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# Association between mental health and professional quality of life among advocates for victims of sexual assault: a cross-sectional study

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## Abstract

**Background** Advocates for victims of sexual assault are exposed to the traumatic events of victims, which can lead to occupational stress. Occupational stress specific to advocates who support victims can cause compassion fatigue and burnout, which can worsen their mental health. Furthermore, such exposure could lead to compassion satisfaction, which, in turn, may buffer compassion fatigue and burnout. To improve the mental health of advocates for victims of sexual assault in Japan, this study aimed to evaluate a hypothesized model explaining the effect of occupational stress on their mental health.

**Methods** This cross-sectional study was conducted using a self-administered questionnaire via mail. The sample comprised 560 advocates from one-stop support centers for victims of sexual assault. Questionnaires comprising the components of the hypothesized model, namely, compassion fatigue, burnout, compassion satisfaction, traumatic stress symptoms, and psychological distress, were mailed. After using descriptive statistics, a path analysis was conducted to test the hypotheses and the fitness of the model.

**Results** Data from 250 participants were analyzed. The prevalence rates of compassion fatigue, burnout, and compassion satisfaction were 30%, 65%, and 4%, respectively. The hypothesized model demonstrated a good fit. Compassion fatigue exerted a significant positive effect on traumatic stress symptoms and psychological distress. Burnout also demonstrated a significant positive effect on psychological distress. However, its association with traumatic stress symptoms was not significant. Compassion satisfaction exerted a significant negative effect on compassion fatigue and burnout.

**Conclusions** Improving the mental health of advocates, particularly for traumatic stress symptoms, requires not only intervening in burnout but also improving compassion fatigue. Increasing compassion satisfaction contributes to the improvement of compassion fatigue and burnout. Therefore, creating a supportive environment that considered these would help improve the mental health of the advocates.

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**Keywords** Sex offenses, Sexual assaults, Compassion fatigue, Secondary traumatic stress, Compassion satisfaction, Burnout, Professional quality of life, Rape crisis center

## Background

Practitioners, counselors, and advocates who interview and counsel victims with severe traumatic experiences may exhibit stress reactions similar to those of the victims [1]. Approximately 25–50% of advocates for victims of sexual assault experience secondary stress responses [2, 3]. In the United States and Canada, along with the development of support for victims of sexual assault, the mental health of advocates has received attention since the 1990s [4, 5]. More studies have since shown the importance of mental health support for advocates of sexual victims [6, 7, 8, 9, 10]. However, the support system for advocates in support centers for victims of sexual assault, such as rape crisis centers (RCCs), has not yet been fully developed and requires further improvement [11, 12].

The activities of advocates in RCCs benefit victims in many ways because they increase the provision of obstetric care to victims, link them to the police and lawsuits, and reduce secondary damage and other unpleasant emotions [13]. Advocates empower victims, and for the benefit of the victims, they collaborate with various professionals [14, 15]. Support centers for victims of sexual assault are becoming more widespread in Asian countries, and the quality of management has also been attracting more attention [16, 17]. In Japan, a public support center for victims of sexual assault began in 2010 [18]. Starting with the establishment of the first center, the number of centers gradually increased, and by 2018, at least one center had been established in all 47 prefectures. Still, even in large prefectures such as Tokyo or Osaka, only one center exists in most places. In addition, in Japan, until 2017, the crime of rape under the Penal Code limited victims to women. Consequently, little victim support was provided to men (a hotline exclusively for men opened in 2023). In terms of same-sex assistance, very few male advocates were available, and it would be expected that the percentage of female advocates was still high. In countries like Japan, where victim support systems have just been established or are still in their infancy, expectedly, as victim support becomes more widespread, advocates will increasingly encounter victims' traumatic experiences, making the establishment of a support system for advocates a challenge.

Therefore, this study will be useful in countries that already have a support system for victims of sexual assault to enhance the support of advocates and countries that do not yet have such a system to build a victim support system based on advocate support.

## Literature review

### Mental health of rape crisis center advocates

Much of the research on secondary stress and mental health following sexual assault has focused on counselors [19], psychotherapists [6, 20, 21], sexual assault nurse examiners [22, 23], and social workers [24]. However, support for RCC advocates is also important and has been the focus of attention [12]. RCC advocates experienced a variety of psychological reactions psychological reactions, including anger, fear, and proxy trauma [25, 26, 27]. In particular, exposure to traumatic episodes of victimization could lead to compassion fatigue and burnout [6]. Emotional and existential challenges, including decreased trust in others, headaches, panic attacks, and increased anxiety [28] have been noted and affected sexual life [19]. In addition, for advocates with a history of sexual assault victimization, identifying with the victim and remembering their assault could be a stressor [29]. Conversely, positive aspects such as vicarious resilience and high job satisfaction were also reported [30]. Research on the mental health of RCC advocates has been predominantly qualitative [14, 25, 28, 29, 31], and quantitative research has been limited [2, 26, 30]. Most studies on mental health among RCC advocates were from Western countries, few have been conducted in Asia, and we could not find any studies that have examined the issue at the national level.

### Professional quality of life (ProQOL) of sexual assault advocates

Advocates who work with victims of sexual assault experiencing severe trauma face secondary stress caused by their job responsibilities, commonly referred to as occupational stress, and the support to improve the mental health of these advocates has been considered [26].

Occupational stress in trauma workers, such as those assisting victims of sexual assault, is unique, and providing interpersonal assistance while exposed to traumatic episodes results in emotional exhaustion. Conversely, some positive aspects such as high satisfaction and fulfillment exist [32]. Therefore, rather than evaluating it based on standard occupational stress tools, such as the job content questionnaire [33], it should be measured using tools specific to interpersonal support. A scale that is widely used to measure the QOL of professionals who provide interpersonal support, particularly among those who have experienced a traumatic event, is the professional quality of life (ProQOL) scale. It consists of three factors, namely, compassion fatigue (also known as secondary traumatic stress [STS]), burnout (negative

responses), and compassion satisfaction (a positive response) [32, 34].

Compassion fatigue is defined as stress among advocates resulting from working with a victim who is psychologically traumatized. Furthermore, exposure to the victim's traumatic episode can lead to the development of symptoms similar to post-traumatic stress disorder (PTSD) [1]. Compassion fatigue tends to focus only on post-traumatic stress symptoms among advocates; however, the relationship with psychological distress should also be focused examined because of increased depression and anxiety [35]. In addition, only a few studies have examined the association between compassion fatigue and traumatic stress symptoms or psychological distress among advocates for victims of sexual assault [6].

Burnout is defined as a long-term response to chronic emotional and interpersonal work stressors [36]. Victims of sexual assault have a higher prevalence of PTSD, which can cause severe long-term psychological symptoms [37, 38]; thus, working with clients experiencing PTSD could exacerbate feelings of helplessness caused by burnout [36]. Recent studies have reported that burnout is related to symptoms of psychological distress and traumatic stress [39, 40, 41]. Meanwhile, Figley [1] and Stamm [32] found that negative aspects, such as compassion fatigue and burnout, could not explain the positive aspect of compassion satisfaction; further, the satisfaction gained from providing support [32] can limit compassion fatigue and burnout [42] but did not correlate [43] or only was weakly correlated with compassion fatigue [44]. Compassion satisfaction is defined as the positive emotions felt

from helping others [45]. Numerous studies on health-care workers have found that compassion satisfaction was correlated with lower burnout [43, 46, 47, 48]; however, to the best of our knowledge, no studies on advocates for victims of sexual assault have been published.

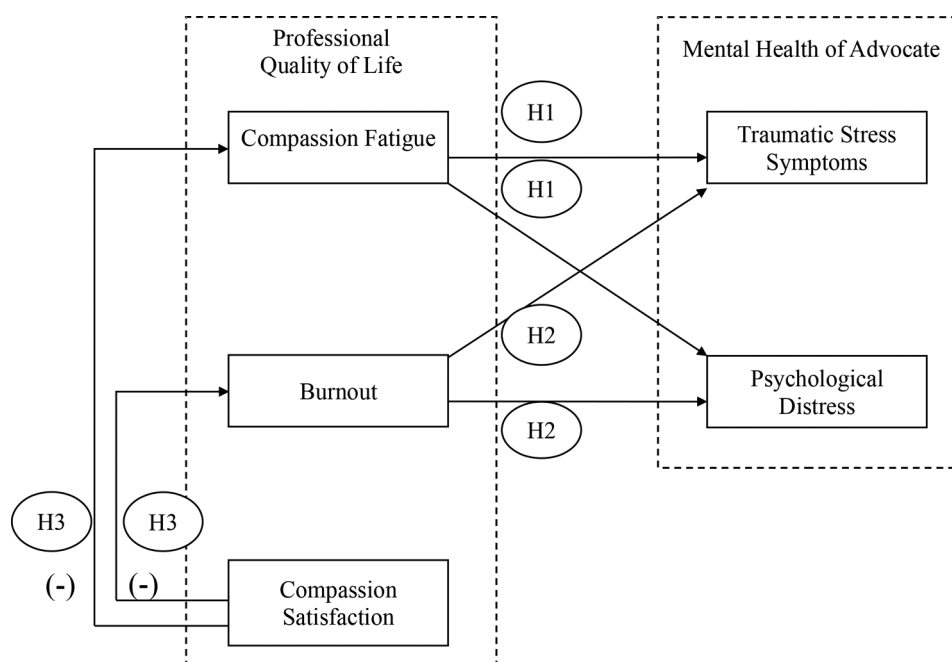
Therefore, this study examined how compassion fatigue, burnout, and compassion satisfaction affect traumatic stress symptoms and psychological distress among advocates of victims of sexual assault.

### Objectives and hypotheses

This study aimed to clarify the relationship between occupational stress reactions (compassion fatigue and burnout) and mental health (traumatic stress symptoms and psychological distress) specific to advocates for victims of sexual assault in Japan and verify whether compassion satisfaction influences compassion fatigue and burnout. Based on a part of the occupational stress model by the National Institute for Occupational Safety and Health [49] and previous studies [1, 32, 41, 42], a hypothesized model (Fig. 1) was created, which included compassion fatigue and burnout as reactions, traumatic stress symptoms and psychological distress as illnesses, and compassion satisfaction as an influence. The following hypotheses were tested:

**Hypothesis 1** Compassion fatigue positively influences traumatic stress symptoms and psychological distress.

**Hypothesis 2** Burnout positively influences traumatic stress symptoms and psychological distress.



**Fig. 1** The hypothesized model to improve the mental health of advocates for victims of sexual assault

**Hypothesis 3** Compassion satisfaction negatively influences compassion fatigue and burnout.

## Methods

### Design, participants, and settings

This cross-sectional study targeted advocates from all one-stop support centers for victims of sexual assault across Japan. All staff, which included the managers and supervisors, were eligible for participation because they also provided support as advocates occasionally. The One-Stop Support Centers for Victims of Sexual Violence were established in Japan in 2010 [18], and at least one center was established in each of the 47 prefectures by October 2018. The operating entities included the government, hospitals, police, nonprofit corporations, and crime victim centers commissioned by the government. Some prefectures manage multiple centers. These centers aimed to reduce victims' physical and mental burden, recover their health, encourage them to report the incident to the police, and prevent damage from becoming latent. The primary functions of the center included providing telephone counseling, conducting interviews with victims and their families, and offering support by accompanying victims to hospitals—such as those specializing in obstetrics and psychiatry—police stations, and law offices [50]. Moreover, some centers provided forensic support for criminal procedures, such as collecting evidence.

### Procedure

Data were collected via mail. The 52 one-stop support centers listed on the Gender Equality Bureau Cabinet Office website were asked [51] to distribute the questionnaire by phone, fax, and e-mail. Questionnaire sets were mailed to the administrators of the 46 centers that consented. A total of 560 questionnaires were distributed to the advocates by the administrators. The mail included a study description, a questionnaire, and a return form stating the recipient's address for compensation payment.

Participation was voluntary. From March 15 to June 30, 2022, the questionnaires were mailed in and returned by hand after they were placed in a return envelope. Participants' names and e-mail addresses were collected separately from the questionnaire to send them the reward. A person other than the researcher opened the questionnaire envelope and sent the reward. Participants received a 1,000-yen gift certificate as a reward for the completion of the survey. The questionnaire took approximately 20 min to complete.

### Data collection

The questionnaire included the demographic data form; ProQOL scale; impact of event scale-revised (IES-R), and 6-item Kessler psychological distress scale (K6).

### Demographic data

Participants' demographic data included age, years of experience as a supporter, sex, qualifications (physician, lawyer, police officer, psychologist, social worker, or nurse), other support experiences (crime victim support, intimate-partner violence support, suicide prevention counseling, child abuse support, etc.), employment status (full-time, part-time, paid volunteer, or volunteer), hourly wage, primary position at the center (supporter, coordinator, supervisor, administrator, or office), and the supporter's sexual assault victimization history, IPV history, and criminal victim history. The sexual assault victimization history was based on the question, "Have you ever been a victim of sexual assault?" which had a "yes/no" response.

### Professional quality of life

The ProQOL consists of compassion fatigue, also known as STS, burnout, and compassion satisfaction subscales. Each variable had 10 items (30 items in total) and was evaluated on a 5-point Likert scale that ranged from 1 (never) to 5 (very often) in the past 30 days. The higher the total score, the higher the level. The burnout scale included four reversal items. The validity and reliability of ProQOL Version 5 was confirmed [52]. A subscale score of  $\leq 22$ , 23–41, and  $\geq 42$  was classified as low, moderate, and high, respectively [45]. In addition, the prevalence values were expressed as moderate or high [2]. The ProQOL scale has been translated into 28 languages, and the reliability and validity of the Japanese version were confirmed. However, the internal consistency of the burnout subscale was mediocre [53]. Meanwhile, in this survey, the Cronbach alphas were 0.86, 0.88, and 0.75 for compassion fatigue, compassion satisfaction, and burnout, respectively. Therefore, a moderate internal consistency was confirmed for burnout.

### Impact of event scale-revised

Exposure to victim trauma in support was a risk factor for PTSD; therefore, the IES-R was used to screen for PTSD [1, 6]. Traumatic stress symptoms are emotional responses that result from a highly stressful event such as a threat to life or safety, and some individuals develop PTSD after exposure to a traumatic event [54, 55]. The IES-R consisted of 22 items: intrusion (eight items), avoidance (eight items), and hyperarousal (six items). Participants rated their symptoms within the week on a 5-point Likert scale from 0 (not at all) to 4 (extremely). The total score ranged from 0 to 88 points, and higher total scores indicated stronger PTSD. The Japanese version of the IES-R was used [56]. It has sufficient reliability and validity as a screening tool for PTSD-related symptoms. In the Japanese version, 24/25 points are recommended as the cutoff value. In this survey, scores of  $\geq 25$

and  $\leq 24$  were entered into the model as high- and low-risk groups, respectively. Cronbach's alpha was 0.94.

### Kessler psychological distress scale

Psychological distress was evaluated using K6. It refers to a collection of psychophysiological and behavioral symptoms common to mental disorders, such as anxiety and depression [57]. It was associated with a decline in psychological functioning and QOL and could be a predictor of mental illness and suicide [58]. The K6, developed by Kessler, is a measure of nonspecific psychological distress [59]. It was validated as a screening tool for serious mental illness in a community-based sample to accurately identify mental disorders as per the Diagnostic and Statistical Manual, Fourth Revision (DSM-IV) [60]. Participants rated their responses on a 5-point Likert scale from 0 (not at all) to 4 (always). The score ranged from 0 to 24 points, and higher total scores indicated mental illness, which included psychological stress. The Japanese version of the K6 has confirmed reliability and validity [61]. Scores of  $\leq 4$  and  $\geq 5$  indicated a group without and with some mental illness, respectively. In this survey, scores of  $\geq 5$  and  $\leq 4$  were entered into the model as the high- and low-risk groups, respectively. Cronbach's alpha in this study was 0.86.

### Statistical analyses

After participants' demographic data and descriptive statistics of the ProQOL were calculated, the degree of compassion fatigue, burnout, and compassion satisfaction was classified according to the categories in the ProQOL manual [45]. The normality of the ProQOL, IES-R, and K6 scores was confirmed by the Shapiro–Wilk test, which rejected the hypothesis that they were not normally distributed for compassion satisfaction and burnout; therefore, they were considered to be normally distributed. However, the STS-measured compassion fatigue, IES-R, and K6 did not meet the normality standard. The normality of the distribution of STS was confirmed in the Q-Q plot. Therefore, Pearson's correlation was used between the ProQOL variables and Spearman's rank-sum correlation between variables, which included the IES-R and K6. To assess the multicollinearity among the variables, multiple regression analyses were performed, confirming that the variance inflation factor for each variable was  $< 3$ . Because the previous study have shown that experiences (victims of sexual assault, IPV, and crime) were associated with advocates' mental health [26], they were divided into experienced and non-experienced groups, and t-tests and Mann–Whitney U-tests were performed.

Path analysis was performed to examine the association of the variables included in the hypothesized model. The assessment of the model required a sample size of 10 times the number of parameters. The sample size was

$\geq 170$ , as the hypothetical model included 17 parameters [62]. The IES-R and K6 were entered as binary variables utilizing cutoff values and employed as screening tools. The goodness-of-fit of the hypothesized model was determined via chi-squared values, goodness-of-fit index (GFI), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR) [63]. Samples with missing values for the variables were excluded, as they were within 10% of all respondents. IBM SPSS Statistics for Windows version 28 and AMOS version 28 (IBM Corp., Armonk, NY, USA) were used for all analyses. Significance was set at a two-sided  $p < .05$ .

### Ethical considerations

This study was approved by the Medical Research Ethics Committee of Tokyo Medical and Dental University (Approval no. M2021-214). The participants received a written explanation of the survey. Furthermore, they were informed of the voluntary nature of their participation. Consent was obtained by checking the first item on the questionnaire, "I agree to participate in the survey." The survey was conducted anonymously.

## Results

### Participants' characteristics

A total of 266 responses were collected; 250 responses contained all the values for the variables used in the model and were included. Table 1 presents the demographic characteristics of the participants. Their mean age and number of years of experience as an advocate worker were 56.34 ( $SD = 10.70$ ) and 8.15 ( $SD = 6.90$ ) years, respectively. Most were women (97%), and 114 (46%) had some medical qualifications, such as nurse, social worker, or psychologist. None of the participants had worked as lawyers or police officers. Of the participants, 108 (43%) had experienced some kind of sexual assault.

### Characteristics of the variables

The mean scores for compassion fatigue, burnout, and compassion satisfaction were 19.55 ( $SD = 5.3$ ), 24.26 ( $SD = 4.7$ ), and 30.02 ( $SD = 5.8$ ) points, respectively. Compassion fatigue and burnout were classified as low at 70% and 34% and moderate at 30% and 66%, respectively. None of the participants were classified as having high levels in either variable. Only 4% were highly satisfied with their compassion, whereas 87% were moderately satisfied (Table 2). The high-risk group for traumatic stress symptoms and psychological distress comprised 25 (10%) and 69 (28%) participants, respectively.

Table 3 presents the results of the correlation analyses among the variables of the ProQOL scale, traumatic stress symptoms, and psychological distress. Compassion fatigue was significantly positively correlated with



**Table 1** Participants' demographic data (n = 250)

	Mean	SD	Range
Age	56.34	10.7	24–78
Years of experience as an advocator (n = 237)	8.15	6.9	0–50
	n	%	
Gender			
Men	7	2.8	
Women	242	96.8	
Others	1	0.4	
Qualification			
Psychologist	32	12.8	
Gynecologist	1	0.4	
Social worker	34	13.6	
Nurse	47	18.8	
Others/none	136	54.4	
Other Supporting Activities			
Support for Crime Victims	103	41.2	
Support for IPV	93	37.2	
Support for Suicide Prevention	22	8.8	
Support for Child Abuse	51	20.4	
Others	50	20.0	
Employment status			
Full-time employee	51	20.4	
Part-time, Paid Volunteer	192	76.8	
Free volunteer	7	2.8	
Hourly rate (n = 248)			
Less than 499 JPY	24	10.1	
500–999 JPY	45	18.1	
1000–1499 JPY	104	41.9	
More than 1500 JPY	58	23.4	
Monthly salary	16	6.5	
Position in the center			
Advocator	214	85.6	
Coordinator	22	8.8	
Supervisor	7	2.8	
Administrator	2	0.8	
Clerical worker	5	2.0	
Personal victim history			
Sexual assault history	108	43.2	
IPV history	88	35.2	
Crime victim history	56	22.4	
Traumatic Stress Symptoms high risk <sup>a</sup>	25	10.0	
Psychological Distress high risk <sup>b</sup>	69	27.6	

a: Traumatic Stress Symptoms was measured by Impact of Event Scale-Revised, with 25 points or more as a high-risk group, b: Psychological distress was measured by the K6, with 5 points or more as a high-risk group

Abbreviations: SD = standard deviation, IPV = intimate partner violence

traumatic stress symptoms ( $r(248) = 0.60, p < .01$ ) and psychological distress ( $r(248) = 0.44, p < .01$ ). The correlation coefficient between compassion fatigue and burnout was  $r = .61$ . Burnout was also positively correlated with traumatic stress symptoms ( $r(248) = 0.46, p < .01$ ) and psychological distress ( $r(248) = 0.40, p < .01$ ). Compassion satisfaction was significantly negatively correlated with compassion fatigue ( $r(248) = -0.18, p < .01$ ) and burnout

( $r(248) = -0.53, p < .01$ ). Table 4 presents the results of the association of advocates' history. The group that had experienced sexual victimization had slightly significantly higher psychological distress levels than the group that had no experience ( $U = 8857.5, Z = 2.13, p = .033$ ). Those who experienced IPV victimization had significantly higher psychological distress levels than those who did not experience IPV ( $U = 9217.5, Z = 3.89, p < .001$ ). A significant difference was found between the scores of the group that experienced crime victimization ( $M = 20.82, SD = 5.3$ ) and the group that did not experienced it ( $M = 19.18, SD = 5.3$ ),  $t(248) = 2.05, p = .041$ . No significant associations were found with the other variables.

### Path analysis

Figure 2 presents the results of the path analyses via the hypothesized model. The fit of the hypothesized model was  $\chi^2(2, N = 250) = 1.1, p = .574$ , AGFI = 0.983, CFI = 1.000, RMSEA = 0.000, SRMR = 0.014. Solid lines indicate significant paths, and dotted lines indicate nonsignificant paths. Positive significant paths were found from compassion fatigue for traumatic stress symptoms ( $\beta = 0.34, p < .001$ ) and psychological distress ( $\beta = 0.29, p = .001$ ). Furthermore, a positive significant path was found from burnout for psychological distress ( $\beta = 0.14, p < .05$ ). However, the path from burnout to traumatic stress symptoms was not significant ( $\beta = 0.11, p = .131$ ). The paths from compassion satisfaction to compassion fatigue and burnout were negatively significant ( $\beta = -0.18, p = .004, \beta = -0.53, p < .001$ , respectively). Table 5 presents the standardized coefficients, standard errors, and critical ratios of the paths.

### Discussion

This study was the first quantitative research to evaluate the ProQOL of advocates for victims of sexual assault in RCCs at a national level. The results of this study indicated that traumatic stress symptoms were more strongly affected by compassion fatigue than by burnout and that preventive measures against burnout alone are unlikely to improve traumatic stress symptoms in advocates for victims of sexual assault. In other words, interventions for compassion fatigue were critical for improving traumatic stress symptoms in advocates. Furthermore, the results were novel and showed that compassion fatigue and burnout decreased as compassion satisfaction increased. The hypothesized model had a good fit as the chi-squared test was not significant, the degrees of freedom were  $< 2$ , GFI and CFI were  $> 0.95$ , and RMSEA and SRMR values were  $< 0.05$ . The hypothesis testing results are discussed in the following sections.

### Hypothesis 1: compassion fatigue positively influences traumatic stress symptoms and psychological distress

Hypothesis 1 was supported as significant paths were found from compassion fatigue to traumatic stress

**Table 2** Descriptive statistics among the variables in the hypothetical model ( $n=250$ )

Variables	Mean	SD	Range	Low (%)	Moderate (%)	High (%)
Compassion Fatigue <sup>a</sup>	19.55	5.3	10–40	175 (70.0)	75 (30.0)	0 (0.0)
Burnout	24.26	4.7	12–37	86 (34.4)	164 (65.6)	0 (0.0)
Compassion Satisfaction	30.02	5.8	16–46	23 (9.2)	218 (87.2)	9 (3.6)
Traumatic Stress Symptoms <sup>b</sup>	9.50	10.9	0–65			
Psychological Distress <sup>c</sup>	3.19	3.4	0–17			

Note: Low, Moderate, and High were the score classifications for Compassion Fatigue, Burnout, and Compassion Satisfaction scores based on Stamm (2010). Totals score of 22 or less, 23–41, and 42 or more were classified as low, moderate, and high, respectively

a: Compassion Fatigue was measured by Secondary Traumatic Stress from Professional Quality of Life scale

b: Traumatic Stress Symptoms were measured by Impact of Event Scale-Revised

c: Psychological distress was measured by the K6, with 5 points or more as a high-risk group

Abbreviation: SD = standard deviation

\* $p < .05$ , \*\* $p < .01$

**Table 3** Correlation among the variables in the hypothetical model ( $n=250$ )

Variables	1	2	3	4
1. Compassion Fatigue <sup>a</sup>				
2. Burnout	0.602**			
3. Compassion Satisfaction	−0.179**	−0.531**		
4. Traumatic Stress Symptoms <sup>b</sup>	0.596**	0.456**	−0.089	
5. Psychological Distress <sup>c</sup>	0.442**	0.393**	−0.128*	0.484**

Note: Pearson's correlation was used for Compassion Fatigue, Burnout, and Compassion satisfaction. Spearman's rank sum correlation was used for those that included Traumatic Stress Symptoms and Psychological Distress

a: Compassion Fatigue was measured by Secondary Traumatic Stress from Professional Quality of Life scale

b: Traumatic Stress Symptoms were measured by Impact of Event Scale-Revised

c: Psychological distress was measured by the K6, with 5 points or more as a high-risk group

\* $p < .05$ , \*\* $p < .01$

symptoms and psychological distress. Stress resulting from assisting traumatized victims may exacerbate traumatic stress symptoms among advocates. This result was consistent with the results of Jenkins and Baird [6], who reported on Japanese advocates for victims of sexual assault. Furthermore, the finding that compassion fatigue also affected psychological distress was consistent with the results of Samios et al. [35], who found an association between compassion fatigue and depression. Advocates and their supervisors should understand that compassion fatigue affects both psychological distress and traumatic stress symptoms.

### Hypothesis 2: burnout positively influences traumatic stress symptoms and psychological distress

Maslach and Leiter [36] concluded that the effect of burnout on psychological symptoms remained unclear. However, burnout exerted a significant effect on psychological distress in this study; this is consistent with the findings of previous studies that have shown a positive relationship between increased burnout and psychological distress [6, 64].

Conversely, burnout did not significantly affect traumatic stress symptoms. Thus, hypothesis 2 was partially rejected. Moss et al. [41] focused on intensive care unit providers and reported that burnout was a predictor of worsening traumatic stress symptoms. However, current study focused on advocates for victims of sexual assault, who might have had different attributes. However, as Jenkins and Baird [13] stated, we speculated that burnout, a structural workplace problem, and psychological trauma, an effect of trauma exposure, were logically different, and therefore, did not yield a strong association in this study. Therefore, advocates of victims of sexual assault may be more directly affected by trauma than by workplace issues.

### Hypothesis 3: compassion satisfaction negatively influences compassion fatigue and burnout

In this survey, compassion satisfaction was negatively correlated with compassion fatigue in the correlation analysis. The path analysis also revealed a negative effect. This result was consistent with the conceptual analysis model of Sacco and Copel [42]. However, in the path analysis, the standardized regression coefficients were not robust. This is likely due to the potential coexistence of the components of compassion satisfaction and compassion fatigue [32]. Conversely, compassion satisfaction had a strong negative influence on compassion fatigue and burnout. This finding was consistent with the results of previous studies in doctors and nurses [43, 44, 46, 47]. Thus, hypothesis 3 was supported, which suggested that if compassion satisfaction were increased, compassion fatigue and burnout would be buffered.

### Prevalence and characteristics of ProQOL among Japanese RCCs advocates

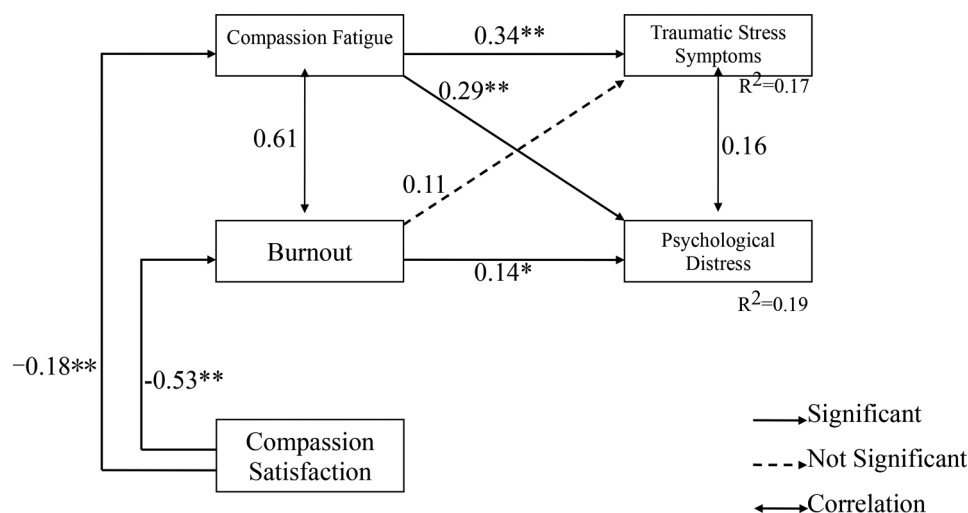
In this study, 43% of the advocates had experienced sexual victimization, a finding that was similar to those of previous studies that had also reported that nearly half of the

**Table 4** Association of past victimization experiences with professional quality of life and mental health

Victimization experiences									
Sexual assault victimization	Experience (n = 108)		No experience (n = 142)						
	M	SD	Mean/MR	SD	t	U	Z	p	
	Compassion fatigue <sup>a</sup>	19.44	5.1	19.63	5.4	−0.27		0.788	
	Burnout <sup>a</sup>	23.71	4.5	24.68	4.9	−1.60		0.112	
	Compassion satisfaction <sup>a</sup>	30.35	5.8	29.77	5.9	0.78		0.435	
	Traumatic stress <sup>b</sup>	131.23		121.14			8286.5	1.1	0.273
Intimate partner violence victimization	Psychological distress <sup>b</sup>	136.51		117.12			8857.5	2.13	0.033
	Experience (n = 88)		No experience (n = 162)						
	Mean/MR	SD	Mean/MR	SD	t		U	Z	p
	Compassion fatigue <sup>a</sup>	20.08	6.1	19.26	4.8	1.17			0.244
	Burnout <sup>a</sup>	23.91	5.4	24.45	4.4	−0.86			0.389
	Compassion satisfaction <sup>a</sup>	30.78	6	29.6	5.8	1.53			0.128
Crime victimization	Traumatic stress <sup>b</sup>	135.66		119.98			8022.5	1.64	0.1
	Psychological distress <sup>b</sup>	149.24		112.6			9217.5	3.89	< 0.001
	Experience (n = 56)		No experience (n = 194)						
	Mean/MR	SD	Mean/MR	SD	t		U	Z	p
	Compassion fatigue <sup>a</sup>	20.82	5.3	19.18	5.3	2.05			0.041
	Burnout <sup>a</sup>	23.68	5.6	24.43	4.5	−1.04			0.298
Psychological distress <sup>b</sup>	Compassion satisfaction <sup>a</sup>	31.25	6.3	29.66	5.7	1.8			0.074
	Traumatic stress <sup>b</sup>	137.89		121.92			7722	1.46	0.144
	Psychological distress <sup>b</sup>	135.06		122.74			5967.5	1.14	0.254

Notes a: Compassion fatigue, burnout, and compassion satisfaction were assessed using t-tests. (df = 248). b: Traumatic stress and psychological distress were assessed using the Mann–Whitney U test. Traumatic stress was measured using the impact of event scale-revised, and psychological distress was measured using the K6

Abbreviations: MR = mean rank; SD = standard deviation

**Fig. 2** Path analysis of the hypothesized model among advocates for victims of sexual assault

advocates had experienced some form of abuse [19, 29]. These advocates' experiences of sexual victimization may have motivated them to become advocates for victims of sexual assault, which may be akin to the idea of peers trying to use their experiences to provide support [65]. On the other hand, studies have reported that individuals who have experienced sexual assault or IPV victimization generally exhibit higher rates of psychological distress

[66, 67] and that past victimizations are risk factors for STS [68]. In this study, experiences of sexual assault and IPV victimization were also associated with psychological distress but not with psychological traumatic stress. Additionally, individuals who had experienced criminal victimization demonstrated higher compassion fatigue. However, the reasons for these associations could not be clarified in this study; thus, leaving them open for further



**Table 5** Standardized regression weights and critical ratios in the model of path analysis

Path	$\beta$	SE	CR	p
Compassion Fatigue → Traumatic Stress Symptoms	0.335	0.004	4.633	<0.001
Compassion Fatigue → Psychological Distress	0.292	0.006	4.037	<0.001
Burnout → Traumatic Stress Symptoms	0.109	0.005	1.511	0.131
Burnout → Psychological Distress	0.161	0.007	2.218	0.027
Compassion Satisfaction → Compassion Fatigue	-0.179	0.057	-2.865	0.004
Compassion Satisfaction → Burnout	-0.531	0.044	-9.879	<0.001

Note: Traumatic Stress Symptoms and Psychological Distress were entered as binary values using cut-off values

Abbreviations:  $\beta$ =standardized regression coefficient; SE=standard error; CR=critical ratio

investigation. Given these findings, RCC administrators should not only recognize that an advocate's own experience of some form of victimization may be a risk factor for compassion fatigue and mental health problems but also pay careful attention to the mental health of advocates.

Regarding the prevalence of ProQOL among Japanese RCC advocates, compassion fatigue scores did not differ significantly from those reported in previous studies [2, 35]. However, the burnout prevalence of 65% in the present study was higher than the 30% reported in a previous study [3]; nevertheless, strict comparisons could not be made because the same scale was not used. Furthermore, compassion satisfaction had a mean score of 30, which was lower than the score of approximately 40 points reported in previous studies [35, 69]. This may indicate the inadequacy of the support system for RCC advocates in Japan, where support for victims of sexual assault was in the early stages of its development. Stamm, the developer of ProQOL, noted that low compassion satisfaction and high burnout were caused by organizational and individual factors [45]. Working only on individual factors, such as encouraging self-care coping [25, 27] or increasing self-efficacy [27], is insufficient. Identifying the characteristics of an organization that can improve ProQOL, developing an organizational structure, and effectively utilizing its human resources are key factors. However, regarding organizational factors, although some were explicit, such as support from colleagues and family members, others, such as appropriate supervision and equitable organization [70], were reported as being inconsistent [71]. Thus, further investigations are warranted in this regard.

Compassion fatigue is unavoidable for advocates of traumatized victims of sexual assault. One step of support is to make advocates and administrators

understand that compassion fatigue can intensify traumatic stress symptoms and psychological distress. Furthermore, because reducing total work hours is effective in decreasing compassion fatigue [2], guidelines should be developed to promote benefits such as temporary leave for advocates. Improving workplace relationships further promotes compassion satisfaction [3]; thus, training incorporating cognitive-behavioral therapy and team building may be effective. To prevent secondary stress from worsening and causing advocates to leave the workforce, related factors to enhance ProQOL need to be further examined.

### Limitations

This study has several limitations. First, the participants were not classified as having a high propensity for compassion fatigue nor burnout. This might be because those who already suffered from burnout exhibited severe traumatic stress symptoms or depression and might have been disengaged or too symptomatic to respond. Second, ProQOL-associated factors associated with were not identified. In addition, whether the traumatic stress symptoms were caused by their traumatic experiences or by exposure to the victim's trauma was unclear. Past sexual victimization may have been associated with compassion fatigue; however, no such association was found in this study. This could be attributed to the broad and vague interpretation of the term "sexual assault," which encompassed various forms of victimization because the questionnaire only included a single question on the history of sexual assault. To prevent secondary victimization by triggering memories of one's experience, ethical consideration was required to use this particular question. Future research should explore appropriate and ethical methods for inquiring about sexual victimization in questionnaires and examine other factors that may improve ProQOL. In addition, past victimization histories were associated with the variables included in this study's model, and these may have influenced the results of the model. Future research should test whether the model is applicable to different backgrounds and larger populations by increasing the sample size and using simultaneous multiple population analyses that consider a variety of relevant factors [70]. Third, as this study focused on supporters of sexual assault survivors, the model's generalizability to other populations remains unknown. Because ProQOL can be widely used in various fields, it is desirable to examine whether the model can be adapted to other areas of interpersonal support. Despite these limitations, this study comprehensively examined the hypothesized associations among the three factors of ProQOL and their effects on traumatic stress symptoms and psychological distress.

## Conclusions

This study examined the hypothesized model using path analysis and revealed that compassion fatigue affected traumatic stress symptoms, psychological distress, and burnout. Furthermore, burnout was associated with psychological distress. In addition, compassion satisfaction could reduce compassion fatigue and burnout. Thus, the results indicate that increasing compassion satisfaction among advocates for victims of sexual assault may indirectly prevent psychological distress and the worsening of traumatic stress symptoms.

## Abbreviations

CFI	comparative fit index
DSM-IV	Diagnostic and Statistical Manual, Fourth Revision
GFI	goodness of fit index
IES-R	Impact of Event Scale-Revised
IPV	Intimate partner violence
K6	Kessler Psychological Distress Scale
PTSD	post-traumatic stress disorder
ProQOL	Professional Quality of Life Scale
RCC	Rape Crisis Center
RMSEA	root mean square error of approximation
STS	secondary traumatic stress
SRMR	standardized root mean square residual

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## Author contributions

NH: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Visualization, and Writing. YO: Conceptualization, Data curation, Formal analysis, Methodology, and Supervision. MS: Conceptualization, Data curation, and Formal analysis. JM: Conceptualization and Investigation. MM: Formal analysis and Visualization. MI: Formal analysis. NO: Conceptualization, Methodology, Project administration and Supervision. All authors reviewed and approved the final manuscript.

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## Data availability

Data is provided within the manuscript file.

## Declarations

### Ethics approval and consent to participate

This study, approved by the Medical Research Ethics Committee of Tokyo Medical and Dental University (approval number M2021-214), was conducted as human subject medical research in accordance with the Declaration of Helsinki. A written informed consent was obtained from all individual participants included in the study. Furthermore, they were informed that participation was voluntary. Consent was obtained by checking the first item on the questionnaire, "I agree to participate in the survey."

### Consent for publication

N/A.

### Competing interests

The authors declare no competing interests.

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