

**The Impact of Stressful Events and Critical Incidents
on Law Enforcement Personnel**

**Preliminary Findings from Nova Scotia
Law Enforcement Personnel**

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October 16, 1992

Submitted in partial fulfilment of the requirements
for the degree of Master of Science
in Applied Psychology

Saint Mary's University
Halifax, Nova Scotia



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Abstract

Job related stress is recognized as having an impact on many occupations. Although there have been many studies of the physical and psychological impact of stress on law enforcement personnel from the United States, little research has involved Canadians. The present study examined the level of stress and the patterns of impact on 200 Nova Scotia law enforcement personnel. The frequency of work-related stressful events and critical incidents were found to be positively associated with the Symptoms Checklist-90 (SCL-90), the Impact of Events Scale (IES) as well as the incidence of cancer. Alcohol and drugs were frequently used by more stressed officers. High blood pressure, heart attack, and job related injury were significantly related to length of service, while positive curvilinear relationships were found between years of service, the SCL-90, and the IES, with those officers working in towns rather than cities affected the most. The results indicated that the choice of stress coping strategy was the key to maintaining one's health. In addition, the results also suggested that sick time leave is a reliable indicator of officers' stress level. Peer support group for self-help may be useful such as that provided by Police Association of Nova Scotia (PANS) Stress Management Assistance Program.

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The Impact of Stressful Events and Critical Incidents on Law Enforcement Personnel:

Preliminary Findings from Nova Scotia Law Enforcement Personnel

Over the past half century, stress has been widely studied, has been used as a variable in models of behaviour and disease, and has achieved a notoriety in the lay public that few other bio-behavioral concepts have attained (Baum, 1990). It is recognized that stressful life events play some role in the occurrence of illness, and it is well known that people exposed to uncontrollable traumatic events or otherwise, critical incidents often experience psychological distress, which affects human well being (Marddi, Barbone, & Puccetti, 1987; Cohen, 1991).

In the past decade, the Post Traumatic Stress Disorder (PTSD) has been recognized as a distinct psychological distress syndrome and studies on this phenomenon are continuing (Kolb, & Mutalipassi, 1982; Solomon, 1987; Nolen-Hoeksema & Morrow, 1991). There is also a growing awareness of the impact of cumulative stress. About three percent of people may develop PTSD after being traumatized (Mitchell, & Bray, 1990). Davidson and Baum (1986, 1990) have suggested the PTSD symptoms were significantly correlated with most measures of cumulative stress. However, there is a lack of research adequately defining those issues in terms of whether the cumulative stress is directly related to critical incidents, or if traumatic life events can cause both cumulative stress symptoms and PTSD (Farmer, Monahan, & Heckler, 1984; Farmer, 1990).

Very recently, research has focused on PTSD and other stress issues related to emergency services personnel, such as police, fire-fighters, ambulance attendants, and hospital emergency nurses. From a study of stress on law enforcement personnel, Selye (1976, pp.7--9) and Violanti (1986) have stated that in comparison to emergency responders, police work is one of the most stressful occupations, as police officers manifest a high rate of stress-related illnesses. Correctional officers have twice the national average divorce rate and one of the highest heart attack rates of United State's employees (Moracco, 1985). Cases of PTSD in law enforcement have also been reported by many researchers (Williams 1985; Solomon, & Horn, 1986; Loo, 1986).

The purpose of this study is to assess the level of stress and the patterns of impact of post traumatic stress and cumulative stress within a sample of law enforcement personnel of Nova Scotia. The contribution of critical professional life events to the impact and the relation of post traumatic stress and cumulative stress is also examined. Finally, the stress coping style of law enforcement personnel and the awareness and the use of Police Association of Nova Scotia (PANS) Stress Management Assistance Program is assessed in this study as well.

Stress and Critical Life Events

The word "stress" comes directly from the ancient Latin term (Mitchell, & Bray, 1990) means "force," "pressure," or "strain." According to Selye (1976), stress is the nonspecific response of the body to any demand made upon it. Stress is a

physical and psychological response to changes in the environment, and can be experienced when social demands and personal adjustments are unbalanced (Violanti, 1983).

Stress is pervasive, being associated with many life events (Tausing, 1982; Zimmerman, 1983). Critical incidents are commonly conceptualized in environmental terms, as an event or set of circumstances presumed to elicit or require an unusual response and readjustment from the person, and may involve a serious risk to health (Stein, & Charles, 1971; Hawkins, Davies, & Holmes, 1975). Most of critical life events are massive and sudden disruptions such as tornadoes, earthquakes, or fires. However, what is critical may vary from one individual to another, or from one event to another for the same individual. There is a host of other stressors that impinge on people's lives that are not experienced as sudden life events (Lazarus, & Forkman, 1984). If the event occurs to a person when they are especially vulnerable, it evokes certain personal painful experiences (Black, 1989). This suggests that some more chronic or extended circumstances such as imprisonment, military service (Bourne, 1969) or crowding (Freedman, 1975) may also lead to a series of stress reactions.

Post Traumatic Stress Disorder (PTSD)

Critical life events are particularly stressful, even to persons accustomed to high-stress situations, by being destructive, violent, and emotionally painful. Many studies have suggested that major life events may owe a significant part of their impact on health to their effects on the person's everyday activities, since they will disrupt social relationships, habits, and health-related behaviours.

Post Traumatic Stress Disorder (PTSD) first received official recognition in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; American Psychiatric Association, 1980). PTSD is among the few psychiatric disorders listed in the DSM-III that is defined in part by environment. The event (the stressor) is critical, described as "outside the range of usual human experiences" (Slovenko, 1984).

Although about only three percent of people may develop PTSD following a trauma (Mitchell, & Bray, 1990), the person's physical, emotional, cognitive, and behavioral impacts can be very serious, either temporarily or permanently. PTSD can lead to personality changes, illness, and, if it is ignored, may result in the person's suicide.

The clinical syndrome includes depression, anxiety, guilt, impaired concentration, anhedonia, and sleep disturbances (Nolen-Hoeksema, & Morrow, 1991). "Intrusive" and "avoidance" are the typical symptoms of PTSD, according to DSM-III-R (American Psychiatric Association, 1987). "Intrusive" means persistence in thinking and visualizing scenes directly and indirectly related to the traumatic event is considered as one of the most salient features of PTSD (Scrignar, 1988). These cognitive processes result in retraumatization of the victim when confronted with environmental stimuli that the victim associates with, or that resembles, the initial traumatic event. The traumatic event can be reexperienced in a variety of ways such as nightmares, feelings of detachment, compulsive repetitions, trigger sensitivity, fear of scrutiny, hyper vigilance, selective memory lapse, enhanced sense of vulnerability,

and other severe interference which disrupt the normal function of one's life. "Avoidance", on the other hand, refers to the person persistently avoiding any stimuli associated with the event and/or numb his or her emotions and general responsiveness.

Increasingly more attention has been focused on not only the reactional symptoms but also the possible long term impact on human well being. Reported problems include avitaminosis, heart diseases, pellagra, malnutrition, chronic dysentery, psychosis and other physical disorders have been reported (May, 1987; Solomon, Mikulincer, & Kotler, 1987; Maddi, Bartone, & Puccetti, 1987). For example, the repatriation exams of 138 Vietnam naval aviators yielded a total of 1,685 diagnoses (an average of 12.2 per person) comprising 367 diagnostic entities (Berg, & Richlin, 1977). Stretch (1991) reported his study on Canadian Vietnam Veterans that PTSD vets identified physical symptoms significantly more than non-PTSD vets on all indicators of past and current health.

As Black (1989) suggested, PTSD is a multifaceted disorder involving not only post-traumatic stress but disruptions in other areas of personal functioning as well. Post-traumatic stress has been linked to other increased health-related risks, including disability costs, increased absenteeism, staff turnover, professional "burnout" and personal or family problems. For example, American business has spent at least \$50 billion per year in lost work-days, reduced productivity, hospitalization, and other benefits. These results can cause not only the death of an employee but also the death of a company (O'Brien & Sewell, 1987). Therefore, further study of PTSD and

its related issues is significant and necessary.

Critical Life Events and Cumulative Stress

Cumulative stress, indeed, is made up of or combined with a broad collection of stressful events-critical life events (Mitchell, & Bray, 1990). Classified by the duration of the physical event, stress could be divided into acute and chronic category. Acute stress results from catastrophic events, such as tornados, floods, fire, motor vehicle or aircraft accidents, rape, shooting, and other violent acts, may give rise to chronic threat appraisal and/or response (Baum, O'Keeffe, & Davidson, 1990). Chronic stress may be caused by many stressors such as organizational routine, stressors on the job, war, imprisonment, child or spousal abuse, and toxic waste hazards. (Mitchell, & Bray, 1990). A single, short encounter is sufficient to cause long term mental health consequences and chronic stress for many victims. Consequently, cumulative stress is a combination of acute and chronic stress which have developed in work and non- work areas (Wallace, Roberg, & Allen, 1985; Burke, & Deszca, 1986; Burke, 1987).

In the view of Baum, O'Keeffe and Davidsor (1990), chronic stress is often initiated by brief acute events. The cases of chronic and delayed post traumatic stress disorder were discovered when Vietnam veteran patients had demonstrated continuing difficulties in social adaptation since their discharge from military service following combat experience (Kolb & Mutalipassi, 1982). After the accident at Three Mile Island (TMI), chronic stress persisted well beyond the time of the accident.

Using the Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1977) to assess somatic distress, problems with concentration, problems on interpersonal relationships, depression, anxiety, anger, fear, suspiciousness, and alienation, Baum (1985) concluded that stress was greater among TMI area residents than among control subjects (Davidson & Baum, 1986).

Many studies reported behavioural changes when people are under cumulative stress, they may take up activities for which there is no precedent in their lifestyle. Examples of this are include serious abuse of alcohol, gambling, sexual promiscuity, and excessive borrowing. One may lose interest in personal appearance, and ignore the constraints of working hours, or become accident-prone. The Canada Institute of Stress has found that absenteeism rates for highly stressed workers are almost three times greater than normally expected, and most of this time away from work is legitimate sick time (Earle, 1991).

Recently, research interest has been stimulated by the evidence that psychological factors influence immune functions, the study of impact of cumulative stress has not only focused on the area of heart disease and cancer, but also AIDS and other areas (Ader, 1981; Jemmott, & Locke, 1984; Baum, & Nesselhof, 1988).

Critical Life Events and Law Enforcement Personnel

1) What are the critical life events in law enforcement professions?

Law enforcement work has often been described as a highly stressful occupation (Kroes, Margolis, & Hurrell, 1974; Stearns & Moore, 1990). Law

enforcement officers have the responsibility of dealing with law-breakers. They often face hazardous duties within an overtly peaceful environment, Williams (1985) refers as "peacetime combat". The danger factor requires constant alertness, and the enemy is often hard to identify. Essentially, law enforcement officers face the chance of injury, and sometimes even losing their life in the line of duty. According to Moorman, Wemmer, & Willama,(1990), for example, 63 police personnel in California alone had been murdered in the 1980's.

Although shootings are obviously not the only traumatic event for police, other critical incidents such as use of excessive force (Carson, 1987), caring for the dying (Dietrich, 1987), involvement in any natural or man-made disaster (May, 1990), high speed chases, fights, undercover narcotics and vice work, bomb squad work and rape investigation (Reese, 1987), also take their psychological toll. The aftermath of the particular event is also highly stressful. Organizational stress such as internal investigations are often felt as a persecutory attack or a possible threat of lawsuit. Trial boards, administrative responses and other sanctions often lead to self questioning about the incident (Williams, 1987). In Stratton's study (1984), forty-seven percent of sixty police officers reported experiencing fear related to legal entanglements or job security, and about fourteen percent were concerned with the department's reaction to them.

In the past few years, many researchers have identified a lengthy and diverse list of stressors associated with police work (Haynes, 1978; Sewell, 1983; Gudjonsson, & Adlam, 1983; Loo, 1984; Kirmeyer, & Diamond, 1985; Stearns, & Moore, 1990).

Sewell (1983) developed The Critical Life Events Scale for law enforcement personnel based on the research with law enforcement officers. This scale included 144 events rated from the most stressful event to the least. Future research needs to explore the type, intensity and frequency of incidents likely to be associated with negative reactions. The responses of agencies to potentially traumatic incidents affecting their officers, and the results of these responses on the emotions and behaviours of officers also require further studies. Proposals have included expanding the breadth of item content and the weighing of subjective impact (Horowitz, Schaefer, Hiroto, Wilner, & Levin, 1977). Strategies have also been proposed for distinguishing among classes of life events that might have a differential impact on health status.

2) The impact of critical life events.

A. Post Traumatic Stress Disorder

Shooting is one of the stressors related to PTSD in police work (Burden, 1982; Stratton, 1983; Stratton, Parker, & Snibbe, 1984; Hill, 1984; Solomon, & Horn, 1986; Loo, 1986; Carson, 1987; Ayoob, 1988; Solomon, 1988). Seitzinger (1985) said that 6 out of 10 police officers are traumatized and 2 of those 6 have severe reactions in the course of their jobs after they experienced a killing in the line of duty because "there is no one to guide the officers through a period of self-doubt, depression, anger and guilt (Williams 1985)." In the police training academy, individuals learn how to kill people when they must, but not how to care for themselves afterwards.

When these events occur, the police officer may have no choice but to discard the typical macho shield that has kept his feelings under wraps (Williams, 1987). As one of the police officers said:

You change when you become a cop-you become tough and hard and cynical. You have to condition yourself to be that way in order to survive this job. And sometimes, without realizing it, you act that way all the time, even with your wife and kids. But it's something you have to do, because if you start getting emotionally involved with what happens at work, you will wind up in Bellevue. (Maslach, & Jackson, 1979, p. 59).

Thus, when officers were involved in critical incidents without proper training and support, they will be most likely to develop PTSD. Most critical incident stress reactions begin either at the scene or shortly thereafter. The majority of emergency personnel report that within 24 hours they experience the beginning signs and symptoms of acute stress (Williams, 1987). Several recent studies indicate that better than 85 percent of emergency personnel have experienced acute stress reactions after working at one or more critical incidents, and about three percent of them developed PTSD (Mitchell, & Bray, 1990).

As the result of PTSD, police personnel have higher divorce rates than the average population, many of them suffer from chronic sleep disturbance, distressing dreams and memories. Changes in personality, increased feelings of depression, anxiety and anger are common. For some, suicide has been chosen as the only way out of broken dreams and intense personal unhappiness (Mitchell, & Bray 1990).

B. Cumulative Stress Impact

With continuous exposure to critical incidents over a period of years, the effect of stress may "builds up" or accumulated. It is possible that the significantly high mortality rates for cancer, suicide, and increasing risk of death from arteriosclerotic heart disease with increasing years of police service are related to police occupational factors and accompanying lifestyle habituation. Risk factors include a high stress work environment, irregular sleeping and eating habits, poor health habits, and lack of exercise. Selye (1983) described "diseases of adaptation," for which stress disrupts the chemical balance of the body and leads to subsequent disease.

Fell, Richard, and Wallace (1980) found that 60 percent of all stress-related causes of death in police resulted from diseases of the circulatory system (Yarmey, 1989). Among professional occupations (physicians, lawyers, and professors) police ranked highest in heart disease. Kreirner, Sova, Wood, Friedman, and Reifs (1985) in their research on stress and coronary heart disease for law enforcement officers, reported a deadly combination of excessively high occupational stress scores and coronary risk profiles. The same evidence was found from the study of Violanti, Vena, and Marshall (1986), an increasing risk of death from arteriosclerotic heart disease with increasing years of police service are related to police occupational factors and accompanying lifestyle habituation. Moreover, Violanti (1986) and his colleges pointed out that the cancer was elevated among police officers, especially cancer of the colon and oesophagus (Anson & Bloom, 1988).

Soughate (1981) of the Metropolitan Toronto Police Association stated that

he believed 15 percent of the force had alcohol problems, but he added that he believed that the actual figure was probably higher. Kroes (1985), a police psychologist, reported unofficially that within any major local department over 25 percent of the men have a serious drinking problem. A study of RCMP Health Services (Webb, 1977) reported that RCMP officers estimated alcohol problems varied from 2 to 30 percent. Most tending to agree with a five percent prevalence rate. From the more than 2200 officers who returned completed forms (an overall response rate of only 37 percent), comparable questions revealed 23 percent had serious alcohol problems and 10 percent had serious drug problems.

The ratio for suicide is also critical when compared with other working populations; the police rate is almost three times higher. Guranlnick (1963) notes that police suicides outnumber police homicides (94 suicides compared to 54 homicides per 100,000 population). Maslach (1976) reported that, in one year 1500 New York police officers required psychiatric care for stress problems. In addition to physiological problems, stress lead to attitudinal changes in police officers. Neiderhoffer (1967 p. 106), for example, said that police are very cynical according to the degree of "frustration" in the police role. Moreover, the police officer is not the only one affected by job stress. On the street, officers may take out frustrations on citizens by means of overt verbal and physical hostility towards the public whom they encounter in police situations. At home, the officer tends to "shut off" emotions toward the family, leading to a process of detachment and the seeking of outside relationships (Hageman 1978). One third of the officers have moderate problems,

and another one third have severe difficulties that affect the officer, his or her family, and can often end in divorce (Sewell, 1991).

Reiser (1974) speaks of officers who become emotionally hardened and isolated themselves from others. He described this process as a psychological defense against stress. This is illustrated by a vivid description from one of the police officer's wives (Maslach, & Jackson, 1979, p. 59):

I can't understand how seemingly normal husbands turn into such machos. Arguments end in 'Because I said so.' Our children feel as though they really can't discuss problems with their father because he relates in terms of the law and logic, and not the emotions involved. Sometimes I feel that if I don't do what he wants, I'll be arrested.

Length of police service is also related to cumulative stress. One of the interesting descriptions of cumulative stress patterns in police work is from Violanti's study in 1983. He compared the mean stress at various lengths of police services (stages), and revealed a curvilinear relationship between the two variables. The result showed that, in the first five years-the alarm stage, stress will increase in police personnel with the mean stress score increased from 40.35 to 53.31. In the disenchantment stage, stress will continue to increase during the second five years. In the personalization stage (14-20 years of services), stress will begin to decrease from 58.12 to 45.6. From 20 years and over, stress will continue to decrease. This finding suggested that the individual police officer is never completely at the mercy of stressful pressures, and provided the particular period time for education and other program for stress intervention. It is unfortunate that Violanti's study did not

combine additional measurements toward obtaining a more complete picture about the impact of cumulative stress on police personnel.

Further research on the relationship between the level of stress in critical life events of law enforcement personnel is necessary in terms of exploring cumulative impact, post traumatic stress syndrome and other physical and psychological diseases as well as the stress management and stress inoculation programmes. The present study will focus on those issues in the sample of the law enforcement personnel in the Province of Nova Scotia.

Hypotheses

1. The frequency of work related stressful events will be the major predictor of cumulative stress and have an impact on law enforcement personnel.
 - a) The frequency of stressful events will have a high correlation with the number of somatic and psychological symptoms as well as the incidence of illness appearance.
 - b) The frequency of stressful events will be related to one's marital relation stability.
 - c) The frequency of life events will have a high correlation with increasing of alcohol and drug use.

2. Length of service will be the major factor that related to the number of incident and cumulative stress symptoms appearance.

- a) Length of service will have a high correlation with expression of physical and psychological symptoms, illnesses appearance and number of sick-days used in a year.
- b) Full time and shift work personnel will have a higher number of symptoms, incidence of illness and sick time leave than part time and non-shift work personnel.

3. The high the frequency of critical incidents law enforcement personnel experience, the higher potential of developing PTSD and have higher risk of suffering cumulative stress impact.

- a) High rate of critical incident will predict the PTSD symptom appearance.
- b) There will be a close relationship between cumulative stress symptoms and PTSD.

4. Urban police will have higher levels of cumulative stress symptoms than will rural officers.

Method

Participants

A total of 200 law enforcement personnel, including 120 police officers and 80 correctional officers, participated in this study. Table 1 summarizes the demographic data for this sample. There were 11 (5.6%) females in this sample (3 police officers and 8 correctional officers). With regard to marital status, 5% of the officer were single, about 80% married, with 7% divorced and 3% separated, and only 0.5% were widowed. Approximately 38% of the sample reported having attended university or community college, about 38% had grade 12 or vocational training, only 3% hold a criminology certificate and about 20% had less than a grade 12 education.

In terms of rank, of the 120 police officers, 74.4% were Constables, 6.8% Corporals, 13.7% Sergeant, 0.9% Staff Sergeants, with 4.3 stated others (including dispatch and some had no clear stated). No Inspectors participated in this survey. Of the 80 correction officers, 13% were Supervisors, 46.8% Security officers, 7.8% Counsellors, 14.3% Support Staff, and 18.1% were no clear stated. The length of service varied widely from 1 year to 37 years at average 13.04 years, with the age ranging from 20 to 70, and average around 40 years.

Over 93% stated their employment status as full time, with more than 84% on a shift work schedule. All of the participants had been actively involved in their work in 35 different Urban and Rural areas (33.2% from City settings, 31.2%

Table 1

Summary of Demographic Variables for the Sample

Variables	% Total	(n)	% Police	(n)	% Corrections	(n)
Marital Status						
Single (Never married)	5.0	(199)	7.6	(119)	1.3	(80)
Married	79.9		76.5		85.0	
Divorced	7.0		8.4		3.0	
Separated	3.0		2.5		3.8	
Common Law	4.5		5.0		3.8	
Widowed	0.5		0.0		1.3	
Age (Year of age in group) (Average=39.94)						
18-24	1.6	(187)	2.7	(113)	0.0	(74)
25-29	12.3		16.8		5.4	
30-34	18.2		19.5		16.2	
35-39	21.9		23.0		20.3	
40-44	12.3		10.6		14.9	
45-49	31.0		26.5		37.8	
50-59+	2.7		.9		5.4	
Sex						
Male	94.4	(196)	97.5	(118)	89.7	(78)
Female	5.6		2.5		10.3	
Education						
Less than Grade 12	20.1	(199)	15.1	(119)	27.5	(78)
G.12 or Vocational Training	38.2		37.0		40.0	
Community College or Some University	25.6		32.8		15.0	
University Degree	12.6		10.9		15.0	
Criminology Certificate	3.0		3.4		2.5	
Other	0.5		0.8			
Children						
0	17.0	(188)	18.4	(114)	14.9	(74)
1	15.4		17.5		12.2	
2	31.9		31.6		32.4	
3	25.5		21.9		31.1	
4	6.4		6.1		6.8	
5+	3.7		4.4		2.7	
Rank						
Police:						
Constable			74.4	(117)		
Corporal			6.8			
Sergeant			13.7			
Staff Sergeant			0.9			
Inspector			0.0			
Other (dispatch, chief, etc.)			4.3			
Supervisor					13.0	(77)
Security					46.8	
Counsellors					7.8	
Support Staff					14.3	
Other					18.1	

(Continued on Next P.)

Stressful Events

18

Table 1 (Continued)

Variables	% Total	(n)	% Police	(n)	% Corrections	(n)
Rank						
Corrections:						
Status						
Full time	93.8	(195)	97.4	(116)	88.6	(79)
Part time	6.2		2.6		11.4	
Schedule						
Shift work	84.7	(183)	89.9	(108)	77.0	(74)
Non-shift work	15.3		10.1		23.0	
Assignment						
Police:						
Traffic			2.6	(117)		
Patrol			53.0			
Investigation			13.7			
Supervisor			12.0			
Dispatch			2.6			
Drugs			4.3			
Other			12.0			
Corrections:						
Maximum security					3.9	(77)
Medium security					10.4	
Minimum security					22.1	
All above					63.6	
Zone of services						
City	32.3	(190)	34.5	(113)	28.9	(76)
Rural	31.2		16.8		52.6	
Town	36.5		48.7		18.4	
Length of service (Years) (Average=13.04)						
1-3	5.1	(198)	5.9	(118)	3.8	(80)
4-6	17.2		13.6		22.5	
7-10	19.2		16.9		22.5	
11-15	23.7		19.5		30.0	
16-20	20.2		22.9		16.3	
21-30	12.1		17.8		3.8	
31-45+	2.5		3.4		1.3	

%: Percentage of total officer

n: Total number of the sample

from Rural settings, and 36.5% from Town settings) across the province of Nova Scotia. About 42% of the respondents made various comments and suggestions for the survey.

Procedure

Permission to contact the police and correctional officers was obtained from The Police Association of Nova Scotia (PANS). In all instances, PANS expressed a high level of interest and support for this research.

A total of 815 questionnaires were sent to the police and correctional personnel's home addresses in 35 different areas of the province of Nova Scotia by the end of February, 1992. A self-addressed and stamped return envelope and a covering letter from the PANS Stress Assistance Committee explaining and emphasising the importance of the survey accompanied the questionnaire to ensure confidentiality. Although the study was initialled in cooperation with PANS, all of the individual responses were sent directly to the address of the researcher and the data analysis were conducted independently by the researcher.

A total of 200 of the 815 mailed questionnaires were returned by the end of March, 1992, a response rate is 24.5%. All of the returned questionnaires were usable. There were 60 officers who volunteered to participate in a retest by signing their questionnaire with their mailing labels. After two months from the initial data collection, the same questionnaires were sent to officers. Among them, 24 officers (16 police officers and 8 correctional officers) responded to the re-test. Data from the

retest was used to assess the reliability of the study instruments.

Measures

All selected participants were sent a 16 page questionnaire (see Appendix A) which included a covering letter explaining the purpose of the study and the description of the nature of the research. The letter indicated that participation in this survey was strictly voluntary, anonymous, and completely confidential.

The questionnaires contained the revised Sewell's Critical Professional Life Event Scale (Zhang, 1992) to identify both reaction and frequency of the critical events of law enforcement profession, the Impact of Events Scale (IES; Horowitz, Wilner, and Alvarez, 1979) to identify the PTSD symptom, the revised Symptom Checklist (SCL-90 R; Dergatis, 1977) to measure the level of the impact. The Cumulative Personal Changer Scale (PCS; Freudenberger, & Dergatis, 1977) was combining used in this section for obtaining the instrumental reliability information. Demographic queries as well as items for assessing stress coping strategies and the effectiveness of the PANS Stress Assistance Program were also included in the survey (Table 2). Cronbach Alpha Coefficients ranged from .53 to .99, demonstrating fair to excellent internal reliability for these measures (Table 3).

1) The Critical Professional Life Event Scale

The Critical Professional Life Event Scale was developed by Sewell (1983) for U.S. law enforcement personnel. This Scale includes a list of 144 events. Total content validity has been reviewed by a variety of academic and professional law

Table 2

Variables Categorized According to Demographic Characteristics, Level of Stress and Impact Measures, Stress Coping Strategies

Demographic Characteristics	Level of Stress and Impact Measures	Stress Coping Measures
Marital Status	Total Frequency of Work Related Stressful Event	25 Item Personal Stress Coping Strategies
Age	Total Reaction to The Stressful Event	PANS Stress Assistance Program
Sex	Total Times of Critical Incident	
Education	Length from The Incident	
Children		
Rank	Total Symptom Reported from The Symptom Checklist List-90 (SCL)	
Work Status	Impact of Events Scale(IES)	
Work Schedules	Total Sick Days Used in 1991	
Assignment	Illness Check List	
Zone of Service		
Length of Service		

Table 3

Internal Consistency Coefficients and Test-Retest Reliability Correlation Coefficients for Law Enforcement Stress Survey

Variables	Internal Consistency (@)	Test - Retest (r)
1 Fre. TOT	.77	.86**
2 Rea. TOT	.63	.77**
3 PCS	.53	.38
4 SCL	.89	.80**
5 IES	.85	.74**
6 Sicktime	.84	.73**
7 C. Times	.95	.91**
8 Age	.98	.96**
9 Zone	.92	.86**
10 L. Servi.	.99	.99**

** p<.01

Test - Retest in a two month interval.

n = 24 homogeneous officers (16 police officers, 8 correctional officers).
 Fre. TOT. = Total frequency of work related stressful event; Rea. TOT. = Total
 Reaction of the stressful event; PCS = Personal Change Scale; SCL. = Total
 symptom reported from the Symptom Checklist-90 R; IES = Impact of Events
 Scale; Sicktime = Total sick days used in 1991; C. Times = Total of
 Critical Incidents times; Zone = Area of services; L. Inci. = Length from
 the incident.

enforcement personnel and were valued from a high of .88 for the most stressful event (violent death of a partner in the line of duty) to the lowest .13 for the least stressful event (completion of a routine report).

By adapting Sewell's Scale, the content of the Scale was adjusted to make it suitable for Canadian Law Enforcement, police and correction officers. Based on Sewell's Scale, the revised 144 items (Zhang, 1992) were used for police officers and 136 items (Zhang, 1992) for corrections (see Appendix A). Each item was presented with a six point scale ("never happen" to "always") for identifying the frequency of the work-related, stressful events and a 5 point scale from 0 to 4 ("no reaction" to "severe reaction") for rating the reaction (physical and/or emotional) to each work-related stressful event.

The objective of this questionnaire was to provide a rating for work-related, stressful events experienced by each participant. Participants were required to review their career and to estimate the frequency of the events that they had experienced. Subsequently, they were asked to indicate the degree of stress reaction to both their experienced events and their perceived reaction to non-experienced events. The Test-Retest reliability coefficients, obtained two months later, showed $r = .86$ for total frequency of stressful event and $r = .77$ for total reaction to the stressful event. The scale was fairly consistent ($\alpha = .77$ for total frequency and $\alpha = .63$ for total reaction) (Table 3).

2) The Impact of Events Scale

In order to measure the level of PTSD, Horowitz's Impact of Event Scale (IES) was utilized. This scale contains 15 items in two subject domains of the major dimensions of PTSD: (a) conscious avoidance of ideas, feelings, or situations related to experienced stressors, and (b) intrusive thoughts about the stressor that are experienced as daydreams, unwanted images or dreams. The internal reliability of IES of the total scale was high ($\alpha = 0.85$) and Test-Retest Reliability (between two months) was 0.74 for the total stress scores (Table 3). The participants were asked to think about the critical incidents they had experienced, and then to report the experienced symptoms of avoidance and intrusive thought by using a 5 point scale measuring the frequency of the symptoms from 1 to 5 ("not at all," "rarely," "sometimes," "often" or "very frequently").

Unlike previous applications of the IES, which review the symptoms merely during the past seven days, this survey asked participants to indicate how long ago their most stressful critical incident occurred and to identify the effect of duration of the incidents. Participants were asked to describe the nature of the experienced most stressful incidents in detail, as well as to estimate the total critical incident that they experienced in their career. This modification attempted to examine how time affected the current memory for the incident and to explain the relation between the time and other stress impacts.

3) The revised Symptom Checklist-90

For measuring the somatic and psychological impact of stress, the revised Symptom Checklist-90 was used in this study. The SCL-90-R (Derogatis, 1977) provides a global index of distress and includes a number of subscales measuring somatic complaints, problems with concentration and interpersonal relationships, depression, anxiety, anger, fear, suspiciousness, and alienation. Responses were made on 5-point scales varying from 0 to 4 ("not at all" to "extremely bothered" by the symptoms). The Internal Consistency and Test-Retest reliability were reported for the 9 primary symptom dimensions of the SCL-90-R. Coefficient alphas ranged from a low of .77 for Psychotic to a high of .90 for Depression, and Test-Retest reliability coefficients taken at a week interval were between .80 and .90 (Derogatis, Rickels, & Rock, 1976). The Internal Consistency coefficient alpha was .89 and Test-Retest reliability coefficient presented for SCL (after two months) was .80 in current study (Table 3).

One change in the SCL-90-R was made for the current study. Participants were asked how much they had been bothered by each of the 90 symptoms during the past six months to make the SCL-90-R consistent with the continue section Personal Change Scale in time period to facilitate the participants' responding.

An additional 12-item check list was designed to measure illness (include stroke, ulcers to job related injuries) with one other item measuring total sick leave days used in 1991 (see Appendix A).

4) PANS Stress Assistance Program

In the belief that effective coping will reduce stress, the Police Association of Nova Scotia was the first police association in Canada (1987) to have established their own peer support program. This programme was designed to deal with coping with critical events, and related issues such as alcohol and drug abuse, suicidal or homicidal tendencies, marital and family conflicts.

Based on the requirement of PANS, eight questions on the PANS Stress Assistance Program were developed in which focused upon the level of awareness to the program and the effectiveness of the program to its members.

5) Stress Coping Strategies

Twenty-five questions were developed to assess stress coping strategies used by law enforcement personnel. Each item was rated in a divided scale (from not at all to always) to indicate the type with which strategy used by the officers to deal with their work related stress as well as the frequency of the strategy.

6) Demographic Distribution

The social demographic variables questions included sex, age, education, marital status, children, rank, agency of employment, zone of services, and the length of police services in years.

7) The Cumulative Personal Change Scale

The Cumulative Personal Change Scale (PCS) was designed by Freudenberger and Richelson (1980) to determine a person's cumulative stress reaction. This Scale was recommended by Mitchell and Bray, (1990) for the study of emergency services stress, however, the internal consistency and reliability of the Scale have not been published. In present study, thus, the internal consistency was tested as $\alpha = .53$, test-retest reliability coefficient resulted with .38 in two-month interval (see Table 3). This result indicated the instability of PCS and suggested that this instrument may be not suitable for identifying cumulative stress reactions, therefore, the PCS was not been used in current study.

Results

As delineated in Table 4-a, with the exception of the somatization subscale, the law enforcement sample scores from the SCL-90-R and two additional global scales were significantly higher than norms of non-patients ($p < .001$). In comparison with patient norms (Table 4-b), however, the law enforcement sample means were clearly lower ($p < .001$). This outcome indicates that the sample of law enforcement officers, as a group, shows some physical and psychological symptoms falling between patient and non-patient norms of the SCL-90-R scale.

The results of IES, the Post-traumatic stress symptoms scores are presented in Tables 5 and 6. The level of post traumatic stress symptoms are higher or similar to these for clinical stress patients. IES was examined for gender differences. When female and male officers were compared with the non-patient norms, they were significantly higher for the Intrusion and Avoidance sub-scales as well as total scale ($p < .001$). Although the average score of the law enforcement sample was slightly lower for Intrusion and Total Scales of IES compared to patient norms, these were no significant differences. Moreover, the score of Avoidance Subscale were marginally higher than ($p < .001$) patient norms. Overall, the average score of female officers in three scales of IES were higher than those for male officers.

Table 4-a

t-Test of Mean Raw Scores on the 9 Symptom Dimensions and 2 Global of SCL-90-R for Law Enforcement and non-Patient Group

Variables	Law enforcement Sample		Non-Patient Normal *		t	p
	Mean (n=200)	SD	Mean (n=974)	SD		
Somatization	.74	.61	.36	.42	8.34	***
Obsessive-Compulsive	.87	.68	.39	.45	9.56	***
Interpersonal Sensitivity	1.01	.68	.29	.39	14.56	***
Depression	.87	.68	.36	.44	10.22	***
Anxiety	.67	.64	.30	.37	7.96	***
Hostility	.75	.68	.30	.40	9.01	***
Phobic Anxiety	.35	.46	.13	.31	6.46	***
Paranoid Ideation	.94	.70	.34	.44	11.64	***
Psychoticism	.39	.47	.14	.25	7.22	***
Global Severity Index	.73	.55	.31	.31	10.48	***
Positive Symptom Total	39.68	21.48	19.29	15.48	12.78	***

*** p<.001

* Normal according to SCL-90-R Manual -I (1977)

Table 4-b

t-Test of Mean Raw Scores on the 9 Symptom Dimensions and 2 Global of SCL-90-R for Law Enforcement and Patient Group

Variables	Law enforcement Sample		Patient Normal *		t	p
	Mean (n=200)	SD	Mean (n=1002)	SD		
Somatization	.73	.61	.87	.75	- 2.64	.19
Obsessive-Compulsive	.87	.68	1.47	.91	- 10.69	***
Interpersonal Sensitivity	1.01	.68	1.41	.89	- 7.18	***
Depression	.87	.68	1.79	.94	- 16.21	***
Anxiety	.67	.64	1.47	.88	- 15.12	***
Hostility	.75	.68	1.10	.93	- 6.19	***
Phobic Anxiety	.35	.46	.74	.80	- 9.39	***
Paranoid Ideation	.94	.70	1.16	.92	- 3.91	***
Psychoticism	.39	.47	.94	.70	- 14.18	***
Global Severity Index	.73	.55	1.26	.68	- 11.96	***
Positive Symptom Total	39.68	21.48	50.17	18.98	- 8.86	***

*** p<.001

* Normal according to SCL-90-R Manual -I (1977)

Table 5-a

t-Test of Mean Raw Scores on the Impact of Event Scale (IES)
for Law Enforcement and non-Patient Group

Variables	Male Law enforcement Sample		Male Non-Patient Normal *		t	p
	Mean (n=168)	SD	Mean (n=16)	SD		
Intrusive Subscale	18.67	6.46	2.5	3.0	26.47	***
Avoidance Subscale	18.71	6.26	4.4	5.3	18.14	***
Total	37.40	11.71	6.9	6.8	25.05	***

*** p<.001

* Normals according to M. Horowitz (1979): Impact of Event Scale: A Measure of Subjective Stress

Table 5-b

t-Test of Mean Raw Scores on the Impact of Event Scale (IES)
for Law Enforcement and non-Patient Group

Variables	Female Law enforcement Sample		Female Non-Patient Normal		t	p
	Mean (n=10)	SD	Mean (n=35)	SD		
Intrusive Subscale	20.9	7.13	6.1	5.3	6.11	***
Avoidance Subscale	20.4	5.89	6.6	7.0	6.25	***
Total	41.3	10.71	12.7	10.8	7.43	***

*** p<.001

* Normals according to M. Horowitz (1979): Impact of Event Scale: A Measure of Subjective Stress

Table 6-a

t-Test of Mean Raw Scores on the Impact of Event Scale (IES)
for Law Enforcement and Patient Group

Variables	Male Law enforcement Sample		Male Patient Normal*		t	p
	Mean (n=168)	SD	Mean (n=16)	SD		
Intrusive Subscale	18.41	6.39	21.2	12.5	-.88	.19
Avoidance Subscale	18.46	6.17	14.1	12	1.43	.08
Total	36.89	11.61	35.3	22.6	.28	.39

Table 6-b

t-Test of Mean Raw Scores on the Impact of Event Scale (IES)
for Law Enforcement and Patient Group

Variables	Female Law enforcement Sample		Female Patient Normal*		t	p
	Mean (n=10)	SD	Mean (n=50)	SD		
Intrusive Subscale	20.9	7.13	21.4	8.6	-.19	.42
Avoidance Subscale	20.4	5.89	20.6	11.3	.8	.21
Total	41.3	10.71	42.1	16.7	.19	.42

* Normals according to M. Horowitz (1979): Impact of Event Scale: A Measure of Subjective Stress

As displayed in Table 7, the Illness Check List, job-related injuries accounted for 32% of the items selected. High blood pressure, skin trouble and ulcers were reported from 19.2% to 22.2% as the second most frequent reported illnesses. Asthma, diabetes, cancer or digestive diseases, mental illness, heart attack and coronary artery diseases occurred less frequently from 2% to 7.6%. Among the sample, only 1% reported having stated they had suffered a stroke. Job-related injury was the most frequent cause of illness for police (39%). High blood pressure, skin trouble and ulcers accounted for the same frequency level as the total sample. Coronary artery diseases was the least reported cause of illness for police officers. Correction officers, on the other hand, stated that skin trouble (27.2%) and high blood pressure (26.2%) were the most common illnesses for them. Job-related injury (21.5%) and ulcers (21.3%) were the second frequency accounted for with no strokes was reported, while cancer or digestive diseases were the least reported, at 1.3%. About 73% of the total reported they had used sick day leaves in 1991, ranging from a half day to sixty days, and averaging 7.1 days.

The Hypotheses

Pearson Correlation Coefficients among stress measures are presented in Table 8. There are significant correlations between total frequency of events and the total number of critical incidents ($r=.19$, $p<.01$), between total frequency and the total reaction to the events ($r=.51$, $p<.01$), between total frequency and SCL ($r=.32$, $p<.01$), IES ($r=.32$, $p<.01$), and total sick time used in 1991 ($r=.21$, $p<.01$).

TABLE 7

Summary of Information of Illness Check List of Law Enforcement
Sample of Nova Scotia

Variables	% Total	(n)	% Police	(n)	% Corrections	(n)
Strokes	1.0	(198)	1.7	(118)	0.0	(80)
Ulcers	19.2		17.8		21.3	
Cancer or Digestive Diseases	2.5		3.4		1.3	
Asthma	7.6		4.2		12.5	
High Blood Pressure	22.2		19.5		26.2	
Heart Attack	2.5		1.7		3.8	
Coronary Artery Diseases	2.0		0.8		3.8	
Diabetes	4.0		3.4		5.0	
Skin Trouble	22.1		18.5		27.2	
Mental Illness	2.5		1.7		3.8	
Job Related Injury	32.0		39.0		21.5	
Total Sick Days Used in 1991 (1 to 60 days)	73.2		67.5		70.7	

Hypothesis 1

The first hypothesis predicts that the frequency of work-related stressful events would be the major predictor of stress and have cumulative impact on law enforcement personnel.

a) The relation of event frequency with symptoms and illnesses was used to examine this hypothesis. As can be seen in Table 8, the total frequency of work-related stressful events had significant positive correlations with the total reaction of event, SCL, IES and job-related injury as well as total sick leave time used in 1991 (all at $p < .01$ level). Except for the Somatization subscale of the SCL, total frequency and total reaction of stressful events were highly associated with the subscales of SCL and IES at the $p < .01$ level (Table 9). A highly positive ($p < .05$) relationship was found between cancer and the total frequency of stressful events (the mean of total frequency of stressful event in cancer group mean = 319.00 ($n=5$), in non-cancer group mean = 238.10 ($n=193$)).

b) This hypothesis stated that the frequency of life events would be correlated with marital status as part of cumulative stress impact on personal life. This relationship statement was not supported by the study. The Pearson correlation showed no significant relationship between marital status and the frequency of event ($r = .07$, $p > .5$) or other impact measure variables, but there was a positive correlation link between sicktime use and marital status ($r = .19$, $p < .01$, Table 10). Except for one widowed officer, the current officers who were separated had the highest average sick time leave (total sample average sick leave = 7.10 days, average

Table 8

Pearson Product-Moment Correlation Coefficients Calculated among Frequency and Reaction of Stressful Event, Impact of Stressful Event, SCL-90 R, IES) and Illness of Law Enforcement Personnel

	Mean	DS	1	2	3	4	5	6
1 Fre. TOT	240.47	70.51	(.97)					
2 Rea. TOT	223.11	95.44	.51**	(.98)				
3 SCL	39.68	21.48	.32**	.28**	(.97)			
4 IES	37.40	11.71	.32**	.28**	.47**	(.90)		
5 C. Times	2.19	1.30	.35**	.18*	.05	.08	(-)	
6 L. Inci.	7.09	2.22	-.05	.11	.15	.13	-.12	(-)
7 Sicktime	7.07	11.01	.21**	.16*	.25**	.13	.13	.06
8 Strokes	1.01	.10	-.03	-.10	.06	-.10	.03	.07
9 Ulcers	1.19	.40	.05	.09	.24**	.21**	-.02	.09
10 Cancer+	1.03	.16	.18*	.14	.13	.16*	-.11	.01
11 Asthma	1.08	.27	.05	-.00	.25**	.16*	-.08	.04
12 H. BP	1.22	.42	.04	-.05	.18*	-.03	.04	-.18*
13 H. Attack	1.03	.16	.00	.00	-.03	-.08	.12	.01
14 CA	1.02	.34	-.07	-.13	-.04	-.11	-.08	-.09
15 Diabetes	1.04	.20	-.07	-.03	.18*	.01	-.03	-.10
16 Skin ill	1.22	.42	.02	.07	.17*	-.04	-.07	.08
17 M. ill	1.03	.16	.06	.05	.05	.00	-.03	.01
18 Injury	1.32	.47	.24**	.24**	.06	.13	.09	-.11
19 I. 1991	1.11	.31	.04	.13	.12	.11	.04	.08

*p < .05

**p < .01

Fre. TOT = Total frequency of work related stressful event; Rea. TOT = Total Reaction of the stressful event; SCL = Total symptom reported from the Symptom Checklist-90 R; IES = Impact of Events Scale; C. Times = Total of Critical Incidents times; L. Inci. = Length from the incident; Sicktime = Total sick day used in 1991; Cancer+ = Cancer or digestive diseases; H. BP = High blood pressure; H. Attack = Heart attack; CA = Coronary artery diseases; M. ill = Mental illness; Injury = Job related injury; I. 1991 = Major illness in 1991.

Stressful Events

Table 8 (Continued)

	7	8	9	10	11	12	13
7 Sicktime	(-)						
8 Strokes	.03	(-)					
9 Ulcers	.20**	.08	(-)				
10 Cancer+	.12	-.02	.00	(-)			
11 Asthma	.10	-.03	.20**	-.05	(-)		
12 H.BP	-.00	-.05	.02	-.09	.17*	(-)	
13 H.Attack	.07	-.02	-.08	-.03	.08	.07	(-)
14 CA	.16*	-.01	-.07	-.02	-.04	.01	.21**
15 Diabetes	.11	-.03	.03	-.03	-.06	.20**	-.03
16 Skin ill	.12	-.05	.02	.07	.03	.07	-.01
17 M.ill	.07	-.02	.00	-.03	-.05	-.09	-.03
18 Injury	.13	.04	.08	.17*	-.03	.01	-.04
19 I.1991	.31**	-.04	.08	.26**	.02	-.03	.15*

*p < .05

**p < .01

Table 8 (Continued)

	14	15	16	17	18	19
14 CA	(-)					
15 Diabetes	-.03	(-)				
16 Skin ill	.01	-.05	(-)			
17 M.ill	-.02	-.03	-.08	(-)		
18 Injury	-.02	-.13	.03	.03	(-)	
19 I.1991	.07	.10	.10	.05	.15*	(-)

*p < .05

**p < .01

Table 9

Pearson Product-Moment Correlation Coefficients Calculated among Frequency and Reaction of Stressful Event, SCL-90 R Subscales, IES Subscales of Law Enforcement Personnel.

	Mean	DS	Fre. TOT	Rea. TOT
1 Fre. TOT	240.47	70.51	(.97)	
2 Rea. TOT	223.11	95.44	.51**	(.98)
3 QHSO	37.40	11.71	.14	.13
4 QHOC	.87	.68	.26**	.25**
5 QHIS	1.01	.68	.31**	.25**
6 QHDE	.87	.68	.25**	.22**
7 QHAN	.67	.64	.23**	.23**
8 QHD	.75	.68	.33**	.25**
9 QHPA	.35	.46	.20**	.21**
10 QHPI	.94	.70	.34**	.24**
11 QHPS	.39	.47	.28**	.22**
12 QHADD	6.67	4.67	.23**	.23**
13 QHESI	.73	.55	.37**	.27**
14 QHPST	39.68	21.48	.32**	.28**
15 QCINTR	18.67	6.46	.33**	.28**
16 QCAVOI	18.71	6.26	.22**	.22**
17 QCTOTAL	37.40	11.71	.32**	.28**

*p < .05

**p < .01

Fre. TOT. = Total frequency of work related stressful event; Rea. TOT. = Total Reaction of the stressful event; SCL. = Total symptom reported from the Symptom Checklist-90 R; IES = Impact of Events Scale; QHSO = Somatization of subscale SCL; QHOC = Obsessive compulsive subscale of SCL; QHIS = Interpersonal sensitivity subscale of SCL; QHDE = Depression subscale of SCL; QHAN = Anxiety subscale of SCL; QHD = Hostility subscale of SCL; QHPA = Phobic anxiety subscale of SCL; QHPI = Paranoid ideation subscale of SCL; QHPS = psychoticism subscale of SCL; QHADD = Additional items subscale of SCL; QHESI = Global severity index of SCL; QHPST = Positive symptom (total non-zero responses of SCL; Qcintr = Intrusive subscale of IES; Qcavoi = Avoidance subscale of IES; Qctotal = total score of IES.

separation status = 22.60 days. In addition, the significant results were found between the degree of usages of "fighting with family members" and total frequency and reaction of stressful events (both $r=.22$, $p,.01$), and SCL ($r=.45$, $p,.01$) (Table 11).

c) Frequency of stressful event impact on increasing personal drug or alcohol use was also predicted. A significantly positive relationship was found ($r = .22$, $p<.01$) between frequency of event and alcohol use (Table 11). The same pattern, presented in Table 11 was also found between prescription drug use and SCL ($r=.22$, $p<.01$) as well as sick time use ($r=.30$, $p<.01$). The use of non-prescription drugs related to total positive symptoms of SCL ($r=.16$, $p<.05$) and sick-day leave ($r=.16$, $p<.05$) can be seen at the same table as well. About 21% of this sample have used prescription drugs and 10.1% of the sample using non-prescription drugs for stress coping.

Hypothesis 2

Hypothesis 2 stated that reported cumulative stress symptoms would paralleled increasing with the length of services of the officers in law enforcement.

a) As expected, a significantly positive relationship was demonstrated between length of service and the total frequency of stressful events ($r=.29$, $p<.01$) and the total time of critical incidents ($r=.18$, $p<.01$, Table 10). Although, there was no significant association between the length of service and SCL and IES, the length of services was clearly related to high blood pressure ($r=.19$, $p<.05$), heart attack

($r=.16$, $p<.05$), and job-related injury ($r=.18$, $p<.05$) (Table 10).

b) It was predicted that the longer the service the more sick-days the personnel would use in a year. However, results indicated that there was no significant difference between length of service and sick day use ($r=.02$) (Table 10).

c) It was predicted that full time and shift work officers would deal with more critical incidents and more stressful events, and thus would be affected more than the other groups. The results showed not significant differences between those two groups on all of the stress and impact measures used in this study except sick time use. Full time ($F(1,184) = 5.12$, $p<.05$,) and shift work ($F(1,172) = 6.51$, $p<.05$) officers used much more sick day leave than those with part time status in 1991.

Hypothesis 3

Hypothesis 3 predicted that there would be a positive relationship between the high intensity of critical incidents and PTSD, that is, those with the experience of exposure to critical incidents would have the high potential of developing PTSD and high risk of suffering cumulative stress impact.

a) It was hypothesised that the high rate of critical incident would have a high correlation with the PTSD symptom appearance. Reported total time of critical incident did not demonstrate this expected relationship ($r=.08$). Total frequency ($r=.32$, $p<.01$) and total reaction of stressful events ($r=.28$, $p<.01$) were significantly related with IES (Table 11).

Table 10

Pearson Product-Moment Correlation Coefficients Calculated among Demographical Information, Frequency and Reaction of Stressful Event, Impact of Stressful Event (IES and SCL-90 R) of Law Enforcement Personnel.

Variables	Mean	SD	1	2	3	4	5	6	7
1 Age	39.94	9.65	(-)						
2 Mar.	2.24	.82	.02	(-)					
3 Sex	1.06	.23	.02	.24**	(-)				
4 Educ.	2.42	1.07	-.32**	.05	.12	(-)			
5 Children	2.00	1.30	.45**	-.02	-.17*	-.29**	(-)		
6 Rank	2.06	1.40	.34**	.04	.26**	-.19**	.14	(-)	
7 Status	1.06	0.24	-.07	-.10	.12	.02	-.00	.04	(-)
8 Schedule	1.15	0.36	.07	.01	.29**	-.02	-.00	.34**	.10
9 Assign.	3.29	1.48	.16*	-.08	.03	-.02	.06	.18*	.03
10 L.Servi	13.04	7.16	.59**	-.03	-.16*	-.27**	.39**	.16*	-.26**
11 Zonenew	2.05	0.83	.00	-.03	-.05	-.05	.16*	.09	.10
12 C.Times	2.19	1.30	.09	.05	-.21*	-.04	.06	-.07	-.15
13 L.Inci.	7.09	2.22	-.42**	-.06	.12	.13	-.17*	-.14	.12
14 Fre.T.	240.47	70.51	-.12	.07	-.18*	.11	-.12	-.30**	-.09
15 Rea.T.	223.11	95.44	-.18*	.03	-.07	.12	-.14	-.21**	-.07
16 SCL.	39.68	21.48	-.10	.07	-.05	-.01	-.15	-.00	.13
17 IES	37.40	11.71	.01	.00	.09	.02	.01	-.04	-.09
18 Sicktime	7.07	11.01	.09	.19**	.03	-.02	.02	-.04	-.16*

*p <.05

**p <.01

Age = Age; Mar. = Marital Status; Sex = Sex; Educ. = Education Level; Children = Number of Children; Rank = Rank at Work; Status = Full or Part time; Schedule = shift or Non-shift work; Assign. = Natural of work Assignment; L.Servi. = Length of Services in Law Enforcement; Zonenew = City, Rural or Town; C.Times = Total of Critical Incidents times; L.Inci. = Length from the incident; Fre.T. = Total frequency of work related stressful event; Rea.T. = Total Reaction of the stressful event; SCL. = Total symptom reported from the Symptom Checklist-90 R; IES = Impact of Events Scale; Sicktime = Total sick day used in 1991.

Table 10 (Continued)

	8	9	10	11	12	13
8 Schedule	(-)					
9 Assign.	.10	(-)				
10 L.Servi	.23**	.11	(-)			
11 Zonenew	-.13	.04	-.03	(-)		
12 C.Times	-.02	-.04	.29**	-.03	(-)	
13 L.Inci.	-.05	-.03	-.42**	.04	-.12	(-)
14 Fre.T.	-.05	-.08	.18**	-.23	.35**	-.05
15 Rea.T.	.02	-.15*	.04	-.07	.18*	.11
17 SCL.	-.11	-.15	-.10	-.02	.05	.15
18 IES	.09	-.06	.13	-.05	.08	.13
19 Sicktime	-.19*	-.04	.02	-.00	.13	.06

*p < .05 **p < .01

Table 10 (Continued)

	14	15	16	17	18
14 Fre.TOT	(.97)				
15 Rea.TOT	.51**	(.98)			
17 SCL	.32**	.28**	(.97)		
18 IES	.32**	.28**	.47**	(.90)	
19 Sicktime	.21**	.16*	.25**	.13	(-)

*p < .05 **p < .01

Table 11

Pearson Product-Moment Correlation Coefficients Calculated among Frequency and Reaction of Stressful Event, Impact of Stressful Event (SCL-90, IES) and Coping strategies of Law Enforcement Personnel.

	Mean	DS	1	2	3	4	5	6
1 Fre.TOT	240.47	70.51	(.97)					
2 Rea.TOT	223.11	95.44	.51**	(.98)				
3 SCL	39.68	21.48	.32**	.28**	(.97)			
4 IES	37.40	11.71	.32**	.28**	.47**	(.90)		
5 Sicktime	7.07	11.01	.21**	.16*	.25**	.13	(-)	
C1	2.36	1.23	.09	.11	.38**	.18*	.11	
C4	1.83	1.43	-.10	.00	.15	.09	.03	
C5	2.92	1.89	.19**	.25**	-.20**	.02	.03	
C7	2.04	1.02	.22**	.11	.24**	.01	.00	
C10	2.64	1.19	.26**	.17*	.19*	.07	.03	
C11	1.83	.92	.22**	.22**	.45**	.18*	.17*	
C12	1.37	.86	.11	.00	.22**	.08	.30**	
C13	2.03	1.19	.11	.09	.46**	.28**	.20**	
C14	2.37	1.10	.16*	.05	.04	.08	.20**	
C15	1.17	.60	.06	-.04	.16*	-.01	.16*	
C17	2.96	1.10	-.03	-.01	-.26**	-.09	-.09	
C18	1.70	1.00	.22**	.06	.23**	.22**	.35**	
C19	1.77	.85	.26**	.20**	.49**	.28**	.19*	
C25	2.74	1.24	.18*	.11	.32**	.35**	.07	

*p < .05

**p < .01

Fre.TOT.=Total frequency of work related event; Rea.TOT.= Total Reaction of the event; SCL.= Total symptom reported from the Symptom Checklist-90 R; IES=Impact of Events Scale; Total sick day used in 1991; C1=Not talk to any body; C4=Smoke; C5=Exercise; C7 =Drink; C10=Sleep; C11=Fight with family members; C12=Use prescription Drugs; C13=Think/Plan to change job; C14=Take a vacation; C15=Use non-prescription Drugs; C17=Think about the positive side of my work; C18=See doctor; C19=Yell at people; C25=Trying to not think about.

b) This hypothesis also stated that there would be a close relationship between cumulative stress impact and PTSD. PTSD may be formed as part of cumulative stress symptoms, that is the personnel who show PTSD symptoms also show high levels of cumulative stress symptoms. From the correlation matrix noted earlier in Table 8, IES was positively related with total frequency of stressful events ($r = .32$, $p < .01$), total reaction of stressful events ($r = .28$, $p < .01$), and SCL ($r = .47$, $p < .01$). Incidence of Ulcer ($r = .21$, $p < .01$), Cancer ($r = .16$, $p < .05$) and Asthma ($r = .16$, $p < .05$) were all positively associated with IES. Those findings all supported the hypothesis: PTSD has cumulative impacts.

It was theorized that most PTSD symptoms start shortly after the incident, therefore time of onset was examined in this study. The result failed to support this assumption, ANOVA showed that time factor (eight different lengths of time from critical incidents) showed no significant differences on the total score of IES ($F(7,132) = 1.79$, $p > .05$).

Hypothesis 4

Hypothesis 4 predicted urban officers would show higher level of cumulative stress symptoms than Rural officers since it was believed that urban police experience higher rate of critical incidents and events than others. Compared with officer from town and rural areas, urban officer face much more stressful events (mean = 274, $F(2,187) = 12.41$, $p < .001$). However, town officers reported the highest number of symptoms on SCL ($F(2,161) = 4.17$, $p < .05$) than the others.

In addition to hypotheses, the validation and reliability of the Critical Professional Life Event Scale-revised (Zhang, 1992) was examined in this study since it was the first time used in Canadian law enforcement sample. The result showed that the internal consistency of the Scale was .70, and the test-retest reliability was .82 (in two months interval) and none of the items were rated as zero either for frequency or reaction.

To reduce the number of stressful professional life events variables, the average rating for each item in terms of total frequency and its total reaction were completed. Moreover, the items were sorted from the highest to the lowest listing all of events at both levels in terms of average score (see Appendix D and E). For police the most frequent vital event was "completion of routine report" (Mean = 4.639 with the range from fairly to very often happened) and the least frequent event such as "shooting someone in the line of duty" (Mean = 0.034 with the range from never to almost never happened). The order of these two events was reversed in terms of the reaction score. The "violent death of officer in the line of duty" obtained the strongest reaction (Mean = 3.547 from strong reaction to severe reaction) with the least stressful "Assignment to a single-man car" (Mean = 1.051 from mild to moderate reaction). Correction officers reported the most frequent event as "low morale of staff" (Mean = 4.075 from fairly to very often happened), while, "Taking a life in the line of duty" reported the least (Mean = 0.013 from never to almost never happened). In term of reaction, corrections officers perceived greatest reaction to "dismissal" (Mean = 3.576) and the mildest reaction to "releases of an offender on

appeal" (Mean = 0.013).

Factor analysis failed to group the type of stressful events of law enforcement. Although 37 factors were produced for police professional events and 32 factors for correction professional events, those factors were not clear since the items often loaded on more than one feature.

Comparisons were also done on police and correctional officers in terms of all level of stress impact measures that were used in this study. By using One Way ANOVA, a significant difference was found between these two groups for the frequency and the reaction of the events as well as total time of critical incident. In both cases, correctional officers had less stress than police ($F(1,198)=10.32, p<.01$; $F(1, 198)=7.74, p<.01$; $F(1,143)=4.85, p<.05$). In terms of the level of impact, however, police and correctional officers showed no significant difference on their score of SCL-90 ($F(1,168) = 1.13$), IES ($F(1,177) = .06$), and total sick day used in 1991 ($F(1,188) = 2.72$).

ANOVA analysis was used to learn the relation between different education levels and the possible effectiveness on the impact of stress. The result of suggested that only sick time leave had significant variations between different education groups, less than Grade 12 group used the highest sick time leave (Mean = 11.55 days) and Criminology Certificate group used the least (Mean = 4.17 days) ($F(5, 183) = 5.21, p<.001$).

When assessing the PANS program, the result showed that out of 181 officer who are aware of the PANS program, 23.2% have used the program for four years;

of those about 82% felt the program was beneficial and would refer others to join it. It was expected that the personnel who was involved in critical incidents and had assistance from the PANS Program would show less PTSD symptoms and low level of stress impact than the personnel who did not. Interestingly, the result showed that the group of officers who used the program had higher scores on total frequency ($F(1,179) = 4.64, p < .05$) and reaction of stressful event ($F(1, 177) = 4.75, p < .05$), IES ($F(1,162) = 9.99, p < .01$) and SCL ($F(1,152) = 4.89, p < .05$) were also much higher than the group who did not.

Furthermore, the style of stress coping used by the officers was examined in this study. Pearson Correlation analyses were using the 25 reported of stress coping styles as independent variables, using SCL and IES as dependent variables (Table 11). Consequently, the styles, "Yell at people", and "Trying not to think about it" positively related for all impacts measures. At $p < .01$ level, "Not talk to anybody", and "Thinking/planning to change job" were best related to PTSD. A further ANOVA result demonstrated that the different degree (from "not at all" to "always") of using these strategies significantly associated with the level of negative impact ($p < .001$ to $p < .01$) in all measures. Moreover, ANOVA showed that "fighting with family members" and "smoking" significantly varied between the usage groups of total frequency of event. Choosing "fighting" and "smoking" to reduce stress, in fact, increased the reported symptoms on SCL ($p < .001$). In all, the results indicated the more one used those strategies to cope with stress, the more severe negative impact one experienced.

Discussion

Frequency of Stressful Events and Officers' Well-Being

In the current study, the significant positive correlations between total frequency of work-related stressful events and total reaction of event, SCL, IES, job-related injury, and the illness of cancer as well as total sick leave time used in 1991, all demonstrated an important fact, that is, the repeated stressful events could have notable cumulative effects in contributing to the impact of officers well-being.

The same pattern was also found drug and alcohol use. This result indicated increasing alcohol consumption was significantly associated with the frequency of events with 61% of the officers reporting they used alcohol with, 33.3% drinking variably from sometime to always. For the total sample, 7.7% reported that they were heavy drinkers. It was also found that 21% used prescription drugs, with 4% using them very frequently. As well, 11% admitted using non-prescription drugs and 4.5% used them very often. This percentage of alcohol use was higher than Soughgate's (1981) report of 15% for Toronto police and Webb's (1977) reported 25% for RCMP. This finding also strongly supported the previous study of Violanti, Marshall, & Howe (1985) in which they concluded that high alcohol consumption was related to high emotional disturbance, which in turn was related to police work.

The recent study of Stearns & Moore (1990) also reported that from more than 2200 RCMP officers, comparable questions revealed that 23 percent had serious alcohol problems and 10 percent had serious drug problems. The study of Violanti,

Marshall, & Howe (1985) stated that the nature of alcohol, drugs, and even suicide is a desperate effort to cope with stress. In the present study, the question of alcohol and drug use was directly listed under the section of stress coping, in doing so, the result not only reflected the problem with alcohol and drug use, but also provided the participant with a free of choice of thinking whether they had used the listed coping mechanics to deal with the work-related stress. Alcohol, indeed, served as a mediator in coping. Consequently, one of the officers admitted: "stress is a real fact in our occupation...the alcohol abuse problem is still out there...work stress...need way of coping".

There is a major concern in terms of drug use. Prescription drugs and non-prescription drugs have been used for stress coping by this sample. Although there was no indication of what specific drugs had been used, this high rate of chemical use should indeed alarm both the organization and the individual.

In terms of marital status, except for sick time use, there was no evidence linking of stressful events and marital status changes. The possible best answer for this phenomenon may be as what some of the participants pointed out in their comments: "Section 7 question on Marital status may not be statistically significant because officers may indicate they are presently married and may not identify if this is a 2nd or 3rd marriage...". This ambiguity of the demographic definition prevented a clear analysis of the relation between marital status and cumulative stress. However, the significant results were found between the degree of usages of "fighting with family members" and total frequency and reaction of stressful events. Those

results suggest the possible impacts of stress on family and marital relationships for officers in this sample.

In summary, from the present sample, the frequency of work-related events and critical incidents appear to act as a cumulative stressor on law enforcement personnel.

Length of Service and Officers' Well-Being

The pattern of cumulative stress impact with the length of service in law enforcement was very interesting. A curvilinear relation was produced between SCL, IES and length of service, there is an increasing tendency for stress reactions during the first fifteen years followed by a decrease. Obviously, this pattern is similar to the previous study of Violanti (1983). The effect of stress is not consistent with the length of services in law enforcement; that is, the perception of stress may change over the years, and the different focus in one's life may also change accordingly along with one's career.

On the other hand, a positive linear relation occurred between total frequency of event and years of service. Notably, high blood pressure, heart attack and job related injury were also significantly related to the length of service; that is, the longer years of services one has, the higher chance of developing high blood pressure, suffering a heart attack, and receiving a job related injury. This finding suggests that the potential danger of long term impact may exist even if the senior officers may not feel work stress as much as during the first 15 years of their career. However, it is

premature to come to this conclusion at this point since there is a close relationship between age and the length of service. Age could be a common factor combining with length of service affect on the illness appearance.

The positive curvilinear relation between sick time and length of service showed that officers use sick leave the most from 7 to 20 years service, especially around 15 years. This patten almost paralleled with the stress level patten of SCL and IES. It suggest that sick leave may service as one of the way of stress coping for most of the officers.

Critical Incident and PTSD

It is very clear that PTSD symptom exists in this sample. This is evident in the results of IES and the actual experienced critical incidents as described by officers (See samples on Appendix D). The considerably high score on Avoidance Subscale markedly indicated the way that officers used to deal with their experiences from traumatic critical incident. It is well known that denial is a very common defensive mechanism in many human dysfunctional behaviours. As Breslau (1990) pointed out, avoidance can be seen as a "denial" mechanism, which functions by attempting to defend against intrusive reexperiencing of the trauma.

The cumulative impact of PTSD was noticeably present in this study. SCL and illness such as ulcer, cancer and asthma were highly correlated with IES, showing that PTSD certainly has a long term impact on officers well-being both psychologically and physically.

Since there was a lack of supporting evidence for a relationship between the length from the incident to the appearance of the symptoms, one can argue that the time issue may not be a critical variable for determining existing PTSD. PTSD can develop after a critical incident, but whether this symptom could become chronic would depend on the individual.

Urban, Town and Rural

Although higher rates of critical events were reported in Urban officers, Town officers were affected the most. As a matter of fact, unlike cities, towns usually have less population and relatively lower rates of events and incidents. On the other hand, compared with that of city, town officers may experience a lack of support from the local station, in many cases, town officers may not have enough back up officers when needed. When compared with that of rural areas, the town community may not be close enough to provide officers a sense of being stable and in control. In addition, it is likely that with the fewer critical events in town, the more reactions from the public on both the incidents and the law enforcement operations may also add to the pressure on town officers. Those possible elements may contribute to the high level of impact on town officers.

PANS Stress Management Assistance Program

The group of officer who attended the activities of PANS program scored higher than those who did not on stress impact measurement in this study. There are

few apparent explanations for this phenomenon. One may simply conclude that this finding suggests the failing of the program. However, it is possible that officers may feel more stressed as they are just beginning to recognize their problems when they join the program. On the other hand, the high level of stress scores on program usages group may, indeed, strongly indicate that the PANS Program has been of value to the officers who really need help. Quoting one officer: "I have heard it (this program) was good...if I need I will go". This survey also provided an opportunity for officers to contribute their input to the program. Many officers made comments and suggestions for further improvement and development of this peer support program. It is no doubt that the program acts as a peer support resource for front line officers. However, it may still need more development, as one of the program agents said: "it is a good start and it is in the right direction, but we have a long way to go".

Critical Stress Coping

One of the important findings of this study is the relationship of stress coping strategies to all levels of stress impact. This finding points out that one could effect his or her own stress impact by choosing particular methods of coping. Obviously, alcohol and drugs can only add more problems on top of stress and keep unhealed feelings inside will bring harm to one's body. The best way of coping with stress is presumably to face and deal with stress in a positive manner which includes exercises, eating healthy food, getting more education, talking to friends, and especially obtaining understanding and support from family. Since there is generally a lack of

stress coping training for officers (Williams 1985), the education of stress coping skills is very critical in maintaining the health of all law enforcement personnel.

In comparison with the norms of SCL-90 and IES, there is little doubt that the significantly high level of symptoms of this sample should be given serious consideration. People's attention should be drawn to all reported illnesses such as high blood pressure, heart attack, cancer, ulcer and skin trouble as well as the high rate of job-related injury.

Theoretical Implications

The positive relationship of critical events and the level of stress impact in this study (in relation to IES, SCL, alcohol & drug use and illnesses) are predicted by the theory that critical incidents are major stressors and the accumulation of stressful life events increases the likelihood of illness (Holmes & Rahe 1967; Maddi, Bartone, & Puccetti, 1987). In this study, work-related stressful events and critical incidents affected law enforcement personnel and had a impact on their well-being both physically and psychologically.

The finding related to the total frequency of stressful events and stress impact supports the hypothesis that cumulative stress is a built up from various stressful events (Mitchell & Bray 1990). Some sporadic exposures in daily life may constitute only a relatively low probability of detrimental risk, however, these small probabilities will eventually add up, as a result of repeated exposures, to create a substantial overall risk for a human being. As unavoidable exposure to risk exists in law

enforcement operations, a cumulative effect of stressors can be very apparent. More often, because of the nature of this profession, law enforcement officers are always expected to handle crises without an overt display of emotions and to place the requirement of work above one's own personal feelings. For instance, the demand of an intensive investigation can be both mentally and physically exhausting. Subsequently a concentrated, sustained effort will adversely effect the officer's body, mind, and emotional well being. This may be especially true when an investigation takes a long time and attracts a lot of media attention, and administrative and political pressures are severe.

In addition, the results showed that the revised Events Scales (Zhang, 1992) for both police and corrections are useful as reliable measures for work-related stressful events, and may be as applicable to the law enforcement personnel of Nova Scotia. The widely varied ratings on events reaction in this study also suggested that the same event would have different effects on different individuals depending on certain personal associations (Black, 1989). The finding of a curvilinear relation of SCL and IES scores as a function of length of service is also supported by previous findings (Violanti, 1983) that the perception of stress changes over the years.

Furthermore, the revised Event Scales provided an additional validation study to Sewell (1983)'s Critical Life Events Scale for Law Enforcement and applied it to a Canadian context.

The significantly high level of PTSD symptoms and its close association with SCL and illnesses of ulcer, cancer and asthma in this sample not only supported the

previous study of PTSD in the field of law enforcement, but also suggested the cumulative chronic impact of PTSD. When the theory of re-traumatization (Scrignar, 1988) is applied, it is not surprising that the high level of PTSD symptoms exists in law enforcement personnel. Determined by the nature of this profession, law enforcement officers directly or indirectly deal with human or natural tragedies and disasters. These scenes are likely to make them re-experience the past traumatic event. The result of cumulative symptoms of PTSD supports the recent study of Peterson, Prout & Schwarz's (1990), which distinguished the "primary" and "secondary" symptoms of the clinical characteristics of PTSD. Primary symptoms are the basic criteria of PTSD according to the DSM-III-R, whereas, secondary symptoms are usually embodied by depression, anxiety, the presence of a "death imprint" and "death anxiety," impulsive behaviour, substance abuse, changes in heart rate and blood pressure and other chronic symptoms of somatization (Malloy, Frairbank, & Keane, 1983; Kolb, 1984, Kolb, & Mutalipassi, 1982; Solomon, Mikulincer, & Kotler, 1987; Kolb, 1989; Stretch, 1991). These secondary symptoms of PTSD and symptom clusters which commonly co-exist with PTSD are more complex with clinical pictures presented by PTSD patients. In the present study, although the existed impacts could not be distinguished as the cause of PTSD or the frequency of critical event, the close link between IES and SCL, illness occurrence have provided supporting evidence to the theory of cumulative impact of PTSD.

Practical Implication of The Research

1) It is important to recognize that the frequency of stressful events has an effect on all levels of cumulative impact. The Revised "Critical Events Scale" for both police and corrections can be used to allow administration and officers to review and recognize the work-related stressors. This could be the first step in controlling and reducing the possible negative effects of this environment. These findings should concern both the public and law enforcement in that health and stress related issues must be given serious consideration. The result of this study can also be used for the purpose of educating officers' families, public officials, and the general public as to the concerns, frustrations, and pressures of the law enforcement officers.

2) The assessment instrument for the level of stress impact in this study can serve as a monitor to evaluate the well-being of officers and management. Consequently, depending on the stress level and its impact on different career stages in law enforcement, this finding can be used for recommending stress coping and educational program for both organizations and individuals. This assessment can also be used for the further comparison purpose in evaluating the progress for the same sample.

3) PTSD or PTSD symptoms impact on law enforcement personnel; even if the incident occurred in the past, it may still harm on officers' current well-being. Therefore, critical incident debriefing and education should be given to all officers in every career stage of this field. If required, counselling and psychological intervention should also be provided.

4) Officers who suddenly request more sick leave than in the past may have problems, either physically or psychologically, coping with the frequency of events or critical incident. Thus this study suggests that management and individual officers to check their sick leave use as a monitor of stress levels to manage their work and lives efficiently.

5) High alcohol and drug use should be a signal to officers to alter their stress coping strategies. Education on stress coping skills should play an important role in all law enforcement training and operations.

6) Self-help is one of the best ways of coping with work-related stress, such as PANS Stress Assistance Program. The foundation of this program is a very rich peer support resource for front line officers and plays an important role in promoting the well-being of law enforcement personnel. More challenging demands on the program have been made by its members: that is, to extend current services, to train more agents, to maintain current non-official characters, and to work more efficiently with officers and their families.

7) Better support systems and more coping training for law enforcement personnel in a "Town" environment is necessary.

8) Combining the use of measures of IES with SCL-90 to assess PTSD established the importance of these variables for PTSD impact assessment procedures and detection.

Limitations of the Study

Since the sample used in this study was from Nova Scotia police and corrections personnel, the results may not be generalized to other provinces' law enforcement personnel. Also, as 94.4% of the participants in this study were male officers, the findings from this study may not be completely applicable to female officers.

The limitation of lack of a control group on this study may have influenced some of the results. For instance, it could not be concluded that the high stress of the law enforcement occupation is the most important cause of alcohol problems with law enforcement officers as alcohol problems are a prevalent social issue that is common to many professions. In addition, the informal subculture influence may reinforce the use of alcohol as a way of socializing in law enforcement (Kroes, 1974; Stotland, 1986). The design of the current study did not take the effects of "peer pressure" as one of the source of stress into account. Therefore, further research is required on this issue.

There were quite a few results for the level of impact regarding sick leave. Many factors could affect officers' sick time use, such as physical illness, marital difficulties, or work schedules. Officers ask for sick leave might not because of their physical illness, but their psychological need, or both, or even family matters. Interpreting of result, therefore, becomes quite complex. As one of the comments indicated:

"Sick days...police...sometimes used for others...child's birthday...get things

down...call in sick so can feel normal for one day."

According to this comment, one may also argue that sick day leave, indeed, can be used as a "thermometer" to indicate officers' life condition in general.

However, an additional comment is worth noting:

"I am part time, I do not have sick day leave pay benefit, so I'm almost not 'sick'."

Thus, when use Sick Time to measure stress impact level need to keep conscious on the background information of each individual.

Recommendation for Further Research

The aim of this current study was to examine the level of stress on critical life events of law enforcement personnel in terms of exploring cumulative impact, post traumatic stress syndrome and other physical and psychological diseases. Additionally, the stress management program of PANS assessed.

Although attention has been focused on the relation between critical event and their impact, the study is far from complete. Future research needs to explore the type of incidents and the impact they have on health status.

Based on the current data, further research should also focus on police and correctional officers separately since they are somewhat unique in terms of work environments and several demographic variables, such as marital status, education, rank, assignment, and number of children. Each of these variable should also be studied independently so as to identify the patten of stress between the two groups.

Attention should be given to the study on the relationship between stress and marital and family issues on law enforcement. The present study failed to identify the impact of stress on marital status; however, the data on stress coping and family relations, and the high number of comments wishing for study of family and law enforcement's well being, indicated that the further research in this area is warranted.

More research work needs to be done on the relationship between length of service and impact of stress. In order to manage stress and reduce its impact efficiently, further studies should focus on stress coping skills and their relation to health stages, illness, personality characteristics, education, and perception of stress.

Further research should also explore gender differences, particularly as more women enter the law enforcement field.

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APPENDIX

Appendix A

Law Enforcement Stress Survey

(police)

*
* LAW ENFORCEMENT *
*
* STRESS SURVEY *
*

Dan Zhang

Department of Psychology
Saint Mary's University

February 1992

Saint Mary's University

Halifax, Nova Scotia
Canada
B3H 3C3

Department of Psychology



To Respondents:

I am presently a second year student in the Masters of Science Program in Psychology (clinical applied) at Saint Mary's University. In conjunction with the mandatory requirements of this program, I am required to complete a thesis. As I have a sincere interest in and respect for law enforcement and the work of the people involved, I am planning to focus my graduate thesis on Stress and Critical Incidents in Law Enforcement.

As law enforcement personnel, you contribute a lot of time and effort both day and night and even life to the peace and security of all of citizens. I believe that your responses to this survey will be very valuable in terms of better understanding your work and experiences with respect to the unique stressful events involved in law enforcement activities. Your responses will also be very important to the further development of law enforcement services and policies. This study will be used for assessing the Stress Assistance Program of the Police Association of Nova Scotia (PANS) as well.

Please give this study your serious attention by completing this questionnaire in an honest and conscientious manner. Care has been taken to ensure the utmost confidentiality of your responses. Your answers are to be sent directly to my address by using the enclosed stamped envelope, and your name or any other identifying information will not be disclosed to anyone other than myself. Only group information will be reported. Your responses are strictly voluntary, and you are encouraged to add any comments or qualifications in the margins as you go along. Space has been provided on the attached sheet for suggestions about matters not covered in specific questions.

I am very grateful for your cooperation.

Sincerely

A handwritten signature in cursive script that reads "Dan Zhang".

Dan Zhang

Please turn the page for SECTION 1

SECTION 1

Critical Professional Life Events

Please take a few minutes and review your career as a police officer and think of important work related events which may have caused a psychological or physical reaction in you. The following is a list of events which may be relevant to your experience. First, for each of the following listed events, estimate the number of times the event has happened to you, and circle your estimate in the frequency column. Then, estimate the degree of your physical or emotional reaction to the event and circle the corresponding number in the reaction column. If you have never experienced a certain event, estimate what you believe your reaction would be. Please be sure that your responses correspond to the key displayed directly below.

FREQUENCY

REACTION

During your career, estimate the number of times each event has happened to you.

In general, your reaction (physical and/or emotional) to the event was:

- Never happened-----0
- Almost never-----1
- Rarely-----2
- Sometimes-----3
- Fairly often-----4
- Very often-----5
- Always-----6

- No reaction-----0
- Mild reaction-----1
- Moderate reaction-----2
- Strong reaction-----3
- Severe reaction-----4

Event	Frequency	Reaction
1. Changing work shifts-----	0 1 2 3 4 5 6	0 1 2 3 4
2. Pursuit of an armed suspect-----	0 1 2 3 4 5 6	0 1 2 3 4
3. Reduction in pay-----	0 1 2 3 4 5 6	0 1 2 3 4
4. Assignment away from family for a long period of time-----	0 1 2 3 4 5 6	0 1 2 3 4
5. Participating in an act of police corruption--	0 1 2 3 4 5 6	0 1 2 3 4
6. Change in department-----	0 1 2 3 4 5 6	0 1 2 3 4
7. Answering a call to a scene involving violent non-accidental death of a child-----	0 1 2 3 4 5 6	0 1 2 3 4
8. Accepting a bribe-----	0 1 2 3 4 5 6	0 1 2 3 4
9. Conflict with a supervisor-----	0 1 2 3 4 5 6	0 1 2 3 4
10. Hostage situation resulting from aborted criminal action-----	0 1 2 3 4 5 6	0 1 2 3 4
11. Answering a call to a sexual assault scene involving a child victim-----	0 1 2 3 4 5 6	0 1 2 3 4
12. Oral promotional review-----	0 1 2 3 4 5 6	0 1 2 3 4
13. Assignment to a single-man car-----	0 1 2 3 4 5 6	0 1 2 3 4
14. Personal involvement in a shooting incident--	0 1 2 3 4 5 6	0 1 2 3 4
15. Investigation of a political/highly publicized case-----	0 1 2 3 4 5 6	0 1 2 3 4
16. Personal criticism by the press-----	0 1 2 3 4 5 6	0 1 2 3 4

(CONTINUE ON NEXT PAGE)

Frequency

Reaction

During your career, estimate the number of times each event has happened to you.

In general, your reaction (physical and/or emotional) to the event was:

- Never happened-----0
- Almost never-----1
- Rarely-----2
- Sometimes-----3
- Fairly often-----4
- Very often-----5
- Always-----6

- No reaction-----0
- Mild reaction-----1
- Moderate reaction-----2
- Strong reaction-----3
- Severe reaction-----4

Event	Frequency	Reaction
17. Duty-related accidental injury-----	0 1 2 3 4 5 6	0 1 2 3 4
18. Assignment to conduct an internal affairs-----	0 1 2 3 4 5 6	0 1 2 3 4
19. Political interference in a case-----	0 1 2 3 4 5 6	0 1 2 3 4
20. Written promotional examination-----	0 1 2 3 4 5 6	0 1 2 3 4
21. Polygraph examination-----	0 1 2 3 4 5 6	0 1 2 3 4
22. Observing an act of police corruption-----	0 1 2 3 4 5 6	0 1 2 3 4
23. Taking severe disciplinary action against another officer-----	0 1 2 3 4 5 6	0 1 2 3 4
24. Sexual advancement toward you by another officer-----	0 1 2 3 4 5 6	0 1 2 3 4
25. Written reprimand by a supervisor-----	0 1 2 3 4 5 6	0 1 2 3 4
26. Participation in a narcotics raid-----	0 1 2 3 4 5 6	0 1 2 3 4
27. Emergency response to "unknown trouble"-----	0 1 2 3 4 5 6	0 1 2 3 4
28. Personal use of alcohol while on duty-----	0 1 2 3 4 5 6	0 1 2 3 4
29. Inquiry into another officer's misconduct-----	0 1 2 3 4 5 6	0 1 2 3 4
30. Court appearance (Provincial Statute)-----	0 1 2 3 4 5 6	0 1 2 3 4
31. Inability to solve a major crime-----	0 1 2 3 4 5 6	0 1 2 3 4
32. Dismissal-----	0 1 2 3 4 5 6	0 1 2 3 4
33. Violent death of another officer in the line of duty-----	0 1 2 3 4 5 6	0 1 2 3 4
34. Shooting someone in the line of duty-----	0 1 2 3 4 5 6	0 1 2 3 4
35. Suicide of an officer who is a close friend---	0 1 2 3 4 5 6	0 1 2 3 4
36. Taking a life in the line of duty-----	0 1 2 3 4 5 6	0 1 2 3 4
37. Violent job-related injury to another officer-	0 1 2 3 4 5 6	0 1 2 3 4
38. Hostage situation resulting from a domestic disturbance-----	0 1 2 3 4 5 6	0 1 2 3 4
39. Responding to "officer needs assistance" call-	0 1 2 3 4 5 6	0 1 2 3 4
40. Suspension-----	0 1 2 3 4 5 6	0 1 2 3 4
41. Passed over for promotion-----	0 1 2 3 4 5 6	0 1 2 3 4
42. Sexual advancement toward you by a citizen---	0 1 2 3 4 5 6	0 1 2 3 4
43. Riot/crowd control situation-----	0 1 2 3 4 5 6	0 1 2 3 4
44. Duty-related violent injury (shooting)-----	0 1 2 3 4 5 6	0 1 2 3 4
45. Suicide of an officer-----	0 1 2 3 4 5 6	0 1 2 3 4
46. Murder committed by a police officer-----	0 1 2 3 4 5 6	0 1 2 3 4
47. Improperly conducted corruption investigation of another officer-----	0 1 2 3 4 5 6	0 1 2 3 4
48. Shooting incident involving another officer--	0 1 2 3 4 5 6	0 1 2 3 4

(CONTINUE ON NEXT PAGE)

Frequency

Reaction

During your career, estimate the number of times each event has happened to you.

In general, your reaction (physical and/or emotional) to the event was:

- Never happened-----0
- Almost never-----1
- Rarely-----2
- Sometimes-----3
- Fairly often-----4
- Very often-----5
- Always-----6

- No reaction-----0
- Mild reaction-----1
- Moderate reaction-----2
- Strong reaction-----3
- Severe reaction-----4

Event	Frequency						Reaction					
	0	1	2	3	4	5	6	0	1	2	3	4
49. Failing grade in police training program-----	0	1	2	3	4	5	6	0	1	2	3	4
50. Response to a scene involving the accidental death of a child-----	0	1	2	3	4	5	6	0	1	2	3	4
51. Delay in a trial-----	0	1	2	3	4	5	6	0	1	2	3	4
52. Work on a holiday-----	0	1	2	3	4	5	6	0	1	2	3	4
53. Promotion of inexperienced/incompetent officer over you-----	0	1	2	3	4	5	6	0	1	2	3	4
54. Internal affairs investigation against self--	0	1	2	3	4	5	6	0	1	2	3	4
55. Criminal indictment of a fellow officer-----	0	1	2	3	4	5	6	0	1	2	3	4
56. Police-related civil suit-----	0	1	2	3	4	5	6	0	1	2	3	4
57. Duty under a poor supervisor-----	0	1	2	3	4	5	6	0	1	2	3	4
58. Transfer of partner-----	0	1	2	3	4	5	6	0	1	2	3	4
59. Failure on a promotional examination-----	0	1	2	3	4	5	6	0	1	2	3	4
60. Response to "person with a gun" call-----	0	1	2	3	4	5	6	0	1	2	3	4
61. Abuse of alcohol by another officer-----	0	1	2	3	4	5	6	0	1	2	3	4
62. Wrecking a departmental vehicle-----	0	1	2	3	4	5	6	0	1	2	3	4
63. Personal use of illicit drugs-----	0	1	2	3	4	5	6	0	1	2	3	4
64. Use of drugs by another officer-----	0	1	2	3	4	5	6	0	1	2	3	4
65. Participating in a police strike-----	0	1	2	3	4	5	6	0	1	2	3	4
66. Undercover assignment-----	0	1	2	3	4	5	6	0	1	2	3	4
67. Physical assault on an officer-----	0	1	2	3	4	5	6	0	1	2	3	4
68. Assignment to evening shift-----	0	1	2	3	4	5	6	0	1	2	3	4
69. Death notification-----	0	1	2	3	4	5	6	0	1	2	3	4
70. Press criticism of an officer's action-----	0	1	2	3	4	5	6	0	1	2	3	4
71. Letter of recognition from the public-----	0	1	2	3	4	5	6	0	1	2	3	4
72. Handling of a mentally/emotionally disturbed person-----	0	1	2	3	4	5	6	0	1	2	3	4
73. Response to a "crime-in-progress" call-----	0	1	2	3	4	5	6	0	1	2	3	4
74. Observing an act of police brutality-----	0	1	2	3	4	5	6	0	1	2	3	4
75. Verbal reprimand by a supervisor-----	0	1	2	3	4	5	6	0	1	2	3	4
76. Unfair plea bargain by a prosecutor-----	0	1	2	3	4	5	6	0	1	2	3	4
77. Assignment to a specialized training course--	0	1	2	3	4	5	6	0	1	2	3	4
78. Release of an offender by the prosecutor-----	0	1	2	3	4	5	6	0	1	2	3	4
79. Disciplinary action against partner-----	0	1	2	3	4	5	6	0	1	2	3	4
80. Successful clearance of a case-----	0	1	2	3	4	5	6	0	1	2	3	4
81. Interrogation session with a suspect-----	0	1	2	3	4	5	6	0	1	2	3	4
82. Reduction in job responsibilities-----	0	1	2	3	4	5	6	0	1	2	3	4

(CONTINUE ON NEXT PAGE)

Frequency

Reaction

During your career, estimate the number of times each event has happened to you.

In general, your reaction (physical and/or emotional) to the event was:

- Never happened-----0
- Almost never-----1
- Rarely-----2
- Sometimes-----3
- Fairly often-----4
- Very often-----5
- Always-----6

- No reaction-----0
- Mild reaction-----1
- Moderate reaction-----2
- Strong reaction-----3
- Severe reaction-----4

Event	Frequency	Reaction
83. Release of an offender by a jury-----0	1 2 3 4 5 6	0 1 2 3 4
84. Overtime duty-----0	1 2 3 4 5 6	0 1 2 3 4
85. Assignment to stake-out duty-----0	1 2 3 4 5 6	0 1 2 3 4
86. Citizen complaint of an officer-----0	1 2 3 4 5 6	0 1 2 3 4
87. Harassment by an attorney in court-----0	1 2 3 4 5 6	0 1 2 3 4
88. Administrative recognition (award/commendation)-----0	1 2 3 4 5 6	0 1 2 3 4
89. Court appearance (Supreme court)-----0	1 2 3 4 5 6	0 1 2 3 4
90. Assignment of new partner-----0	1 2 3 4 5 6	0 1 2 3 4
91. Call involving juveniles-----0	1 2 3 4 5 6	0 1 2 3 4
92. Assignment to decoy duty-----0	1 2 3 4 5 6	0 1 2 3 4
93. Answering a call to a scene involving the violent accidental death of a adult-----0	1 2 3 4 5 6	0 1 2 3 4
94. Move to a new duty station-----0	1 2 3 4 5 6	0 1 2 3 4
95. Fugitive arrest-----0	1 2 3 4 5 6	0 1 2 3 4
96. Department budget cut-----0	1 2 3 4 5 6	0 1 2 3 4
97. Release of an offender on appeal-----0	1 2 3 4 5 6	0 1 2 3 4
98. Job-related illness-----0	1 2 3 4 5 6	0 1 2 3 4
99. Duty-related violent injury (non-shooting)---0	1 2 3 4 5 6	0 1 2 3 4
100. Dealing with a drunk-----0	1 2 3 4 5 6	0 1 2 3 4
101. Recall to duty on day off-----0	1 2 3 4 5 6	0 1 2 3 4
102. Labour negotiations-----0	1 2 3 4 5 6	0 1 2 3 4
103. Annual evaluation-----0	1 2 3 4 5 6	0 1 2 3 4
104. Unsatisfactory personnel evaluation-----0	1 2 3 4 5 6	0 1 2 3 4
105. Preparation for retirement in the near future-----0	1 2 3 4 5 6	0 1 2 3 4
106. Working a traffic accident-----0	1 2 3 4 5 6	0 1 2 3 4
107. Assignment to night shift duty-----0	1 2 3 4 5 6	0 1 2 3 4
108. Pay raise-----0	1 2 3 4 5 6	0 1 2 3 4
109. Overtime pay-----0	1 2 3 4 5 6	0 1 2 3 4
110. Making a routine traffic stop-----0	1 2 3 4 5 6	0 1 2 3 4
111. Routine patrol stop-----0	1 2 3 4 5 6	0 1 2 3 4
112. Court appearance (provincial)-----0	1 2 3 4 5 6	0 1 2 3 4
113. Issuing a traffic citation-----0	1 2 3 4 5 6	0 1 2 3 4
114. Departmental misconduct hearing-----0	1 2 3 4 5 6	0 1 2 3 4
115. Press criticism of departmental action/practice-----0	1 2 3 4 5 6	0 1 2 3 4

(CONTINUE ON NEXT PAGE)

Frequency

Reaction

During your career, estimate the number of times each event has happened to you.

In general, your reaction (physical and/or emotional) to the event was:

- Never happened-----0
- Almost never-----1
- Rarely-----2
- Sometimes-----3
- Fairly often-----4
- Very often-----5
- Always-----6

- No reaction-----0
- Mild reaction-----1
- Moderate reaction-----2
- Strong reaction-----3
- Severe reaction-----4

Event	Frequency	Reaction
116. Call involving the arrest of a female-----	0 1 2 3 4 5 6	0 1 2 3 4
117. Reassignment/transfer-----	0 1 2 3 4 5 6	0 1 2 3 4
118. Answering a call to a sexual battery/abuse scene involving an adult victim-----	0 1 2 3 4 5 6	0 1 2 3 4
119. Vacation-----	0 1 2 3 4 5 6	0 1 2 3 4
120. Completion of routine report-----	0 1 2 3 4 5 6	0 1 2 3 4
121. Offer of a bribe-----	0 1 2 3 4 5 6	0 1 2 3 4
122. Unfair administrative policy-----	0 1 2 3 4 5 6	0 1 2 3 4
123. Pursuit of a traffic violator-----	0 1 2 3 4 5 6	0 1 2 3 4
124. Severe disciplinary action to another officer	0 1 2 3 4 5 6	0 1 2 3 4
125. Promotion with assignment to another unit----	0 1 2 3 4 5 6	0 1 2 3 4
126. Personal abuse of prescription drugs-----	0 1 2 3 4 5 6	0 1 2 3 4
127. Assignment to a day shift-----	0 1 2 3 4 5 6	0 1 2 3 4
128. Change in administrative policy/procedure----	0 1 2 3 4 5 6	0 1 2 3 4
129. Personally striking a prisoner or suspect----	0 1 2 3 4 5 6	0 1 2 3 4
130. Change in supervisor-----	0 1 2 3 4 5 6	0 1 2 3 4
131. Promotion within existing assignment-----	0 1 2 3 4 5 6	0 1 2 3 4
132. Handling a domestic disturbance-----	0 1 2 3 4 5 6	0 1 2 3 4
133. Answering a call to a scene involving the violent non-accidental death of a adult-----	0 1 2 3 4 5 6	0 1 2 3 4
134. Change in the chief administrators of the department.-----	0 1 2 3 4 5 6	0 1 2 3 4
135. Violent death of a partner in the line of duty-----	0 1 2 3 4 5 6	0 1 2 3 4
136. Physical arrest of a suspect-----	0 1 2 3 4 5 6	0 1 2 3 4
137. Response to a silent alarm-----	0 1 2 3 4 5 6	0 1 2 3 4
138. Award from a citizens group-----	0 1 2 3 4 5 6	0 1 2 3 4
139. Verbal abuse from a traffic violator-----	0 1 2 3 4 5 6	0 1 2 3 4
140. Barricaded suspect-----	0 1 2 3 4 5 6	0 1 2 3 4
141. Assignment as partner with officer of the opposite sex-----	0 1 2 3 4 5 6	0 1 2 3 4
142. Making a routine arrest-----	0 1 2 3 4 5 6	0 1 2 3 4
143. Assignment to a two man car-----	0 1 2 3 4 5 6	0 1 2 3 4
144. Response to a "sick or injured person" call--	0 1 2 3 4 5 6	0 1 2 3 4

(CONTINUE ON NEXT PAGE)

SECTION 2

Critical Incidents

Below is a list of responses people may have felt after experiencing a stressful critical incident. Think about the most stressful critical incident in your career and how it affected you (Please indicate this incident occurred _____ years _____ months ago). With this incident in mind, check how often the following statements were true for you.

FREQUENCY: Not at all--1
 Rarely-----2
 Sometimes---3
 Often-----4
 Always-----5

COMMENTS	FREQUENCY
1. I thought about the event when I didn't mean to.	----1 2 3 4 5
2. I avoided letting myself get upset when I thought about the event or was reminded of it.	-----1 2 3 4 5
3. I tried to remove the event from memory.	-----1 2 3 4 5
4. I had trouble falling asleep or staying asleep.	----1 2 3 4 5
5. I had waves of strong feelings about the event.	----1 2 3 4 5
6. I had dreams about the event.	-----1 2 3 4 5
7. I stayed away from reminders of the event.	-----1 2 3 4 5
8. I felt as if the event had not happened or it was not real.	-----1 2 3 4 5
9. I tried not to talk about the event.	-----1 2 3 4 5
10. Pictures about the event popped into my mind.	-----1 2 3 4 5
11. Other things kept making me think about the event.	--1 2 3 4 5
12. I was aware that I still had a lot of feelings about the event, but I didn't deal with them.	-----1 2 3 4 5
13. I tried not to think about the event.	-----1 2 3 4 5
14. Any reminder brought back feelings about the event.	-1 2 3 4 5
15. My feelings about the event were kind of numb.	-----1 2 3 4 5

(CONTINUE ON NEXT PAGE)

SECTION 3

Health Issues

Below is a list of health problems and complaints people sometimes have. Read each one carefully, and circle the number that best describes HOW MUCH DISCOMFORT THAT PROBLEM HAS CAUSED YOU during the past six months. Use the key number below as a guide for your response. Please do not skip any item and read the example before beginning.

DESCRIPTORS Not at all----0
A little bit--1
Moderately----2
Quite a bit---3
Extremely----4

EXAMPLE:

How much were you distressed by Body Aches-----0 1 2 3 4
If you feel quite a bit, circle No. 3.

Complaints	Descriptors
1. Headaches-----	0 1 2 3 4
2. Nervousness or shakiness inside-----	0 1 2 3 4
3. Repeated unpleasant thoughts-----	0 1 2 3 4
4. Faintness or dizziness-----	0 1 2 3 4
5. Loss of sexual interest or pleasure-----	0 1 2 3 4
6. Feeling critical of others-----	0 1 2 3 4
7. Idea that someone else can control your thought-----	0 1 2 3 4
8. Feeling others are to blame for troubles-----	0 1 2 3 4
9. Trouble remembering things-----	0 1 2 3 4
10. Worried about sloppiness or carelessness-----	0 1 2 3 4
11. Feeling easily annoyed or irritated-----	0 1 2 3 4
12. Pains in heart or chest-----	0 1 2 3 4
13. Feeling afraid in open spaces or in streets-----	0 1 2 3 4
14. Feeling low in energy or slowed down-----	0 1 2 3 4
15. Thoughts of ending your life (suicide)-----	0 1 2 3 4
16. Hearing voices that other people do not hear-----	0 1 2 3 4
17. Trembling-----	0 1 2 3 4
18. Feeling that most people cannot be trusted-----	0 1 2 3 4
19. Poor appetite-----	0 1 2 3 4
20. Crying easily-----	0 1 2 3 4
21. Feeling shy and uneasy with opposite sex-----	0 1 2 3 4
22. Feeling of being trapped or caught-----	0 1 2 3 4
23. Suddenly scared for no reason-----	0 1 2 3 4
24. Temper outbursts that you could not control-----	0 1 2 3 4
25. Feeling that you are watched by others-----	0 1 2 3 4
26. Blaming yourself for things-----	0 1 2 3 4
27. Pains in lower back-----	0 1 2 3 4
28. Feeling blocked in getting things done-----	0 1 2 3 4
29. Feeling lonely-----	0 1 2 3 4
30. Feeling blue-----	0 1 2 3 4

(CONTINUE ON NEXT PAGE)

DESCRIPTORS

Not at all----0
 A little bit--1
 Moderately----2
 Quite a bit---3
 Extremely-----4

Complaints

Descriptors

Complaints	0	1	2	3	4
31. Worrying too much about things-----	0	1	2	3	4
32. Feeling no interest in things-----	0	1	2	3	4
33. Feeling fearful-----	0	1	2	3	4
34. Feeling being easily hurt-----	0	1	2	3	4
35. Others being aware of your private thoughts-----	0	1	2	3	4
36. Feeling that others do not understand you-----	0	1	2	3	4
37. Feeling that people are unfriendly-----	0	1	2	3	4
38. Having to do things very slow-----	0	1	2	3	4
39. Heart pounding or racing-----	0	1	2	3	4
40. Nausea or upset stomach-----	0	1	2	3	4
41. Feeling low in energy or slowed down-----	0	1	2	3	4
42. Soreness of muscles-----	0	1	2	3	4
43. Feeling that you are watched by others-----	0	1	2	3	4
44. Trouble falling asleep-----	0	1	2	3	4
45. Having to check and double-check what to do-----	0	1	2	3	4
46. Difficulty making decisions-----	0	1	2	3	4
47. Feeling afraid to travel on buses, subways or trains	0	1	2	3	4
48. Trouble getting your breath-----	0	1	2	3	4
49. Hot or cold spells-----	0	1	2	3	4
50. Having to avoid things, because they frighten you	0	1	2	3	4
51. Your mind going blank-----	0	1	2	3	4
52. Numbness or tingling in parts of your body-----	0	1	2	3	4
53. A lump in your throat-----	0	1	2	3	4
54. Feeling hopeless about the future-----	0	1	2	3	4
55. Trouble concentration-----	0	1	2	3	4
56. Feeling weak in parts of your body-----	0	1	2	3	4
57. Feeling tense or keyed up-----	0	1	2	3	4
58. Heavy feelings in your arms or leg-----	0	1	2	3	4
59. Thoughts of death or dying-----	0	1	2	3	4
60. Overeating-----	0	1	2	3	4
61. Feeling uneasy when people are watching or talking about you-----	0	1	2	3	4
62. Having thoughts that are not your own-----	0	1	2	3	4
63. Having urges to beat, injure, or harm some one-----	0	1	2	3	4
64. Awakening in the early morning-----	0	1	2	3	4
65. Having to repeat actions such as touching, washing	0	1	2	3	4
66. Sleep that is restless or disturbed-----	0	1	2	3	4
67. Having urges to break or smash things-----	0	1	2	3	4
68. Having ideas or beliefs that others do not share	0	1	2	3	4
69. Feeling very self-conscious with others-----	0	1	2	3	4
70. Feeling uneasy in crowds such as shopping or at movies-----	0	1	2	3	4
71. Feeling everything is an effort-----	0	1	2	3	4
72. Spells of terror or panic-----	0	1	2	3	4
73. Getting into frequent arguments-----	0	1	2	3	4

(CONTINUE ON NEXT PAGE)

DESCRIPTORS Not at all----0
 A little bit--1
 Moderately----2
 Quite a bit---3
 Extremely-----4

Complaints	Descriptors
74. Feeling uncomfortable about eating or drinking in public-----	0 1 2 3 4
75. Feeling nervous when left alone-----	0 1 2 3 4
76. Others not giving you proper credit-----	0 1 2 3 4
77. Feeling alone even when you are with people-----	0 1 2 3 4
78. Feeling so restless-----	0 1 2 3 4
79. Feelings of worthlessness-----	0 1 2 3 4
80. The feeling something bad is going to happen to you-----	0 1 2 3 4
81. Shouting or throwing things-----	0 1 2 3 4
82. Feeling afraid you will faint in public-----	0 1 2 3 4
83. Feeling people will take advantage of you if you let them-----	0 1 2 3 4
84. Having thoughts about sex that bother you a lot-----	0 1 2 3 4
85. Idea that you should be punished-----	0 1 2 3 4
86. Thoughts and images of a frightening nature-----	0 1 2 3 4
87. The idea something serious is wrong with your body--	0 1 2 3 4
88. Never feeling close to another person-----	0 1 2 3 4
89. Feelings of guilt-----	0 1 2 3 4
90. The idea that something is wrong with your mind-----	0 1 2 3 4

Below is a list of health problems people sometimes have. Please, review your life, and circle YES or No to indicate your circumstance.

- | | | |
|--|-----|----|
| 1. Strokes | yes | no |
| 2. Ulcers | yes | no |
| 3. Cancer or digestive diseases | yes | no |
| 4. Asthma | yes | no |
| 5. High blood pressure | yes | no |
| 6. Heart attack | yes | no |
| 7. Coronary artery diseases | yes | no |
| 8. Diabetes | yes | no |
| 9. Skin trouble | yes | no |
| 10. Mental illness | yes | no |
| 11. Job related injuries | yes | no |
| 12. Have you suffered from any major illness in 1991 ? | yes | no |

If YES please specify: _____

13. How many sick leave days have you used in 1991: _____

(CONTINUE ON NEXT PAGE)

SECTION 4

Recent Personal Changes

Please review your life during the past six months and think about each of the following questions briefly. Circle the number which most appropriately describes the degree to which personal qualities have changed for you during the past six months.

Record a

- 1 = no change
- 2 = little change
- 3 = moderate change
- 4 = considerable change
- 5 = a great deal of change

- 1) Do you tire more easily? Feel fatigued rather than energetic? ----- 1 2 3 4 5
- 2) Are people annoying you by telling you, "You don't look so good lately?" ----- 1 2 3 4 5
- 3) Are you working harder and harder and accomplishing less and less? ----- 1 2 3 4 5
- 4) Are you increasingly cynical and disenchanted? ---- 1 2 3 4 5
- 5) Are you often invaded by a sadness you cannot explain? ----- 1 2 3 4 5
- 6) Are you forgetting appointments, deadlines, personal possessions? ----- 1 2 3 4 5
- 7) Are you increasingly irritable? More short-tempered? More disappointed in the people around you? ----- 1 2 3 4 5
- 8) Are you seeing close friends and family members less frequently? ----- 1 2 3 4 5
- 9) Are you too busy to do even routine things such as making phone calls or reading reports or sending birthday cards? ----- 1 2 3 4 5
- 10) Are you suffering from physical complaints (please underline for your circle: aches, pains, headaches, a lingering cold, or other _____)? ----- 1 2 3 4 5
- 11) Do you feel disoriented when the activity of the day comes to a halt? ----- 1 2 3 4 5
- 12) Is joy elusive? ----- 1 2 3 4 5
- 13) Are you unable to laugh at a joke about yourself? - 1 2 3 4 5
- 14) Does sex seem like more trouble than it is worth? - 1 2 3 4 5
- 15) Do you have very little to say to people? ----- 1 2 3 4 5

(CONTINUE ON NEXT PAGE)

SECTION 5

PANS Stress Assistance Programme

1. Are you aware of PANS Stress Assistance Programme? --- YES NO
(if NO go to SECTION 6, if YES complete this Section)
2. Are you aware the Stress Assistance Program is for both you and your family members? YES NO
3. How did you become aware of the Stress Assistance Program: (please circle one).
(a) From a friend
(b) From newsletter
(c) From peer Referral Agent
(d) From supervisor
(e) From PANS Stress Management Committee
(f) From other ways (specify) _____
4. Have you used the Stress Assistance Program?..... YES NO
(if NO go to QUESTION 9, if YES continue)
5. In what way have you used the Stress Assistance Program? (please circle one).
(1) By attending the meeting (2) By talking to peer referral agents
(3) Other ways (specify) _____
6. To what extent have the peer referral agents of the Stress Assistance Program been available to you? (please circle one)
(1) Never (2) almost never (3) Sometimes (4) Usually (5) Always
7. How helpful was the Stress Assistance Program to you? (please circle one).
(1) Not at all (2) A little (3) A fair amount (4) A quite a bit (5) Very much
8. Would you refer peers to the Stress Assistance Program? (please circle one)
(1) Not at all (2) Maybe (3) Certainly Yes
9. If you have any suggestions as to how this program might be improved, please indicate below.

(CONTINUE ON NEXT PAGE)

SECTION 6

Coping

People have many different ways of dealing with stressful event in their lives. The following is a list of ways people might choose to cope with work related stress. Circle the number which best describes how often you use the following strategies when dealing with your work stress.

Not at all--1
Rarely-----2
Sometimes---3
Often-----4
Always-----5

- Not talk to any body-----1 2 3 4 5
- Talk to family-----1 2 3 4 5
- Read-----1 2 3 4 5
- Smoke-----1 2 3 4 5
- Exercise-----1 2 3 4 5
- Seen counsellor-----1 2 3 4 5
- Drink-----1 2 3 4 5
- Talk to good friends-----1 2 3 4 5
- Go to Church-----1 2 3 4 5
- Sleep-----1 2 3 4 5
- Fight with family members-----1 2 3 4 5
- Use prescription Drugs-----1 2 3 4 5
- Think/Plan to change job-----1 2 3 4 5
- Take a vacation-----1 2 3 4 5
- Use non-prescription Drugs-----1 2 3 4 5
- Listen music-----1 2 3 4 5
- Think about the positive side of my work-----1 2 3 4 5
- See doctor-----1 2 3 4 5
- Yell at people-----1 2 3 4 5
- Take courses\go to school-----1 2 3 4 5
- Watch movies\TV-----1 2 3 4 5
- Working harder-----1 2 3 4 5
- Taking a bath-----1 2 3 4 5
- Playing with pets-----1 2 3 4 5
- Trying to not think about it-----1 2 3 4 5

Other strategies including helpful hobbies (specify)

_____ 1 2 3 4 5

_____ 1 2 3 4 5

_____ 1 2 3 4 5

_____ 1 2 3 4 5

_____ 1 2 3 4 5

(CONTINUE ON NEXT PAGE)

SECTION 7

Demographical Information

To assist the researcher in grouping responses for the overall findings, you are asked to record the following categorical information. Remember individual data will not be disclosed. Please circle the appropriate answer.

MARITAL STATUS: (1)---Single (Never married) (2)---Married
(3)---Divorced (4)---Separated
(5)---Common Law (6)---Widowed

AGE: _____

SEX: (1)---Male (2)---Female

EDUCATION: (1)---less than Grade 12
(2)---Grade 12 or Vocational Training
(3)---Community College or Some University
(4)---University Degree
(5)---Criminology Certificate
(6)---Other _____ (Please specify)

CHILDREN: 0, 1, 3, 4, 5+

RANK: Police: 1. CST **STATUS:** (1)-----Full time
2. CPL (2)-----Part time
3. SGT
4. STAFF SGT **SCHEDULE:** (1)-----Shift work
5. INSP (2)-----Non shift work

NATURE OF ASSIGNMENT: (Please circle one)

(1) Traffic (2) Patrol (3) Investigation (4) Supervisor (5) Dispatch (6) Drugs (7) Other

ZONE OF SERVICES: (Please circle one)

1. Halifax, 10. Dartmouth, 18. Ports Canada 26. Bedford Police,
2. Mahone Bay, 11. Lunenburg, 19. Bridgewater, 27. Shelburne,
3. Liverpool, 12. Yarmouth 20. Annapolis, 28. Middleton,
4. Kings, 13. Berwick, 21. Kentville, 29. Wolfville,
5. Hantsport, 14. Hants 22. Amherst, 30. Springhill,
6. Cumberland 15. Truro, 23. Colchester 31. New Glasgow,
7. Guysborough, 16. Trenton, 24. Stellarton, 32. Westville,
8. Antigonish 17. Cape Breton, 25. Inverness, 33. Glace Bay,
9. North Sydney,

LENGTH OF SERVICE: (Please circle one)

Years: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 40+
(CONTINUE ON NEXT PAGE)

Appendix B

The Second Letter for Respondents of the Survey

Saint Mary's University

Halifax, Nova Scotia
Canada
B3H 3C3

Department of Psychology



To Respondents:

First of all, please accept my thanks for all of your responses for the Law Enforcement Stress Survey.

Everyone of you has your own unique experiences related to your professional work place and every one of you has completed this questionnaire seriously. I am quite impressed with your responses that indicate to me that you are truly honest and conscientious in dealing with it. I am deeply touched by the critical events that you have described in your careers. It is true that you contribute a lot of time and effort both physically and emotionally to your jobs in order to ensure the peace and security of all citizens. Every questionnaire you have answered is very valuable in gaining an understanding of the unique stressful events involved in law enforcement activities. In addition, I give my special thanks to those whom voluntarily finished the re-test. Since this is a rather long survey, I am sure all of you must have spent quite a bit of time filling it out. Thank you for your support and understanding again.

The result of this study will be reported upon completion, but your name or any other identifying information will never be disclosed to anyone. Only group information will be reported. Your responses, comments and suggestions, even criticisms are encouraged and are important to me not only for my work on the this study, but also for understanding the duty of psychology to providing better psychological services for law enforcement personnel. It is no doubt that your responses are also very important in the development of law enforcement services and policies in the future.

I am very grateful for your cooperation, thanks all of you.

Sincerely

A handwritten signature in cursive script that reads "Dan Zhang".

Dan Zhang

Appendix C

Cooperation letter from PANS stress assistant program

Post Office Box 1557
Halifax
Nova Scotia
B3J 2Y3

Fax (902) 469-8094

Executive Director
JW (Jag) Ross
1194 Rockwell Street
Halifax
Nova Scotia
Office 902 429-7477
Home 902 429-0343

Administrative Assistant
Linda Hedden

Staff Relations Officer
Ed Hisecock

Solicitor
David Fisher

President
Sgt Alex Brown
New Glasgow

First Vice-President
Cpl Bob Kennedy
Dartmouth

Second
Vice-President
Cst Robert Taylor
Glouce Bay

Secretary/Treasurer
Cst Ron Fahie
Dartmouth

Chaplin
Rev Lloyd O'Neill

Member:
Canadian Police
Association and the
International Union
of Police Associations



January 28, 1992

TO: ALL MEMBERS AND PARTICIPANTS

Enclosed is a questionnaire, which, when completed, will help measure the level of stress, types of stressors and the reaction to critical incidents people in police and corrections are subjected to. We, the PANS Stress Assistance Program Committee members, ask that you take the time to complete the questionnaire and return it by March 4, 1992.

The research will be conducted by Dan Zhang (pronounced Chung) a psychology student working on her thesis at St. Mary's University. Dan has shown a great interest in the law enforcement profession and we ask that you give her your cooperation.

To ensure confidentiality the questionnaires will be mailed directly to Dan and she will tabulate the results. With the number of participants it would be impossible to identify any one individual and only the answers are important, not who completed it.

As well as an educational tool, the results of this research will assist the PANS committee in assessing the areas of the program which need to be developed to better assist the members and their families.

The Union could make argument on your behalf using the information gathered to enhance benefits such as early retirement, workers' compensation and salary increases.

This research is important to Dan but, hopefully, it will be more beneficial to law enforcement officers. The questionnaires should be returned by March 4, 1992, however, late returns will be accepted until March 18, 1992.

We again encourage you to participate in this research and return it in the self-addressed stamped envelope.

Thanking you in advance for your cooperation.

The PANS Stress Assistance Committee

Vincent M. Namara

PER: VINCE MCNAMARA

Appendix D-a

Frequency rating score on work related stressful events (Police)

APPENDIX D - a

FREQUENCY RATING ON WORK RELATED STRESSFUL EVENT OF POLICE

Value Level	Average Score (in 6 point scale)	Event*
1.	4.639	Completion of routine report
2.	4.602	Making a routine traffic stop
3.	4.538	Assignment to a single man car
4.	4.492	Dealing with a drunk
5.	4.470	Routine patrol stop
6.	4.420	Court appearance (Provincial Statute)
7.	4.370	Court appearance (provincial)
8.	4.322	Making a routine arrest
9.	4.271	Assignment to evening shift
10.	4.202	Work on a holiday
11.	4.185	Assignment to night shift duty
12.	4.025	Changing work shifts
13.	3.975	Response to a silent alarm
14.	3.898	Working a traffic
15.	3.889	Handling a domestic disturbance
16.	3.857	Emergency response to "unknown trouble"
17.	3.856	Issuing a traffic citation
18.	3.847	Delay in a trial
19.	3.828	Successful clearance of a case
20.	3.726	Physical arrest of a suspect
21.	3.714	Vacation
22.	3.703	Call involving juveniles
23.	3.504	Response to a crime in progress call
24.	3.492	Overtime duty
25.	3.466	Interrogation session with a suspect
26.	3.361	Overtime pay
27.	3.294	Handling of a mentally disturbed person
28.	3.241	Assignment to a two man car
29.	3.229	Response to a sick or injured person call
30.	3.050	Annual evaluation
31.	2.983	Call involving the arrest of a female
32.	2.983	Assignment to a day shift
33.	2.941	Responding to "officer needs assistance" call
34.	2.915	Pursuit of a traffic violator
35.	2.862	Verbal abuse from a traffic violator
36.	2.752	Change in administrative policy/procedure
37.	2.712	Pay raise
38.	2.706	Conflict with a supervisor
39.	2.703	Participation in a narcotics raid
40.	2.669	Response to "person with a gun" call
41.	2.636	Unfair administrative policy
42.	2.602	Recall to duty on day off
43.	2.564	Fugitive arrest
44.	2.534	A sexual abuse scene an adult victim

Appendix D - a Continue

Value Level	Average Score (in 6 point scale)	Event
45.	2.521	Department budget cut
46.	2.513	Citizen complaint of an officer
47.	2.466	Assignment of new partner
48.	2.433	Duty under a poor supervisor
49.	2.403	Physical assault on an officer
50.	2.385	Court appearance (Supreme court)
51.	2.311	Letter of recognition from the public
52.	2.303	Assignment to stake out duty
53.	2.229	A call to the accidental death of a adult
54.	2.218	Inability to solve a major crime
55.	2.202	Press criticism of departmental action
56.	2.197	Death notification
57.	2.151	A sexual assault to a child victim
58.	2.144	Abuse of alcohol by another officer
59.	2.144	Transfer of partner
60.	2.118	Press criticism of an officers action
61.	2.110	Release of an offender by the prosecutor
62.	2.092	Pursuit of an armed suspect
63.	2.076	Harassment by an attorney in court
64.	2.042	A violent non accidental death of a adult
65.	2.034	Labour negotiations
66.	2.025	A specialized training course
67.	2.017	Change in supervisor
68.	2.017	Unfair plea bargain by a prosecutor
69.	1.991	Riot control situation
70.	1.873	Undercover assignment
71.	1.866	Release of an offender on appeal
72.	1.633	Away from family for a long period
73.	1.627	Investigation of a political case
74.	1.576	Release of an offender by a jury
75.	1.534	Reassignment/transfer
76.	1.513	Duty related accidental injury
78.	1.487	Change in the chief administrators
79.	1.479	Severe disciplinary action to another officer
80.	1.466	Verbal reprimand by a supervisor
81.	1.462	Inquiry into another officers misconduct
82.	1.441	Duty related violent injury (non-shooting)
83.	1.407	Sexual advancement toward you by a citizen
84.	1.381	Change in department
85.	1.378	Administrative recognition (award/commendation)
86.	1.370	Job related illness
87.	1.364	Oral promotional review
88.	1.362	Personally striking a prisoner or suspect
89.	1.356	Response to the accidental death of a child

Appendix D - a Continue

Value Level	Average Score (in 6 point scale)	Event
90.	1.322	As partner with officer of the opposite sex
91.	1.303	Written promotional examination
92.	1.297	Promotion of inexperienced officer over you
93.	1.269	Political interference in a case
93.	1.254	Barricaded suspect
94.	1.203	Wrecking a departmental vehicle
95.	1.195	Preparation for retirement in the near future
96.	1.179	Disciplinary action against partner
97.	1.101	Reduction in pay
98.	1.101	Observing an act of police brutality
99.	1.052	Award from a citizens
100.	1.038	Personal criticism by the press
101.	1.025	A call to accidental death of a child
102.	1.025	Unsatisfactory personnel evaluation
103.	1.008	Move to a new duty station
104.	1.008	Criminal indictment of a fellow officer
105.	0.991	Violent job related injury to another officer
106.	0.983	Departmental misconduct hearing
107.	0.958	Internal affairs investigation against self
108.	0.916	Participating in a police strike
109.	0.915	Passed over for promotion
110.	0.907	Hostage situation from a domestic disturbance
111.	0.898	Personal involvement in a shooting
112.	0.824	Written reprimand by a supervisor
113.	0.795	Promotion within existing assignment
114.	0.788	Reduction in job responsibilities
115.	0.771	Police related civil suit
116.	0.771	Offer of a bribe
117.	0.706	Conduct an internal affairs
118.	0.615	Promotion with assignment to another unit
119.	0.613	Observing an act of police corruption
120.	0.576	Corruption investigation of another officer
121.	0.555	Use of drugs by another officer
122.	0.538	Assignment to decoy duty
123.	0.534	Duty related violent injury (shooting)
124.	0.496	Disciplinary against another officer
125.	0.487	Hostage situation from aborted criminal
126.	0.475	Shooting incident involving another officer
127.	0.441	Failure on a promotional examination
128.	0.373	Personal abuse of prescription drug
129.	0.342	Violent death of partner in the line of duty
130.	0.311	Violent death of officer in the line of duty
131.	0.277	Personal use of alcohol while on duty
132.	0.244	In an act of police corruption
133.	0.227	Suicide of an officer

Appendix D - a Continue

Value Level	Average Score (in 6 point scale)	Event
134.	0.186	Suspension
135.	0.186	Failing grade in police training program
136.	0.186	Murder committed by a police officer
137.	0.168	Dismissal
138.	0.168	Polygraph examination
139.	0.151	Suicide of an officer who is a close friend
140.	0.151	Sexual advancement toward you by another officer
141.	0.127	Accepting a bribe
142.	0.110	Personal use of illicit drugs
143.	0.093	Taking a life in the line of duty
144.	0.034	Shooting someone in the line of duty

* Never happened = 0;
 Almost never = 1;
 Rarely = 2;
 Sometimes = 3;
 Fairly often = 4;
 Very often = 5;
 Always = 6.

Appendix D-b

Reaction rating score on work related stressful events of (Police)

APPENDIX D - b

REACTION RATING ON WORK RELATED STRESSFUL EVENT OF POLICE

Value Level	Average Score (in 4 point scale)	Event*
1.	3.547	Violent death of officer in the line of duty
2.	3.446	Suicide of an officer who is a close friend
3.	3.393	Shooting someone in the line of duty
4.	3.387	Taking a life in the line of duty
5.	3.371	Dismissal
6.	3.333	Murder committed by a police officer
7.	3.333	Accepting a bribe
8.	3.292	Suspension
9.	3.271	In an act of police corruption
10.	3.235	Suicide of an officer
11.	3.222	Violent death of a partner in the line of duty
12.	3.126	Response call to accidental death of a child
13.	3.100	Observing an act of police corruption
14.	3.091	Duty related violent injury (shooting)
15.	2.943	Violent job related injury to another officer
16.	2.941	Response to the accidental death of a child
17.	2.921	Corruption investigation of another officer
18.	2.896	Responding to "officer needs assistance" call
19.	2.862	Political interference in a case
20.	2.839	Internal affairs investigation against self
21.	2.835	Response to "person with a gun" call
22.	2.795	Shooting incident involving another officer
23.	2.793	Personal use of illicit drugs
24.	2.773	Failing grade in police training program
25.	2.726	A sexual assault to a child victim
26.	2.721	Reduction in pay
27.	2.716	Offer of a bribe
28.	2.671	Disciplinary against another officer
29.	2.667	Participating in a police strike
30.	2.659	Personal involvement in a shooting
31.	2.643	Police related civil suit
32.	2.634	Promotion of inexperienced officer over you
33.	2.607	Pursuit of an armed suspect
34.	2.593	Personal use of alcohol while on duty
35.	2.553	Observing an act of police brutality
36.	2.541	Passed over for promotion
37.	2.529	Physical assault on an officer
38.	2.529	Hostage situation from a domestic disturbance
39.	2.517	Sexual advancement toward you by another officer
40.	2.513	Emergency response to "unknown trouble"
41.	2.500	Unsatisfactory personnel evaluation
42.	2.488	Use of drugs by another officer

Appendix D - b Continue

Value Level	Average Score (in 4 point scale)	Event
43.	2.483	Written reprimand by a supervisor
44.	2.482	Conflict with a supervisor
45.	2.482	Unfair administrative policy
46.	2.480	Hostage situation from aborted criminal
47.	2.460	Departmental misconduct hearing
48.	2.451	Failure on a promotional examination
49.	2.442	Riot control situation
50.	2.442	A violent non accidental death of a adult
51.	2.438	Criminal indictment of a fellow officer
52.	2.400	A call to the accidental death of a adult
53.	2.396	Severe disciplinary action to another officer
54.	2.394	Death notification
55.	2.390	Verbal reprimand by a supervisor
56.	2.387	Personal abuse of prescription drugs
57.	2.370	Personal criticism by the press
58.	2.355	Duty under a poor supervisor
59.	2.337	Inquiry into another officers misconduct
60.	2.330	A response to a crime in progress call
61.	2.313	Handling a domestic disturbance
62.	2.295	Press criticism of an officers action
63.	2.292	Pursuit of a traffic violator
64.	2.283	Polygraph examination
65.	2.260	Inability to solve a major crime
66.	2.257	Conduct an internal affairs
67.	2.247	Barricaded suspect
68.	2.240	Unfair plea bargain by a prosecutor
69.	2.237	Duty related violent injury (non-shooting)
70.	2.224	Press criticism of departmental action
71.	2.193	Citizen complaint of an officer
72.	2.179	Personally striking a prisoner or suspect
73.	2.176	Oral promotional review
74.	2.167	Physical arrest of a suspect
75.	2.157	Award from a citizens
76.	2.155	Administrative recognition (award/commendation)
77.	2.125	Abuse of alcohol by another officer
78.	2.111	Disciplinary action against partner
79.	2.090	Written promotional examination
80.	2.086	Preparation for retirement in the near future
81.	2.081	Department budget cut
82.	2.074	Reduction in job responsibilities
83.	2.038	Harassment by an attorney in court
84.	2.035	Successful clearance of a case
85.	2.018	A sexual abuse scene an adult victim
86.	1.991	Participation in a narcotics raid

Appendix D - b Continue

Value Level	Average Score (in 4 point scale)	Event
87.	1.990	Labour negotiations
88.	1.983	Vacation
89.	1.977	Change in department
90.	1.973	Verbal abuse from a traffic violator
91.	1.970	Release of an offender by the prosecutor
92.	1.965	Response to a silent alarm
93.	1.962	Transfer of partner
94.	1.961	Promotion with assignment to another unit
95.	1.943	Undercover assignment
96.	1.940	Handling of a mentally disturbed person
97.	1.939	Letter of recognition from the public
98.	1.936	Investigation of a political case
99.	1.935	Fugitive arrest
100.	1.935	Interrogation session with a suspect
101.	1.916	Job related illness
102.	1.912	Away from family for a long period
103.	1.891	Court appearance (Supreme court)
104.	1.882	Change in the chief administrators
105.	1.879	Change in administrative policy/procedure
106.	1.879	Pay raise
107.	1.860	Annual evaluation
108.	1.856	Changing work shifts
109.	1.852	Promotion within existing assignment
110.	1.843	Wrecking a departmental vehicle
111.	1.827	Reassignment/transfer
112.	1.814	Release of an offender by a jury
113.	1.770	Move to a new duty station
114.	1.750	Duty related accidental injury
115.	1.726	Change in supervisor
116.	1.695	Release of an offender on appeal
117.	1.691	A specialized training course
118.	1.685	Recall to duty on day off
119.	1.649	Overtime pay
120.	1.630	Dealing with a drunk
121.	1.628	Sexual advancement toward you by a citizen
122.	1.612	Response to a "sick or injured person" call
123.	1.606	Assignment to decoy duty
124.	1.570	Assignment to a day shift
125.	1.557	Call involving the arrest of a female
126.	1.544	Assignment to evening shift
127.	1.543	Court appearance (Provincial Statute)
128.	1.529	Court appearance (provincial)
129.	1.528	Assignment of new partner
130.	1.517	Delay in a trial
131.	1.508	Making a routine traffic stop
132.	1.491	Making a routine arrest

Appendix D - b Continue

Value Level	Average Score (in 4 point scale)	Event
133.	1.486	Assignment to stake out duty
134.	1.478	Routine patrol stop
135.	1.457	Assignment to night shift duty
136.	1.436	Working a traffic
137.	1.410	Work on a holiday
138.	1.379	Issuing a traffic citation
139.	1.339	Call involving juveniles
140.	1.302	Overtime duty
141.	1.268	As partner with officer of the opposite sex
142.	1.230	Completion of routine report
143.	1.162	Assignment to a two man car
144.	1.051	Assignment to a single man car

* No reaction = 0;
Mild reaction = 1;
Moderate reaction = 2;
Strong reaction = 3;
Severe reaction = 4.

Appendix E
Sample of Qualitative Results

Sample of Qualitative Results

There were several open ended sections relating the participant's working experiences, feelings and comments.

Working Experiences of Critical Incident

On the end of section 2 of the questionnaire, space was provide for describing the nature of their critical incidents. 76.5% of the participants described their experiences in detail. Randomly selected a few cases of those comments with no attempt to explore any personal information in the purpose of giving evidence of how the first line officer identified and felt about their work related stressful events and critical incidents.

Examples of comments:

"Traffic stop.. well known duty..people become violent with me."

"Shooting incident of a young child...lady in the memory..."

"I would rather not discuss..."

"A small boy was burnt to death in a house fire...and ...passed him to my arm. Too many to say"

"...my partner failed to back me up at the critical point..."

"Cannot go on. Most stressful."

"...trying to fire me..."

"Death notification of teen suicide, parents reaction had strong effect on me."

"I do not wish to discuss those"

"Police strike in 1989..."

"...that is what bothered me the most knowing I came close to shooting a human being even though it may have been assessed a rightful shooting incident."

"High speed chase with a drunk driver..."

"Investigating a fellow officer..."

"In each questions you can think of different incidents...."

"I do not remember any (event) that bothered me, I think this is the question others ask me often, I think my heart became cold..."

"I was present when two young infants were bunt to death in a fire..."

"Rather not discuss..."

The following part is the suggestions for PANS Stress Assistance Program:

" Try to send information to each Correctional Center about the program and send a representative to talk to staff and evaluate whether staff should get involved in the program."

"Chief should give their full support to the program."

"There is no doubt that a successful stress program is greatly needed."

"...send letter to spouse directly...I may not admit to problem, but my spouse may see problem."

"Each department should have a trained person...need more pro-active than re-active..."

"Higher confidentiality."

Havn't used it (the program) but from what I hear it's very good".

"...need more members to become involved...we have to find ways to break the barriers of trust between ourselves."

"...need detailed information about the program...need more channels to contact...intervention in family matters..".

"From my personal experiences, not too many people care about police officers, the stress program might help."

"It is a must that the persons who are involved are respected and trusted by

their peers. It is a must that those involved have the interest of the program and personal at heart and not involved for other reasons."

"To have more support by department and supervisor."

"I have heard it was good...if I need I will go."

Comments for the whole survey:

"I feel that every person handles stress differently often correctional officers spend 25-30 years in the business and in that time people have stress in their personal life and combines with the stress of working with people. There are a lot of anger and little hope. There are a lot of people at work ... who need help. The problem is that they do not know it. It is very sad because the impact that these stressed out people have on other officers is great in a sense it is like a cancer."

"If I can help you any please contact..."

"...alcohol abuse is still out there...stress also from the system."

"Coping education and other ways to help us..."

"If you could spend sometime on a ride along program with a department it would be good for the study and yourself."

"...I strongly felt 'recent Personal changes' section not determine how often these personal feelings or events occur greatly decreases the efficacy of the confusion in determine the personal evaluation."

"it should have positive or negative reaction 1-4..."

"I think it was worthwhile, I thought it was great to sit down and go over each topic with some great interest. I think it should be done once a year."

"I did it for four days to finish, I had thought of throwing it in the garbage. I feel that you will indeed be fortunate if you obtain a good response rate. Good luck in your future endeavours."

"Stress is a real factor in this occupation, but there has been little done in our field to help."

"This survey is a real eye opener for me, I never really sat down before and looked at all I have been involved with during my ...years of police work... one can

not avoid it so we have to deal with it in our own ways."

"...reading some of the questions I realized were reflecting towards me."

"Luckily I have strong family support me..."

"Should have question on media and race relations ..."

"I find it is good to see that there is concern for personnel in this field. More information could have been gathered by interviews. Interviews could let the person being interviewed expounded on their answers"

"How to deal with co-worker stress..."

"I hope I could leave this field as soon as I can".

"Should include family issues."

"Filling out this give me a little better understanding of how I feel overall and was helpful in some areas where I work and how I can correct some of my weaknesses."

"By filling out this questionnaires I became more aware how stressful and some of the effects that work has on me."

"In order to get a good pension plan I must go to age 65. (I think) no police should work after age 55."

"Confidentiality (is the) first concern."

"This survey may also help younger officers to understand the work more."

"Section 7 question on Marital status may not be statistically significant as an officer may indicate they are presently married and may not identify this is a 2nd or 3rd marriage..."

"I would like to know the result."

"Too long...have to stop from time to time to finish it."

"I am part time, I do not have sick leave pay benefit, so I almost never sick'."

"It is very helpful in clear with work related stress and life in general."

"I felt this survey is a good idea and should be done every couple of years."

"Thank you for your interest."

"This survey will let officers vent this feeling without feeling embarrassed. The anonymity allowed let us talk about things that we would not talk about among friends of fellow workers."

"I fell very comfortable filling out this it asked the right question about the effect of our job....I answered more questions on the paper than I have ever talked about or told anyone."

"Police work is stressful for the family members also, maybe you could make more questions along that line."

"I would love to help you more-good luck."

"Sick days-police....sometimes used for other...child's birthday...get things down...call in sick so I can feel normal for one day."

To Respondents:

First of all, please accept my thanks for all of your responses for the Law Enforcement Stress Survey.

Everyone of you has your own unique experiences related to your professional work place and every one of you has completed this questionnaire seriously. I am quite impressed with your responses that indicate to me that you are truly honest and conscientious in dealing with it. I am deeply touched by the critical events that you have described in your careers. It is true that you contribute a lot of time and effort both physically and emotionally to your jobs in order to ensure the peace and security of all citizens. Every questionnaire you have answered is very valuable in gaining an understanding of the unique stressful events involved in law enforcement activities. In addition, I give my special thanks to those whom voluntarily finished the re-test. Since this is a rather long survey, I am sure all of you must have spent quite a bit of time filling it out. Thank you for your support and understanding again.

The result of this study will be reported upon completion, but your name or any other identifying information will never be disclosed to anyone. Only group information will be reported. Your responses, comments and suggestions, even criticisms are encouraged and are important to me not only for my work on the this study, but also for understanding the duty of psychology to providing better psychological services for law enforcement personnel. It is no doubt that your responses are also very important in the development of law enforcement services and policies in the future.

I am very grateful for your cooperation, thanks all of you.

Sincerely

Dan Zhang

