

Original Article

Death contemplation and mental well-being in elderly Thai Buddhist meditation practitioners

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Abstract

Depression is prevalent among older adults in Southeast Asia, with fear of death as a key contributing factor. In Thailand, Buddhist death contemplation practices promote acceptance of mortality and may support mental well-being. However, their impact on mental health among elderly Thai Buddhist meditation practitioners remains underexplored. The aim of this study was to examine the interrelationships among death contemplation practice, positive death attitudes, and key psychological outcomes: well-being, depression, and gratitude among elderly Thai Buddhist meditation practitioners. A cross-sectional study design was employed, and data were collected from elderly Thai Buddhist meditation practitioners in Northern Thailand. Participants completed validated instruments assessing death attitudes (Morana Questionnaire; MoQ), death contemplation practice (Modified Meditation Evaluation Questionnaire; MMEQ), well-being (WHO-5-T), depression (Outcome Inventory-21), and gratitude (Gratitude Inventory-6). Descriptive statistics, Pearson correlations, and analysis of covariance (ANCOVA) were used to examine associations among variables and differences across levels of death contemplation practice. A total of 332 elderly participants (mean age=68.12 years; 66% female) were included. Death contemplation practice showed a significant negative association with depression ($p=0.011$) but not with well-being ($p=0.116$) or gratitude ($p=0.226$) after controlling for covariates. Positive death attitudes were independently associated with lower levels of depression ($p<0.001$), as well as higher levels of well-being ($p<0.001$) and gratitude ($p<0.001$), remaining a significant predictor across all outcomes. The association between contemplation and depression weakened when positive attitudes were included in the model, suggesting a mediating effect. These findings underscore the central role of positive death attitudes, cultivated through contemplative practice, in supporting mental health among elderly Thai Buddhist meditation practitioners. Integrating such practices into interventions may offer culturally appropriate strategies for enhancing well-being in aging Buddhist populations.

Keywords: Death contemplation, well-being, depression, gratitude, elderly Thai Buddhist

Introduction

Worldwide, the aging population faces increased psychological challenges, with depression and anxiety among the most common mental health issues in later life [1]. In Southeast Asia, and



particularly in Thailand, these challenges require attention as the elderly population is steadily rising [2]. Mental health in this demographic is influenced by a variety of factors, with growing evidence pointing to the critical role of existential concerns, specifically, fear of death and attitudes toward mortality [3]. Research demonstrates that negative attitudes toward death, such as death anxiety and avoidance, contribute significantly to poorer psychological outcomes, including heightened depression [4,5], lower life satisfaction [6], and increased distress [7,8]. In contrast, holding a more positive or accepting attitude toward death appears to be protective, associated with improved well-being and resilience in the face of the inevitable losses associated with aging [9-11].

Within the context of predominantly Buddhist societies such as Thailand [12], these existential concerns are addressed through distinctive cultural and religious practices that openly acknowledge and engage with the reality of death [13,14]. Traditional Buddhist teachings actively discourage avoidance or denial of death, instead emphasizing the mindful acceptance of impermanence as a pathway to peace and liberation from suffering. Central to this outlook is the meditative practice known as death contemplation, or *Maraṇānussati*, which involves deliberate reflection on the certainty and universality of death. Through this structured practice, practitioners are encouraged to confront the impermanence of their own lives and the transient nature of all conditioned things, thereby fostering an attitude that accepts death as a natural and inescapable phenomenon.

This approach to mortality, which is deeply embedded in Buddhist philosophy, is believed to have profound benefits for psychological health [15]. Cultivating positive death attitudes, marked by calm acceptance rather than fear, may reduce existential distress and promote increased self-awareness and equanimity [9,16]. Accordingly, empirical studies have shown that individuals who maintain positive attitudes toward death report higher levels of psychological well-being [17], life satisfaction [10], and gratitude [18], as well as lower levels of depression and grief [11]. This relationship is particularly salient among older adults, for whom reminders of mortality become more frequent due to physical decline and bereavement.

Despite the apparent relevance of these cultural and religious practices, research on the specific mental health effects of structured death contemplation, distinct from general death attitudes, remains limited in elderly Buddhist populations. Previous studies have focused broadly on death acceptance or fear [19-22], without differentiating between people who actively incorporate death reflection into their spiritual or religious practice (such as meditating practitioners) and those who do not [18,23]. As a result, little is known about the specific role that death contemplation practice plays in shaping mental health, and how it might help cultivate positive psychological resources, such as gratitude, a quality also emphasized in Buddhist teachings and associated with improved aging outcomes.

To address this gap, the aim of this study was to examine the association among death contemplation practice, positive death attitudes, and key psychological outcomes: well-being, depression, and gratitude among elderly Thai Buddhist meditation practitioners. Specifically, it explored whether frequent engagement in death contemplation and the presence of positive attitudes toward death were associated with higher levels of well-being and gratitude, and lower levels of depression. Studying these associations within a culture where death reflection is central to spiritual life may enhance both theoretical understanding and practical approaches to mental health promotion for aging populations.

Methods

Study design, setting, and sampling

A cross-sectional study was conducted between August and October 2024 among older Thai Buddhist meditation practitioners. Participants were recruited from temples and meditation centers in Chiang Mai, Lampang, Mae Hong Son, and Uthai Thani provinces in Northern Thailand. Data were collected via self-administered questionnaires, completed either in person or online. Sample size was calculated using G*Power 3.1, assuming an effect size (f) of 0.2, $\alpha=0.05$, power=0.80, seven covariates, and five groups based on the response categories for death contemplation practice. The estimated minimum sample size was 304. Purposive sampling

was applied to target individuals with experience in meditation and familiarity with death contemplation practices.

Participants

This study included individuals aged 60 years or older who identified as Theravada Buddhists, were able to read, write, and understand spoken Thai, and had self-reported experience with death contemplation practice. Individuals with uncorrected visual or hearing impairments that could interfere with questionnaire completion were excluded from the study.

Data collection

Temples and meditation centers across Northern Thailand were contacted to request permission for data collection. Each site was provided with documentation, including the ethics approval letter, participant information sheet, informed consent form, compensation receipt, and the complete self-report questionnaire. Data collection was conducted on-site at temples or meditation centers on scheduled dates agreed upon with the research team and site administrators. To broaden participation, study information was also disseminated online through social media platforms (e.g., Facebook, Instagram), with remote data collection conducted through Microsoft Forms. Informed consent was obtained from all participants prior to participation. All data were collected at a single time point.

Instruments

Sociodemographic information, including age, sex, education, employment, marital status, and living situation, was collected. The following instruments were used to assess death contemplation practice, death attitudes, well-being, depression, and gratitude.

The Modified Meditation Evaluation Questionnaire (MMEQ), a 12-item self-report scale developed in Thai [24], was used to measure the frequency of death contemplation practice. One item specifically assessed the daily frequency of this practice over the past month using a five-point scale (0=never to 4=very often). Participants were instructed to respond exclusively based on their death contemplation meditation.

The Morana Questionnaire (MoQ) is a 10-item Thai-language instrument developed to assess positive attitudes toward death, grounded in Theravāda Buddhist teachings [25]. Items 1–9 are rated on a four-point Likert scale (1=strongly disagree to 4=strongly agree), with higher scores indicating stronger positive attitudes toward death. These items capture various domains, including absence of death-related fear (e.g., “I am not afraid of death that will come”), frequency of death contemplation (e.g., “I frequently think about my own death”), preparedness for death (e.g., “If my life were to end now, I would be content”), emotional responses to death-related thoughts (e.g., “The thought of my own death makes me feel calm or relaxed”), and acceptance of death’s natural inevitability in accordance with Buddhist beliefs in reincarnation (e.g., “I believe that the soul does not die after death, and there is life in the next world”). Item 10 is a categorical question that asks participants where they believe they will go after death, offering culturally and religiously relevant response options (e.g., Heaven, Rebirth, Remaining near loved ones). The MoQ demonstrated acceptable internal consistency (Cronbach’s alpha=0.79) in this study.

The Thai version of the World Health Organization-Five Well-Being Index (WHO-5-T), a culturally adapted translation of the WHO’s five-item scale, was used to assess subjective psychological well-being over the past two weeks [26]. Each item was rated on a six-point Likert scale ranging from 0 (at no time) to 5 (all of the time), yielding a total score between 0 and 25, with higher scores indicating better well-being. The WHO-5-T has previously demonstrated strong psychometric properties (Cronbach’s alpha=0.87) [26], and showed excellent internal consistency in the present study (Cronbach’s alpha=0.93).

Depressive symptoms were measured using the depression subscale of the Outcome Inventory-21 (OI-21), a five-item scale developed in Thai [27]. Items were rated on a five-point Likert scale (0=never to 4=almost always) and assessed both affective and cognitive aspects of depression. Higher total scores indicate greater depressive symptom severity. The subscale previously showed good internal consistency in non-clinical populations (Cronbach’s alpha=0.77) [27], and demonstrated satisfactory reliability in this study (Cronbach’s alpha=0.79).

Gratitude was measured using the Gratitude Inventory-6 (GI-6), a six-item scale developed to align with Thai sociocultural values and Theravāda Buddhist principles [28]. Items were rated on a five-point scale, producing total scores ranging from 6 to 30, with higher scores indicating greater levels of gratitude. To improve internal consistency, item five was excluded in this study; reliability remained high (Cronbach's alpha=0.94) [28]. The GI-6 has previously demonstrated excellent internal consistency in Thai populations (Cronbach's alpha=0.94).

Statistical analysis

Descriptive statistics, including means, standard deviations, and percentages, were calculated for all study variables. Pearson correlation analysis was conducted to examine associations among the variables. Group differences in well-being, gratitude, and depressive symptoms between low and high levels of death contemplation practice were analyzed using analysis of covariance (ANCOVA), adjusting for age, sex, education, employment status, marital status, living arrangement, and positive death attitudes. Statistical significance was set at $p < 0.05$. All analyses were performed using IBM SPSS Statistics, version 26 (IBM Corp., Armonk, NY, USA).

Results

Characteristics of the participants

A total of 332 elderly Thai Buddhist meditation practitioners were included in the study, as presented in **Table 1**. The mean age of participants was 68.12 ± 6.86 years, and the majority were female (66.0%). Educational attainment was evenly distributed, with 50.3% having completed high school or less. Regarding employment, 30.4% were employed. In terms of marital status, 44.0% were married, 24.7% single, 19.6% widowed, and 7.5% divorced; data were missing for 6.6% of participants. Most participants (58.1%) lived with others, while 35.2% lived alone; living arrangement data were missing for 9.6%. The frequency of death contemplation practice varied. Approximately 39.5% reported practicing it "sometimes" each day, followed by 23.8% "quite often," 18.7% "very often," and 12.0% "hardly ever." Only 6.0% reported never engaging in death contemplation (**Table 1**).

Table 1. Sociodemographic characteristics and death contemplation practice frequency among elderly Thai Buddhist meditation practitioners (n=332)

Variables	n (%)
Age (years), mean \pm SD	68.12 \pm 6.86
Sex	
Female	219 (66)
Male	113 (34)
Education	
>High school	165 (49.7)
\leq High school	167 (50.3)
Employment	
Employed	101 (30.4)
Unemployed	231 (69.6)
Marital status	
Single	82 (24.7)
Married	146 (44.0)
Divorced	25 (7.5)
Widowed	65 (19.6)
Missing data	22 (6.6)
Living situation	
Alone	117 (35.2)
With other(s)	193 (58.1)
Missing data	33 (9.6)
Death contemplation practice frequency (per day)	
Never (0)	20 (6.0)
Hardly ever (1)	40 (12.0)
Sometimes (2)	131 (39.5)
Quite often (3)	79 (23.8)
Very often (4)	62 (18.7)

Positive death attitudes and mental health scores are summarized in **Table 2**. The mean score for positive death attitudes was 29.66 ± 4.45 , reflecting generally favorable views toward death. The average well-being score was 18.99 ± 4.65 , equivalent to a standardized score of 75.96 out of 100, indicating a relatively high level of psychological well-being. Depression scores were low, with a mean of 2.64 ± 2.78 , while gratitude levels were moderately high, averaging 23.22 ± 3.22 (**Table 2**).

Table 2. Death contemplation and mental health instrument scores among elderly Thai Buddhist meditation practitioners (n=332)

Instruments	Score range	Mean \pm SD
Positive death attitudes	9–36	29.66 \pm 4.45
Well-being	0–25	18.99 \pm 4.65
Depression	0–20	2.64 \pm 2.78
Gratitude	5–25	23.22 \pm 3.22

Correlations between sociodemographic characteristics, death-related variables, and psychological outcomes

The correlation matrix among sociodemographic variables, death-related constructs, and psychological outcomes is presented in **Table 3**. Death contemplation practice was positively correlated with positive death attitudes ($r=0.484$, $p<0.01$), indicating a moderate association between the two. This supports the notion that regular engagement in death contemplation may foster more positive attitudes toward death. Both death-related variables (death contemplation practice and positive death attitudes) were significantly correlated with higher levels of well-being ($r=0.281$ and $r=0.385$, respectively; both $p<0.01$) and gratitude ($r=0.148$ and $r=0.238$; both $p<0.01$), and with lower levels of depression ($r=-0.167$) and $r=-0.263$); both $p<0.01$). These findings suggest that positive engagement with death may be linked to better mental health outcomes.

Group differences in psychological outcomes by frequency of death contemplation practice

Participants who engaged in death contemplation more frequently reported lower depression scores and higher levels of well-being, gratitude, and positive death attitudes. Depression was highest among participants who practiced death contemplation “sometimes” and lowest among those in the “very often” group. Well-being and gratitude scores increased progressively with more frequent death contemplation. Positive death attitudes showed a similar gradient, with the highest mean in the “very often” group and the lowest among those who never practiced (**Table 4**).

After adjusting for sociodemographic characteristics and positive death attitudes, frequency of death contemplation practice remained a significant predictor of depression ($F(4,297) = 3.310$; $p=0.011$) but was not significantly associated with well-being ($F(4,297) = 1.868$; $p=0.116$) or gratitude ($F(4,297) = 1.422$; $p=0.226$). Positive death attitudes were significantly associated with all three outcomes: well-being ($F(1,297) = 34.376$; $p<0.001$), gratitude ($F(1,297) = 16.074$; $p<0.001$), and depression ($F(1,297) = 14.193$; $p<0.001$). Education and living situation were also significantly associated with gratitude ($p=0.018$ and $p=0.031$, respectively) and depression ($p=0.043$ and $p=0.004$, respectively) (**Table 5**).

Discussion

This study examined the association among death contemplation practice, positive death attitudes, and mental health outcomes: well-being, depression, and gratitude, among elderly Thai Buddhist meditation practitioners. The results demonstrated that positive death attitudes were consistently and strongly associated with lower depression and higher well-being and gratitude. Although frequent death contemplation was significantly related to reduced depressive symptoms, its influence on well-being and gratitude appeared to be mediated by the development of positive death attitudes.

Table 3. Correlations between sociodemographic variables, death-related measures, and psychological outcomes among elderly Thai Buddhist meditation practitioners (n=332)

Items	Age	Sex	Education	Employment	Marital status	Living situation	Death attitude	Death contemplation practice	Well-being	Depression	Gratitude
Age	-										
Sex	-0.108*	-									
Education	-0.098	0.002	-								
Employment	0.181**	-0.119*	-0.212**	-							
Marital status	0.126*	-0.109	-0.116*	0.114*	-						
Living situation	0.036	0.113*	0.115*	-0.161**	0.055	-					
Death attitude	0.084	-0.041	0.095	-0.056	-0.146**	-0.023	-				
Death contemplation practice	-0.043	-0.077	0.117*	-0.05	-0.157**	-0.06	0.484**	-			
Well-being	-0.057	0.020	0.104	-0.029	-0.051	-0.029	0.385**	0.281**	-		
Depression	-0.016	-0.016	-0.143**	0.152**	0.027	-0.176**	-0.263**	-0.167**	-0.463**	-	
Gratitude	-0.109*	0.033	0.196**	-0.111*	-0.027	0.132*	0.238**	0.148**	0.377**	-0.408**	-

*Statistical significance at $p < 0.05$

**Statistical significance at $p < 0.01$

Table 4. Psychological outcomes by death contemplation frequency (n=332)

Death contemplation practice frequency	Psychological outcomes							
	Depression		Well-being		Gratitude		Positive death attitudes	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Never	2.47	2.90	17.94	4.49	23.12	3.06	25.12	5.05
Hardly ever	2.84	3.40	17.24	4.88	22.56	4.36	26.36	4.30
Sometimes	3.42	2.95	17.95	4.83	22.39	3.43	28.67	3.98
Quite often	2.28	2.51	19.42	4.16	23.88	2.13	30.88	3.41
Very often	1.64	2.31	21.16	3.97	23.84	3.37	32.40	3.69

Table 5. Adjusted outcomes by death contemplation frequency, controlling for covariates (n=332)

Predictors	Psychological outcomes						
	Well-being		Gratitude		Depression		
	<i>F</i> (df1, df2)	<i>p</i> -value	<i>F</i> (df1, df2)	<i>p</i> -value	<i>F</i> (df1, df2)	<i>p</i> -value	
Corrected model	<i>F</i> (11,297) = 6.616	<0.001*	<i>F</i> (11,297) = 4.521	<0.001*	<i>F</i> (11,297) = 5.799	<0.001*	
Intercept	<i>F</i> (1,297) = 11.066	0.001*	<i>F</i> (1,297) = 68.615	<0.001*	<i>F</i> (11,297) = 21.226	<0.001*	
Age	<i>F</i> (1,297) = 2.500	0.115	<i>F</i> (1,297) = 3.446	0.064	<i>F</i> (11,297) = 0.688	0.408	
Sex	<i>F</i> (1,297) = 0.596	0.441	<i>F</i> (1,297) = 0.241	0.624	<i>F</i> (11,297) = 0.083	0.774	
Education	<i>F</i> (1,297) = 1.728	0.190	<i>F</i> (1,297) = 5.689	0.018*	<i>F</i> (11,297) = 4.115	0.043*	
Employment	<i>F</i> (1,297) = 0.627	0.429	<i>F</i> (1,297) = 0.020	0.888	<i>F</i> (11,297) = 3.326	0.069	
Marital	<i>F</i> (1,297) = 0.433	0.511	<i>F</i> (1,297) = 0.443	0.506	<i>F</i> (11,297) = 0.371	0.543	
Living situation	<i>F</i> (1,297) = 0.069	0.793	<i>F</i> (1,297) = 4.696	0.031*	<i>F</i> (11,297) = 8.266	0.004*	
Positive death attitudes	<i>F</i> (1,297) = 34.376	<0.001*	<i>F</i> (1,297) = 16.074	<0.001*	<i>F</i> (11,297) = 14.193	<0.001*	
Death contemplation practice frequency	<i>F</i> (4,297) = 1.868	0.116	<i>F</i> (4,297) = 1.422	0.226	<i>F</i> (11,297) = 3.310	0.011*	
	$R^2 = 0.167, F(11,297) = 6.616, p < 0.001^*$			$R^2 = 0.112, F(11,297) = 4.521, p < 0.001^*$		$R^2 = 0.145, F(11,297) = 5.799, p < 0.001^*$	

df: degrees of freedom; *F*: F-statistic

*Statistical significance at $p < 0.05$

The strong association between positive death attitudes and all three mental health outcomes highlights the psychological benefits of accepting death as a natural and inevitable part of life. This finding aligns with prior studies showing that acceptance of mortality, rather than fear, is linked to greater life satisfaction, quality of life, well-being, and psychological resilience [9,20,29-31]. Previous studies found that participating in a mindfulness of death-based meditation or education program led to an increase in positive attitudes towards death [32,33], while other studies found associations between death meditation and mental health benefits, including improved quality of life [34] and reduced effect of stress-induced depression [35]. The current study extends this literature by underscoring the specific contribution of contemplative practice in fostering adaptive death attitudes, particularly within a cultural and religious context where such practices are normative and valued, and further connecting the practice and positive death attitudes to mental health outcomes, including depression and well-being.

The significant association between death contemplation practice and lower depression supports Buddhist teachings that encourage engagement with existential realities as a means of alleviating suffering [13,14,36]. However, the absence of independent associations between death contemplation and either well-being or gratitude, after adjusting for death attitudes, suggests that the benefits of such practice are mediated through attitudinal transformation. This pattern supports theoretical models suggesting that internalized attitudes shape the mental health outcomes of spiritual or meditative practices [37,38]. In this context, the act of contemplation serves as a vehicle for cultivating more accepting views of death, which in turn promotes mental health. These findings highlight the central role of attitudinal change in linking contemplative practice with psychological outcomes. In Buddhist cultural settings such as Thailand [12], shared religious beliefs may facilitate such transformations, making them more accessible and enduring, a notion demonstrated in previous research, which found that Buddhist beliefs and practices contributed to death acceptance among Thai older adults [36,39]. This suggests that mental health interventions may be more effective when integrated into culturally aligned frameworks that support adaptive death-related attitudes. The role of culture has also been highlighted in research on attitudes towards death education [40].

These findings have practical implications for mental health promotion in aging populations, especially within Buddhist or contemplative contexts. Interventions designed to reduce depression and promote well-being could benefit from integrating structured practices such as *Maraṇānussati* to foster equanimity and death acceptance. By promoting psychological strengths such as gratitude and emotional balance, these practices may support not only symptom reduction but also flourishing in later life [41,42]. The results also suggest that public health and clinical efforts in Thailand and similar societies should consider culturally embedded strategies, particularly religious contemplative practices, to address psychological distress among the elderly.

A key strength of this study is its focus on an under-researched population, which is elderly Buddhist meditation practitioners, for whom death reflection is a routine element of practice. This offers novel insight into the intersection of aging, religiosity, and mental health. The use of culturally validated instruments for assessing death attitudes, contemplative practice, and psychological outcomes further strengthens the credibility of these findings. This is aligned with best practices in cross-cultural research and geriatric psychology [43-46].

Nonetheless, several limitations must be acknowledged. First, the cross-sectional design precludes causal inference. Longitudinal or experimental studies are needed to assess whether cultivating positive death attitudes leads to improved mental health over time, or whether the relationship is reciprocal. Second, reliance on self-report measures may introduce bias due to social desirability or recall inaccuracies. Third, while appropriate for the cultural context studied, findings may not generalize to elderly individuals from other cultural or religious backgrounds or to those without contemplative experience.

Future research should employ longitudinal designs to clarify the direction and persistence of associations among death contemplation, attitudes, and mental health. Further work could also explore mechanisms underlying these relationships, such as mindfulness, self-compassion, or shifts in existential beliefs. Additionally, intervention studies are warranted to evaluate the

effectiveness of culturally adapted contemplative practices in reducing psychological distress among diverse older adult populations.

Conclusion

This study highlights the central role of positive attitudes toward death, cultivated through structured contemplation practices, in enhancing psychological well-being and reducing depression among elderly Thai Buddhist meditation practitioners. The findings emphasize the value of incorporating culturally relevant, contemplative, and attitudinal strategies into mental health promotion for aging populations. Approaches that foster equanimity and acceptance, particularly within societies grounded in contemplative traditions, may offer meaningful benefits for improving quality of life in later adulthood.

Ethics approval

This study was approved by the Research Ethics Committee, Faculty of Medicine, Chiang Mai University. Research ID: PSY-2567-0372, on August 9, 2024.

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Competing interests

All the authors declare that there are no conflicts of interest.

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Underlying data

Derived data supporting the findings of this study are available from the corresponding author on request.

Declaration of artificial intelligence use

We hereby confirm that no artificial intelligence (AI) tools or methodologies were utilized at any stage of this study, including during data collection, analysis, visualization, or manuscript preparation. All work presented in this study was conducted manually by the authors without the assistance of AI-based tools or systems.

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