

BRIEF REPORT

## Specialized disaster behavioral health training: Its connection with response, practice, trauma health, and resilience

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### ABSTRACT

This study examined the relationship between having training in key disaster behavioral health (DBH) interventions and trauma health (compassion fatigue, burnout and compassion satisfaction), resilience, the number of crisis responses participated in within the last year, and the frequency of assembling to practice crisis interventions skills. Data was collected from a convenience sample of disaster behavioral health responders ( $N = 139$ ) attending a training conference in Michigan. Measures included the Professional Quality of Life Scale, the 14-item Resilience Scale, and a demographic questionnaire. Point biserial correlations revealed that having training in large and small group crisis interventions and individual and peer crisis interventions was significantly correlated with higher resilience and lower levels of burnout. Psychological First Aid was not significantly associated with any of the trauma health variables or with resilience. Compassion fatigue and compassion satisfaction were not significantly associated with DBH training. Chi-square tests for independence found no significant association between key DBH training strategies and the number of crisis responses participated in within the past year and the frequency of assembling to practice crisis interventions skills. These findings suggest that completing training in both, large and small group and individual and peer crisis intervention techniques may help to increase resiliency and reduce burnout among disaster behavioral health providers.

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In 2012, an estimated 123 million people worldwide were affected by disasters, which caused the death of 9,655 people and over \$157 billion dollars in damage.<sup>1</sup> The aftermath of disasters is often associated with varying degrees of physical and mental health effects.<sup>2</sup> The field of disaster behavioral health (DBH) strives to provide support and crisis intervention strategies for persons impacted by calamitous events. The psychological consequences of disasters tend to exhibit a “ripple effect,” and may also affect the professionals who work as crisis responders.<sup>3</sup> Frequent and repetitive indirect exposure to such traumas can interfere with their work to the point of developing compassion fatigue and burnout.<sup>4,5</sup>

Factors such as resilience, receiving specialized training, and participating in skill development opportunities have been proposed as ways to buffer against the negative effects of the stress that comes with working in the DBH field.<sup>3,6-9</sup> Thus, the connections among different types of crisis intervention trainings, the

number of DBH deployments, frequency of crisis team practice interventions, trauma health, and resilience need ongoing research exploration.

### Trauma health

“Trauma health” is a loosely coined term that refers to factors that can impact the mental health outcomes of those who respond to assist victims of disasters and other critical incidents. North<sup>10</sup> has suggested that varying degrees of exposure to a trauma incident, along with other preexisting characteristics (i.e., selection and self-selection, training and level of experience in such work) tend to shape trauma health. For the purpose of this study, trauma health refers to the concepts of compassion fatigue, burnout, and compassion satisfaction, variables that are associated with the well-being of trauma workers.<sup>5,8,11,12</sup>

Compassion fatigue is described as “the cost of caring” or the natural behavioral and emotional response

to “the stress resulting from helping or wanting to help a traumatized or suffering person” (p.7).<sup>4</sup> Compassion fatigue is also called vicarious traumatization, an expression coined by McCann and Pearlman<sup>13</sup> to characterize the profound psychological pain observed in therapists when working long-term with someone who has been directly traumatized.

Burnout has been defined as a chronic version of compassion fatigue.<sup>14</sup> Pines and Aronson<sup>15</sup> defined burnout as a “state of physical, emotional, and mental exhaustion caused by long term involvement in emotionally demanding situations” (p.11).<sup>4</sup> Maslach et al.<sup>16</sup> claimed that burnout research originated in service and care occupations, and they describe job burnout as a chronic responses of exhaustion, cynicism, and inefficacy. Burnout has also been described as being associated with emotions of anger, exhaustion, cynicism, ineptness, and defeat.<sup>17</sup>

Compassion satisfaction refers to the positive feelings about one’s ability to help, and the amount of fulfillment a person gets from their work.<sup>14,18</sup> Studies have indicated that compassion satisfaction is inversely associated with compassion fatigue and burnout.<sup>43,44</sup>

### **Crisis intervention training**

Research has suggested that training may have the potential to build resilience and equip individuals with the skills necessary to mitigate psychological distress after some level of exposure to a traumatic event.<sup>19,20</sup> In fact, Myers and Wee<sup>3</sup> have posited that the goal of disaster mental health services is to mitigate disaster-related stress, and strategies that incorporate the initial and continuing educational training in the DBH realm among crisis responders may help to prevent or reduce the incidence of compassion fatigue and burnout.

We examined several widely-promoted approaches to mitigate the harmful effects of reactionary traumatic stress and cumulative traumatic stress among emergency responders, DBH workers, and survivors of traumatic incidents, critical incident stress management (CISM)<sup>21-23</sup> and psychological first aid (PFA). CISM consists of a set of crisis intervention strategies intended to stabilize individuals in crisis, return them to adaptive functioning, and facilitate their access to continued care as needed.<sup>3</sup> Despite its’ popularity, research has been mixed and generally unresponsive regarding the effectiveness of CISM.<sup>3,45,50-52</sup>

In this study we focused on participants with training in large and small group crisis interventions, individual and peer crisis interventions, and PFA. Large group crisis intervention strategies may include demobilizations or crisis management briefings, while small group crisis interventions may include defusings, modified group briefings, and debriefings. Individual and peer crisis strategies tend to focus on providing support to the person in crisis through a one-on-one modality. However, research has indicated that the use of CISM, specifically debriefings, lacks empirical support for its efficacy to reduce severe trauma symptoms such as posttraumatic stress disorder (PTSD).<sup>45</sup>

PFA has received endorsement from DBH researchers and clinicians, the Office of the Assistant Secretary of Preparedness and Response (ASPR) within the Department of Health and Human Services (PFA is specifically mentioned in ASPR’s DBH Concept of Operations guidelines), the World Health Organization (WHO), and the Inter-Agency Standing Committee (IASC).<sup>24-26</sup> PFA is an evidence-informed method that has been developed to assist people of all ages in the aftermath of a traumatic event to help mitigate initial traumatic stress reactions, foster adaptive functioning, and facilitate access to needed care through 8 core action components (i.e., contact and engagement, safety and comfort, stabilization, information gathering: current needs and concerns, practical assistance, connection with social supports, information on coping, and linkage with collaborative services).<sup>24</sup> Furthermore, PFA has been touted as a resilience building tool<sup>25</sup> that can be implemented by both PFA trained mental health and non-mental health professionals.<sup>27</sup> The WHO and IASC use their version of PFA routinely in emergency settings internationally. Unfortunately, several extensive studies have found insufficient scientific evidence for PFA’s effectiveness despite its wide support.<sup>46-49</sup>

### **Resilience**

Resilience is a broadly defined concept that is comprised of multiple factors.<sup>28</sup> While Burnett and Wahl<sup>9</sup> operationally defined resilience as “the ability to adapt to change or manage adverse life experiences” (p. 319), Bonanno<sup>28</sup> provided a more concise definition of resilience focusing on an individual’s ability to “maintain relatively stable, healthy levels of psychological and physical functioning across time and possess the ability to generate new experiences and positive emotions” (p.102).

A recent study indicated that resilience is a strong mediator between compassion fatigue and burnout<sup>9</sup> and an important factor in trauma health among DBH workers. We propose that training in DBH early intervention strategies should correlate with measures of resilience and trauma health among response professionals receiving the training.

### Present study

This study expanded upon Burnett and Wahl's<sup>9</sup> research by using their data to examine the relationship between training in specific DBH early interventions and trauma health and resilience. Also examined as mediators were the number of crisis responses/deployments (within one year) and the frequency of assembling to practice crisis intervention skills. We hypothesized that being trained in DBH crisis interventions for large and small groups, individuals and peers, and PFA would be related with higher levels of resilience and compassion satisfaction, and lower levels of burnout and compassion fatigue among DBH responders. The frequency of DBH crisis responses within the past year and the frequency of practice sessions to enhance intervention skills were also expected to correlate with training, trauma health and resilience.

## Method

### Participants

This correlational study used a convenience sample of DBH professionals who attended the "Fostering Resilience in the Aftermath: The Art of Delivering Disaster Behavioral Health Services" conference in Lansing, Michigan on November 7, 2013. The conference was sponsored by the Michigan Department of Community Health, Office of Public Health Preparedness.

### Measures

Professional Quality of Life Scale (ProQOL). The ProQOL was used to measure trauma health (compassion fatigue, burnout, and compassion satisfaction). The ProQOL is a 30-item questionnaire rated on a 5-point Likert scale. There were 10-items for each subscale. The ProQOL is a self-report measure developed by Stamm,<sup>14</sup> who found that the scale had good construct validity and inter-scale correlations. Cronbach's  $\alpha$  of reliability was reported to be .88, .81, and .75 for the

compassion satisfaction, compassion fatigue, and burnout subscales, respectively.

The 14-item Resilience Scale (RS-14). The RS-14 was used to measure resilience. The RS-14 is a self-report measure that uses a 7-point Likert scale (1- Strongly Disagree, 7- Strongly Agree). The original Resilience Scale developed by Wagnild and Young<sup>29</sup> was a 25-item scale. A shorter, 14-item (RS-14) was later developed by Wagnild<sup>30</sup> which has shown good reliability, with a Cronbach's  $\alpha$  of .91.

A demographic questionnaire was utilized to collect data regarding participant gender, age, education, profession, the type of DBH training completed, the number of DBH crisis responses participated in within the past year, and the frequency of assembling to practice DBH crisis intervention skills.

### Procedure

Written permission was obtained from the director of the Michigan Office of Public Health Preparedness to use the conference to conduct the study. Both, the Andrews University Institutional Review Board and the Michigan Department of Community Health Institutional Review Board granted permission to conduct this study prior to the conference.

A packet containing the demographic questionnaire, ProQOL, and RS-14 was given to all attendees at the beginning of the conference. The study was announced, instructions were given, and attendees were asked to participate. Anyone who chose to participate was instructed to leave their completed packets at a clearly marked anonymous collection box at the conference registration table.

The informed consent form included information on the nature of the study, number of questionnaires, any risk involved, how confidentiality would be kept, that all participants were required to be above the age of 18, and described the procedure for discontinuing further participation in the study. Participation in the study was voluntary and anonymous.

### Data analysis

All missing scores from the ProQOL and RS-14 were imputed to avoid list-wise deletion. Point biserial analysis was used to examine the relationship between 3 types of specialized DBH crisis intervention techniques and trauma health and resilience. Chi-square tests analysis was used to explore the differences

between the types of DBH intervention training and the frequencies of crisis responses and intervention practice sessions within the last year.

## Results

One hundred 39 useful surveys were collected from 339 registered attendees, representing a 41% participation rate (see Table 1). Seventy-seven percent of participants were females. Regarding race/ethnicity, 90% were White (non-Hispanic), 3% Latino, 2% African American, 2% American Indian/Alaskan Native, 1% Asian/Pacific Islander, and 1% indicated their ethnic origin as "Other." For highest level of educational attainment, 6% had a doctoral degree, 53% had a Master's degree, 27% had a Bachelor's degree, and 7% had an Associate's degree, with 6% indicating "Other." The age range was between 20 and older than 60, with the highest proportion of participants (34%) in the age category 50–59.

Overall, 72 (51.8%) participants reported engagement in one or more types of specialized DBH training Table 2 presents the proportions for each type of training. Table 3 displays the ProQOL subscales for compassion fatigue (range 0 to 3.70, mean = 1.99, SD = .52); burnout (range 0 to 3.80, mean = 2.04), SD = .54); compassion satisfaction (range 0 to 5, mean = 4.06, SD = .60); and RS-14 (range 3.92 to 7, mean = 5.90, SD = .67)..

Only 55 participants provided information on number of crisis responses within the past year (range 5-or-less to more-than-15, mean=1.45, SD = .86) and frequency of assembling to practice crisis intervention skills (range 1 (never practiced) to 7 (other), mean = 4.09, SD = 2.44).

## Point biserial analysis

The relationship between having specialized DBH training in either large and small group crisis interventions, individual and peer crisis interventions or PFA and trauma health, and resilience was investigated using point biserial analysis and are shown in Table 4. Cohen's<sup>31</sup> suggested criteria for interpreting the magnitude and direction of the resulting correlational data was utilized.

Analysis found significant positive correlations between large and small group crisis interventions and burnout ( $r_{pb} = .26$ ,  $n = 139$ ,  $p < .01$ ,  $r_{pb}^2 = .07$ ), and between individual crisis interventions and burnout ( $r_{pb} = .23$ ,  $n = 139$ ,  $p < .01$ ,  $r_{pb}^2 = .05$ ). These results

**Table 1.**<sup>19</sup> Demographic and descriptive statistics for the participant sample (N = 139).

Demographics	Frequency	Percent (%)
Age		
20–29	5	3.6
30–39	29	20.9
40–49	28	20.1
50–59	47	33.8
60 or older	29	20.9
Missing	1	.7
Gender		
Male	31	22.3
Female	102	73.4
Missing	6	4.3
Ethnic origin		
American Indian/Alaskan Native	3	2.2
African American	3	2.2
Asian/Pacific Islander	1	.7
White (Non-Hispanic)	125	89.9
Latino	4	2.9
Other	1	.7
Missing	2	1.4
Marital Status		
Single	15	10.8
Engaged	3	2.2
Married	100	71.9
Divorced	14	10.1
Widowed	5	3.6
Missing	2	1.4
Religious affiliation		
None	23	16.5
Catholic	37	26.6
Protestant	48	34.5
Other	29	20.9
Missing	2	1.4
Highest level of education		
Associate	10	7.2
Bachelor	37	26.6
Masters	74	53.2
Doctorate	9	6.5
Other	9	6.5
Profession		
Counseling	13	9.4
Criminal Justice	4	2.9
Disaster Relief	2	1.4
Divinity/Theology/Ministry	5	3.6
Education	3	2.2
Emergency Management	11	7.9
Emergency Medical Services	9	6.5
Fire Services	3	2.2
Law Enforcement	2	1.4
Management/Business	4	2.9
Medicine	2	1.4
Nursing	22	15.8
Psychology	10	7.2
Public Health	19	13.7
Social Work	40	28.8
Other	12	8.6
Hold current licensure or certification in area of practice or profession		
Yes	120	86.3
No	19	13.7
Years of experience in profession		
< 5	24	17.3
5 – 9	20	14.4
10 – 19	35	25.2
20 – 29	29	20.9
30 or more	31	22.3
Member of an active local or state level crisis response team (e.g., CISM or TERN)		
Yes	47	33.8
No	91	70.5
Missing	7	5.0

**Table 2.** Specialized training in disaster behavioral health.

Specialized Disaster Behavioral Health Training	Frequency	Percent (%)
Received specialized training in disaster behavioral health response:		
Yes	72	51.8
No	67	48.2
Total	139	100
Type of specialized training in disaster behavioral health response:		
Large and small group crisis interventions		
Yes	54	38.8
No	85	48.2
Individual and peer crisis interventions		
Yes	44	31.7
No	95	68.3
Psychological First Aid		
Yes	25	18.0
No	114	82.0
Suicide intervention, prevention, and postvention		
Yes	34	24.5
No	98	70.5
Missing	7	5.0
Spiritual crisis intervention		
Yes	13	9.4
No	125	89.9
Missing	1	.7
Family support		
Yes	12	8.6
No	127	91.4
Strategic planning for disaster behavioral health response		
Yes	27	19.4
No	112	80.6

indicate that being trained in large and small group crisis interventions helped to explain 7% of the variance in participants' Burnout scores, while being trained in individual and peer crisis interventions accounted for 5% of the variance.

There were no significant correlations found between either of these 2 types of DBH crisis interventions and Compassion Fatigue and Compassion Satisfaction scores. PFA was also not significantly correlated with any of the trauma health variables.

Significant inverse correlations were found between large and small group crisis interventions and resilience ( $r_{pb} = -.20$ ,  $n = 139$ ,  $p < .05$ ,  $r_{pb}^2 = .04$ ), and between individual crisis interventions and resilience ( $r_{pb} = -.19$ ,  $n = 139$ ,  $p < .05$ ,  $r_{pb}^2 = .04$ ). Four percent of the variance in Resilience scores were explained in both, large and small group crisis interventions and in individual crisis interventions. Being trained in PFA was not significantly correlated with Resilience scores.

## Discussion

Our study examined the relationship between having training in large and small group crisis intervention,

individual crisis interventions, PFA and trauma health, resilience, the number of crisis responses participated in within the past year, and the frequency of assembling to practice crisis intervention skills.

The present study found that having training in both, large and small group crisis interventions and in individual and peer crisis interventions was significantly associated with higher resilience and lower levels of burnout. This finding is in line with several studies that have posited that in general, training may contribute to building resilience<sup>19,20,32</sup> and the influencing trauma health among DBH responders.<sup>33,34</sup> However, our study may be the first that has significantly shown such an association between these variables. A major implication of this finding would suggest that DBH service providers who receive training in specific crisis intervention strategies, particularly large and small group interventions and one-on-one interventions are better able to adapt after exposure to person's affected by traumatic events and are less likely to develop burn-out symptoms. However, as was noted earlier, using small group interventions, such as debriefings, may be helpful, research has provided no empirical evidence that they are effective in reducing PTSD, and may to some degree, impede the natural recovery process from trauma.<sup>45</sup> Further confirmatory research is needed to provide strong statistical support of this study's findings.

Our study did not observe a significant association between compassion fatigue and compassion satisfaction with having training in either large or small group crisis interventions or in individual crisis interventions. In fact, the variance between these variables was negligible, suggesting that resilience and burnout are more associated with DBH training compared to compassion fatigue and compassion satisfaction. This is contrary to several studied cited by Burnett and Wahl<sup>9</sup> that found higher levels of compassion satisfaction were correlated with lower levels of compassion fatigue among professionals who received specialized trauma training. Further research may help to clarify this phenomenon.

Very few participants (25, 18%) had been trained in PFA and in our study PFA training no significant relationship with any of the trauma health variables. Previous literature has found PFA to be a useful tool when dealing with the aftermath of disasters.<sup>35-37</sup> Both mental health and non-mental health professional can receive training in PFA interventions.<sup>27</sup> Although PFA

**Table 3.** Distribution of burnout, compassion fatigue, compassion satisfaction, resilience scores.

Section 1: Distribution of burnout scores on the PROQOL as recommended by stamm. <sup>14</sup>			
N	Percentile	Interpretation Range	Meaning
94	25th	22 or less	Low Range
45	50th	Between 23 and 41	Moderate Range
0	75th	42 or more	High Range
139			
Section 2: Distribution of compassion fatigue scores on the PROQOL as recommended by stamm. <sup>14</sup>			
N	Percentile	Interpretation Range	Meaning
88	25th	22 or less	Low Range
51	50th	Between 23 and 41	Moderate Range
0	75th	42 or more	High Range
139			
Section 3: Distribution of compassion satisfaction scores on the PROQOL as recommended by stamm. <sup>14</sup>			
N	Percentile	Interpretation Range	Meaning
0	25th	22 or less	Low Range
76	50th	Between 23 and 41	Moderate Range
63	75th	42 or more	High Range
139			
Section 4: Interpretation distribution of RS-14 scores as recommended by wagnild. <sup>30</sup>			
N	Percent (%)	Interpretation Range	Meaning
25	18.0	73 or less	Low Range
90	64.7	Between 74 and 90	Moderate Range
29	17.3	91 or more	High Range
139	100.0		

has been touted as an evidence-based approach to respond to the mental health needs of those exposed to traumatic events,<sup>36</sup> more research is needed regarding its effectiveness within DBH,<sup>46-49</sup> especially in regards to fostering resilience and trauma health among DBH responders.<sup>38</sup>

The present study also found that neither the number of crisis responses participated in within the past year, nor the frequency of assembling to practice crisis intervention skills within the past year were associated with any of the DBH crisis intervention strategies, trauma health or resilience. This may have been due to the low response rates to these items. Previous literature has suggested that pre-deployment training has value in building resilience and reducing burnout and compassion fatigue among DBH service providers.<sup>32,33,39,40</sup> Perhaps a

more longitudinal approach on a larger sample which includes measuring the service providers' level of stress after each deployment and assessing the level of confidence after practicing crisis intervention skills may provide a more accurate picture on how these variables are related with trauma health, resilience, and having training in DBH crisis intervention strategies. Further studies are needed to explore this newly proposed hypothesis.

There were several limitations with our study. Our study surveyed a wide variety of professions that fit under the category of crisis responders. Compared to other studies that focus on one discipline in the trauma field, our study focuses on a broad category, thus our results are limited in terms of generalizability. However, it should be noted that the composition of many DBH teams that respond to provide crisis intervention

**Table 4.** Means, standard deviations, and point biserial correlations for DBH crisis intervention trainings and trauma health and resilience.

	Mean	SD	Large & Small Group Crisis Interventions	Individual Crisis Interventions	Psychological First Aid
Compassion Fatigue	1.99	.52	.12	.11	-.01
Burnout	2.04	.54	.26**	.23**	.13
Compassion Satisfaction	4.06	.60	-.10	-.09	-.09
Resilience	5.89	.67	-.20*	-.19*	-.15

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

strategies are multidisciplinary. Therefore, the results of this study may provide an early glimpse of how these variables may reflect multidisciplinary DBH teams. Future research should take this into consideration. Another limitation was that our data was collected from a convenience sample of crisis responders attending a conference on resilience, but no cross-sectional design method was employed to ensure those professionals attending the conference were an accurate representation of the field of disaster behavioral health today. Additionally, both the ProQOL and RS-14 were self-report measures, rendering us unable to know if all responses given were fully accurate. The final limitation comes from imputing missing values on the ProQOL and RS-14. Although this technique is helpful in providing a complete set of data for analysis and helpful in avoiding listwise deletion of cases missing values, it can introduce possible bias.<sup>41</sup>

## Implications

The goal of the field of DBH is to provide help and useful interventions for anyone impacted by a tragedy. In fact, Everly<sup>42</sup> has argued that service providers that are involved with disaster response should demonstrate several core competencies, including communicating effectively, assessing the need for the implementation of a specific crisis intervention, and caring for responding peers as well as for themselves as individuals. Our study found that having training in key DBH interventions was significantly related with higher resilience and having no training was significantly associated with higher burnout.

These survey findings from a spectrum of response professionals suggest that completing DBH training may help to build resilience and reduce burnout among DBH professionals. More rigorous studies will be needed to confirm these findings and better elucidate how effective training may help DBH responders buffer against the stresses that come with working in their field.

## Disclosure of potential conflicts of interest

No potential conflicts of interest were disclosed.

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