



Mediation Effects of Compassion Satisfaction and Compassion Fatigue in the Relationships Between Resilience and Anxiety or Depression Among Hospice Volunteers

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Hospice volunteers are a high-risk group for anxiety and depression owing to their frequent exposure to patients at the end of life and their subsequent deaths. Resilience is known to be a powerful factor that affects the occurrence of anxiety and depression; however, research on this subject is scarce. We investigated the relationship of resilience with anxiety or depression in hospice volunteers. A total of 145 volunteers were included in the analysis. Participants completed self-reported scales, including the Korean version of the Connor-Davidson Resilience Scale, the State-Trait Anxiety Inventory, Patient Health Questionnaire-9, and the Professional Quality of Life Scale version 5. Pearson correlation coefficients were analyzed to identify the relationship of compassion satisfaction and compassion fatigue with anxiety or depression. A PROCESS macro mediation analysis was used to investigate the mediation effects of compassion satisfaction and compassion fatigue on the relationship between resilience and anxiety or depression. There were significant associations of compassion satisfaction and compassion fatigue with anxiety and depression. The relationship between resilience and anxiety/depression was mediated by compassion fatigue, which had indirect effects on anxiety and depression. Efforts to reduce compassion fatigue and increase resilience could help prevent anxiety and depression in hospice volunteers.

KEY WORDS

compassion fatigue, compassion satisfaction, hospice, resilience

Hospice provides interdisciplinary palliative care services to the dying in their last months of life.¹ In Korea, hospice volunteers are considered as full members of interdisciplinary care teams that include physicians, nurses, social workers, clergy members, and therapists.² The main duty of hospice volunteers in Korea is to provide emotional support and companionship to terminally ill patients and their families, much like the duty of similar workers in other countries such as the United States or France.³ Because of lack of time, it is difficult for medical professionals to provide patients and their families with extensive support in the current medical system. In this context, hospice volunteers spend much time with the dying and provide physical, emotional, social, and spiritual support. Furthermore, they provide social relationships and community linkage projects for the bereaved family caregivers.⁴ As such, there is no doubt that hospice volunteers are a valuable part of the interdisciplinary care provided by hospice.

Because of the nature of their work, hospice volunteers are faced with death, dying, and grief on a daily basis.⁵ In particular, being with dying people and their families can be emotionally difficult and challenging, which may lead to negative mental health issues such as stress or burnout among hospice volunteers. There is a growing body of literature that suggests that resilience should be considered as a protective factor against psychological distress.⁶ Resilience is the ability to cope with difficult experiences. Resilience has been reported to be related to improve coping with psychological distress, including anxiety and depression, in various populations, including patients, family caregivers, and nurses.^{7,8} These findings suggest that high levels of resilience could contribute to alleviating negative mental health consequences such as anxiety or depression in hospice volunteers. However, despite the strong possibility of psychological distress occurring in hospice volunteers, research on the severity, risk factors, protective

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factors, and mechanisms related to the association between resilience and the development of psychological consequences is limited.

Compassion satisfaction and compassion fatigue have been reported to have an impact on the development of psychological distress such as anxiety and depression.⁹ Compassion fatigue is the emotional stress that people may experience after having close contact with a trauma survivor.¹⁰ Working with patients and families who are traumatized by their experiences of dying and bereavement may also put hospice volunteers at risk for compassion fatigue. Conversely, compassion satisfaction is the pleasure one experiences from being able to effectively help others in the role of caregiver.⁹ Stamm¹⁰ reported that higher compassion satisfaction was associated with moderate to low compassion fatigue and burnout in healthcare workers. Given this finding, compassion satisfaction may be a strong protective factor that reduces the risk of developing psychological distress.

Stamm¹⁰ theorized that compassion satisfaction can counterbalance the risk of compassion fatigue and may also account for resilience as an innate resource. Furthermore, a few reviews found that increasing innate resilience can improve patient satisfaction, which is related to nurses' satisfaction in palliative care settings. According to a review on resilience in a palliative health professional,¹¹ resilience can positively affect a palliative health professional's ability to cope with stress and reduce individuals' vulnerability to the impacts of future stress. Therefore, better understanding of how to support the development of resilience and individual stress-management strategies for clinicians and volunteers in palliative care settings is needed.

Although the model of compassion satisfaction and compassion fatigue exists, there is a relative lack of evidence to support it because no study has examined the associations among resilience, compassion satisfaction, compassion fatigue, and psychological distress. Therefore, the purposes of this study were (1) to determine the relationship of resilience with anxiety or depression and (2) to investigate whether compassion satisfaction and compassion fatigue mediate the association of resilience with anxiety or depression.

METHODS

Setting and Sample

This study used a cross-sectional, descriptive, correlational design. Participants were conveniently recruited from an annual continuing competency education program for hospice volunteers in 1 city in South Korea in 2016. The criteria for participation were as follows: (1) being 19 years or older and (2) being currently enrolled as a hospice volunteer at a healthcare institution. For the sample size in a path analysis, Hair et al¹² suggested that the sample ratio

should be large enough to include 5 to 10 observations for each estimated parameter. In this study, a sample size of 100 was needed, given that there were 10 parameters in each model. Finally, a total of 165 hospice volunteers were recruited for this study.

Data Collection and Measures

The study procedure was approved by the institutional review board at a university in South Korea. The primary investigator initially obtained support from the director of an educational institution for hospice volunteers to introduce the study and distribute flyers. Participants attending the annual continuing competency education program for hospice volunteers were recruited through convenience sampling. The investigator approached willing hospice volunteers after the lecture to assess their eligibility and interest in study participation. All participants gave their written informed consent and were informed that they could withdraw their consent at any time. The hospice volunteers completed the following survey instruments in a private room near the place where the lecture was given.

Resilience

Resilience was measured using the Korean version of the Connor-Davidson Resilience Scale (CD-RISC).¹³ The CD-RISC contains 25 items that measure coping ability in the face of adversity.¹³ Participants are asked to respond to items according to their feelings during the month before assessment on a 5-point scale. The total score ranges from 0 to 100, with a higher score indicating greater levels of resilience. The Cronbach α coefficient of the CD-RISC was .94 in the general population¹⁴; the α coefficient for the CD-RISC in this study was .93.

Anxiety

Symptoms of anxiety were measured using the validated Korean version of the State-Trait Anxiety Inventory.¹⁵ The State-Trait Anxiety Inventory has 2 subscales: (1) the State Anxiety Scale examines the current state of anxiety and (2) the Trait Anxiety Scale examines relatively stable individual characteristics of anxiety proneness. For this study, the State Anxiety Scale was used. The State Anxiety Scale consists of 20 items that are rated using a 4-point scale. This subscale's total score ranges from 20 to 80, with a higher score indicating a greater level of anxiety. The internal consistency of the State Anxiety Scale in this study was .93.

Depression

Symptoms of depression were measured using the validated Korean version of Patient Health Questionnaire-9 (PHQ-9). The original English version of the PHQ-9 was designed for use on primary care patients.¹⁶ The PHQ-9 consists of 9 items that represent the criteria on which the *Diagnostic and Statistical Manual of Mental Disorders*,



Fourth Edition's, depressive disorder diagnoses are based. It was translated into the Korean language, validated in a variety of populations.¹⁷ Respondents are asked to respond to items according to their feelings during the 2 weeks before assessment on a 4-point scale. The total score ranges from 0 to 27, with a higher score indicating stronger depressive symptoms. The Cronbach α coefficient of the PHQ-9 was .95 among outpatients in a psychiatric clinic and .88 among an elderly population.¹⁷ The internal consistency of the PHQ-9 in this study was .82.

Compassion Satisfaction and Fatigue

Compassion satisfaction and fatigue were measured separately using the Korean version of the professional Quality of Life Scale version 5 (ProQOL_5). The ProQOL_5 is a revised version of Figley's Compassion Fatigue Self-test¹⁸ and is composed of 2 parts, compassion satisfaction and compassion fatigue. Compassion fatigue is broken up into burnout and secondary traumatic stress. The ProQOL_5 is a 30-item self-report scale with 10 items for compassion satisfaction and 20 items for compassion fatigue that are rated using a 5-point scale. Higher scores on each subscale indicate higher levels of that dimension. The internal consistency of the ProQOL was reported as .87 for compassion satisfaction and .80 for compassion fatigue.¹⁰ The internal consistency of the ProQOL_5 in the current study was .92 for compassion satisfaction and .81 for compassion fatigue.

Characteristics of Hospice Volunteers

Hospice volunteers' sociodemographic information was collected using a sociodemographic form. The form included age, sex, educational status, marital status, religion, household income, and length of time working as a hospice volunteer. In addition, it asked about primary and secondary traumatic experiences in the last month.

Data Analysis

The data were analyzed using SPSS 23.0 (IBM Company, Chicago, Illinois). The accuracy of the data file and the presence of any outliers were evaluated by double-checking the data entered, and 20 subjects were found to have incomplete or unclear responses. Consequently, these subjects were excluded, and the analysis was conducted on 145 subjects. Descriptive statistics, including means, standard deviations, and ranges, were computed to summarize the subjects' characteristics and survey scores. Pearson correlation coefficients were calculated to examine bivariate relationships between variables.

Mediation was evaluated with the PROCESS macro developed by Hayes.¹⁹ In this approach, effects are assessed with bias-corrected bootstrap confidence intervals (CIs). A 95% bias-corrected CI is generated by bootstrapping (random sampling with replacement) with 5000 resamples. If the upper and lower bounds of the bias-corrected 95% CI

do not include zero between them, the indirect effect is considered significant. Mediation is assessed by the indirect effect of X (the independent variable) on Y (the dependent variable) through M (the mediator), which can be significant regardless of the significance of the total effect (the effect of X on Y) and the direct effect (the effect on Y when both X and M are included as predictors). Hayes Model 4 was used to examine the multiple mediation effects.¹⁹

RESULTS

Characteristics of the Participants

The mean (SD) age of hospice volunteers was 43.18 (13.26) years; 46 (31.7%) were men and 99 (68.3%) were women (Table 1). Participants' mean (SD) length of time working as hospice volunteers was 43.58 (55.66) months. Although most volunteers (96.7%) reported that they had not experienced a traumatic event in the last month, 46 (23.3%) reported that they had experienced a secondary traumatic event during their volunteer work.

The Relationships Among Resilience, Anxiety, Depression, Compassion Satisfaction, and Compassion Fatigue

Resilience, anxiety, depression, compassion satisfaction, and compassion fatigue had significant relationships among them. Resilience had a moderate negative correlation with anxiety ($r = -0.59, P < .01$) and a weak negative correlation with depression ($r = -0.28, P < .01$). Compassion satisfaction had a moderate positive relationship with resilience ($r = 0.43, P < .01$) and a moderate negative relationship with anxiety ($r = -0.53, P < .01$) and depression ($r = -0.40, P < .01$). Compassion fatigue had a moderate negative relationship with resilience ($r = -0.34, P < .01$) and a moderate positive relationship with anxiety ($r = 0.59, P < .01$) and depression ($r = 0.48, P < .01$).

Mediating Effects of Compassion Satisfaction and Compassion Fatigue in Relationships Between Resilience and Anxiety or Depression

Between Resilience and Anxiety

PROCESS was used to examine whether the relationship between resilience (X) and anxiety (Y) was mediated by compassion satisfaction or compassion fatigue (Table 2). Resilience was significantly positively associated with compassion satisfaction (mediator 1; $B = 0.22, P < .001$) and accounted for 18% of the variance in hospice volunteers' anxiety. Resilience was significantly negatively associated with compassion fatigue (mediator 2; $B = -0.26, P < .001$) and accounted for 10% of the variance in the subjects' anxiety. When resilience, compassion satisfaction, and compassion fatigue were included in the model, they accounted for 57% of the variance in subjects' anxiety. In this model,



Variable	Categories	N (%)	Mean ± SD
Age			43.18 ± 13.26
Sex	Male	46 (31.72)	
	Female	99 (68.28)	
Educational level	High school	49 (33.79)	
	2-year college	28 (19.31)	
	4-year college	31 (21.37)	
	Graduate school	37 (25.53)	
Marital status	Single	44 (30.99)	
	Married	93 (65.49)	
	Divorced or widowed	5 (3.52)	
Religion	Yes	80 (55.17)	
	No	65 (44.83)	
Work length, mos			43.58 ± 55.66
Traumatic event experience	Yes	5 (3.43)	
	No	140 (96.57)	
Secondary traumatic event experience	Yes	34 (23.45)	
	No	111 (76.03)	
Resilience			69.03 ± 12.34
Compassion satisfaction			37.21 ± 6.57
Compassion fatigue			44.58 ± 9.78
Anxiety			37.14 ± 9.75
Depression			2.94 ± 3.30

resilience and compassion satisfaction were significantly negatively associated with anxiety ($B = -0.33$, $P = .004$), and compassion fatigue was significantly positively associated with anxiety ($B = 0.39$, $P < .001$).

The path of resilience's effect on anxiety through compassion satisfaction (resilience → compassion satisfaction → anxiety) was significant, as the CI of the indirect effect did not

include zero ($B = -0.07$; CI, -0.14 to -0.02). Furthermore, the path of resilience's effect on anxiety through compassion fatigue (resilience → compassion fatigue → anxiety) was significant, as the CI of the indirect effect did not include zero ($B = -0.10$; CI, -0.17 to -0.04). These findings indicated that both compassion satisfaction and compassion fatigue acted as mediators in the relationship between resilience and anxiety in hospice volunteers (Figure 1).

Between Resilience and Depression

PROCESS was also used to examine whether the relationship between resilience (X) and depression (Y) was mediated by compassion satisfaction or compassion fatigue (Table 2). Resilience was significantly positively associated with compassion satisfaction (mediator 1; $B = 0.23$, $P < .001$) and accounted for 18% of the variance in hospice volunteers' depression. Resilience was significantly negatively associated with compassion fatigue (mediator 2; $B = -0.26$, $P < .001$) and accounted for 10% of the variance in the subjects' depression. When resilience, compassion satisfaction, and compassion fatigue were included in the model, they accounted for 27% of the variance in subjects' depression. In this model, resilience and compassion satisfaction were not significantly negatively associated with depression ($B = -0.09$, $P = .071$), but compassion fatigue was significantly positively associated with depression ($B = 0.12$, $P < .001$).

The path of resilience's effect on depression through compassion satisfaction (resilience → compassion satisfaction → depression) was not significant, as the CI of the indirect effect included zero ($B = -0.02$; CI, -0.04 to 0.01). Conversely, the path of resilience's effect on depression through compassion fatigue (resilience → compassion fatigue → depression) was significant, as the CI of the indirect effect did not include zero ($B = -0.03$; CI, -0.06 to -0.01). These findings indicated that compassion fatigue alone acted as a mediator in the relationship between resilience and depression in hospice volunteers (Figure 2).

DISCUSSION

Resilience, anxiety, depression, compassion satisfaction, and compassion fatigue had significant relationships among them in hospice volunteers in the present study. Of these, both compassion satisfaction and compassion fatigue acted as mediators in the relationship between resilience and anxiety.

The resilience level of hospice volunteers in this study was moderate (mean total score of 69.03/100), which was similar or lower to that of nurses who are involved in end-of-life care and faced with death, dying, and grief. According to studies conducted in the United States and Iran, the range of mean scores for resilience was 68.0 to 76.3 in nurses in the intensive care units and oncology units.^{20,21} It



TABLE 2 Effects on Anxiety/Depression Through Compassion Satisfaction and Compassion Fatigue

Path	B	SE	95% Bias-Corrected CIs	
			LLCI	ULCI
Total effect (c: resilience→anxiety)	-0.457	0.060	-0.574	-0.339
Direct effect (c: resilience→anxiety)	-0.285	0.053	-0.390	-0.180
Resilience→ CS → anxiety	-0.072	0.031	-0.142	-0.017
Resilience→ CF → anxiety	-0.099	0.032	-0.170	-0.043
Total effect (c: resilience→depression)	-0.068	0.023	-0.112	-0.023
Direct effect (c: resilience→depression)	-0.017	0.023	-0.062	0.028
Resilience→ CS → Depression	-0.020	0.012	-0.040	0.009
Resilience→ CF → Depression	-0.031	0.012	-0.060	-0.012

Abbreviations: CI, confidence interval; CS, compassion satisfaction; CF, compassion fatigue; LLCI, lower limit confidence interval; ULCI, upper limit confidence interval.

is difficult to directly compare the resilience level of hospice volunteers in this study with that of other studies because no other studies have examined resilience among hospice volunteers using the same instrument. However, researchers have suggested that improving resilience contributes to reducing negative mental health consequences.^{7,8} Given the fact that hospice volunteers are at risk of experiencing psychological distress resulting from being faced with the dead or dying, further research to investigate resilience in this context is needed.

In addition, the symptom severities for anxiety and depression were normal in this study sample. The mean total score was 37.14 (out of 80) for anxiety and 2.94 (out of 27)

for depression. When compared with a group of Korean oncology nurses who are involved in caring for patients at the end of life, the symptom severities of anxiety and depression of hospice volunteers are lower: the nurses' mean total scores were 49.1 for anxiety and 9.1 for depression.²² These findings may be due to the fact that hospice volunteers began volunteering primarily to help or be of service. Such altruistic motivations can contribute to better psychological consequences in hospice volunteers. However, volunteers vary in their levels of fear of death and dying. In addition, working closely with dying people and their loved ones can be emotionally challenging, which may negatively impact the motivation and retention of hospice volunteers. To

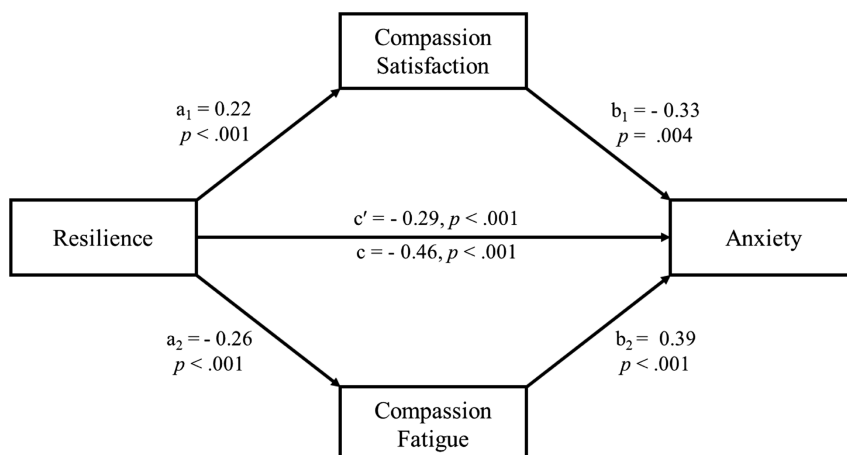


FIGURE 1. Mediating effects of compassion satisfaction and compassion fatigue in the relationships between resilience and anxiety.

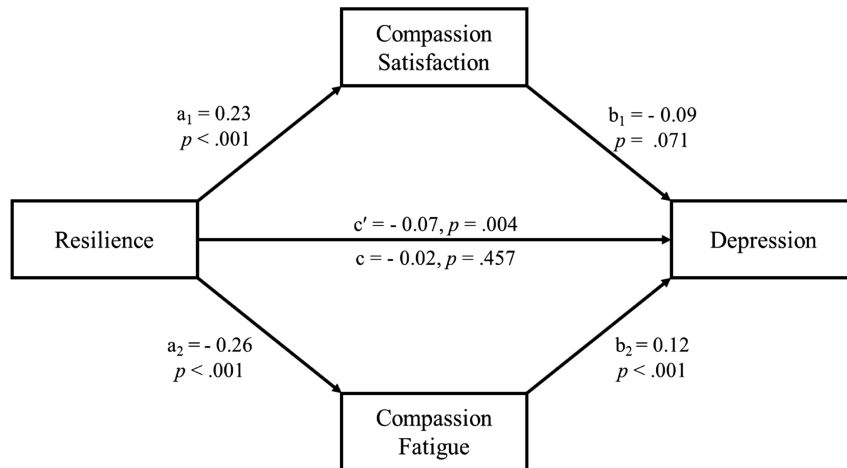


FIGURE 2. Mediating effects of compassion satisfaction and compassion fatigue in the relationships between resilience and depression.

ensure a satisfying experience for hospice volunteers, the staff in hospice organizations need to be aware of different levels of psychological symptoms severities in volunteers and help to allay their fears about death and dying.

In this study, the mean score was 37.2 (out of 50) for compassion satisfaction and 44.6 (out of 100) for compassion fatigue. The mean score of compassion satisfaction was lower than that of hospice care team members including physicians, nurses, social workers, and volunteers in the United States and Spain (range of mean score, 41.1-43.0).^{23,24} On the contrary, the mean score of compassion satisfaction of hospice volunteers in this study was higher than that of oncology nurses in Korea (mean score, 30.3).²² For compassion fatigue, it is hard to compare mean scores with those of other studies because, for us, compassion fatigue consisted of burnout and secondary trauma together, based on the guidelines by Stamm,¹⁰ who developed the ProQOL_5. However, previous studies that examined compassion fatigue reported fatigue scores for 10 items of burnout and another 10 items of secondary traumatic stress separately.^{23,25} Compassion fatigue has been referred to as the emotional cost of caring for patients and their loved ones, and it may lead to depression and stress-related illnesses. Conversely, compassion satisfaction stems from the emotional rewards that come from caring for others in a healthcare context.^{9,26} Researchers have suggested that compassion satisfaction can counterbalance the risk of compassion fatigue and may also account for the resilience of the human spirit.⁷ Therefore, identifying the compassion satisfaction and fatigue that hospice volunteers experience and understanding their dynamic relationships with resilience and psychological symptoms could provide healthcare system managers for volunteer education or support programs.

With regard to the relationships among the variables, significant correlations were found among resilience, compassion satisfaction, compassion fatigue, anxiety, and

depression in hospice volunteers. Although it is challenging to compare these relationships with those of other studies owing to the lack of relevant studies on hospice volunteers, findings on nurses in the United States and Australia are similar to the findings of this study.^{7,27} The presence of high resilience was significantly associated with a lower prevalence of posttraumatic stress disorder in intensive care unit nurses.⁷ According to a study by Hegney et al,²⁷ compassion satisfaction has a significant negative correlation with depression ($r = -0.26$, $P < .05$), and compassion fatigue (secondary traumatic stress) has a significant positive correlation with anxiety ($r = 0.56$, $P < .05$) and depression ($r = 0.48$, $P < .05$) in critical care nurses. In addition, resilience has a significant positive correlation with compassion satisfaction ($r = 0.63$, $P < .01$) and a significant negative correlation with compassion fatigue (secondary traumatic stress) ($r = -0.35$, $P < .01$).²⁸ Given these findings, it is reasonable to suggest that resilience and compassion satisfaction and compassion fatigue could be key variables in explaining psychological consequences in hospice volunteers.

In addition, compassion satisfaction and compassion fatigue had significant indirect effects on anxiety levels. Also, compassion fatigue mediated the relationship between resilience and depression in hospice volunteers. Both findings indicated the importance of compassion satisfaction and compassion fatigue in the connection between resilience and anxiety or depression in hospice volunteers. Therefore, it is important to develop or enhance compassion fatigue-reducing strategies as well as resilience-building programs, which have been proven in the current study^{29,30} to help alleviate the negative impacts of psychological symptoms on hospice volunteers. In this study, the path of resilience on depression through compassion satisfaction was not significant and the path of resilience on depression through compassion fatigue was significant. Such findings suggest that compassion fatigue may have more of



an influence than compassion satisfaction in the relationship between resilience and depression. However, the extremely low scores of depression symptoms of hospice volunteers in this study may have led to these different results. Further research is needed to confirm the effects of compassion satisfaction as a mediator in the relationship between resilience and depression.

This study is the first to simultaneously examine compassion satisfaction and compassion fatigue as mediators in the associations between resilience and anxiety and depression. The findings provide supporting evidence for developing interventions to help hospice volunteers who are at risk of anxiety and depression and show how compassion fatigue and satisfaction can mitigate the relationships of resilience. Although the present study has these innovative strengths, there are a few limitations as well. The study used a cross-sectional research design, which limited the inference of causality among the variables. Self-report questionnaires to measure symptoms of anxiety and depression were used in this study, and the study participants may have overreported or underreported their symptoms and experiences of compassion. Furthermore, the study was limited to Korean hospice volunteers working in a single province; therefore, the findings have limited generalizability for hospice volunteers in other regions.

CONCLUSION

Resilience, compassion satisfaction, and compassion fatigue have been reported as important factors that have an impact on psychological symptoms. However, there is a relative lack of evidence on the relationships among these variables in hospice volunteers. To the best of our knowledge, this is the first study to examine the effects of compassion satisfaction and fatigue as mediators in the relationship between resilience and psychological symptoms. The finding that compassion fatigue acted as a mediator in the relationship between resilience and anxiety should prompt healthcare system administrators to focus on developing compassion fatigue-reducing and resilience-building strategies to reduce psychological distress in hospice volunteers. Thus, there is a need for further investigation of the relationship between resilience and psychological distress in hospice volunteers and robust evaluation of the impact of intervention to promote resilience in hospice practice.

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