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Multifaceted Traumatic Exposure: Simultaneous Direct and Vicarious Trauma Among EMS Personnel

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Emergency medical services (EMS) personnel are continuously exposed to traumatic events that can result in symptoms of psychological distress. Exposure to scenes such as traffic accidents and death are common and expected work hazards that center around "victims." In addition to providing assistance to these victims, EMS personnel are called to respond to suicide attempts and completions where the event has occurred intentionally at the hands of their patient. This qualitative study attempted to better understand the experiences of EMS personnel who respond to suicides where loved ones of the deceased are present, through individual interviews. The findings suggest that this type of exposure is complex and compounding. Additionally, there seem to be a number of risk and protective factors that guard against vicarious trauma and promote vicarious posttraumatic growth. Findings from this study have implications for the training of first responders, counselors, and helping professionals.

Keywords: Multifaceted trauma, Posttraumatic growth, Vicarious Trauma, Emergency Medical Services Personnel

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In their daily duties, emergency medical services (EMS) personnel are continuously exposed to traumatic events that can result in symptoms of psychological distress. Exposure to scenes such as traffic accidents, medical emergencies, and death are common, expected work hazards that center around "victims." In addition to providing assistance to these victims, EMS personnel are called upon to respond to suicide attempts and completions where the event has occurred intentionally at the hands of their patient.

This study sought to examine a nuanced type of traumatic experience-multifaceted traumatic exposure, where EMS workers simultaneously experience direct and vicarious trauma. A population of medical first responders that was composed of Emergency Medical Technicians (EMTs) and Paramedics, who had responded to completed suicides where loved ones of the victims were present, participated in individual interviews with the hope of shedding light on this phenomenon. In these circumstances, the EMS workers experienced both direct traumatic exposure to the suicide (that was sometimes quite gory and visceral), as well as vicarious exposure through their efforts to assist the family members of the deceased who were present at the scene. Such complex exposure, which involves internal and external processing has not yet been explored.

Since modern psychiatry first postulated the idea that traumatic experiences can lead to emotional disturbance, scholars have pursued a greater understanding of the effects of such exposure (Hyatt-Burkhart & Levers, 2012). Over time, an understanding of the psychological implication of trauma has developed and the classification of related disorders has been refined in revisions of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). The newest version of the manual (DSM 5) contains a chapter specifically dedicated to the deleterious psychological conditions that may develop as a result of traumatic exposure (American Psychiatric Association, 2013).

More recently, scholars have embarked upon an exploration of the potential impact of trauma that is experienced vicariously. We now know that those in helping professions can experience trauma reactions that range from mild distress to full blown PTSD as a

result of their exposure to the traumatic experiences of others (Figley, 1995; McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995; Perrin, DiGrande, Thorpe, Farfel, & Brackbill, 2007). Figley (1999) identified compassion fatigue as a condition that results from continued empathic engagement with those who are distressed. He identified symptoms such as sleep disturbance, work dissatisfaction, avoidance, and anxiety as potential concerns for helpers. Helpers may develop intensified feelings of loss of control and may manifest intrusive thoughts or images related to their exposure to the trauma of others (McCann & Pearlman, 1990). Additionally, first responders are at risk of experiencing a range of physical health and mental health consequences as well (Benedek, et al., 2007; Briere & Scott, 2013; Regehr, et al., 2002). The effect of these vicarious experiences can be so destabilizing that exposed individuals may develop symptoms that mirror those of PTSD (Figley, 1995; Pearlman & Mac Ian, 1995).

Most recently, the field of helping has begun to explore potential positive psychological impact from both direct and indirect traumatic exposure. Concepts such as posttraumatic growth (PTG) (Tadeschi & Calhoun, 1996), stress-related growth (Park, Cohen, & Murch, 1996), and adversarial growth (Joseph & Linley, 2005) have been examined to illuminate the experience of benefit finding from adversity. The corresponding secondary result, or vicarious benefit finding has also become an area of focus. Studies of vicarious posttraumatic growth (VPTG) have been conducted with therapists (Arnold, Calhoun, Tedeschi & Cann, 2005), residential treatment workers (Hyatt-Burkhart, 20014), and interpreters (Splevins, Cohen, Joseph, Murray & Bowley, 2010) to name a few.

Review of the Relevant Literature

EMS and first responders experience traumatic exposure every day. During their shifts, they encounter many challenges that, when considered in the context of vicarious and direct traumatic exposure, can potentially affect their identity and sense of well-being. When a crisis occurs, emergency service workers (firefighters, police, paramedics) are usually the first ones on the scene. They are entrusted with the control of the emotionally charged environment that has likely developed. Response to these crisis situations, because

of their often-traumatic nature, puts EMS workers at risk for the development of psychological distress (Kleim & Westphal, 2011).

Risk Factors. Previous studies have identified four characteristic responses to traumatic exposure that are often observed in first responders; identification with the victim, helplessness and guilt, fear of the unknown, and physiological responses (Fullerton, McCarrol, Ursano, & Wright, 1992). Fullerton et al., (1992) described the phenomenon of identification with the victim as adding an emotional component to a cognitive process. Clohessy and Ehlers (1999) report that events that involved children were rated as the most stressful type of response situations. They further stated that post-traumatic intrusions were likely to occur in EMS as a result of distressing situations, such as the inability to resuscitate a young child, finding a dead baby, or violent situations such as suicide (Clohessy & Ehlers, 1999).

For some EMS responders, identification with the victim stems from the context of the relationship or event, such as attending to an individual who is dying without loved one's present, or observing a family who is dealing with the loss of a loved one (Regehr, Goldberg, & Hughes, 2002). In these contexts, the workers did not appear to be relating directly to the victims themselves, but rather to the personal associations the workers made with the event. Often these associations are related to their own perceptions of their efficacy in the work.

EMS personnel have been observed to react to the traumatic events to which they are exposed in their work by expressing feelings of guilt and distress that they should have been able to do more for their patients (Fullerton et al., 1992).These feelings of shame and guilt, which stem from perceptions of failure, are a risk factor for negative psychological symptoms. Such cognitive processes are a significant part of how EMS respond to trauma.

EMS workers often respond to calls where their safety or that of another is compromised. This fear of the unknown and concern for physical safety are participatory factors in their level of professional stress (Beaton, Murphy, Johnson, Pike,& Cornell, 1998). The nature of the types of calls to which EMS commonly respond, coupled with the inherent danger in the work can heighten the intensity of an event. Cumulative exposure to

such on-going, daily stressors can be a contributor to the development of negative psychological sequela (Marmar et al., 2006) and appears to be significant in the development of a unique pattern of symptomology among first responders (Duckworth, 1990). Further, a lack of training and having to perform tasks outside of the realm of their practice can exacerbate stress levels (Perrin, DiGrande, Wheeler, Thorpe, Farfel,& Brackbill, 2007). Not being certain about how to appropriately respond to an event when there is risk to self or others amplifies feelings of fear, shame and guilt and can lead to disturbance and the development of vicarious trauma.

Vicarious Traumatization. Vicarious trauma is described as a change to a helping worker's inner experience that stems from empathic engagement with an individual who has experienced or is experiencing a trauma (Pearlman & Saakvitne, 1995). In first responders, vicarious trauma can be manifested as the re-experiencing of traumatic events, persistent avoidance of stimuli that evoke recall of negative experiences, increased anxiety and arousal (i.e., exaggerated fight or flight response), and impairment in work functioning and general relationships (Lerias & Byrne, 2003). The experience of trauma can make it difficult for a worker to recall the events of a traumatic situation (Lerias & Byrne, 2003), which for EMS could impact their sense of work efficacy and performance. Vicarious trauma can also create feelings of depression, hopelessness, and an overall countenance of cynicism in those who experience it (Pearlman & Saakvitne, 1995). Lerias and Byrne (2003) found that those who exhibited symptoms that mimic those of individuals with PTSD as a result of direct traumatization were the most likely to develop PTSD themselves as a result of their vicarious exposure to trauma. The very nature of the work of EMS personnel puts them at risk for such (Perrin, DiGrande, Thorpe, Farfel, & Brackbill, 2007; Regehr, et al., 2002).

Much of the work related to vicarious trauma has focused on mental health professionals. Salston and Figley (2003) report that counselors who are trained in and who are experienced with trauma work have fewer negative emotional consequences as a result of vicarious exposure to trauma than their inexperienced counterparts. There is also a relationship between having a personal history of trauma and the development of negative

psychological symptoms. Inexperienced counselors who had a personal history of trauma, had higher levels of distress while performing trauma counseling than counselors without any history of trauma (Pearlman & Mac Ian, 1995). The on-going distress that can be present in therapeutic sessions, has also been found to lead some counselors to change careers or their area of focus (Pearlman & Mac Ian, 1995). Researchers have reported corresponding results in studies of first responders (Alexander & Kline, 2001; Berger, et al.,2011).

Protective Factors. There are factors that seem to mitigate these stressors. When first responders have received appropriate training related to responding to traumatic events, such preparation allows the personnel to act and feel in control of a situation (Fullerton et al., 1992). When in control of traumatic situations, EMS workers have been found to use cognitive strategies, such as ignoring other people's emotional reactions, to focus on the next step of the job (Regehr et al., 2002). Specific training and preparation seem to be an important factor in effective coping for EMS. Paramedics have also been trained to recall the event from an objective standpoint in order to focus on possible learning opportunities (Regehr et al., 2002). It is important to note that even with a reduction in stress levels, first responders are still at risk to be affected by the traumatic exposures found in their work. Further, the efficacy and benefit of debriefing workers as a method of reducing the deleterious effects of work-related trauma remains under scrutiny and scholarly debate (Mitchell & Everly, 2000).

Posttraumatic Growth. As stated earlier, scholars have also begun to explore the potential positive effects of traumatic exposure. Beyond "surviving," research has begun to be focused on the ways in which people express that they have grown as a result of their experience. Posttraumatic growth is different than recovery in that the exposed individual may be experiencing disrupting symptoms, but is able to continue to thrive and perhaps grow in the midst of those symptoms (Bonanno, 2004). In a study by Shakespeare-Finch, Smith, Gow, Embelton, and Baird (2003), 98.6% of the ambulance workers studied endorsed that they had experienced at least one positive change that stemmed from the

traumatic experiences of their work. Previous studies on PTG have reported that such a reaction is more evident in individuals who acknowledge their PTSD symptoms than individuals who ignore them (Chopko & Schwatz, 2009; Dekel, Ein-dor, & Solomon, 2011). The acknowledgement of symptoms can promote a change in cognition from rumination to processing, which allows the perceptions of a traumatic event to facilitate positive change instead of deleterious effects (Dekel, Ein-dor, & Solomon, 2011).

Although there is existing literature onl direct traumatic exposure and vicarious traumatic exposure with respect to first responders and EMS, the lack of research conducted on multifaceted traumatization (simultaneous direct and vicarious exposure) for EMS personnel results in a gap in the literature. The study looked to explore the experience of multifaceted traumatic exposure, to make connections between first responders and PTG after being exposed to completed suicides with a loved one present, and to illuminate potential risk and protective factors in the work.

Methodology

Van Manen's (1990) hermeneutic phenomenological approach guided this qualitative study. Qualitative research helps the field to gain an understanding about a phenomenon and how individuals construct their experiences with the phenomenon being studied (Creswell, 2013). As Van Manen (1990, p. 62) states, "We gather other people's experiences because they allow us to become more experienced ourselves." A qualitative inquiry was also fitting, as there is limited research that has been conducted on the experiences of EMS personnel responding to suicides and no research that explores the multifaceted trauma of direct and vicarious exposure due to loved one's presence on the scene.

Participant Selection and Data Collection

Purposeful and snowball sampling methods were used to recruit willing paramedics and EMT's for this study. Purposeful sampling provided an opportunity to find participants

who had experienced the same phenomenon (Berg, 2007), while snowball sampling allowed for current participants to identify other individuals who may have also experienced the phenomenon (Noy, 2008). A sample of participants was recruited from various ambulance companies throughout Ohio and Pennsylvania.

In order to participate in this study, participants met the following criteria: identify as a certified paramedic EMT or paramedic, be at least 18 years of age, have been an employed or volunteer paramedic or EMT for at least one year, and during their employment or volunteer work have responded to at least one completed suicide where the loved ones of the deceased were present at the scene. A total of twelve participants were interviewed for this study. After the 12 interviews, it was determined that saturation of the data had been achieved so no additional recruitment or interviews were necessary.

Data collection consisted of a brief demographic questionnaire, and a semi-structured individual interview with each participant. Additionally, data included field notes collected during the interview process, and analytic notes that were taken following each interview. The following questions were asked in the demographic questionnaire: (1) What is your job title? (2) What is your training? (3) What is your certification or licensure? (4) How many years of experience do you have in this position? (5) Approximately how many suicides have you responded to in your position? (6) Do you have any personal experience with a suicide of a loved one? Yes ___ No ___ (7) What is your age? (8) What is your ethnicity? (9) What is your gender?

Participants consisted of 7 certified paramedics and 5 certified EMTs. There were four females and eight males that participated who ranged between the ages of 24-57. All but one participant identified as Caucasian/White with the other participant declining to answer this inquiry. The range of years of experience in EMS was from 7 to 37 years (Mean = 18 years). Participants typically responded to the question that inquired about the average number of responses to completed suicides with an average number, which ranged from 1 to 150. Seven of the 12 participants answered "Yes" to having experienced personal loss to suicide and five answered "No." During the semi-structured interviews, the following questions were asked of all participants: (1) What are your experiences with responding to completed suicide calls? (2) In what ways were you impacted by suicide calls? (3) What

was it like to have the deceased loved ones present when you responded to a completed suicide? (4) How do you make sense of your continued direct exposure to traumatic events? (5) How do you make sense of witnessing loved one's direct exposure to traumatic events? (6) How do you sustain your work as an emergency medical services personnel? This study was approved by Duquesne University Institutional Review Board. All participants signed written consent to participate in this study.

Results

The themes that emerged from this study were organized into four general categories related to the research questions: lived existential, risk factors that contributed to longer lasting effects, protective factors relating to the traumatic exposure, and the meaning participants made out of their experiences. Of primary interest here are the risk and protective factors, which both pointed to a theme of detachment as a result of responding to completed suicides and how an ability to make meaning of events functioned as both a protective factor against the development of negative symptoms and a potential conduit toward growth.

Risk Factors. All of the participants in this study revealed experiencing negative emotions with respect to their exposure to multifaceted traumatization when responding to completed suicide calls. Each of the participants presented as being somewhat "hardened" to their exposure, but also endorsed that there was emotional distress that "seeped through their protective armor." As the literature reports, there is a risk of EMS developing psychological disorders, such as depression, anxiety, personality disorders, psychotic disorders, and substance related disorders (Brier & Scott, 2013). The negative psychological symptoms that were endorsed by the participants in this study included symptoms of anxiety, depression, anger, sorrow, general feelings of disturbance, lack of understanding, and burnout related to the rigors of the work. Phrases such as "you always worry," "if I think about the last ten suicides that I saw, I'm just going to be depressed" pointed to the difficulty that EMS personnel experience with calls of this nature. Anger,

which is an emotion often associated with depression, was a common theme expressed by the EMS sampled. "You get mad at them, this is something that they did to themselves," related one participant. His sentiments were echoed by other participants who described having difficulty understanding why a person would choose to kill themselves.

Participants discussed a general impression of the act of suicide as being "senseless." They further expressed an inability to comprehend circumstances in which an individual could feel so hopeless or that could be of such magnitude that a person could see no other way to cope but to end their life. There appeared to be a sense of a lack of closure among the participants as they spoke of this difficulty in understanding the mindset of the deceased. It seemed as if the EMS workers were seeking this understanding, in part, because of their vicarious exposure to the loved ones. The work requires EMS to support these loved ones at a time of immense distress. Having an understanding of their own feelings related to suicide seemed to be directly related to their ability to do the work of intervening with the loved ones who were present.

The EMS personnel in this study also identified a number of risk factors for deleterious effects as a result of exposure to multifaceted trauma. The data revealed a general theme of remaining detached from the work as a primary coping mechanism, but the conversations contained evidence that such compartmentalization of emotion is not always sustainable. Eight of the participants identified difficulty with establishing and maintaining boundaries regarding "taking the work home with them." These participants discussed ruminating about the completed suicide calls and having intrusive thoughts about the details of these events. Participants made statements such as "I can always picture what they looked like or where we found them and I recall every single thing that happened on the call." They also indicated that sleepless nights, nightmares, and "images that are burned into memory" were all a part of the emotional impact of responding to completed suicides. Many of the statements reflected their own internal experiences, but participants also expressed experiencing negative emotions surrounding their interaction with the loved ones of the deceased. They expressed that the reactions of these individuals played a role in the formulation of their own emotional responses.

Eight of the participants in this study discussed their own shock and the shock of the loved one's as a risk factor for emotional distress. Many of their statements reflected the visual horrors of what are often bloody scenes. Comments such as "when you see someone with their head blown off," and "human brain hanging out of a head," directly reflect the shocking nature of these scenes. The EMS also related the shock of the loved ones as impactful. Although the scene is often calm and somewhat surreal at the time of EMS arrival, the feeling that the loved ones are in shock seemed pervasive.

As the EMS personnel spoke about their emotional responses to the families who were present, themes emerged. Vicarious exposure to the families' distress permeated their defenses. They reported worrying about the family members attempting suicide themselves. They recounted incidents where loved ones accused them of not "doing enough to save them" or actually killing the deceased. These types of reactions were difficult to process, but it seemed that situations that involved children were the most disturbing. One participant reported, "I can still remember the little girl yelling, yelling out for her dad and I think about her occasionally." Other participants echoed such feelings, expressing that their experience at the scene "ends in a day, but the family's grief is just beginning." Again, there seemed to be a theme of a lack of ability to comprehend how a person could choose to leave their child. The EMS also expressed feelings of frustration and ineffectiveness because of not knowing what to do to help the loved ones. Phrases such as "there's really no way of consoling them" and "there really isn't anything you can do for them" revealed a professional barrier that seemed to created personal distress in the participants. This inability to "do something" productive or impactful for the families seemed to erode self-efficacy among the participants who appear to derive significant comfort and strength from their identities as professional emergency responders.

Protective Factors. The data also revealed a number of themes related to protective factors and benefit finding related to the specific circumstance of responding to completed suicides. As mentioned earlier, the EMS personnel reported that they are able to successfully withstand the emotional assaults of the work through being "hardened" or detached. They used phrases like "eventually you just get kind of hardened" and "after so

many you get used to it" to describe this numbing or desensitization to suicide. The participants in this study seemed to find this numbing a strength of people who are able to stay in the field. They reported believing that those who are unable to "harden" don't usually "stick with the work."

Related to this numbing, the participants of this study identified that some level of dehumanization of both the victim and the loved ones was an effective coping skill or protective factor when doing this work. They made statements such as "you really distance yourself from the person" and "I can't even tell you what any of these people really look like" to describe their experience. They also indicated that focusing on the medical procedures and tasks at hand helped them to maintain this detachment.

It was interesting to note that this "task at hand" focus also seemed to related to how EMS personnel dealt with the loved ones. Half of the participants indicated that the family and loved ones become patients themselves, which seems to promote EMS ability to focus on the work. They described specific interventions such as "you're trying to console them" and "sometimes you're a grief counselor." Others mentioned that family often become the actual patient and medical interventions become necessary. One participated related an event where "grandma fell down with chest pain or shortness of breath" and "you take her down to the hospital." This perception of family members as patient seemed to function as a mechanism for EMS personnel to maintain a task focus that helped to minimize vicarious exposure.

The EMS participants in this study also pointed to their identity as first responders as a protective factor for the work. Statements such as "I eat, sleep, and breath this work" and "I was born to do this work" pointed to strong identification toward the profession. Some participants described the "love" they have for the field and how dedicated they are to providing emergency medical services. Many participants who have been in EMS for many years indicated continued enthusiasm for the work despite the number of completed suicides to which they have responded. "I don't have any less enthusiasm now than I did before" and "It's engrained in me, it's without a doubt who I am" were statements made by long term EMS. These workers have formulated some of their individual identity through the lens of their work as EMS. Although completed suicides provide little

opportunity for the "thrill of the save," such events do permit them to feel validation through the help that they give the loved ones and their ability to remain professional at the scene. The strength of their professional identification and their internalized sense of competency for the work seems to serve as a protective factor against the traumatic exposure of the work.

The last protective factor that emerged from participant's narratives was the realization that their own lives were valuable and precious. Three of the participants indicated that responding to suicide calls and experiencing vicarious traumatization changed the way that they think about life, with statement such as "Makes you value your life" and "I think how your life could change." This view appeared to be a protective factor among these participants as they made conscious efforts to make the best out of each day. One participant stated "how I look at my relationships with my friends and my family." These statements appeared to be an indicator of PTG, as PTG signifies personal strength, a sense of spirituality, an improved appreciating and satisfaction of life, relational intimacy, and an awareness of life possibilities (Dekel et al., 2012).

Limitations

As with any study, there are possible limitations. The participants all came from western Pennsylvania and eastern Ohio, which makes them a relatively homogenous sample group. The study cannot be generalized to other cultures or countries due to the geographic and experiential homogeneity of the sample. Another limitation is the sample size and recruitment method. Snowball sampling was used to recruit individuals, which may have resulted in similar participants with similar mentalities and the study sampled only 12 paramedics/ EMTs. A final limitation of the study could include the interviewing process. There is a possibility that some of the EMS sampled reported their experiences in ways that were inaccurate or misreported, which is the case with all qualitative, self-report data. Some of the medical personnel may have minimized their experiences in order to appear strong or more competent. Finally, participants may have reported events from a perspective that has been altered by time and processing.

Discussion

There is a voluminous amount of research on EMS and traumatic exposure, but this study provided a unique look through an exploration of the effects of simultaneously occurring direct and vicarious traumatic exposure, referred to here as multifaceted traumatization. The reports from this study suggest that emergency medical services personnel who are exposed to this multifaceted traumatization have particular risk and protective factors and characteristics that help them to persist and, in some cases, thrive as a result of their work. Such results have implications for the field of first responders at large.

Detachment. Of significance is the theme of detachment or hardening that occurred among the participants of this study as a result of experiencing multifaceted traumatization at completed suicides. It appears that the participants generally feel a detachment from the people that they encounter in their work, which seems to be a vital component to longevity in EMS. All but one participant verbalized a sense of detachment when arriving to a completed suicide call. Although some scenes were described as more difficult, such as responding to suicide calls with youth or attempted suicides from self-inflicted gunshot wounds, participants develop an ability to detach from having an emotional connection to the patient. Such a finding has implications for multiple fields. The data collected from participants regarding detachment could be incorporated into training programs for EMS and training and educational programs for helping professionals. Addressing this factor and providing education designed to promote an ability to consciously and appropriately detach from victims could increase positive work outcomes, longevity in the profession, and well-being of EMS, as well as others in similar or related helping fields. Efforts to enhance and promote protective factors among helping professionals can serve as a mechanism to reduce burnout, compassion fatigue and secondary traumatic stress.

Identity. Another significant protective factor seems to be the ways in which EMS make sense of the work itself. Their identity as helpers and their perception of both the person who committed suicide and the loved one's present appeared to steel them against the negative effects of the trauma. Although this study did not address critical incident debriefing directly, the EMS who participated expressed not finding debriefing helpful. Perhaps a methodology that incorporates and exploration of EMS identity and centers around meaning making in the work would be more in line with what workers related as being protective factors in this study. On a related note, some of the EMS who participated in this study expressed finding benefit in their work that extended into their personal life and their world view. Incorporating a focus on protective factors in training and debriefings may promote greater posttraumatic growth in EMS personnel.

Limited Training. Research indicates that minimal training with respect to responding to mental disturbance calls is part of EMS certification programs or continuing education programs (Koch, 2010) Although the participants in this study were not specifically asked about their training in mental health, none of the participants revealed having any specific mental health training during the interviews. Recent studies have indicated that there are rising numbers of patients who have significant mental health problems arriving to emergency rooms (Shaban, 2006), and that a significant amount of all EMS calls are considered "mental disturbance calls" (Nusbaum, Cheung, Cohen, Keca, & Mailey (2006). These facts, in concert with the staggering number of suicide calls to which the participants in this study responded, certainly suggest that a further look at implementing training on mental health is essential for EMS personnel.

Implications

Additionally, this study has implications for those who work with EMS personnel. As stated previously those who engage in debriefing can use these results, and psychological professionals, such as counselors and social workers could benefit from an awareness of these findings. The results of this study could emphasize the importance of

including trauma courses into curriculum programs, which includes work with EMS personnel/first responders, into helping professional training programs and continuing educational services. The outcomes of this study can provide further understanding and knowledge for helping professions who work with EMS personnel such as outpatient counseling and crisis response services.

The results of this study indicate a number of areas that could be presented for future research. Although some participants were negatively impacted by their experiences of responding to completed suicides, it appeared that the sense of detachment helped them to remove the emotional connection to their patients and their direct experiences. It would be of interest to conduct further qualitative research to examine the posttraumatic growth (PTG) experienced among participants when responding to completed suicide calls, such as within their role of providing support to loved ones at the scene. It appeared through some of the participant responses that their experiences with traumatic calls, specifically with suicide calls, did reveal PTG, therefore a further look at PTG may provide more insight into other ways in which EMS can personally and professionally grow.

Another area for further research was participant's descriptions of providing EMS to patients who have attempted suicide, but had not died by the time that EMS arrived. Many participants in this study related multiple experiences of responding to suicide attempts where their role was to provide emergency medical interventions to these individuals until they arrived at the hospital. Some participants described a much more emotional reaction to these types of calls, rather than the sense of detachment that they described with completed suicides. An examination of these complicated emotional experiences could prove to be of benefit to EMS, trainers, and other helping professionals.

Conclusion

The work of EMS personnel is stressful and fraught with the potential for direct and vicarious exposure to traumatic events. Significant research has been singularly conducted into the effects of both of these types of exposure. This study aimed to examine the nuances of multifaceted traumatic exposure (simultaneous direct and vicarious) in EMS

personnel who responded to completed suicides where loved ones of the deceased were present. The findings suggest that this type of exposure is complex and compounding. Additionally, there seem to be a number of risks and protective factors that guard against vicarious trauma and promote vicarious posttraumatic growth. Findings from this study have implication for the training of EMS and first responders, counselors, and others in helping professions. The vectors for additional research could assist in developing avenues to further diminish the deleterious effects of multifaceted traumatic exposure while ripening the environment for PTG.

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