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Washington State Legislature
Select Committee on Pension Policy
P.O. Box 40914
Olympia, WA 98504-0914

June 12, 2012

To the Select Committee on Pension Policy and Staff,

The Washington State Chapters of the Association of Public Safety Communications Officials (APCO) and the National Emergency Number Association (NENA) have recently become aware of the potential for and incidence of Post-Traumatic Stress Disorder in E9-1-1 Telecommunicators (study attached).

As a result of this knowledge, the Washington Chapter conducted a survey of Washington State communications centers taking E9-1-1 calls. Responses were received from 62% of agencies taking E9-1-1 calls, and included county, municipal, and federal agencies representing over 600 telecommunicators. Analysis of the results provided some thought-provoking information:

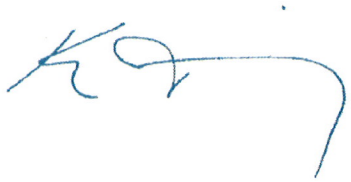
- 69% of telecommunicators are between the ages of 26 and 45 years.
- 11% work as telecommunicators for 20 or more years.
- 63% of responding agencies stated that telecommunicators have left employment with that agency due to the stress of the job.
- 96.7% of responding agencies have had telecommunicators retire, leave service, or be terminated because they were unable to perform the functions of the job versus retiring with dignity at the age of 65.
- The average age of those terminated in the past 10 years is 37 years.

The Chapter's limited survey, in addition to the study indicates that the career life span for a telecommunicator is relatively short. The Chapter believes that this is very likely due to the stresses of the job and the increased technological demands.

As we approach the age of Next Generation 9-1-1 (NG9-1-1), and anticipate the receipt of text, photo, and video, the Chapter is convinced that the technical expertise required to perform the functions of the job will increase astronomically. In addition to that, the visualization of crime, medical, and fire scenes will add untold stress to the intricacies of an already detailed and technical position. It will become extremely difficult for E9-1-1 centers in Washington State to recruit and retain staff.

The Washington Chapters of APCO and NENA urge the Selection Committee on Pension Policy to consider the inclusion of telecommunicators in a public safety early retirement program. The benefits to the individual who has dedicated a career to public safety as well as to the agency attempting to recruit and retain staff are well worthy of your consideration.

Sincerely,



Keith Flewelling, President
Washington State APCO – NENA Chapter

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BRIEF REPORT

Duty-Related Trauma Exposure in 911 Telecommunicators: Considering the Risk for Posttraumatic Stress

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Peritraumatic distress may increase the risk for posttraumatic stress disorder (PTSD) in police officers. Much less is known about emotional reactions and PTSD symptomatology in 911 telecommunicators. The current study assessed duty-related exposure to potentially traumatic calls, peritraumatic distress, and PTSD symptomatology in a cross-sectional, convenience sample of 171 telecommunicators. Results showed that telecommunicators reported high levels of peritraumatic distress and a moderate, positive relationship was found between peritraumatic distress and PTSD symptom severity ($r = .34$). The results suggest that 911 telecommunicators are exposed to duty-related trauma that may lead to the development of PTSD, and that direct, physical exposure to trauma may not be necessary to increase risk for PTSD in this population.

Research has begun to examine the mental health impact of occupational exposure to potentially traumatic events in police officers, with rates of duty-related presumed posttraumatic stress disorder (PTSD) ranging from 7% to 19% (Marmar et al., 2006). These numbers are notably greater than the lifetime prevalence rate of 7.8%, and 12-month prevalence rate of 3.5%, observed in the general population in the United States (Kessler, Chiu, Demler, & Walters, 2005; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Yet, research on PTSD in 911 telecommunicators, who may experience significant duty-related trauma exposure, has remained largely absent.

Telecommunicators rely on their interrogative skills to assess an incident, secure the emergency scene, and send appropriate help, all within minutes of answering a call. Crucial to success is the ability to remain calm and suppress emotional reactions. Yet little is known about the emotional reactions and mental health of telecommunicators. It is possible that physical distance from trauma (i.e., limited risk of physical injury) serves to buffer against posttrauma psychopathology; research has shown that threat to an individual's physical integrity heightens risk for the development of PTSD symptoms (e.g., Carlier, Lamberts, & Gersons, 2000). Telecommunicators, however, have limited control over the event and may encounter extremely distressed callers and/or aversive details of traumatic events. Given these factors, one might expect the level of emotional distress surrounding this work to be elevated in telecommunicators compared to other professions. In fact, a dissertation about telecommunicators found that the majority of telecommunicators in the sample reported experiencing peritraumatic distress in reaction to at least one call handled while on duty as a telecommunicator (Troxell, 2008).

Research has demonstrated that intense emotional reactions during the experience of traumatic exposure are strongly associated with PTSD symptoms and a significant, positive relationship between peritraumatic distress and PTSD symptoms has been observed in police officers (Brunet et al., 2001). To date, research has not assessed PTSD symptomatology in telecommunicators nor examined if the association between peritraumatic distress and PTSD symptoms holds for this population. The goal of the current study was to examine work-related trauma exposure, peritraumatic distress, and PTSD symptomatology in telecommunicators. The types of calls handled by telecommunicators were coded to determine whether certain types of calls were more associated with intense fear, helplessness, or horror, and whether particular types of calls were more consistently identified by the sample as the "worst." We hypothesized that telecommunicators would report high levels of peritraumatic distress given their relative lack of control over potentially traumatic events and that there would be a significant, positive relationship between peritraumatic distress and PTSD symptoms. We therefore expected the rate of probable, current PTSD to be elevated in this sample.

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Method

Participants and Procedure

Recruitment was conducted via letters and advertisements sent to randomly selected agencies in the Midwest, professional association list serves, and online forums and social media outlets (i.e., Facebook). The inclusion criterion was at least part-time work as a telecommunicator in the past year, although all participants currently worked as a telecommunicator. No exclusion criteria were used. Participants were given the option to complete a hard copy or online version of the survey. Informed consent was presented online or in hard copy prior to the questionnaires. No inducement was offered for participation. The study was approved by the university's institutional review board. Subject recruitment began in October 2010 and continued for 7 months.

The convenience sample recruited for this study comprised 171 current, professional telecommunicators. Twenty-four different states were represented, though the majority were from the Midwest ($n = 76$) and Southwest ($n = 58$) regions. The sample was predominately female ($n = 126$) and Caucasian ($n = 131$), with a mean age of 38.85 years ($SD = 9.61$). Participants reported an average of 11.85 ($SD = 8.16$) years of service. The majority of the sample was married ($n = 88$, 52%), and at minimum had attended college or vocational training ($n = 138$, 81%).

Measures

Potentially traumatic events/calls. The Potentially Traumatic Events/Calls measure (Troxell, 2008) is a 21-item measure that assesses career exposure to different types of potentially traumatizing 911 calls. The measure is a checklist that determines whether participants have been exposed to that type of call and asks for an estimate of how many times he or she has been exposed to that type of call. For the purposes of this study, a frequency count was used to determine whether or not each participant had been exposed to that type of call. The measure also includes a yes or no question for each type of call that assesses whether participants experienced intense fear, helplessness, or horror in reaction to that type of call. A significant correlation has been found between the total amount of traumatic calls/events and both burnout, $r\ (418) = .28$, $p < .001$, and secondary traumatic stress, $r\ (418) = .40$, $p < .001$ (Troxell, 2008).

Posttraumatic Stress Diagnostic Scale (PDS). The PDS (Foa, 1995) assessed PTSD symptoms in the past month. Participants were provided with the following prompt: "If possible, please identify an upsetting incident that you handled while on duty at a communications center. Though you may have had many traumatic events occur, can you tell me about one you remember as the worst, or the one that has maybe stuck with you the most?" Participants briefly described their chosen event and a total PTSD symptom score was generated by tallying responses to the 17 symptom items. Response options for the 17 items were 0 = *Not at all or only one time*, 1 = *Once a week or less/once in awhile*, 2 = *2–4 Times a week/half the time*, and 3 = *5 or More times a week/almost always*. Internal consistency for the PTSD symptom score was $\alpha = .85$ in this sample. A team of four researchers (including the two authors) coded the worst event descriptions in terms of (a) whether the event qualified for Criterion A1 of PTSD according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association, 2000), and (b) what type of duty-related call was represented. Interrater reliability was not examined.

Peritraumatic Distress Inventory (PDI). The PDI (Brunet et al., 2001) was used to measure peritraumatic emotional distress related to the participants' worst duty-related event. A specific time range for when that event occurred was not assessed. A total score was calculated by averaging responses across all items with scores for each item ranging between 0 = (*Not at all*) and 4 = (*Extremely true*). For the purpose of this study, three items that were deemed unlikely to be relevant to telecommunicators were omitted (i.e., "I felt afraid for my safety"). Internal consistency was $\alpha = .86$ in the present sample.

Data Analysis

Descriptive data and hypothesis testing was performed using SPSS Version 19.0. A frequency count was first used to examine participants' exposure to different types of calls, as well as the percentage of participants that reported experiencing intense fear, helplessness, or horror in reaction to that type of call. Consensus coding was performed by four researchers (including the two authors) to examine whether the participant reported a worst event that qualified for Criterion A1 of PTSD, and further, what type of call was represented. This information was examined to determine whether particular types of calls were more consistently identified as the worst among telecommunicators. Comparison of item means on the PDI between the present sample and Brunet et al.'s (2001) sample of police officers and civilians was made by calculating Cohen's d to examine effect size of observed differences. Pearson r was then used to examine the relationship between peritraumatic distress and PTSD symptom scores. Finally, the percentage of participants with probable, current PTSD was examined by using a cutoff score of 28 or higher to denote the presence of probable, current PTSD and a frequency score was generated.

Results

The average number of different types of calls experienced by participants assessed by the Potentially Traumatic Events/Calls measure was 15.32 ($SD = 3.50$) out of 21. Participants reported

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Table 1
Frequency of Receiving, Reacting With Fear, Helplessness, or Horror, and Identifying as Worst for Types of 911 Calls

	Received		Reacted		Worst	
Type of 911 call	*n*	%	*n*	%	*n*	%
Suicide	165	96.5	64	37.4	22	12.9
Domestic violence	163	95.3	66	38.6	3	1.8
MVA with severe injury or fatality	161	94.1	58	33.9	16	9.4
Armed robbery	147	86.0	37	21.6	1	0.01
Child sexual assault	136	79.5	66	38.6	0	0
Homicide	133	77.8	40	23.4	16	9.4
Natural disaster	133	77.8	46	26.9	3	1.8
Unexpected death or injury of a child	133	77.8	94	55.0	28	16.4
Other disaster or disturbing event	130	76.0	74	43.3	6	3.5
Calls involving friends and/or family	94	55.0	52	30.4	11	6.4
Officer involved shooting	54	31.6	44	25.7	17	9.9
Unexpected death of an adult	–	–	–	–	17	9.9
Battery and assault[a]	–	–	–	–	8	4.7
Adult sexual assault[a]	–		–		4	2.3

Note. MVA = Motor vehicle accident.

[a]These events were not assessed separately on the Potentially Traumatic Events/Calls measure; therefore, a percentage for that particular type of coded event and reaction could not be assessed.

experiencing fear, helplessness, or horror in reaction to 32% of the different types of calls experienced. Table 1 shows the number and percentage of participants for the following: (a) experienced that type of call, (b) endorsed criterion A2 in reaction to that type of call, and (c) identified that type of call as the worst experienced. The most commonly (16.4%) identified worst call was the unexpected injury or death of a child, with suicidal callers next (12.9%), followed by officer involved shootings (9.9%) and calls involving the unexpected death of an adult (9.9%).

The average modified peritraumatic distress score was 2.58 ($SD = 0.93$). The average scores for each group was as follows: 1.3 (officers), 1.69 (civilians), and 2.93 (telecommunicators). Table 2 compares PDI items from the present sample to Brunet et al.'s (2001) police officer and civilian samples, including Cohen's *d* effect sizes for observed differences. Cohen's *d* was calculated by hand using the means and standard deviations of PDI items from the present sample and those presented in Brunet et al. (2001), and then double checked using an online effect size calculator (http://www.uccs.edu/~faculty/lbecker/#meansandstandarddeviations). The telecommunicators reported having experienced peritraumatic distress in reaction to many of the different types of calls. It is possible that this is due to the nature of the position, but could also result from having a sample comprised predominantly of women, who typically report greater peritraumatic distress than men (Creamer, McFarlane, & Burgess, 2005). As hypothesized, there was a significant correlation between peritraumatic distress and PTSD symptoms, $r(170) = .34, p < .001$. The average score for PTSD symptoms was 7.07 ($SD = 8.13$). There were 3.5% of the participants who scored at or above the cutoff score of 28 (Coffey, Dansky, Falsetti, Saladin, & Brady, 1998).

Discussion

To date, this is the only published study of which we are aware that examined the relationship between duty-related trauma exposure, peritraumatic distress, and PTSD symptoms in telecommunicators. Results showed that calls frequently encountered by telecommunicators can produce feelings of intense fear, helplessness, or horror. A disproportionate amount of worst calls experienced by the sample involved harm to a child or were calls that involved a personal or professional relationship with the victim/caller (i.e., police officers, emergency medical technicians, and firefighters).

As hypothesized, and similar to Troxell (2008), peritraumatic distress reported by telecommunicators was high and occurred in reaction to an average of 32% of different types of calls that may be experienced by telecommunicators. As predicted, a positive relationship was found between peritraumatic distress and PTSD. Given that lifetime and 12-month PTSD symptomatology were not assessed in this study, direct comparison to the epidemiological rates for PTSD observed in the U.S. population cannot be made (Kessler et al., 2005; Kessler et al., 1995). The 3.5% who scored above the cut off we used, however, might suggest that increased risk is present for telecommunicators, as 3.5% is equivalent to the 12-month prevalence rate found by Kessler et al. (2005) and does not account for telecommunicators that may have qualified for probable PTSD in the past 12 months, but whose symptoms

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Table 2
Comparison of Selected Peritraumatic Distress Inventory Means From Three Samples

	Officer (*N* = 702)		Civilian (*N* = 418)		911 Telecommunicators (*N* = 171)		Officer	Civilian
Abbreviated item	*M*	*SD*	*M*	*SD*	*M*	*SD*	*d*	*d*
Felt helpless to do more	1.7	1.4	2.2	1.4	3.5	1.4	1.29	0.93
Felt sadness and grief	2.1	1.5	2.8	1.4	3.5	1.4	0.96	0.50
Felt frustrated, angry could not do more	2.1	1.5	2.7	1.3	3.5	1.4	0.96	0.59
Felt guilt more was not done	1.0	1.3	1.3	1.4	3.5	1.4	1.85	1.57
Felt ashamed of my emotions	0.4	0.9	0.9	1.3	3.3	1.5	2.34	1.71
Felt worried about safety of those on scene	1.7	1.5	1.1	1.5	2.3	1.6	0.39	0.77
Felt would lose emotional control	0.7	1.1	1.6	1.4	1.5	1.3	0.66	0.07
Horrified by what happened	1.5	1.5	1.6	1.5	3.1	1.7	1.00	0.94
Had physiological reactions	1.5	1.4	2.0	1.5	1.9	1.4	0.29	0.07
Felt I might pass out	0.2	0.8	0.7	1.2	3.2	1.6	2.37	1.77

Note. Items were omitted given that they may not apply for telecommunicators who are not on the scene of the traumatic call. Adapted from "The Peritraumatic Distress Inventory: A proposed measure of PTSD Criterion A2," by A. Brunet, D. S. Weiss, T. J. Metzler, S. R. Best, T. C. Neylan, C. Rogers, ... C. R. Marmar, 2001, *American Journal of Psychiatry, 158*, pp. 1480-1485. Copyright 2001 by the American Psychiatric Association.

have remitted prior to completion of the survey. This suggests that although telecommunicators are physically distant from the traumatic scene and their personal integrity is rarely threatened, they may not be buffered from the development of PTSD symptoms. Furthermore, a self-selection bias may have also skewed results. The sample could have been a particularly resilient group of telecommunicators, or telecommunicators with current PTSD symptomatology may have not self-selected for participation in the study due to the avoidance seen as part of the PTSD symptom picture. It is also possible that highly distressed telecommunicators quickly remove themselves from the occupation and are not well-represented among current telecommunicators. It is therefore possible that rates of PTSD symptoms would be even higher in a sample of telecommunicators not selected out of convenience.

The level of distress in the sample supports the proposed criteria for PTSD in the *DSM-5*. According to proposed Criterion A4, telecommunicators' experiences would qualify them for a diagnosis of PTSD because they are exposed to duty-related aversive details of traumatic events. Though telecommunicators may not be physically present at a traumatic event, nor have a personal relationship with the victim, exposure to duty-related aversive details can be sufficient to induce PTSD symptomatology that is severe enough to be consistent with a probable diagnosis.

The study was limited by a cross-sectional design and self-selection biases. In regard to the former, it is not possible to determine whether the development of PTSD symptoms may have colored retrospective reporting of peritraumatic distress. Further, research has shown that the consistency of retrospective reporting of peritraumatic distress is questionable, particularly for individuals that go on to develop more severe PTSD symptomatology (David, Akerib, Gaston, & Brunet, 2010), leading to limitations on the conclusions that can be drawn from this study's cross-sectional design. Considering the frequency of exposure to upsetting calls, however, and the heightened peritraumatic distress, as well as the rate of PTSD symptoms despite a self-selection bias, future research is warranted. Posttraumatic stress disorder symptoms that may be present in telecommunicators can impair decision-making abilities and functioning, which could pose significant risk to the general population that relies on them to quickly and effectively coordinate an emergency response. Finally, trauma exposure that has occurred outside of that experienced on duty should be considered in future work with this population, as PTSD symptoms among this sample may have been due to trauma that occurred outside of work and not directly related to duty-related experiences.

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