

Exposure to Human Tragedy, Empathy, and Trauma in Ambulance Paramedics

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Paramedics are exposed to events involving human pain and suffering on a daily basis, many of which are the result of violence perpetrated by 1 individual on another. For the most part, these emergency workers have learned to deal with such events and take them in stride. At times, however, certain circumstances lead workers to develop an emotional connection with the victim or his or her family. When this occurs, paramedics report increased symptoms of traumatic stress. Aspects that can trigger this connection include the victim's alienation from others, profound loss, or the abuse of an innocent child. One of the coping strategies described in these circumstances is to manage the events on a cognitive and technical level while maintaining an emotional distance. Although such a strategy may be protective, it may also have long-term negative effects in terms of interpersonal relationships. This mixed-methods study attempts to better understand factors that lead to higher levels of distress among paramedics within the theoretical framework of emotional and cognitive empathy.

Emergency workers are exposed to events involving human pain and suffering on a daily basis. They work to rescue individuals trapped in crashed vehicles, they extricate people from fires, they collect the remains of suicide victims, they care for victims of assault. Although for the most part emergency workers are equipped to deal with these events, on occasion one particular event will have a lasting impact. In recent years, researchers have focused on the potential impact of emergency work and have recognized that exposure

to death and destruction can result in posttraumatic stress symptoms and depressive symptoms in emergency workers (Bryant & Harvey, 1996; Marmar et al., 1999; McFarlane, 1988; Regehr, Hill, & Glancy, 2000). Although most people can imagine that emergency workers will be affected by an event involving mass casualty, it is frequently a smaller and less sensational event that triggers an emotional response. Such events as the lonely death of an elderly person, or the suicide of a desperate individual, do not make the news or capture public attention. They do not result in an outpouring of public support for emergency services. Yet this one event may have a more lasting effect than other more dramatic events involving the loss of many lives. How do we understand such a process?

Secondary trauma (Figley, 1995), or *vicarious traumatization* (McCann & Pearlman, 1990; Saakvitne & Pearlman, 1996), are concepts that are used to describe the experience of mental health workers who develop symptoms of traumatic stress as a consequence of working with traumatized individuals. That is, through the process of hearing the graphic details of other peoples' horrifying experiences the worker can begin to experience symptoms that include intrusive imagery, generalized fears, sleep disturbances, a changed worldview, and affective arousal (Chrestman, 1995; Regehr & Cadell, 1999). This process is thought

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to occur in part as a result of empathic engagement between the worker and the client (Figley, 1995; Saakvitne & Pearlman, 1996).

Empathy is a somewhat elusive concept that has long been examined by philosophers and psychotherapists alike. In general, however, empathy is conceptualized as involving two different components: cognition and affect (Davis, 1983). The first aspect is a cognitive process in which an empathic individual has the ability to accurately perceive the plight of others. From this perspective, empathy can be an objective, detached, analytical process (Kant, 1788/1949; Rogers, 1957). As a result of this understanding, one can behave in a manner that conveys concern and caring. The second component of empathy is seen to be a vicarious emotional process in which the person develops an affective connection with another and subsequently has an emotional response to the other's suffering (Hume, 1777/1966; Keefe, 1976). In work that emergency workers do with victims of violence, the two components of empathy may be expressed as a cognitive awareness of the distress of victims while maintaining an emotional distance or, alternately, it may involve an emotional connection with the victim. It is conceivable that having an emotional connection would increase vulnerability to symptoms of traumatic stress.

This research emerges from 12 years of clinical work and research with emergency responders and their organizations. It attempts to explore the experiences of paramedics in a large urban emergency service organization with regard to working with victims of violence. It seeks to increase understanding about which types of exposures are experienced as most difficult for the workers, the consequences of these exposures on the individual and his or her interpersonal relationships, strategies for coping, and helpful supports.

Method

The research was conducted with an emergency service organization that provides emergency medical services in a large urban area. Data collection involved both qualitative and quantitative research methods. The quantitative component represents a convenience sample of paramedics within the organization who completed a variety of measures looking at exposure to traumatic events, levels of social support, and levels of distress. Eighty-six paramedics completed questionnaires; 32.6% of these attendants had achieved the rank of supervisor or officer. The mean age of these respondents was 39.68 years ($SD = 8.50$) with an age range of 26 to 56. Eighty-three percent were married or living in common-law relationships, and only 2.3% were divorced or

separated. Participants had been working with their current employers an average of 14.52 years ($SD = 8.58$), ranging from 2 months to 32 years of service.

Exposure to traumatic events was assessed through the use of a questionnaire we developed. Items included such stressors as multiple casualties, threats of violence, and death of a child (see Table 1). Levels of social support were measured in two ways: (a) with Likert scales developed by us and (b) with the Social Provisions Scale (SPS; Cutrona & Russell, 1987). The SPS is a brief (24-item) multidimensional self-report instrument that offers the possibility of discriminating among six distinct types of social support and assesses global support. The reported alpha level for the total scale is .91. Extensive validity testing was reported by the developers.

Level of distress was measured by two scales: (a) the Beck Depression Inventory (BDI; Beck & Beamesderfer, 1974) and (b) the Impact of Event Scale (IES; Zilberg, Weiss, & Horowitz, 1982). The BDI is a self-report scale that assesses the presence and severity of affective, cognitive, motivational, vegetative, and psychomotor components of depression (Beck & Beamesderfer, 1974). Initially standardized on 606 psychiatric inpatients and outpatients, the reported reliability coefficient is .86. Test-retest reliabilities are .48 for psychiatric patients after 3 weeks and .74 for undergraduate students after 3 months. The IES (Zilberg et al., 1982) assesses the experience of posttraumatic stress for any specific life event. Cluster analysis has shown the two subscales to have high internal consistency, with Cronbach's alphas of .78 and .82. Test-retest reliability is .87.

Workers who participated in the quantitative component of the study were asked if they would be willing to participate in an interview to more fully explore their experiences. Eighteen of the participants were included in qualitative interviews. Purposive sampling was used to ensure that participants represented a wide range of experiences in terms of length of time with the service and types of events encountered. The sample size of 18 individuals is somewhat larger than that recommended for the long-interview method of data collection (McCracken, 1988). This larger size was selected to ensure that saturation had occurred (Cresswell, 1998).

Table 1
Exposure to Critical Events

| Type of exposure | Paramedics exposed | Paramedics exposed who experienced distress |
|-------------------------|--------------------|---|
| Death of a patient | 84.9 | 35.6 |
| Line-of-duty death | 27.9 | 58.3 |
| Violence against self | 69.8 | 30.0 |
| Violence against others | 93.0 | 23.7 |
| Near-death experiences | 55.8 | 48.0 |
| Death of a child | 84.9 | 78.0 |
| Multiple casualties | 90.7 | 33.3 |

Note. All table values are percentages.

Interviews followed a semistructured interview guide, which included questions about stressors encountered on the job, the effects of the stress on participants, organizational supports, and strategies for dealing with stress. The interviews were audiotaped to ensure accuracy of data and transcribed. Data were analyzed for themes with the aid of a computer program (Nvivo). In the initial stage, open coding allowed for the development of broad categories, after which selective coding allowed us to attempt to develop a meaningful narrative of the experience of the workers. Other sources of data included the notes recording the interviewer's impressions.

Erlandson, Harris, Skipper, and Allen (1993) identified four primary criteria for judging the reliability of qualitative research: (a) credibility, (b) transferability, (c) dependability, and (d) confirmability. In this study, credibility was established through triangulation of quantitative and interview data. Throughout this research process, members of emergency service organizations acted as community partners, working to develop the research questions and discussing data as portions of the analysis were completed. This process has provided an opportunity to confirm and expand on the trends developed in the analysis, thereby enhancing transferability and confirmability (Cresswell, 1998; Erlandson et al., 1993). Dependability or reliability was enhanced through the process of having two members of the research team work together to develop the coding tree and ensure consistency in the manner of coding. An additional member of the research team then reviewed the open coding and collaborated on the axial and selective coding.

Results

Exposure to Critical Events

All eighty-six paramedics reported that they had been exposed to at least one of the listed critical incidents during the course of their career, including the death of a colleague, injury on duty, mass casualties, or the death of a child (see Table 1). The mean length of time since the most recent critical event was 3.6 years ($SD = 3.92$), with a range of 2 weeks to 19 years. Respondents were also asked to indicate whether they had experienced "emotional distress" as a result of exposure to the event(s). Emotional distress was thus a highly subjective construct individually defined by each participant. Eighty-two percent of the participants indicated that they had been overwhelmed or deeply disturbed by an incident or incidents. Paramedics reporting that they had experienced distress had significantly more years of service than those who did not, $t(84) = -2.061, p < .05$. Those confronted with the death of a child were most likely to report experiencing distress (78.0%), while 35.6% of those who experienced the death of a patient in their care and 33.3% of those faced with multiple

casualties reported feeling distress. It is surprising that although 69.8% of respondents reported being the victims of violence on the job, and 55.8% reported that they had near-death experiences, only 30.0% and 48.8% of these respondents, respectively, reported significant distress as a result. The qualitative data help to elucidate these findings.

Paramedics were asked in the interviews to describe the events in which they had been involved that they believed others would classify as traumatic. Although most discussed horrific events that contained much blood and gore, they were quick to add that these were not the events that "have left me sleepless." One respondent indicated that in 29 years on the job and many dramatic events encountered, only 3 or 4 incidents were traumatic for him. The most commonly reported events defined by respondents as traumatic for themselves were suicides and violence against children. In the cases of child abuse and neglect in particular, they were able to recall in specific detail aspects of the victim and of the environment in which he or she was found. One respondent, for instance, described a 10-year-old child whose throat was slit by his father. Another described a dirty, neglected baby who was smothered while sleeping. A third described a baby who had been burned to death in an oven. Several described the scenes at suicides. Respondents indicated that the impact of these events was due to the fact that they were unable to understand why something like this might have occurred:

I thought it was the child's father that had done this and I sat, just outside the building for the longest time just trying to make sense of it and of course that's the biggest trap in any of these things, trying to make sense out of what are by definition nonsensical things.

You're wondering why would [he commit suicide], look at this, he's got everything, why would he do this? . . . there was no indication . . . that was like wow, life is really frail.

Dealing with the grief of others was another type of event described as traumatic by several of the respondents. One paramedic described his feelings toward the mother of a dead child: "It was just heart wrenching, I didn't want to talk to her, I didn't want anything to do with her at all, I couldn't even look at her." Another wondered about the future of a child whose parent had been killed. Still others worried about families who lost a member at Christmastime. A similar type of event recounted by some respondents was that of people dying alone: "Loneliness, people being alone and very ill, that bothers me."

Conversely, violence directed toward themselves was not described by respondents as traumatic. Respondents indicated that they had been assaulted, particularly on domestic violence calls, surrounded by dangerous characters on the street, and threatened by people on drugs. However, these events did not stay with them. One respondent described feeling fearful and carrying a club (paramedics do not have the use of weapons in Canada) in the early part of his career. He indicated that he was “set straight” by a more senior paramedic and has now learned to talk his way out of situations. Another stated that “You have to be able to talk your way out of some fairly serious altercations because drunks and junkies are not necessarily known for their [affable] demeanor.” This respondent did not, however, feel that these events were particularly disturbing.

Effects of Traumatic Exposure

The effects of the exposures described above are evidenced in several different ways. The subjective ratings of distress in Table 1 demonstrate the workers’ own perceptions. IES scores reveal that 25.5% of the 86 respondents fell into the severe or high range of posttraumatic symptoms, and 14% into the moderate range, while 44.2% fell into the low range of symptoms. Results from the BDI indicated that 2.3% of respondents were suffering from severe levels of depressive symptoms, 5.8% were experiencing moderate to high levels of symptoms, 12.8% had mild to moderate level symptoms, and 77.9% were experiencing mild or no depressive symptoms. To ascertain the possible effects of event exposure on mental health and substance use, workers were asked to rate their experiences before and after exposure to traumatic events (see Table 2). Whereas only 1.2% of workers indicated alcohol-related problems before

exposure, 11.6% identified such problems after exposure. Similarly, mental health stress leave rose from 2.3% to 29.1%, and the rate at which workers took psychiatric medication tripled after exposure to traumatic events.

The qualitative interviews expanded on these themes. Paramedics described symptoms of posttraumatic stress disorder, including intrusion symptoms—“I’d go to bed, I’d close my eyes[,] and there would be the lady doing a swan dive off the balcony again, as clear as you sitting in front of me;” arousal symptoms, such as anger and fear; and avoidance symptoms, such as emotional blunting. One paramedic described psychological arousal and difficulty with concentration: “I couldn’t make any sense of the map, it was just a bunch of lines and cold sweats.” Another described an overwhelming urge to seek retribution against the offender. Others described tearfulness, shortness of breath, flashbacks, and night terrors. These symptoms often continued for a prolonged period of time: “It was literally months before I could drive by that building without crying.”

Families of responders were also significantly affected by these incidents. One impact was the fact that the exposed worker at times felt disengaged and emotionally distant from family members: “You almost treat your spouse like another call . . . there is [an emotional] deficit there.” Another issue was generalized anger and irritability that were often vented on family. Although this was mostly limited to “grumpiness” and argumentativeness, one respondent disclosed that this contributed to family violence perpetrated by him. Furthermore, paramedics described generalized fears for the safety of family members and a tendency to become overprotective. “You realize that . . . wow . . . my son is at the age that this could happen.” Alternately, other respondents described the way that exposure to traumatic events caused them to re-evaluate and value family relationships in a more positive manner.

Longer term effects were also described by some respondents. These included a reduced capacity to handle stressful events, depression, and substance use. Although many of the responders described the use of alcohol as a short-term coping strategy, there was a recognition that this at times became problematic: “I just basically burned out and fell into a pot of booze. Then I quit because it was killing me, killing my family, killing my work.”

Coping Strategies

Many of the coping strategies described by respondents involved the deliberate use of cognitive

Table 2
Substance Use and Mental Health Issues Before and After Exposure to a Traumatic Event

| Traumatic event | Experiences before a traumatic event | Experiences after a traumatic event |
|----------------------------|--------------------------------------|-------------------------------------|
| Alcohol abuse | 1.2 | 11.6 |
| Drug abuse | 1.2 | 1.2 |
| Suicidal thoughts | 5.8 | 4.7 |
| Suicidal attempts | 1.2 | 1.2 |
| Mental health stress leave | 2.3 | 29.1 |
| Psychiatric medication | 2.3 | 9.3 |

Note. All table values are percentages.

techniques. In the midst of a crisis situation, paramedics must maintain their focus and enhance their ability to function. To this end, one respondent stated that he used "visualization" to help determine the next course of action when confronted with a scene where people are in a state of high anxiety and hysteria. Others described the conscious process of emotionally distancing themselves and ensuring that they did not become emotionally attached to the victim or the victim's family. One recalled that "[the mother of the victim] wanted to climb in the ambulance and I just say no, the police will transport you. . . . I just didn't want to see her at all." Another stated "You have to really suppress your emotions at that time, . . . you got to really concentrate on blocking her out because her emotions may affect yours at that time."

We tend to be heartless in what we do and people say "Well didn't that affect you?" It probably affects us all, it's just that we've developed sort of a nice thick skin to a lot of the calls, as a protective mechanism. If you want to use the word thick skin, that's really what it is . . . you don't let it bother you cause you're not supposed to let it bother you.

In the long run however, this strategy has consequences:

This tends to make [my] family feel like they don't mean something. . . . That's not the reality of how I feel but that's the way I make them feel and that's tough to bring about that division, when you walk through the front door of your house you're a different person cause you can't turn it on and off, so the coping mechanisms that I've developed for work unfortunately can have a slight negative impact at home because I'm utilizing a coping mechanism that probably shouldn't be utilized in that setting but I can't go back and forth and that's a problem, so that's certainly the downside.

One paramedic identified the need to obtain information about the situation after one event in order to get a sense of closure by understanding why a person committed suicide. Others discussed a process by which they reviewed their work on the case to ensure that they had done everything right and to learn what could be done better next time. In this way they positively reframed the event as a learning experience and an opportunity to improve services. Furthermore, they used tragic events as an opportunity to reframe their own lives, focusing on the positive and downplaying the aggravations. In a similar vein, one respondent described that in order to cope with the lack of control over the job, he ensured that other aspects of his life were in control and that his family was prepared for possible disaster.

Many respondents identified that talking to their support system was an important coping strategy. Several described going home to hug their kids and spouse. Within the organization, workers turned to partners and others to provide support. Among the work group, the use of gallows humor helped relieve the tension of managing horrifying situations.

Supports

Respondents were asked to indicate how supportive their partners/lovers, friends, and family were after a traumatic experience. For each personal support, ratings were based on a 5-point Likert scale on which 1 corresponded to *not at all supportive* and 5 corresponded to *very supportive*. The majority of respondents (79.1%) indicated that their spouses/lovers were supportive (20.8%) or very supportive (58.3%). The findings for support from friends and support from family were more mixed, with 32.4% feeling that family were supportive and very supportive (23.9%) and 25.7% feeling that friends were supportive or very supportive (31.1%). Support from personal sources was significantly associated with both depression and posttraumatic stress symptoms. There were no significant correlations between perceived support from partners/lovers, friends, and family and scores on the IES and the BDI, or between perceived support from coworkers, management and union, and measures of distress. The Social Provisions Scale (Cutrona & Russell, 1987) was significantly negatively associated with scores on the BDI ($R = -2.32, p < .05$) but not with scores on the IES.

In interviews, paramedics mentioned various personal support persons, including fathers, mothers, friends, religious leaders, and extended family members. Consistently mentioned by respondents, however, were partners and children.

I have the luxury of having a spouse at home and she's been basically with me all the time I've been here. She understands my job well, so if all else was to fail at work I know I could still go home and I've got a support mechanism there. . . . I am happily married and I do have a wonderful family and I can't find a better support network than that.

Paramedics spoke both of the assistance provided by having a spouse to share their experiences with or, alternately, the importance of having a place where they could be safe from the stressors of work. Those without this resource described the frustration about not being able to attain support at home.

Respondents were also asked to rate the support they received from their employers and unions on the

same 5-point scale as used for the ratings for personal supports. These ratings for support from employers and unions were much lower, with the majority of paramedics indicating that they received little or no support from their employers and unions. Thirty-five percent of respondents indicated that the employer was "not at all supportive," and 23.0% said their employer was "a little supportive." These low results for support from employers were mirrored in the interviews. More dramatically, 80.0% indicated that the union was "not at all supportive."

Support was available, however, from other parts of the organization: "A good partner is 99% of the job." In addition, peers were viewed by many paramedics as very supportive and helpful. Twenty-seven percent of respondents rated peers as "very helpful," and 30.3% rated them as "helpful." In interviews, respondents described the benefits of "sharing tales" and telling jokes. However, it was mentioned that the "macho atmosphere" dissuaded workers from discussing their real concerns and fears.

Finally, respondents described support that they received from mental health services offered by the organization both in terms of individual assistance and crisis debriefings. "A psychologist with our department, actually came and discussed the incident with me and talked about this whole kind of empathy that you have for a patient and why I was having these conflicting feelings." "The one thing that really helped was the fact that we have a very, very good staff psychologist and within 90 minutes of the accident I was sitting down having a cup of coffee with him." One aspect that was noted, however, is that events that are flagged by members of the organization as the ones where assistance is automatically offered are not necessarily the events having the largest impact on workers: "We always get a call asking if we are OK on the big ones, the ones that don't bother me. . . .the stresses that paramedics feel are very individualized."

Discussion

All workers in this study reported that they had been exposed to situations that have been defined as critical events. These included multiple casualties, violence against others, and the death of a child. Of these events, those most likely to be identified by the respondents as causing emotional distress to them personally were the death of a child and the death of a colleague. In the qualitative interviews it became clear that the events most troubling for paramedics involved not multiple deaths in a dramatic incident but rather the death or injury of someone whom the worker contextualized in relationship to others; that

is, an individual who died alone, without the support of others; a child who did not benefit from a loving, caring environment; a family devastated by loss; or an individual so alienated that he took his own life. In this process of contextualizing the individual, the paramedic develops an emotional connection to the individual or the bereaved family members. Thus, they move beyond a cognitive understanding of the loss or suffering to experiencing emotional empathy in these situations. *Emotional empathy* is the process by which an individual shares or experiences the feelings of another (Hume, 1777/1966). This analysis is supported by previous research with emergency responders. Carlier, Lamberts, and Gersons (2000), for instance, found that situations in which police officers were confronted with the vulnerability of victims, such as in situations of abuse or murder, were associated with higher rates of posttraumatic stress disorder. In addition, a qualitative study revealed that firefighters experienced increased psychological distress as a result of identifying with victims of disaster (Fullerton, McCarroll, Ursano, & Wright, 1992).

The coping mechanism most frequently described by respondents involved the deliberate use of cognitive strategies. Paramedics described making conscious attempts during a traumatic event to shut out the emotional reactions of family members of the victim and visualizing the next technical step to be accomplished. They also discussed the need to shut down their own emotions. After the event, an additional cognitive strategy involved reviewing the event from a technical standpoint and identifying learning opportunities. These strategies do not necessarily represent an absence of empathy for the victim and his or her family; rather, they are consistent with the process of cognitive empathy described by theorists that emphasizes the separateness between the affected person and the helper. Rogers (1957), for instance, defined *empathy* as the ability to perceive the internal frame of reference of another with accuracy, as if one were that person but without ever losing the "as if" condition. Thus, the helper is able to consider the consequences of his or her actions on the welfare of others (Hogan, 1969) and act in others' best interests without feeling their pain.

In the provision of ongoing medical care, there is considerable evidence that empathic doctors and nurses provide higher quality care and have patients who express higher satisfaction with service (Jarski, Gjerde, Bratton, Brown, & Matthes, 1985; Squier, 1990; Wheeler & Barrett, 1994). In addition, there is some evidence that emotional empathy in particular has an influence on emergency treatment. For instance, physicians who used emotional components of empathy in their practice were more likely to order

laboratory tests and performed CPR longer before declaring their attempts unsuccessful compared with physicians who solely utilized cognitive components of empathy (Nightingale, Yarnold, & Greenberg, 1991). However, this type of concern for others does not come without consequences for the workers. The outcomes of emotional empathy were described by the respondents in terms of intrusive imagery of the event, sleeplessness, anger, and emotional blunting. On the positive side, such experiences also led some paramedics to examine their own relationships in a more positive light and place higher value on them.

The strategy of emotional distancing can also result in difficulty for the individual worker. Although this may be a protective measure that allows paramedics to do their jobs in periods of high stress and high emotional arousal, it may not always be easy to shift to emotional openness in significant relationships. Respondents described the problems encountered when families felt emotionally shut out. In addition, long-term problems can include substance abuse. Emergency organizations and training programs for paramedics and other emergency responders need to address this issue with workers and trainees. They need to assist workers to develop strategies for self-protection on the job that do not negatively impact on their lives. Saakvitne and Pearlman (1996), in discussing the impact of trauma counseling, advocated supervision and peer consultations in which opportunities are provided to discuss these issues. Although the climate of emergency service organizations does not usually allow for discussions regarding the impact of emotional blunting on a worker's personal life, mental health professionals working within these

organizations should make it clear that such concerns are a legitimate reason for service and assistance. Furthermore, emergency service organizations must be prepared with Employee Assistance Programs that are willing to reach out to families who may be affected by these problems.

Individual measures of perceived social supports within the respondents' personal network and the organization were not significantly associated with levels of symptoms of depression and traumatic stress, although there was a significant association between the Social Provision Scale and depression. This is somewhat contradictory to the findings of other researchers who have found social supports to be important predictors of traumatic stress symptoms (King, King, Fairbank, Keane, & Adams, 1997; Leffler & Dembert, 1998; Weiss, Marmar, Metzler, & Ronfeldt, 1995). Nevertheless, in interviews respondents consistently discussed the importance of family members and friends as support systems. Organizational supports were also important, particularly colleagues and more formal support services offered by the organization, such as the services of a psychologist. However, it was noted that these formal support systems become aware only of larger scale incidents and cannot anticipate which less dramatic events will impact on individual paramedics. This perhaps points to the need for proactive education in order that paramedics and their colleagues and supervisors can identify potential risk situations and involve formal support systems.

The theoretical model presented in Figure 1 describes the process identified in the qualitative interviews; that is, based on certain victim characteristics, such as the helplessness and innocence of a

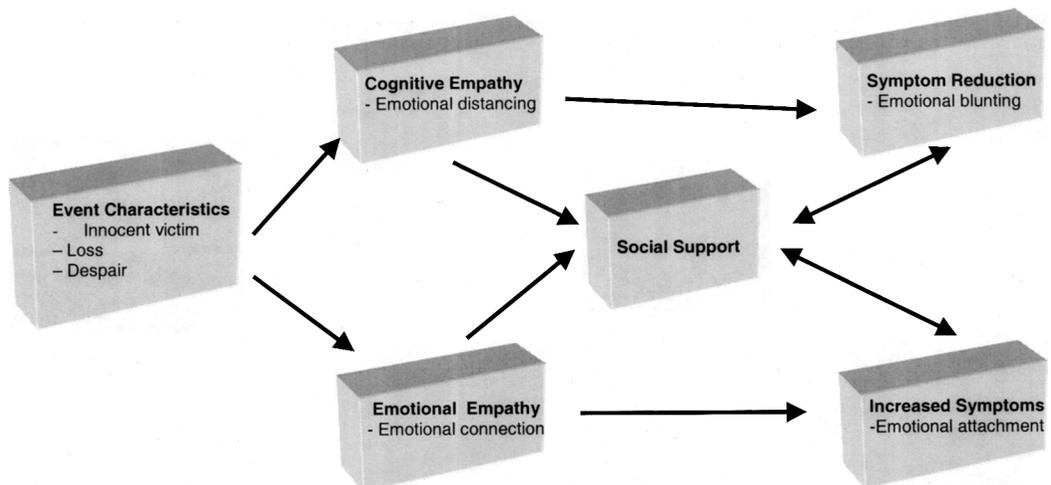


Figure 1. Thematic model.

child, the loss of a family member, or the despair of a suicide victim, the paramedic may develop an emotional connection with the victim or the family and therefore experience emotional empathy. This emotional connection may lead to increased symptoms of distress following the event. These increased symptoms of distress are moderated by social supports available. Alternately, workers may use strategies that emotionally distance themselves from the victim and instead experience more of a cognitive understanding of their suffering. This appears to lead to lower levels of symptoms related to the event. Social support, however, is not an independent entity that assists workers in times of stress. Social support is also influenced by strategies of emotional blunting and by levels of symptoms experienced. Therefore, the social supports, the strategies, and the symptoms interact with one another in a reciprocal manner.

Limitations

A major limitation of this study is the sampling for the quantitative component. As indicated earlier, this is a convenience sample of paramedics within one organization and thus cannot be thought to represent actual exposure rates to traumatic events for all paramedics either within this organization or within other organizations. Nevertheless, the rates of both exposure and symptom level found in this study are not unlike those of other studies. For instance, 82% of ambulance personnel in Scotland reported exposure to a particularly disturbing incident in 6 months preceding a study, and 30% reported symptoms in the high range of the IES (Alexander & Klein, 2001). Similarly, a study of firefighters reported rates of significant distress or severe distress on the IES of 26% (Bryant & Harvey, 1996) compared to 25.5% of paramedics in our study.

Furthermore, as in all qualitative studies, this study is not intended to reflect the views of all paramedics in all organizations; rather, it describes a particular phenomenon experienced and described by one group of paramedics and points to some interesting avenues for further consideration. These include future attempts to measure cognitive and emotional empathy in paramedics and assess the impact of these strategies on posttraumatic and depressive symptoms and on social supports.

Conclusions

Paramedics are exposed to many events that are outside the everyday experiences of the average person. For the most part, they have learned to deal with the events and take them in stride. One of the techniques

they often use is to deal with the events cognitively and technically while maintaining an emotional distance. At times, however, certain circumstances lead workers to develop an emotional connection with events based on their awareness of other aspects of the patient's experience. Aspects that can trigger this connection include the victim's alienation from others, profound loss, or the abuse of an innocent child. When this occurs, paramedics report increased symptoms of traumatic stress. The qualitative findings of this study suggest that paramedics perceive that both personal supports and supports within the organization help ameliorate distress, although this is not supported by the quantitative findings. However, the challenge for others is to attempt to reach out in events that touch an individual worker personally in ways that may not be obvious to outside observers.

References

- Alexander, D., & Klein, S. (2001). Ambulance personnel and critical incidents: The impact of accident and emergency work on mental health. *British Journal of Psychiatry, 178*, 76–81.
- Beck, A., & Beamesderfer, A. (1974). Assessment of depression: The Depression Inventory. In P. Pichot (Ed.), *Psychological measurements in psychopharmacology* (Vol. 7, pp. 151–169). Paris: Karger, Basel.
- Bryant, R., & Harvey, A. (1996). Posttraumatic stress reactions in volunteer firefighters. *Journal of Traumatic Stress, 9*, 51–62.
- Carlier, I., Lamberts, R., & Gersons, B. (2000). The dimensionality of trauma: A multidimensional comparison of police officers with and without posttraumatic stress disorder. *Psychiatric Research, 97*, 29–39.
- Chrestman, K. (1995). Secondary exposure to trauma and self-reported distress among therapists. In B. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers, and educators* (pp. 29–36). Lutherville, MD: Sidran Press.
- Cresswell, J. W. (1998). *Qualitative inquiry and research design*. Thousand Oaks, CA: Sage.
- Cutrona, C., & Russell, D. (1987). The provision of social relationships and adaptation to stress. *Advances in Personal Relationships, 1*, 37–67.
- Davis, M. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology, 44*, 113–126.
- Erlanson, D. A., Harris, E. L., Skipper, B. L., & Allen, S. D. (1993). *Doing naturalistic inquiry: A guide to methods*. London: Sage.
- Figley, C. (1995). Compassion fatigue: Towards a new understanding of the costs of caring. In B. Stamm (Ed.), *Secondary traumatic stress: Self-care issues for clinicians, researchers, and educators* (pp. 3–28). Lutherville, MD: Sidran Press.

- Fullerton, C., McCarroll, J., Ursano, R., & Wright, K. (1992). Psychological responses of rescue workers: Firefighters and trauma. *American Journal of Orthopsychiatry*, *62*, 371–378.
- Hogan, R. (1969). Development of an empathy scale. *Journal of Consulting and Clinical Psychology*, *33*, 307–316.
- Hume, D. (1966). *Enquiries concerning the human understanding and concerning principles of morals* (2nd ed.). Oxford, England: Clarendon Press. (Original work published 1777)
- Jarski, R., Gjerde, C., Bratton, B., Brown, D., & Matthes, S. (1985). A comparison of four empathy instruments in simulated patient–medical student interactions. *Journal of Medical Education*, *60*, 545–551.
- Kant, I. (1949). *Critique of practical reasoning* (L. W. Beck, trans). Chicago: University of Chicago Press. (Original work published 1788)
- Keefe, T. (1976). Empathy: The critical skill. *Social Work*, *21*, 10–14.
- King, L., King, D., Fairbank, J., Keane, T., & Adams, G. (1997). Resilience–recovery factors in post-traumatic stress disorder among female and male Vietnam veterans: Hardiness, postwar social support, and additional stressful life events. *Journal of Personality and Social Psychology*, *74*, 420–434.
- Leffler, C., & Dembert, M. (1998). Posttraumatic stress symptoms among U.S. Navy divers recovering TWA Flight 800. *Journal of Nervous and Mental Disorders*, *186*, 574–577.
- Marmar, C., Weiss, D., Metzler, T., Delucchi, K., Best, S., & Wentworth, K. (1999). Longitudinal course and predictors of continuing distress following critical incident exposure in emergency services personnel. *Journal of Nervous and Mental Disorders*, *187*, 15–22.
- McCann, L., & Pearlman, L. (1990). Vicarious traumatization: A framework for understanding the psychological effects of working with victims. *Journal of Traumatic Stress*, *3*, 131–149.
- McCracken, G. (1988). *The long interview*. New York: Sage.
- McFarlane, A. (1988). The longitudinal course of posttraumatic morbidity. *Journal of Nervous and Mental Disease*, *176*, 30–39.
- Nightingale, S., Yarnold, P., & Greenberg, M. (1991). Sympathy, empathy and physician resource utilization. *Journal of General Internal Medicine*, *6*, 420–423.
- Regehr, C., & Cadell, S. (1999). Secondary trauma in sexual assault crisis work: Implications for therapists and therapy. *Canadian Social Work*, *1*, 56–63.
- Regehr, C., Hill, J., & Glancy, G. (2000). Individual predictors of traumatic reactions in firefighters. *Journal of Nervous and Mental Disorders*, *188*, 333–339.
- Rogers, C. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology*, *21*, 95–103.
- Saakvitne, K., & Pearlman, L. (1996). *Transforming the pain: A workbook on vicarious traumatization*. New York: Norton.
- Squier, R. (1990). A model of empathic understanding and adherence to treatment regimes in practitioner–patient relationships. *Social Science Medicine*, *30*, 325–339.
- Weiss, D., Marmar, C., Metzler, T., & Ronfeldt, H. (1995). Predicting symptomatic distress in emergency services personnel. *Journal of Consulting and Clinical Psychology*, *63*, 361–368.
- Wheeler, K., & Barrett, A. (1994). Review and synthesis of selected nursing studies on teaching empathy and implications for nursing research and education. *Nursing Outlook*, *42*, 230–236.
- Zilberg, N., Weiss, D., & Horowitz, M. (1982). Impact of Event Scale: A cross-validation study and some empirical evidence supporting a conceptual model of stress response syndromes. *Journal of Consulting and Clinical Psychology*, *50*, 407–414.

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