was not demonstrated to be a mediator; it does not carry the influence of death anxiety to psychiatric comorbidity, which contradicts the agentic model of death anxiety. Self-efficacy relates to death anxiety independently of self-efficacy relating to psychiatric comorbidity implying that these are separate psychological processes.

In light of the results that self-efficacy contributes to death anxiety and contributes to psychiatric comorbidity, it should be considered that this is an additive, not mediational, model of death anxiety. This additive concept is consistent with Bandura's model of self-efficacy because, in its essence, it is an intrinsic human response to cope with death anxiety and it is an intrinsic human response that also copes with psychiatric comorbidity (Furer & Walker, 2008). If indeed death

anxiety and psychiatric comorbidity are two different psychological phenomena, even though self-efficacy is related to both, they are different processes.

Conclusion

The results from this study show the pattern relating self-efficacy to death and well-being. However, religious coping was not supported as an important variable. Looking beyond religious coping and toward the subject of finding personal self-efficacy in the face of trauma is likely to be more relevant in the development of a death anxiety resilience model. Therefore three things can be concluded specifically related to the practitioner:

Death anxiety is related to PTSD. Practitioners should acknowledge both the existence of death anxiety and its probable emergence in victims of trauma

Self-efficacy influences both death anxiety and psychiatric comorbidity. Since self-efficacy is a key factor, it should be considered in any treatment of trauma survivors. Clinical interventions used to bolster self-efficacy are crucial in mitigating the effects of death anxiety and psychiatric comorbidity.

Religious coping is not a mediator of death anxiety nor does it have an effect on outcome variables. Religious coping is not insignificant or helpful per se, however, it appears that an agentic action-based perspective is most successful in coping with death anxiety and PTSD.

Further research is needed to develop a model of death anxiety resilience as well the complex relationship of two distinct phenomena of death anxiety and psychiatric comorbidity. However the agentic model of self-efficacy is a promising frontier of investigation.

References

Abdel-Khalek, A., & Lester, D. (2009). Religiosity and death anxiety: No association in Kuwait. Psychological Reports, 104, 770–772.

Ai, A., Peterson, C., & Huang, B. (2003). The effect of religious-spiritual coping on positive attitudes of adult Muslim refugees from Kosovo and Bosnia. International Journal for the Psychology of Religion, 13(1), 29–47.

Antonovsky, A. (1987). Unraveling the mystery of health: How people manage stress and stay well (Jossey Bass Social and Behavioral Science Series;1st ed.). San Francisco, CA: Jossey-Bass.

Ardelt, M., & Koenig, C. (2006). The role of religion for hospice patients and relatively healthy older adults. Research on Aging, 28, 184–215.

Aronow, E., Rauchway, A., Peller, M., & DeVito, A. (1980). The value of self in relation to fear of death. Omega: Journal of Death and Dying, 37, 289–302.

Azaiza, F., Ron, P., Shoham, M., & Gigini, I. (2010). Death and dying anxiety among elderly Arab Muslims in Israel. Death Studies, 34, 351–364.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York, NY: W.H. Freeman.

Barak, Y., Archicron, A., Rotstein, Z., Elizur, A., & Noy, S. (1998). Stress associated with asbestosis: The trauma of waiting for death. Psycho-Oncology, 7(2), 126–128.

Baron, R., & Kenny, D. (1986). The moderator mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality & Social Psychology, 51, 1173–1182.

Benight, C., Antoni, M., Kilbourn, K., Ironside, G., Kumar, M., Fletcher, M., & Schneiderman, N. (1997). Coping self-efficacy buffers psychological and physiological disturbances in HIV-infected men following a natural disaster. Health Psychology, 16, 248–255.

Benight, C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. Behaviour Research and Therapy, 42, 1130–1148.

Benight, C., Cieslak, R., Molton, I., & Johnson, L. (2008). Self-evaluative appraisals of coping capability and posttraumatic distress following motor vehicle accidents. Journal of Consulting and Clinical Psychology, 76, 677–685.

Benight, C. C., & Harper, M. (2002). Coping self-efficacy as a mediator for distress following multiple natural disasters. Journal of Traumatic Stress, 15, 177–186.

Benight, C. C., Swift, E., Sanger, J., Smith, A., & Zeppelin, D. (1999). Coping self-efficacy as a prime mediator of distress following a natural disaster. Journal of Applied Social Psychology, 29, 2443–2464.

Boudreaux, E., Catz, S., Ryan, L., Amaral-Melendez, M., & Brantley, P. (1995). The Ways of Religious Coping Scale: Reliability, validity and scale development. Assessment, 2, 233–244.

Brende, J., & Parson, E. (1985). Special veteran groups: Women and the ethnic minorities. Vietnam Veterans, the Road to Recovery, 1, 125–165.

Brown, L. (1987). Psychology of religious belief. London, UK: Academic Press.

Carver, C., Scheier, M., & Weintraub, J. (1989). Assessing coping strategies: A theoretically based approach. Journal of Personality and Social Psychology, 2, 267–283.

Chin, W. W. (2001). PLS-graph user's guide. Houston, TX: C.T. Bauer College of Business, University of Houston.

Chin, W. W., & Newsted, P. R. (1999). Structural equation modeling analysis with small samples using partial least squares. In R.Hoyle (Ed.), Statistical strategies for small sample research (pp. 307–341). Beverly Hills, CA: SAGE.

Cheng, H. (1997). Wisdom of life and death: Chinese view toward attitudes of life and death. Taipei City, Taiwan: Han hsin wen hua shih yeh yu hsien kung ssu.

Cheung, S., & Sun, S. Y. K. (2000). Effects of self-efficacy and social support on the mental health conditions of mutual-aid organization members. Social Behavior and Personality, 28, 413–422.

Chung, M. (1995). Reviewing Frankl's will to meaning and its implications for psychotherapy dealing with post traumatic stress disorder. Medicine and war, 11(1), 45–55.

Chung, M., Berger, Z., Jones, R., & Rudd, H. (2006). Posttraumatic stress disorder and general health problems following myocardial infarction (post-MI PTSD) among older patients: The role of personality. International Journal of Geriatric Psychiatry, 21, 1163–1174.

Chung, M., Dennis, I., Easthope, Y., Werrett, J., & Farmer, S. (2005). A multiple indicator miltiple-cause model for posttraumatic stress reactions: Personality, coping and maladjustment. Psychosomatic Medicine, 67, 251–259.

Chung, M., Werret, J., Easthope, Y., Farmer, S., & Chung, C. (2002). Traumatic stress and death anxiety among community residents exposed to a train crash. Omega: Journal of Death and Dying, 45(2), 133–147.

Chung, M. C., Werrett, J., Farmer, S., Easthope, Y., & Chung, C. (2000). Responses to traumatic stress among community residents exposed to a train collision. Stress Medicine, 16, 17–25.

Connor, K., Davidson, J., & Lee, L. (2003). Spirituality, resilience, and anger in survivors of violent trauma: A community survey. Journal of Traumatic Stress, 16, 487–494.

Cox, J. (1996). Psychiatry and religion: A general psychiatrist's perspective. In (1996). Psychiatry and religion: A general psychiatrist's perspective. In D.Bhugra (Ed.), Psychiatry and religion: Context, consensus and controversy. London, UK: Routledge.

Cox, B., Fuentes, K., Borger, S., & Taylor, S. (2001). Psychopathological correlates of anxiety sensitivity: Evidence from clinical interviews and self-report measures. Journal of Anxiety Disorders, 15, 317–332.

Cutrona, C. E., & Troutman, B. R. (1986). Social support, infant temperament, and parenting self-efficacy: A mediational model of post-partum depression. Child Development, 57, 1507–1518.

Davis, F., Bremer, A., & Tramill, J. (1983). The interrelationships of ego strength, self-esteem, death anxiety, and gender in undergraduate college students. Journal of General Psychology, 108, 55–59.

Duffy, M., Gillespie, K., & Clark, D. M. (2007). Post-traumatic stress disorder in the context of terrorism and other civil conflict in Northern Ireland: Randomised controlled trial. British Medical Journal, 334, 11–47

Elizarrarás-Rivas, J., Vargas-Mendoza, J., Mayoral-García, M., Matadamas-Zarate, C., Elizarrarás-Cruz, A., Taylor, M., & Kingsley, A. (2010). Psychological response of family members of patients hospitalised for influenza A/H1N1 in Oaxaca, Mexico. BMC Psychiatry, 10, 104–113.

Fallot, R., & Heckman, J. (2005). Religious/spiritual coping among women trauma survivors with mental health and substance use disorders. Journal of Behavioral Health Services and Research, 32, 215–226.

Flatten, G., Wälte, D., & Perlitz, V. (2008). Self-efficacy in acutely traumatized patients and the risk of developing posttraumatic stress syndrome. GMS Psycho-Social-Medicine, 5, 1–8.

Florian, V., Mikulincer, M., & Green, E. (1993). Fear of personal death and the MMPI profile of middle-age men: The moderating impact of personal losses. Omega; Journal of Death and Dying, 28, 151–164.

Foa, E. B. (1995). Posttraumatic Stress Diagnostic Scale (PDS) manual. Minneapolis, MN: National Computer Systems.

Foa, E. B., Cashman, L., Jaycox, L., & Perry, K. (1997). The validation of a self-report measure of posttraumatic stress disorder: The Posttraumatic Diagnostic Scale. Psychological Assessesments, 9, 445–451.

Floyd, J. D., Nguyen, D. T., Lobins, R. L., Bashir, Q., Doll, D. C., & Perry, M. C. (2005). Cardiotoxicity of cancer therapy. Journal of Clinical Oncology. 23, 7685–7696.

Frankl, V. E. (1988). The will to meaning: Foundations and applications of logotherapy (Meridian, Rei Exp ed.). New York, NY: Plume Books.

Friedman, M., Keane, T., & Resick, P. (2007). Handbook of PTSD: Science and Practice. New York, NY: Guilford Press.

Furer, P., & Walker, J. (2008). Death anxiety: A cognitive-behavioral approach. Journal of Cognitive Psychotherapy, 22, 167–182.

Fry, P. S. (2003). Perceived self-efficacy domains as predictors of fear of the unknown and fear of dying among older adults. Psychology and Aging, 18, 474–486

Ganzevoort, R. (1998). Religious coping reconsidered. Part one an integrated approach. Journal of Psychology and Theology, 26, 260–275.

George, L. K., Ellison, C. G., & Larson, D. B. (2002). Explaining the relationships between religious involvement and health. Psychological Inquiry, 13, 190–200.

Gershuny, B., & Hendricksen, E. (2003). Symptoms of posttraumatic stress and death anxiety in persons with HIV and medication adherence difficulties. AIDS PATIENT CARE and STDs, 17, 657–664.

Glas, G. (2007). Anxiety, anxiety disorders, religion and spirituality. Southern Medical Journal, 100, 621–625.

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. Psychological Medicine, 9, 139–145.

Guillet, L., Hermand, D., & Mullet, E. (2002). Cognitive processes involved in the appraisal of stress. Health and Stress, 18(2), 91–102

Henderson, S., & Bostock, T. (1977). Coping behaviour after shipwreck. British Journal of Psychology, 131, 15–20.

Hintze, J., Templer, D., Cappalletty, G., & Federick, W. (1993). Death depression and death anxiety in HIV-infected males. Death anxiety handbook: Research, instrumentation, and application (Series in death education, aging and health care) (1 ed., pp.193-198). Washington, DC: Taylor & Francis.

Hirschel, M. J., & Schulenberg, S. S. (2009). Hurricane Katrina's impact on the Mississippi Gulf Coast: General self-efficacy's relationship to PTSD prevalence and severity. Psychological Services, 6, 293–303.

Hyre, A., Cohen, A., Kutner, N., Alper, A., Dreisbach, A., Kimmel, P., & Muntner, P. (2009). Psychosocial status of hemodialysis patients one year after Hurricane Katrina. American Journal Medical Science, 336(2), 94–98.

Koenig, H. (2001). Religion and Medicine II: Religion, mental health, and related behaviors. International Journal of Psychiatry in Medicine, 31(1), 97–109.

Koenig, H., Ford, S., George, L., Blazer, D., & Meador, K. (1993). Religion and anxiety disorder: An examination and comparison of associations in young, middle-aged, and elderly adults. Journal of Anxiety Disorders, 7, 321–342.

Konstam, V., Moser, D., & Jong, M. D. (2005). Depression and anxiety in heart failure. Journal of Cardiac Failure, 11, 455–463.

Kroenke, K., & Spitzer, R. (1998). Gender differences in the reporting of physical and somatoform symptoms. Psychosomatic Medicine, 60, 150–155.

Lee, E., & Lu, F. (1989). Assessment and treatment of Asian American survivors of mass violence. Journal of Traumatic Stress, 2, 93–120.

Lehtsaar, T., & Noor, H. (2006). The role of religion in coping with the trauma of political persecution: The case of Estonia. Religion in Eastern Europe, 26(3), 44–57.

Lifton, R., & Olson, E. (1976). The human meaning of total disaster. Psychiatry, 39, 1–18.

Lonetto, R., & Templer, D. (1986). Death anxiety. Washington, DC: Hemisphere.

Maercker, A., & Herrle, J. (2003). Long-term effects of the Dresden bombing: Relationships to control beliefs, religious belief, and personal growth. Journal of Traumatic Stress, 16, 579–587.

Maltby, J., & Lewis, C. (1999). Religious orientation and psychological well-being: The role of the frequency of personal prayer. British Journal of Health Psychology, 4, 363–378.

Martz, E. (2004). Death anxiety as a predictor of posttraumatic stress levels among individuals with spinal cord injuries. Death Studies, 28(1), 1–17.

McClain-Jacobson, C., Rosenfeld, B., Kosinski, A., Pessin, H., Cimino, J., & Breitbart, W. (2004). Belief in an afterlife, spiritual well-being and end of-life despair in patients with advanced cancer. General Hospital Psychiatry, 26, 484–486.

McCoubrie, R., & Davies, A. (2006). Is there a correlation between spirituality and anxiety and depression in patients with advanced cancer?Supportive Care in Cancer, 14, 379–385.

Nelson, L. (1978). The multidimensional measurement of death attitudes: Construction and validation of a three-factor instrument. Psychological Record, 28, 525–533.

Pargament, K. I. (2001). The psychology of religion and coping: theory, research, practice (1st ed.). New York, NY: Guilford Press.

Pon, P. (2009). Elderly people's death anxiety and dying anxiety in Israel: A comparison between before and after the second Lebanon war. European Psychiatry, 24, 264–265.

Pyszczynski, T., & Kesebir, P. (2011). Anxiety buffer disruption theory: A terror management account of posttraumatic stress disorder. Anxiety, Stress & Coping, 24(1), 3–26.

Rachman, S. (1980). Emotional processing. Behaviour, Research and Therapy, 18, 51–60.

Roshdieh, S., Templer, D., Cannon, G., & Canfield, M. (1998–1999). The relationships of death anxiety and death depression to religion and civilian war-related experiences in Iranians. Omega; Journal of Death and Dying, 38, 201–210.

Safren, S., Gershuny, B., & Hendriksen, E. (2003). Symptoms of posttraumatic stress and death anxiety in persons with HIV and medication adherence difficulties. AIDS PATIENT CARE and STDs, 17, 657–664.

Salter, C., & Salter, C. (1976). Attitudes towards aging and behaviours toward the elderly among young people as a function of death anxiety. The Gerontologist, 16, 232–236.

Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. Psychological Methods, 7, 147–177.

Schwarzer, R. (1992). Self-efficacy: Thought control of action (1st ed.). Washington, DC: Taylor & Francis.

Sinha, S., & Nigan, M. (1993). Stress and death anxiety. Indian Journal of Clinical Psychology, 20, 78–81.

Strachan, E., Schimel, J., Arndt, J., Williams, T., Solomon, S., Pyszcynski, T., & Greenberg, J. (2007). Terror mismanagement: Evidence that mortality salience exacerbates phobic and compulsive behaviors. Personality and Social Psychology Bulletin, 33, 1137–1151.

Suhail, K. (2001). Death anxiety in a Pakistani sample. Journal of Indian Academy of Applied Psychology, 27(1–2), 19–27.

Tang, C., Wu, A., & Yan, E. (2002). Psychosocial correlates of death anxiety among Chinese college students. Death Studies, 26, 491–499.

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

Templer, D., Lavoie, M., Chalgujlan, H., & Thomas-Dobson, S. (1990). The measurement of death depression. Journal of Clinical Psychology, 46, 834–839.

Thompson, M., & Vardaman, P. (1997). The role of religion in coping with the loss of a family member to homicide. Journal for the Scientific Study of Religion, 36(1), 44–51.

Tolstikova, K., Fleming, S., & Chartier, B. (2005). Grief, complicated grief and trauma: The role of the search for meaning, impaired self-reference and death anxiety. Illness, Crisis, Loss, 13, 293–313.

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

Tomer, A., Eliason, G., & Wong, P. (2008). Existential and spiritual issues in death attitudes (1st ed.). Mahwah, NJ: Lawrence Erlbaum.

Vogt, K., & King, D. (2007). Risk pathways in PTSD: Making sense of the literature. Handbook of PTSD: Science and practice (1st ed., pp.99-132). New York, NY: Guilford Press.

Walter, K. H., Palmieri, P. A., & Gunstad, J. (2010). More than symptom reduction: Changes in executive function over the course of PTSD treatment. Journal of Traumatic. Stress, 23, 292–295.

Weisenberg, M., Schwarzwald, J., & Solomon, Z. (1991). Effects of combat stress reaction and posttraumatic stress disorder on perceived self-efficacy in battle. Military Psychology, 3, 61–71.

Williams, S., Eisler, R., Hersen, M., & Miller, P. (1990). Guided mastery treatment of agoraphobia: Beyond stimulus exposure. Progress in Behavior Modification (Sage Library of Social Research, Vol.26, pp.89-121). Thousand Oaks, CA: SAGE.

Wink, P., & Scott, J. (2005). Does religiousness buffer against the fear of death and dying in late adulthood? Findings from a longitudinal study. The Journals of Gerontology, 60, 207–214.

Wu, A., Tang, C., & Kwok, T. (2002). Death anxiety among Chinese elderly people in Hong Kong. Journal of Aging and Health, 14, 42–56.