

The impact of traumatic events and post-traumatic stress disorder among correctional nurses

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This study examined three key issues: Whether or not the Diagnostic and Statistical Manual of Mental Disorders (DSM) definition of the traumatic event (Criterion A) needs to be reconsidered; in particular whether or not the current emphasis on the physical threat component of the event is sufficient to explain the Post-traumatic Stress Disorder (PTSD) symptoms; the potentially unique responses of registered nurses and registered psychiatric nurses (N = 77) working in federal correctional institutions in the Prairie region (Manitoba, Saskatchewan, Alberta); and whether nurses working in correctional settings are at risk for developing PTSD symptomatology. The analyses offered strong support for the inclusion of emotional threat as a causal component of PTSD. Physical threat was found to be a weak predictive variable. Results also found that correctional nurses are frequently exposed to traumatic events and are at risk for developing PTSD symptoms. If the results of this study can be replicated, it would lend support to a redefinition of PTSD's Criterion A conceptualization in DSM-IV.

With the introduction of PTSD in the third edition of the DSM-III⁴ scientific inquiry led to a new level of integration, which sought answers regarding the negative psychological sequel following trauma exposure. PTSD is defined as a debilitating, long-standing, and pervasive disorder, with risks of morbidity, chronicity, physical and psychiatric disturbances, and impairment in interpersonal and occupational functioning following exposure to trauma. This disorder is unique among the classification of disorders because all of the criteria must be present before making a diagnosis, compared to most other diagnoses, whereby no symptom overlap may occur between two cases despite the fact that they both meet the requirement for diagnoses.⁵ PTSD's conceptualization includes three phenomenological/symptomatological constituents: Five re-experiencing symptoms, which are intermittent and phasic (for example, recurring intrusive recollections, flashbacks, recurrent distressing dreams), seven symptoms related to avoidance of stimuli combined with a dysphoric numbing to stimulation (such as, loss of interest in social activities or human contact, psychogenic amnesia, avoidance of situations reminiscent of the trauma), and pathognomonic automatic nervous

system arousal (for example, hypervigilance, startle response, sleep disturbances).⁶

Despite the extraordinary growth of the field of trauma studies, understanding of PTSD remains incomplete, in large part due to on-going debates about the salient features of the event. If the required definition of the traumatic event is not met, a PTSD diagnosis cannot be made. According to DSM-IV,⁷ the traumatic event criterion includes two components. Criterion A1 stipulates "the person experienced, witnessed, or has been confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others" (p. 427). Criterion A2 states "the person's response involved intense fear, helplessness, or horror" (p. 428). Although both physical and emotional threats are implied in Criteria A, research has focused on the physical threat aspect of the traumatic event with a corresponding neglect for the provision of emotional threat.

There is an increasing awareness that professionals who are regularly exposed to work-related traumatic events are at risk of developing PTSD symptoms. This raises an important issue because if PTSD's classification is robust and the traumatic event is the important feature, which accounts for the development of PTSD symptoms, then, events that are not experienced directly as personal threats should have no clinical impact. Research suggests that emergency personnel are often discouraged from disclosing vulnerabilities to maintain an image of self-control. Given that an invincible approach is encouraged in terms of workplace ethos, these professionals are likely to guard against feeling vulnerable by utilizing varied coping defences, such as minimizing, denying, forgetting about the event, and suppression of affect to regulate the emotional intensity of the traumatic event. It follows, then, that when the traumatic event is perceived as upsetting and suppression of emotions is not possible, emotional states, such as anger and guilt may surface. Preliminary biological findings have important implications for understanding how the suppression of emotions following exposure to traumatic events affects health outcomes. The evidence appears strongest when considering

studies of cortisol levels, a hormone produced to allow the body to prepare for threatening events. Research indicates that individuals who use suppression as a means to cope with serious life events show significantly elevated basal cortisol levels compared to the low cortisol levels found in individuals with PTSD symptoms. This finding may *indicate down* regulation of cortisol systems in response to threatening events. Further studies in this area are warranted.

Method

Subjects

Seventy-seven nurses participated in this study. They included 50 registered nurses and 27 registered psychiatric nurses working in the 13 federal correctional institutions in the Prairie Region. The institutions ranged from minimum, medium, multilevel (minimum and medium), and maximum levels of security. The nurses either belonged to the Professional Institute of the Public Service or were contracted on a casual basis.

Procedure

Following approval by the Human Ethical Review Committee (University of Manitoba), the employer (Correctional Service of Canada), and the Union (Professional Institute of Public Service), 177 correctional nurses were solicited to participate in this study. Participants were given an informed consent form, a demographic questionnaire, and a series of other questionnaires to complete. Dilman's⁸ total design method (TDM) for mail surveys, was adhered to in this study. One week following the initial mailing, a postcard follow-up was sent to all recipients. Three weeks following the initial mailing, a second follow-up was mailed, and a third and final follow-up was mailed six weeks following the initial mailing. Seventy-seven (44%) of the nurses who were contacted responded.

Measures

An exposure measure was developed for the purpose of this study. This measure consists of 15 items pertaining to traumatic event scenarios. Respondents were asked to indicate which of the events they experienced in the past year, how often they experienced each event, and how many months ago each event occurred. If the event occurred more than once they were asked to choose the most recent event. Respondents were also asked to rate on a 5 point Likert scale from 1 (not at all threatening) to 5 (very threatening) the physical and emotional threat related to the most recent event at the time the event occurred (then) and at present (now). Finally, respondents were directed to indicate which of the

reported events was perceived as the most distressing and why.

The Impact of Event Scale-Revised (IES-R),⁹ a 22-item scale, taps into intrusion and avoidance. Respondents were instructed to rate on a 5-point Likert scale from 0 (not at all) to 4 (extremely) how affected they have been by each difficulty during the past month with respect to the most distressing event specified in the exposure measure.

The Brief Symptom Inventory (BSI)¹⁰ includes 53 items. Respondents were instructed to rate how distressing each symptom is on a 5-point Likert scale from 0 (not at all) to 4 (extremely). There are nine scales: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism. For each scale the score is derived by averaging the items on that scale. The Global Severity Index gives the over-all average.

The Stress, Stressor, Social Support, and Correctional Orientation Scales (SSSCO)¹¹ measures two job-related stressors (role problems, potential for physical danger), four types of social support (peer, supervisor, family, community), psychological work stress, and correctional orientation. In the present study, only a random subset of the original items was selected. Cullen et al. reported an internal consistency ranging from .66 to .84 (Cronbach's alpha) for the subscales.

Results

Of the 177 questionnaires that were mailed out 77 (44%) were returned. Although the response rate was lower than Corneil and Kirwan's response rate among northern registered nurses (63%), it was higher than Powell's¹² among emergency and intensive care nurses (35%). The most frequently reported event was verbal abuse by an inmate (87.8%). Similarly, the most frequently reported distressing event was verbal abuse by an inmate (20.3%), which was associated with feelings of being devalued, reevaluation of life and death, and issues pertaining to fairness. The mean number of occurrences of the most distressing event was 3.34 (SD = 4.85, $N = 53$). Analyses of variance including means and standard deviations with threat (physical, emotional) and time (then, now) as within-subjects factors and also across the events are presented in Table 1. It was predicted that the frequency of occurrence of a traumatic event in the past year would be positively correlated with both physical and emotional threat. It was found that for the most distressing event, individuals reported more emotional than physical threat and the threat declined over time in a similar fashion for both physical and

emotional threat. Similar results were found when scores were averaged across events. Results shown in Table 1 indicate significant effects of threat, $F(1.51) = 19.42$, $p < .001$, and time, $F(1.51) = 45.38$, $p < .001$, and a non significant interaction effect. When scores were averaged across the events only those events for which a participant gave all four ratings were averaged. Results yielded significant effects of threat, $F(1.63) = 18.57$, $p < .001$, and time, $F(1.63) = 76.46$, $p < .001$, and a non-significant interaction effect. Thus, participants reported more emotional threat than physical threat and contrary to what was expected, previous occurrence of the event in the past year had neither a sensitization nor a toughening effect on subsequent perceptions of threat.

Table 1

Physical and Emotional Threat then and now for the Most Distressing Event and Averaged Across Events			
Most Distressing Event	Mean	SD	N
Physical threat then for most distressing event	2.88	1.60	56
Physical threat now for most distressing event	1.80	1.02	54
Emotional threat then for most distressing event	3.67	1.41	58
Emotional threat now for most distressing event	2.39	1.32	57
Across Events			
Physical threat then across events	2.39	0.97	64
Physical threat now across events	1.60	0.80	64
Emotional threat then across events	2.82	1.21	64
Emotional threat now across events	1.97	0.98	64

It was predicted that perceived physical threat of a traumatic event would be negatively correlated with affective avoidance when controlling for perceived emotional threat and that a similar pattern would present between emotional threat and affective avoidance when controlling for physical threat. Part correlations between physical threat and affective avoidance, when controlling for emotional threat were non significant, however, part correlations between emotional threat and affective avoidance, when controlling for physical threat were consistently significant.

It was predicted that perceived physical threat of a traumatic event would be positively correlated with PTSD symptoms, when controlling for both perceived emotional threat and affective avoidance and that emotional threat would also be positively related with PTSD, when controlling for both

perceived physical threat and affective avoidance. Part correlations between physical threat and PTSD, when controlling for both emotional threat and affective avoidance were non significant, however, correlations between emotional threat and PTSD, when controlling for both physical threat and affective avoidance, were consistently positive and significant.

Additional analysis on the predictive power of work environment on PTSD symptoms was also conducted. Results showed that the number of events reported and work environment was significantly related to PTSD. Thus, both emotional threat and work environment contribute to the prediction of PTSD symptoms, with emotional threat being the strongest predictor. In contrast, the results showed that physical threat adds nothing to the prediction of PTSD symptoms.

Finally, the IES and BSI results of the present study were also compared to those of Corneil and Kirwan's among northern registered nurses. Results shown in Table 2 indicate that the two nursing groups were not significantly different on the IES total score nor on the two sub-scales. According to Horowitz, Wilner, and Alvarez's¹³ cut point (IES total > 26), 36.8% of the correctional nurses showed a traumatic stress reaction, which is almost identical to the 36.4% found among northern registered nurses.

Table 2

Scores on the Impact of Events Scale as a Function of Nursing Population					
Item	Correctional Nurses (N = 68) ^a		Northern Nurses ^b (N = 88)		p-value ^c
	M	SD	M	SD	
Intrusion	10.13	7.08	11.86	9.08	ns
Avoidance	8.00	6.82	9.99	8.76	ns
IES Total	18.13	13.07	21.90	17.06	ns

^a = 68 of the 77 participants completed the IES-R
^b = Corneil, W. & Kirwan, S. (1994)
^c = Independent samples t-test

BSI scores of correctional nurses were compared to Derogatis and Spencer's non-patient norms and Corneil and Kirwan's sample of northern nurses. Scores of correctional nurses were generally similar to those of northern nurses but significantly higher than those of non-patient norms. The global severity index, however, was lower among correctional nurses compared to northern nurses, which may reflect the greater work and environmental challenges faced by northern nurses.

Discussion

The present study offers support for the predictive role of emotional threat on the development of PTSD symptoms. It may be that the extent to which traumatic events take on emotional meaning account

for nurses' adaptive and maladaptive responses to traumatic events. At this point, future study exploring the meaning attributed to traumatic events may produce the information required for coming to a decision on this matter. ■

- ¹ Abstract of Lavack-Pambrun S. (2000) *The impact of traumatic events and post-traumatic stress disorder among correctional nurses*. Master Thesis. Winnipeg, MB: University of Manitoba.
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