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Determinants of Psychological Problems Among Widows Living Under the Long Civil Unrest in the Southernmost Provinces of Thailand

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ABSTRACT

People in the deep south region of Thailand have experienced civil unrest since 2004, and widows from the conflict have been severely stressed and faced various psychological problems. This study aims to investigate psychological problems and examine factors affecting the psychological problems among these widows. The psychological problems are post-traumatic stress disorder (PTSD), complicated grief (CG), and depression. The study's sample consisted of 350 widows who voluntarily participated in the interviews and completed the questionnaires. PTSD symptom scale-interview version assesses post-traumatic stress disorder, and the complicated grief is measured using the inventory of the complicated grief, and the depression is evaluated with the Hamilton rating scale for depression (Thai version). The results indicate that the respondents had a high post-traumatic stress disorder state ($M = 21$, $SD = 13.8$), a high complicated grief state ($M = 28.56$, $SD = 19.69$), but a low depression state ($M = 5.48$, $SD = 5.70$). Thirty-two percent of the samples fulfilled the criteria for post-traumatic stress disorder, 48% for complicated grief, and 26.6% for depression. The factors significantly affecting post-traumatic stress disorder, complicated grief, and depression are low resilience, high external stressors, and the quality of life. However, the results should be interpreted with caution due to the risk of biases of the sensitive nature of the study. Therefore, to better understand the risks and protective factors of post-traumatic stress disorder, complicated grief, and depression of the bereaved widows, significantly different factors should be considered.

Keywords: Civil unrest, psychological problems, widows

INTRODUCTION

Significant psychological problems result from the violent death of people's loved ones (Djelantik, Robinaugh, Kleber, et al., 2020; Grafiadeli et al., 2022; Williams et al., 2018). Post-traumatic stress disorder (PTSD), complicated grief (CG), and depression are common psychological problems that often occur among people having bereavement (Djelantik, Robinaugh, & Boelen, 2022). These psychological problems resulting from losing a spouse are among the most difficult social and psychological issues. As findings in bereaved Kosovar civilian war, survivors who had lost first-degree relatives due to war-related violence seven years ago and other war-related events had high psychological problems, with 55% PTSD, 38.3% CG, and 38.3% depression (Morina et al., 2010). Widow survivors of the Rwandese genocide had 53.2% of their lifetime PTSD, while the current PTSD was 28%, significantly associated with depression (Ngamije, 2009). Similarly, 16.5% of widows met CG with an average of 12 years post-loss, and their grief-related loss was 70% due to violent death, and this highly significant CG was also related to PTSD (Schaal et al., 2010).

In the southernmost provinces of Thailand, 20,539 unrest events occurred from January 2004 to February 2020, resulting in 13,247 injuries and 7,103 deaths. This civil unrest caused bereavement among the victims, with 3,075 women becoming bereaved widows (Treesuwan, 2020). There was a study reporting that the widows were grieving, mourning, experienced loneliness, desperation, anxiety, and frustration (Kaewkabthong, 2015), and 7.4% of bereaved people from this unrest had poor mental health (Songwathana et al., 2017). The result of a survey in 2014 by the Thai Health Promotion Foundation (ThaiHealth Official, 2017) indicated that people affected by the civil unrest situation had PTSD at 2.6% (higher than other areas, approximately five times the rate), and PTSD co-occurred with 90% of depression and 55% of suicidal idea.

Previous studies found a connection between psychological problems and socio-demographic factors. Ages, marital status, religions, education levels, residences, occupations, and incomes were found to be significantly related to psychological problems, arguably to a certain extent. Ages were inconsistently reported as a risk factor in the development of PTSD and CG (Ford et al., 2015; Kersting et al., 2011; Park et al., 2015), and other studies documented no association among ages for PTSD or CG (Britvić et al., 2015; Taha et al., 2021; Xue et al., 2015). Younger ages were significantly associated with suicidality in depression patients (Casey et al., 2015); younger people had a higher depression rate than older people (Park et al., 2015). Marital status as a widow was a strong significant predictor of PTSD (Taha et al., 2021), and having a widow status bore a significant risk factor affecting an increase in the CG score (He et al., 2014). Living with a partner or spouse significantly affected a low-risk depression score (Lorant et al., 2007), while a low-quality marital relationship was a risk factor for depression (Matinnia et al., 2018).

Belief in religions was yet unclear in terms of its significance, but there was more of a tendency of a protective factor against CG and depression (Braam & Koenig, 2019). Religions generated a unique, positive contribution to recovering from PTSD (Carroll et al., 2020). Education levels were also considered a predictor for PTSD (Ford et al., 2015; Xue et al., 2015). However, some studies argued that there was no relationship between levels of education and PTSD (Britvić et al., 2015; Taha et al., 2021). Low education levels may have been considered a risk to meet CG (He et al., 2014), while higher educational levels seemed to have a protective effect against depression (Maier et al., 2021). Residents living close to violent situations might face direct exposure, as well as those living in disaster-prone areas, where they tend to increase the risks of developing psychological problems. Living in different residential areas had also significantly affected PTSD scores (Ford et al., 2015; Taha et al., 2021). However, no difference between residence places—villages and urban/cities—affected a CG score (He et al., 2014), but living during the war was related to violence risks for CG (Morina et al., 2010).

Employment status, such as employment, unemployment, and pensioners, had significantly different PTSD (Britvić et al., 2015). People who met the criteria for CG had impairment in their occupational area (Prigerson, Horowitz, et al., 2009). In addition, employment status led to changes in the rates of depression (Lorant et al.,

2007). Income was also a socioeconomic resource, considered a protective factor against PTSD because high socioeconomic status provided access to opportunities such as financial support (Ford et al., 2015). Higher monthly incomes were significantly less likely to experience CG than those with lower monthly incomes (Kersting et al., 2011). Financial strain increases the risks of depressive symptoms (Lorant et al., 2007).

The literature shows a variety of trauma event factors associated with psychological problems. The traumatic events were frequently associated with PTSD, especially intense fear, helplessness, or horror (Ngamije, 2009). It could be concluded that trauma events were positively correlated with PTSD (Park et al., 2015). In addition, traumatic events that occurred to someone close to or on a mass scale, such as war or genocide, could lead to a higher risk of PTSD (Ford et al., 2015). Regarding CG, medical and trauma events had a significant negative effect on CG symptoms (He et al., 2014), as well as violent death events with a higher CG score than non-violent events (Schaal et al., 2010). Nevertheless, there was little support for differences between suicide survivors and homicide survivors or between suicide survivors and accident survivors in terms of symptoms of depression (Hibberd et al., 2010). The elapsed time since trauma was negatively correlated with PTSD (Park et al., 2015). The CG score of widows who lost their beloved people for one year was higher than those who lost their loved ones over one year and the average years (11.5 years; Schaal et al., 2010).

Besides, the mean duration after the loss was 4–6 months of accidents; survivors were reported to experience more depression than 9–4 months after the loss. However, some studies found no significant differences in depression at 5 months, 14 months, and 6 years after the deaths (Hibberd et al., 2010). Survivors who faced more than one traumatic event tended to exhibit more risks of developing psychological problems. Survivors who had multiple losses or experienced at least one and often two or more traumatic stressors were significantly related to PTSD (Ford et al., 2015; Kessler et al., 2017). A person who had faced multiple losses tended to meet the criteria for CG (Schaal et al., 2010). Moreover, the number of losses of household family members was shown to predict emotional distress and depression (Kristensen et al., 2012).

There were previous research works examining psycho-social factors impacting psychological problems. Risk factors associated with PTSD were external stressors (Kydonieus, 2016), family problems (Ford et al., 2015), and interpersonal conflicts (Ford et al., 2015). Risk factors leading to CG were family problems and interpersonal conflicts (Melhem et al., 2004). Risk factors related to depression were family problems (Mason et al., 2020) and interpersonal conflicts (Melhem et al., 2004). Protective factors comprising resilience (Horn & Feder, 2018), self-efficacy (Ford et al., 2015; Hibberd et al., 2010), social support (Ford et al., 2015), and quality of life (Hansson, 2002) were significantly affected the reduced risks of persistent PTSD. Protective factors related to CG were resilience (King & Delgado,

2021), self-efficacy (Hibberd et al., 2010), social support (Hibberd et al., 2010; King & Delgado, 2021), and quality of life (Boelen & Prigerson, 2007). Also, protective factors associated with depression were resilience (Edward, 2005), self-efficacy (Hibberd et al., 2010), social support (Casey et al., 2015; Razzak et al., 2019), and quality of life (Hansson, 2002).

Several studies also suggested that psychological problems were associated with healing factors. Healing factors were meant to be ways of helping people to get out of suffering from loss effects. There were two ways to these healing factors: receiving compensation from the government and having problem solutions by themselves, which were investigated and found that the score of PTSD (Park et al., 2015), CG (Mason et al., 2020), and depression (Park et al., 2015) reduced after people participated in those healing activities which provided healing solutions to their problems after loss of their beloved people.

Still, there is a lack of studies on factors associated with psychological problems involving PTSD, CG, and depression, especially among widows living under long civil unrest in the southernmost provinces of Thailand. Therefore, the objective of all the factors in this study is to identify factors most closely associated with PTSD, CG, and depression. The factors were socio-demographic, trauma event, psycho-social, and healing factors. In addition, this study also examines the state of PTSD, CG, and depression among the selected widows. The findings of this study could be beneficial for understanding the real situations these

widows face and designing the healing process to improve their health.

METHODOLOGY

Participants

The cross-sectional study was conducted from September 2019 to February 2020. The samples were widows who were selected by convenience sampling. Their data were collected using a questionnaire on demographic characteristics, post-traumatic stress disorder (PSS-I), complicated grief (ICG), and depression (HRSD-17). In detail, the widows participating in this study were those who had lost their husbands in Thailand's southern insurgency situation between January 2004 and February 2020 in Pattani, Yala, and Narathiwat.

The sample size is calculated using the following formula: $n = \frac{NZ_{\alpha/2}^2}{4Ne^2 + Z_{\alpha/2}^2}$, where n is the required sample size, N is the number of population (3,075), $Z_{a}/_2$ is 1.96 whereby α is 0.05, and e is the precision of estimation (0.05). Initially, the sample size was 341.49, which was expanded to 350 to compensate for the non-response of participants.

Measures

The questionnaire on the socio-demographic factors (ages, marital status, religions, educational levels, places of residence, occupations, and monthly incomes), trauma event factors (trauma event types, duration in years of loss, and loss of other beloved people), and healing factors (receiving compensation and having problem solutions) was developed.

For PTSD Symptoms, the Scale-Interview Version (PSS-I) was adopted from Foa and Tolin (2000). The 17-item semi-structured questionnaire was developed for the interview process. The interviews were applied to assess the presence and the severity of the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV; American Psychiatric Association, 2005) PTSD symptoms. The rating scales were considered to reflect a combination of frequency and severity (from 0 = "not at all" to 3 = "5 times or more per week/very much") and yield a slightly higher coefficient and sensitivity to PTSD. PSS-I score ranged from 0–51, whereby more than 15 score was considered a cut point for PTSD diagnosis, which was determined by counting the number of symptoms endorsed per symptom cluster: 1 re-experiencing, 3 avoidances, and 2 arousal symptoms or greater.

Inventory of Complicated Grief (ICG; Prigerson, Maciejewski, et al., 1995) was used to measure the symptoms of CG and comprised 19 items. This ICG rating scale contained five levels: never, rarely, sometimes, often, and always. The ICG score range was from 0–76, whereby the respondents with more than 25 of the ICG score were considered as having CG.

Hamilton Rating Scale for Depression (HRSD-17) in the Thai version (Lotrakul et al., 1996) assessed depression symptoms in four domains: depression and anxiety, sleep, physical, and cognitive domains. The scales were from 0 to 5, categorized as 0 = absent or none or no difficulty, 1 = mild, 2 = moderate, 3 = severe, and

4=incapacitating. Examples of some items were "depressed mood (sadness, hopeless, helpless, worthless)", "feeling of guilt?" and "early insomnia?" The HRSD score range was from 0–31, whereby a lower than 8 score was considered as no depression, an 8 to 13 score meant mild depression, a 14 to 18 score identified moderate depression, 19 to 22 score showed severe depression, and a score of more than 22 was labeled as very severe depression.

Regarding the psycho-social factors, the compilation of resilience was measured by the Thai resilience quotient screening test (Department of Mental Health, 2009). General efficacy was assessed by the general self-efficacy scale (Schwarzer et al., 1997). Family problems and interpersonal conflicts were indicated in the employee assistance program inventory by Anton and Reed (2004). Social support was evaluated using a part of the Thai mental health indicator (TMHI; Mongkol et al., 2004). The World Health Organization Quality of Life Brief-Thai (WHOQOL-BREF-THAI) assessed the quality of life and was developed by the Department of Mental Health (2005). All instruments were only in Thai.

Procedures

The name list of all the widows residing in districts was available from three districts in each province, and approximately 40 widows were selected. Notifications and appointments for the interviews were informed in advance. Prior to conducting the interviews, psychologists asked the participants about their preferred language (Thai or Yawi) and collected data in the mentioned language. Nine psychologists (one from each hospital) carried out the interviews at the district hospitals. Most widows are bilingual. They *speak* the "Thai" and "*Yawi*" dialects of Malayan, which should mutually be comprehensible with Bahasa Malaysia. These psychologists are bilingual Muslims who fluently speak "Thai" and "Yawi" and have experience using measurement tools. The tool of this study was the questionnaire written in Thai. All participants were provided with an information sheet explaining the study's aims, and verbal consent was received from the participants.

Data Management

Each filled questionnaire was checked for completeness, and the data were recorded. Some items in the questionnaire were incomplete with some fields, so they were left blank. These missing values were less than 5% and replaced with each variable's median value. The total scores of PTSD, CG, and depression were computed. The total scores of each variable of psycho-social factors were computed by adding the questionnaire items and treating them as categorical variables.

Statistical Methods

Statistical analysis in this research involved analyzing the frequency distributions of determinants. The determinants comprised the socio-demographic factors, the trauma event factors, the psycho-social factors, and the healing factors. The socio-demographic factors included age, marital status, religion,

levels of education, residences, occupations, and incomes. The trauma event factors contained trauma event types, duration in years of loss, and loss of other beloved ones. The psycho-social factors were resilience, general self-efficacy, external stressors, family problems, interpersonal conflicts, social support, and quality of life. Finally, the healing factors comprised received compensation and solutions to problems. Their univariate associations were measured with the outcomes of PTSD, CG, and depression scores using an independent sample t-test and one-way analysis of variance (ANOVA). Backward-selection multiple regression was also used to examine the relationship between the determinants and the psychological problem outcomes. The data analysis used R: a language and environment for statistical computing (R Core Team, 2018). This study protocol was approved by the research ethics committee for science, technology, and health science (psu.pn.1-008/62), Prince of Songkla University, Pattani Campus.

RESULTS

Characteristics of the Samples

Table 1 shows the frequency distributions of the determinants. In terms of the socio-demographic factors among 350 widows who responded to the questionnaires, 33.7% of widows were at the age of 50–59, 73.4% remained in the widow status, and 26.4% were newly married. For their religions, 81.7% of them are Muslims. Regarding their educational level, 46% had finished secondary school. In addition, 48% of the participants lived in Narathiwat. Finally, for their occupations, 77% of the samples were unemployed, and 29.4% of them had lower than 4,000 Baht of income. Pertaining to the trauma event factors, 80.9% of their husbands died due to shooting, 30.6% of the samples said that their husbands died between 11 years 1 month and 13 years ago, and 91.4% of these widows indicated that their husbands had just died. In terms of the psycho-social factors, 48% of the widows had low normal resilience, 41.8% had high general self-efficacy, 46.9% had mild external stressors, 50% had mild family problems, 44.3% had internal conflicts, 48.8% had fair social support, and 71.1% had fair quality of life. With regard to the healing factors, 77.7% of the participants had received compensation, and 32.3% had solved their problems by self-awareness, struggle, mindfulness, and tolerance.

Table 1
Characteristics of respondents (n = 350)

Factors		n	%
Socio-demo factors			
Ages (years old)	Less than 40	83	23.7
	40–49	107	30.6
	50–59	118	33.7
	60 and over	42	12.0

Table 1 *(continue)*

Factors		n	%
Marital status	Widow	257	73.4
	Newly married	93	26.6
Religions	Buddhist	64	18.3
	Islam	286	81.7
Levels of education	Uneducated	16	4.6
	Primary	140	40.0
	Secondary	161	46.0
	Bachelor & higher degree	33	9.4
Residences	Pattani	46	13.1
	Yala	135	38.6
	Narathiwat	169	48.3
Occupations	Unemployed	80	22.9
	Employed	270	77.1
Incomes (Baht)	< 4,000	103	29.4
	4,000–4,500	76	21.7
	4,501–6,000	91	26.0
	> 6,000	80	22.9
Trauma event factors			
Trauma event types	Killed by shooting	283	80.9
	Killed by bomb	19	5.4
	Others	48	13.7
Duration of loss (years)	<8	82	23.4
	8–10	81	23.1
	11–13	107	30.6
	>13	80	22.9
Loss of other beloved people	No	320	91.4
	Yes	30	8.6
Psycho-social factors			
Resilience	Low normal	103	29.4
	Normal	216	61.7
	High normal	31	8.9
Self-efficacy	Low	109	31.1
	Moderate	95	27.1
	High	146	41.8
External stressors	Mild	164	46.9
	Moderate	26	7.4
	High	44	12.6
	Severe	116	33.1

Table 1 *(continue)*

Factors		n	%
Family problems	Mild	175	50.0
	Moderate	32	9.1
	High	36	10.2
	Severe	107	30.6
Interpersonal conflicts	Mild	155	44.3
	Moderate	41	11.7
	High	41	11.7
	Severe	113	32.3
Social support	Low	82	23.4
	Fair	202	57.7
	Good	66	18.9
Quality of life	Not good	16	4.6
	Fair	249	71.1
	Good	85	24.3
Healing factors			
Received compensation	In process	78	22.3
	Yes	272	77.7
Solutions to the problems	No way/still suffering	84	24.0
	Religious principle	28	8.0
	Understanding life	17	4.8
	Family/relatives/friends	108	30.9
	Self-awareness/struggle / mindfulness/tolerance	113	32.3

State of PTSD, CG, and Depression

The mean value of PTSD was 21.06, and its standard deviation was 13.87. The lowest score of PTSD was 0, while the highest score was 51. The mean value of CG was 28.56, and its standard deviation was 19.69. The lowest score of CG was 0, while the highest score was 76. The mean value of the depression was 5.48, and the standard deviation was 5.70. The lowest score of the depression was 0, while the highest depressive score was 31.

In addition, the state of PTSD, CG, and depression were explored in terms of prevalence and presented in Figure 1. The PTSD symptoms based on the PSS-I score were summarized, and 32% of the widows met the full criteria for the PTSD diagnosis. According to the ICG screening, 48% of them had met the criteria for CG. In terms of the depression state based on the HRSD score, 26.6% of those who met depression were indicated separately into 16.6% of mild depression, 4.6% of moderate depression, 3.4% of severe depression, and 2% of very severe depression. Of the widows who met all the PTSD, CG, and depression criteria, 8%, 22% met both PTSD and CG, 6.6%

had both CG and depression, and only 2% of them faced PTSD and depression. Importantly, no widow possessed only PTSD. However, those widows without psychological problems with PTSD, CG, and depression were 40%.

The results of the univariate analysis with mean (*M*) and *p*-value from *t*-test or ANOVA are presented in Table 2. The *p*-values for significant predictors at $p < 0.05$ are highlighted in bold.
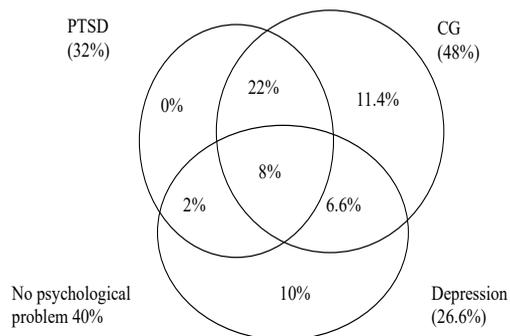

Figure 1. Percentage of psychological problems among widows

Table 2

Characteristics of bereaved widows in relation to PTSD, CG, and depression (n = 350)

Factors		PTSD		CG		Depression	
		M	*p*-value	M	*p*-value	*M*	*p*-value
Socio-demo factors							
Ages (years old)	Less than 40	22.42	**<0.001**	31.82	**0.017**	6.98	**0.043**
	40–49	23.31		30.20		5.26	
	50–59	20.85		27.61		4.71	
	60 and over	13.29		20.67		5.26	
Marital status	Widow	21.71	0.147	29.65	0.086	5.27	0.251
	Newly married	19.28		25.56		6.06	
Religions	Buddhist	19.31	0.264	28.30	0.904	3.17	**<0.001**
	Islam	21.46		28.63		6.00	
Levels of education	Uneducated	17.37	0.125	23.94	**0.047**	5.56	0.210
	Primary	19.39		25.81		6.05	
	Secondary	22.80		31.71		5.34	
	Bachelor & higher degree	21.51		27.18		3.76	
Residences	Pattani	20.30	**<0.001**	29.89	**<0.001**	6.78	0.080
	Yala	29.53		40.31		4.73	
	Narathiwat	14.51		18.82		5.73	
Occupations	Unemployed	19.55	0.267	26.55	0.298	7.10	**0.003**
	Employed	21.51		29.16		5.00	
Incomes	< 4,000	15.46	**<0.001**	20.88	**<0.001**	5.70	0.871
	4,000–4,500	16.63		21.03		5.07	
	4,501–6,000	26.87		37.53		5.69	
	> 6,000	25.90		35.42		5.36	

Table 2 *(continue)*

Factors		PTSD		CG		Depression	
		M	*p*-value	M	*p*-value	*M*	*p*-value
Trauma event factors							
Trauma event types	Killed by shooting	21.83	**0.045**	30.09	**0.011**	5.12	**<0.001**
	Killed by bomb	14.37		22.63		3.10	
	Others	19.21		21.94		8.58	
Duration of loss (years)	<8	20.72	**<0.001**	29.17	**<0.001**	6.52	0.110
	8–10	20.73		26.65		5.97	
	11–13	26.27		35.83		4.71	
	>13	14.80		20.16		4.95	
Loss of other beloved people	No	21.17	0.661	28.82	0.439	5.08	**<0.001**
	Yes	20.00		25.90		9.73	
Psycho-social factors							
Resilience	Low normal	18.73	**<0.001**	24.13	**<0.001**	7.91	**<0.001**
	Normal	24.34		33.77		4.78	
	High normal	6.03		7.06		2.29	
Self-efficacy	Low	15.44	**<0.001**	19.78	**<0.001**	6.00	**<0.001**
	Moderate	19.09		26.46		6.98	
	High	26.55		36.49		4.12	
External stressors	Mild	15.61	**<0.001**	21.12	**<0.001**	3.52	**<0.001**
	Moderate	24.50		31.42		4.69	
	High	20.16		26.54		6.41	
	Severe	28.35		39.21		8.08	
Family problems	Mild	16.77	**<0.001**	22.57	**<0.001**	3.57	**<0.001**
	Moderate	18.41		23.34		7.78	
	High	19.28		24.92		6.11	
	Severe	29.48		40.71		7.71	
Interpersonal conflicts	Mild	15.08	**<0.001**	20.57	**<0.001**	3.69	**<0.001**
	Moderate	19.73		24.83		4.22	
	High	21.19		30.51		6.63	
	Severe	29.71		40.18		7.97	
Social support	Low	18.21	0.076	23.56	**<0.031**	8.32	**<0.001**
	Fair	22.32		30.06		5.01	
	Good	20.79		30.21		3.42	
Quality of life	Not good	15.06	**<0.001**	21.25	**<0.001**	7.44	**<0.001**
	Fair	17.30		22.70		6.12	
	Good	33.22		47.12		3.25	

Table 2 *(continue)*

Factors		PTSD		CG		Depression	
		M	*p*-value	M	*p*-value	*M*	*p*-value
Healing factors							
Received compensation	In process	21.41	0.804	27.31	0.523	8.87	**<0.001**
	Yes	20.97		28.93		4.51	
Solutions to the problems	No way/still suffering	34.58	**<0.001**	48.64	**<0.001**	4.87	0.484
	Religious principle	12.75		16.46		4.43	
	Understanding life	20.76		26.59		6.88	
	Family/ relatives/ friends	17.66		24.23		5.65	
	Self-awareness/ struggles / mindfulness/ tolerance	16.38		21.08		5.83	

Multiple Regression Models

The separated multiple regression model was fitted to the data for each outcome with its significant determinants (Table 2). A reduced model, produced by omitting the determinants with *p*-values exceeding 0.05 using backward elimination, is presented in Figure 2.

The reduced models gave the R-squared values at 0.63 for PTSD, 0.66 for CG, and 0.31 for depression. The model for PTSD had similar predictors as the CG model, except for the duration of loss. The pattern of predictors was also similar, with increasing scores of self-efficiency, external stressors, interpersonal conflicts, and quality of life, resulting in increasing scores for PTSD and CG. The PTSD and CG scores were higher than the mean for widows residing in Yala province. The widows with the high scores of resilience had the high scores for PTSD and CG. The widows with "no way" to solve their problems had high scores for PTSD and CG. For PTSD, widows aged 8 to 11 years of loss had the highest scores.

However, a different set of predictors was observed for depression. The high scores of depression were observed for widows who lost their husbands in other event types, such as being killed by burning or beheading and losing other family members, and they were also in the process of receiving compensation. The low scores of depression were observed for widows with high resilience and quality of life, mild external stressors, and family problems, and they received compensation from the government.
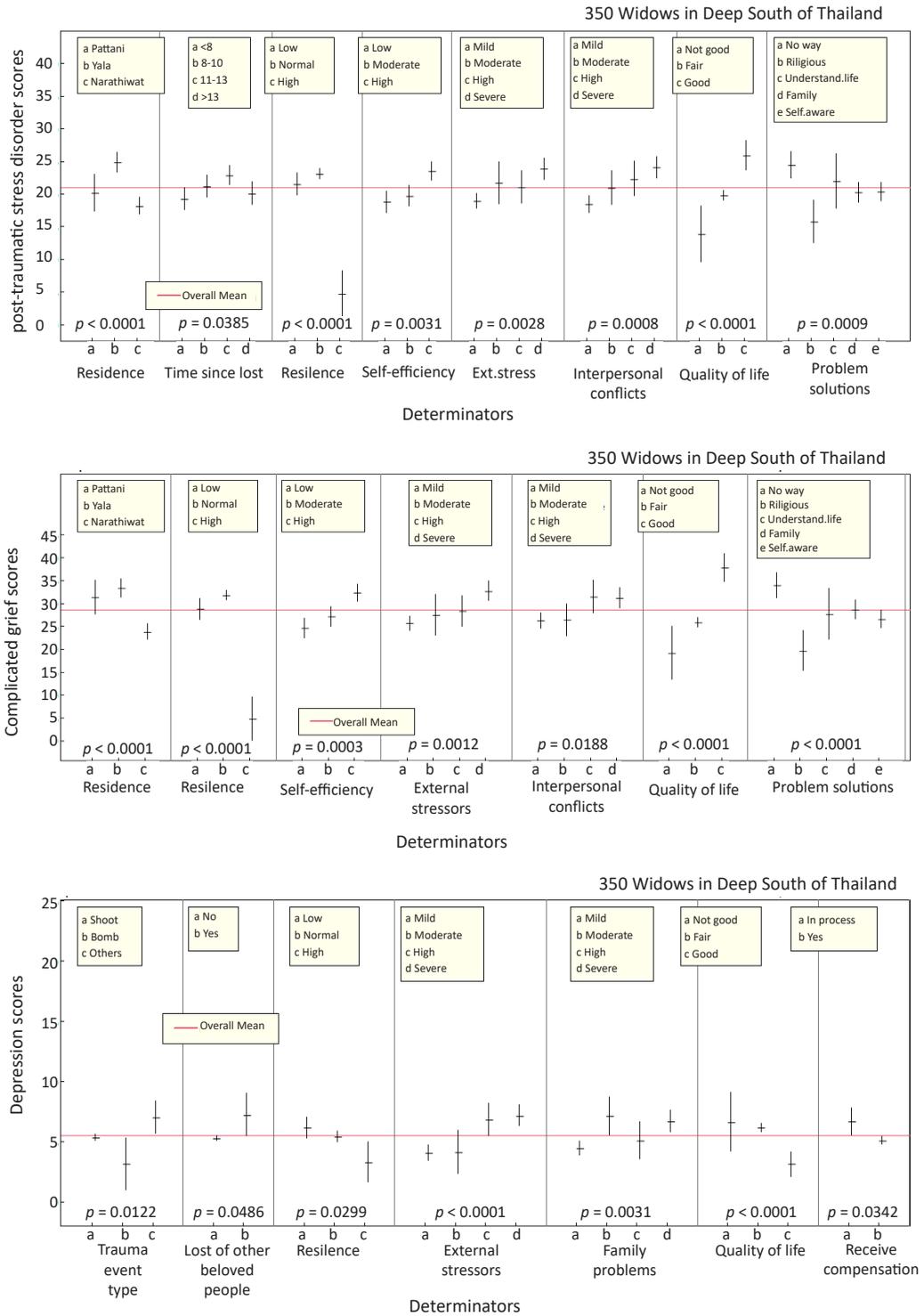
Figure 2. Results from multiple regression of PTSD, complicated grief, and depression among widows (*n* = 350)

DISCUSSION

The average score of PTSD was 21.06 (SD = 13.87), and 32% of widows met the PTSD criteria. This finding showed a lower score than the average PTSD score observed among terrorist-affected people after three years (Bryant et al., 2011). It was also lower than in a previous study on widows in the same situation (Prohmpetch et al., 2015). The average score of CG was 28.56 (SD = 19.69), whereby 48% of the samples met the criteria for CG. The scores were considered higher than the average CG in terrorist-affected people after three years (Bryant et al., 2011) but lower than among widows from the civil unrest in 2015 (Prohmpetch et al., 2015). The average score of depression was 5.48 (SD = 5.70), and 26.6% of these widows have depression. This score was considered lower than the average of Thai mental patients (Lotrakul et al., 1996).

The state of PTSD, CG, and depression was lower than in the previous studies under the same situation due to the longer period after trauma, and this period was negatively correlated with PTSD, CG, and depression (Park et al., 2015; Schaal et al., 2010). Moreover, the widows also faced a low frequency of violent situations, and facing violent situations was considered one of the risk factors for psychological problems. The Thai government supported the inflicted problems with budgets and specialists so these widows could access care and reduce psychological problems (Prohmpetch & Songwathana, 2018). This study's sensitive nature may have explained the low mean and percentages of PTSD, CG,

and depression. Underreporting symptoms may also have been of concern for these widows, who might have been reluctant to disclose this information.

Most widows are bilingual, and a few speak the "Yawi," so this language might play a role in the study and introduce potential biases to the study findings. All widows were told to respond to the questionnaires with their willingness, and they could decline or cancel this participation at any time to reduce potential biases. Moreover, experienced psychologists facilitated and answered participants at the beginning and end of the session.

Furthermore, some widows met three criteria of PTSD, CG, and depression. Some met two criteria for both PTSD and CG, both CG and depression, and both PTSD and depression. These phenomena resulted from co-occurrence among PTSD, CG, and depression (Djelantik, Robinaugh, & Boelen, 2022; Komischke-Konnerup et al., 2021). According to the American Psychiatric Association (2013), PTSD, CG, and depression are highly comorbid. However, this issue would need further studies in cases of different contexts.

The association between the levels of the determinants and PTSD, CG, and depression could be measured by the cross-sectional nature of the data in this study, but PTSD, CG, and depression cannot be evaluated as a dynamic process (how being widows may have increased or decreased psychological problems in the population). In practice, the cross-sectional study was usually inexpensive and easy to conduct,

so it was useful for establishing preliminary evidence in planning an advanced study in the future.

Factors Affecting Psychological Problems: PTSD, CG, and Depression

In terms of residences in different provinces, Pattani widows had higher PTSD scores than Narathiwat widows but lower than Yala widows. This finding might indicate that most cases were widows living in the Raman, Krong Pinang, and Muang Yala districts in Yala, where the highest frequency of civil unrest events happened (Southern Border Incident Database Working Group, 2014). Widows who had 11–13 years of losing their husbands had more PTSD scores than the overall mean. The American Psychiatric Association (2013) mentioned that PTSD usually begins within the first three months after the trauma, although there might be a delay of months or even years. According to Hull et al. (2002), it was found that PTSD occurred 10 years after disasters. Therefore, this finding might be delayed in the case of 11–13 years of losses.

For the psycho-social factors, the widows who had low resilience had higher PTSD scores than those who had high resilience. Resilience was highlighted as an effective protective factor in treating PTSD (Horn & Feder, 2018). This finding also confirmed that the high resilience score presented the low PTSD score. The interview data also showed that most widows expressed their willingness to be aware of the situations, attended consultations, had tolerance and struggles, and perceived social support for facing current problems, whereby these expressions were considered the possibilities to increase resilience traits. Thus, it was confirmed that resilience was a protective factor that reduces the risk of persistent PTSD. The widows who possessed high self-efficacy had more PTSD scores than those who had low self-efficacy. The reviews found that the latter aspect of self-efficacy could help to cope with self-efficacy, and it is relevant to resisting or resiliently recovering from PTSD (Ford et al., 2015). It was possible since they lived within the unrest event (Treesuwan, 2020).

Widows with more external stressors had higher PTSD scores than those with fewer external stressors; however, external stressors such as work problems, family problems, and substance abuse could lead to an increased risk for the development of PTSD (Kydonieus, 2016). The widows with high interpersonal conflicts had higher PTSD scores than those with mild interpersonal conflicts, whereas those with severe interpersonal conflicts exhibited the highest PTSD scores. In addition, the interpersonal conflicts expressed negative emotions and thoughts with colleagues related to the PTSD scores. The interpersonal conflicts were considered the mediator which caused direct effects on the PTSD scores with regard to violence among single mothers (Samuels-Dennis et al., 2013), and the PTSD subjects were more likely to have more interpersonal conflicts with their parents, step-parents, siblings, peers, boyfriends/girlfriends, and relatives than non-PTSD subjects (Stander et al.,

2014). Pertaining to the quality of life, the widows without a good quality of life had lower PTSD scores than those with a fair or good quality of life. A high WHOQOL-BREF-THAI score should indicate low psychological problems after receiving treatment (Prasithsirikul, 2007), but this result contrasts with the expected situation.

Most widows who had a high quality of life had the conditions of the age between 40 and 59, living in Yala, facing suffering, having no way of solving their problems, being severely affected by external stressors, and having severe internal conflicts, which would probably be the main reasons why they had the high PTSD scores. According to Alvarez et al. (2011), there was no significant difference in the physical and social domains of a healing PTSD program in male veterans. It would be possible that some domains of quality of life were not associated with PTSD, and this finding was positively related to PTSD.

The samples with no solutions to their problems had higher statistically significant PTSD scores than those with fewer solutions. Psychological remedy and accessibility could reduce psychological problems (Songwathana et al., 2017), so the widows with no solutions to the problems and adhered to suffering reasoned out the fact that those who responded with the answer of no problem solutions had the highest PTSD score.

The model of the CG scores was similar to the PTSD model. Only the time duration of loss was statistically significant in the PTSD model but not in the CG model. The widows who lived in Pattani provinces had higher CG scores than Narathiwat widows but lower than Yala widows. This finding was the same as PTSD, which was influenced by more civil unrest events in the Raman, Krong Pinang, and Muang Yala districts in Yala (Deep South Incident Database, 2014).

The widows with low resilience had higher CG scores than those with high resilience. This finding could confirm that resilience was a protective factor that decreases risks against CG (King & Delgado, 2021). The widows who were low in self-efficacy had lower CG scores than those who had high self-efficacy. Self-efficacy might not be the only factor alone, but it also needs to work with other factors, for example, education and intelligence (Ford et al., 2015) and residences in the unrest event (Treesuwan, 2020). The widows with mild external stressors had lower CG scores than those with severe external stressors. This result resembled influences on PTSD, but the severe external stressors would be more likely to influence the CG scores than the PTSD scores. Nonetheless, both confirmed the evidence that high external stressors affected high PTSD and CG scores. In addition, the external stressors faced by the widows were similar to the findings from a previous study. Hollander (2016) reported the relationships between CG and external stressors.

For instance, families who miss experience were linked to many interrelated stressors, extreme poverty, conflict-affected areas, not knowing what to do as a person

and ambiguity. The widows who experienced mild interpersonal conflict had lower CG scores than those with high and severe interpersonal conflicts. The CG subjects were more likely to have interpersonal conflicts with their parents, stepparents, siblings, peers, boyfriends/girlfriends, or other relatives than the non-CG subjects (Stander et al., 2014). The high interpersonal conflict group exhibited higher CG scores than those with lower interpersonal conflicts (Mash et al., 2014). The widows who did not have a good quality of life had lower CG scores than those with a good quality of life. This situation was found to be controversial with other results since the quality of life was a protective factor against CG (Boelen & Prigerson, 2007). However, a study by Charney et al. (2018) found no difference in the quality of life between loss without CG and loss with CG. It could suggest that quality of life might affect CG differently depending on study groups, and it needed further investigation.

The widows with no solutions to the problems had higher CG scores than those with solutions such as holding strong religious principles, family-relative-friend support, and relying on themselves, like self-awareness, struggle, mindfulness, and tolerance, which might help widows cope with CG. This finding was similar to predicting PTSD. In other words, PTSD and CG were negatively and significantly affected by holding solutions such as practicing and following their religious principles firmly, getting support from significant people, and relying on themselves. Songwathana et al.

(2017) reported that the remedy experience of women who lost their family members involved self-empowerment, which came from putting religious precepts into practice, treating children as a moral stronghold, and strengthening willpower.

In terms of the trauma event types, other trauma event types, which were not the trauma of the samples' husband being killed by shooting and bombs, were related to depression. The widows who faced the trauma events of their husbands being killed by being burnt, attacked, and cruelly murdered had the highest depression score. Zisook et al. (2010) reported that violent deaths stimulated CG, and after 6 months, the widows might face increased risks for depression. The widows losing other beloved people, such as children, close relatives, or family members, exhibited higher depression scores than those who lost only their husbands. Similarly, Kristensen et al. (2012) found that the number of losses of family members was predicted to indicate depression.

Widows who had low resilience exhibited a high level of depression. This factor was similar to both affected PTSD and CG protective factors. This result confirmed the evidence shown in many studies that resilience increased the risk of not being depressed by about twofold (Edward, 2005; Park et al., 2015). In terms of the external stressors, it showed that the severe external stressors had a statistically significant depression score rather than the mild external stressors. This finding also affected the external stressor predictors,

similarly influencing PTSD and CG. For the influences of risk factors, external stressors such as stressful environments, financial problems, low social status, greater daily stress, and others were positively related to depression (Razzak et al., 2019). For family problems, it showed that severe family problems had more statistically significant depression scores than mild family problems. Mason et al. (2020) reported that family problems were risk factors related to depression. The widows who had a "not good" quality of life had more depression scores than those who had a good quality of life. Similarly, people with major depression perceived a worse subjective quality of life than non-depressive people (Hansson, 2002). In receiving compensation, widows waiting to receive compensation had more depressive scores than those who already received compensation. Similarly, Lorant et al. (2007) found that increases in financial strain or deprivation of financial strain raised the risk of depression.

This study suggested three common predictors related to the psychological problems among PTSD, CG, and depression: resilience, external stressors, and quality of life. The widows with low resilience and high external stressors had high PTSD, CG, and depression scores. This finding suggested that widows might be healed of PTSD, CG, and depression if they receive enhanced resilience and reduced external stressors. The finding also revealed that the widows with good quality of life and the higher scores of PTSD and CG need further investigation. Further studies are required to examine the influences of this factor.

Some limitations were presented in this paper. Firstly, data collection from the widows came from different processes. The psychologists interviewed most widows; however, a mobile phone and a Google form were used in insecure or unsafe situations. It might provide inconsistency in the data. Secondly, recall bias might occur because some widows faced losing situations for many years, and recalling the real situations was difficult to depict the exact happenings. Thirdly, bias may have occurred when the data were collected because all instruments for which there had been no validated translations in the Yawi language were translated and translated back into Thai. Finally, a sampling technique used in this study was a non-probability sampling method, so the results were merely specific to widows losing their husbands from the civil unrest in Thailand's Deep South.

CONCLUSION

The findings exhibited that many predictors affected PTSD, CG, and depression. Those factors might then discriminate to be the protective and risk factors for clear descriptions of the causal model of psychological problems among the widows after losing their husbands from the violent situations. Both common factors (Protective factors: Resilience and quality of life; risk factors: External stressors) and unique factors (time since loss, trauma event type, family problems, and receiving compensation) could affect psychological problems. These findings could become a guideline for determining a mental health plan, promotion

of intervention, and prevention and solutions to psychological problems. Psychological problems prevention and control efforts should be reinforced, particularly considering widows' residence. Moreover, this psychosocial intervention should cover the prevention of depression, so it would be able to prevent family problems, be compensated, and be aware of severe types and the number of losses of beloved people. The application of effective psychosocial interventions specifically should aim at increasing resilience and reducing external stressors for bereaved widows. It can also be used in the creation of easy accessibility for mental health services among widows living under civil unrest and other places of similar contexts. Furthermore, this may need a thorough study on the common and unique factors of PTSD, CG, and depression among these Thai widows. For example, qualitative research should be conducted to highlight the details of the factors affecting psychological problems, including cultural influences.

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