

Law Enforcement Management Institute

Post Traumatic Stress Disorder In  
Law Enforcement Officers

A Research Paper  
Submitted in Partial Fulfillment  
of Requirements for Graduation from  
LEMI

By  
Earl Sturrock

Deer Park Police Department  
Deer Park, Texas  
October 28, 1991

#195

## ABSTRACT

The purpose of this research is to define the incidence, causality, and manifestations of Post Traumatic Stress Disorder (PTSD) among police officers based on a comprehensive review of the research; to determine the affects of the disorder upon police officers in an individual sense, as well as an occupational factor influencing the effectiveness of the police department as a whole. Further, it seems important and useful to formulate recommendations for treatment, prevention, and alleviation of the syndrome.

## TABLE OF CONTENTS

## Chapter

1. INTRODUCTION
  - Defining Post Traumatic Stress Disorder (PTSD)
  - PART I. HISTORY OF PTSD**
2. MILITARY COMBAT VETERANS/PEACE TIME COMBAT
  - Backgrounds and Observations
  - Manifestations of PTSD
  - PART II. STRESSORS IN LAW ENFORCEMENT**
3. PREDISPOSITION FACTORS
  - Serious Injury Auto Accidents
  - Crime Victim Association
  - Police Shootings
  - Disasters
4. STRESS AND PTSD: ITS TOLL ON LAW ENFORCEMENT PERSONNEL
  - Alcohol and Drug Abuse
  - Health and Medical Conditions
  - Longevity
  - PART III. MANAGEMENT OF PTSD**
5. INTERVENTION
  - Selection
  - Prevention
  - Support
  - Training

6. CONCLUSION/RECOMMENDATIONS

Policy Implementation

Wellness

# POST TRAUMATIC STRESS DISORDER IN LAW ENFORCEMENT OFFICERS

## CHAPTER 1

### INTRODUCTION

Mental health professionals have observed that people who experience various traumatic episodes such as plane crashes, natural disasters, fires, acts of terrorism, and other catastrophic events have behavioral symptoms identical to combat veterans whose symptoms were referred to as "shell shock" in World War I, "combat fatigue" in World War II and "the thousand yard stare" in the Vietnam war. In 1980, the American Psychiatric Association Diagnostic and Statistical Manual III termed the psychological disorders effecting these victims as post traumatic stress disorder.<sup>1</sup>

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R), post-traumatic stress disorder features "the development of characteristic symptoms following a psychologically traumatic event that is generally outside the range of usual human experience."<sup>2</sup> The stressor is considered something that would evoke symptoms in almost anyone, and is not considered to be something akin to marital conflict, bereavement, financial loss, or chronic illness. The stressors that would be considered predisposing factors to PTSD include rape, military combat, assault, car or airplane accidents, fires, bombing, torture, death camps, or natural disasters such as earthquakes. A stressor of human origin is considered likely to evoke a more severe response than a non-human stressor.

## CHAPTER 2

### MILITARY COMBAT VETERANS/ POLICE PEACETIME COMBAT

There are many parallels between the experience and the environment of the Vietnam combat soldier and today's line police officer. Both groups share the goal of fighting an enemy. Both face hazardous duty that necessitates rigorous training in self-defense, conflict and confrontation. The danger factor requires constant alertness, and the enemy is hard to identify. Relations even with non-enemies are frequently negative or adversarial. Essentially, both of these groups believe they put their lives on the line without a great deal of appreciation from those they serve.

Very often there is a "we-them" attitude that makes police officers (and veterans) feel "different" from others in the community. The police group identity becomes increasingly important as public rejection and aversive situations add up; other officers understand and that bolsters self-esteem and confidence. A strong peer culture has both positive and negative consequences. "Policemen's macho images, their need for non-emotional responses and their penchant for seeking out the most life threatening and violent assignments can lead to an inability to express feelings of inadequacy or pain. If affected by trauma, they must continue to keep up a brave front so that it appears as if they were unaffected by the incident."<sup>3</sup> Their support system thus becomes an emotional liability.

Law enforcement agencies have quasi-military command structures whose rigid hierarchy reinforces impersonality and severely limits autonomy. The strict and unquestioned discipline that works well for rapid mobilization and response to threat conflicts with the softer, more humane posture that is needed for the officers' role as "human service provider."<sup>4</sup>

Certainly, many police officers choose their occupations because their primary mission is to help people; many soldiers enlisted out of patriotic motives. Many end up being cynical and disillusioned because of their initial idealism and the consequent rude awakening that results from confronting the reality of the street or the politics of war.

Both in war and in law enforcement, a great degree of emotional distancing is necessary to get the job done and to survive. Also, the particular nature of the job means that the soldier or officer deal with only a small segment of the population and not a segment that is going to provide warm interpersonal experiences. However, off the job, this tactic produces an individual who seems cold, aloof, and unable to achieve intimacy with family or friends.

The parallels between military combat experience and policing are obviously considerable, which may help us to interchange both theory and preventive efforts when we attempt to ameliorate the effect of stress in each group.

### CHAPTER 3

#### SYMPTOMS AND PREDISPOSITION FACTORS

The characteristic symptoms which develop in PTSD include "reexperiencing the traumatic event; numbing of responsiveness to, or reduced involvement with, the external world; and a variety of autonomic, dysphoric, or cognitive symptoms."<sup>5</sup>

Reexperiencing the event occurs in the individual by means of "a) recurrent and intrusive recollections of the event, b) recurrent dreams of the event, or c) sudden acting or feeling as if the traumatic event were reoccurring, because of an association with an environmental or ideational stimulus."<sup>6</sup>

Emotional numbness occurs, causing the individual to feel detached from the world, as if an outsider looking in, and especially, feelings of intimacy and closeness to loved ones are diminished. Activities that the person may have previously engaged in no longer produce interest within the person, and the time spent pursuing these interests is lessened.

Also, at least two of the symptoms now presented have manifested themselves in the individual, which were not previously existent:

- 1) Hyperalertness or exaggerated startle response
- 2) Sleep disturbance
- 3) Guilt about surviving when others have not, or

about behavior required for survival

- 4) Memory impairment or trouble concentrating
- 5) Avoidance of activities that arouse recollection of the traumatic event
- 6) Intensification of symptoms by exposure to events that symbolize or resemble the traumatic event.<sup>7</sup>

Acute post-traumatic stress disorder is characterized by that of the onset of symptoms occurring within six months of the trauma, with the duration of the symptoms persisting for less than six months. The chronic syndrome is defined as when the symptoms last for more than six months. Delayed PTSD occurs when the onset of symptoms begins at least six months after the trauma.

Some stressors, such as a car accident, produce the disorder only occasionally; whereas other stressors, such as time spent in a concentration camp, will almost invariably produce the disorder.

Impaired memory, or difficulty in remembering the traumatic event until it is relived in painful, recurrent and intrusive recollections is a common complaint among sufferers. These recollections may take place in the waking or sleeping state, the latter of which occur in dreams or nightmares.

Rarely, dissociate-like states occur in which the recollections are so vivid to the sufferer that the individual acts out the traumatic situation as if it were

occurring at the present time. These dissociate-like states may last for minutes or hours or even days. This type of reexperiencing is most common in military combat veterans, such as those who served in Vietnam. The violent outbursts among Vietnam veterans apparently seem to be a symptom which is absent among police officers who suffer from PTSD.<sup>8</sup> One hypothesis for this absence of violence in police officers is that the traumatic episodes experienced by combat veterans are of a longer duration than the traumatic episodes generally experienced by law enforcement officers.

Sufferers of PTSD also complain of difficulty in concentrating or completing tasks. They may suffer from guilt feelings about what they could have done to alleviate the situation, or prevent it from occurring. Also, the guilt may be focused on the realization that they did certain things to survive, and were able to survive, whereas others may not have been able to accomplish this. Often, the individual feels guilty about the things required in order to survive.

Avoidance of places or things that remind the individual of the event is a common symptom. Also, if the place or thing is confronted again, the sufferer may experience the traumatic imagery previously described. The imagery is set off by something in the present that resembles something in the traumatic experience, such as hot, humid weather like that in tropical Vietnam, or, in the

case of a rape victim, perhaps the intimate touch of a sexual partner.

The investigation of automobile accidents often involves fatalities and serious injuries. Officers most often repress their emotions in dealing with the helplessness of failed rescue attempts and their identifying with the victims in relation to their own personal lives.<sup>9</sup> The law enforcement officers' empathy for victims was the focus of a study by Martin, McKean and Veltkamp (1986) exploring PTSD in police working with victims.

A questionnaire was devised which documented age, sex, and years on the police force. It also contained a checklist of possible stresses from police work that dealt with working with victim, their own victimization, and having their colleagues and loved ones victimized through their work; also, a section for additional responses was included. Furthermore, a checklist was presented which listed the symptoms of Post Traumatic Stress Disorder as described in DSM III. Respondents were asked to check whether they had experienced the symptoms "never," "sometimes," or "frequently" in reaction to the listed stresses.

In addition, the police officers were asked if they felt their personal experience with traumatic events enhanced their empathy with the rape victim. They were asked to check a spectrum of descriptors of their working

relationships with rape victims on an ordinal scale ranging from empathetic to antagonistic.

The questionnaire was distributed to approximately 75 police officers attending a sensitive crime seminar. The results concluded that twenty-six percent of the respondents to the questionnaire reported symptoms meeting criteria for PTSD.<sup>10</sup> The stressors among the police officers were shooting incidents, observing death of an officer or civilian by homicide, suicide or natural disaster.<sup>11</sup> Symptoms of PTSD are more prevalent among those suffering the stress of having family threatened or being personally threatened, and also among those reporting the chronic stresses of working with child abuse or spouse abuse cases, or dealing with rape victims. PTSD symptoms occur most often in officers who shot someone, or were shot, than in those officers not exposed to those particular traumas.<sup>12</sup>

It is also interesting to note that many female police officers (and less frequently, male police officers) became symptomatic simply by the transference of feelings of working with rape, spouse abuse, or child abuse victims.<sup>13</sup>

The study also notes that officers who are exposed to multiple stresses have an increased risk of suffering from PTSD, and that a significant proportion of officers report suffering from PTSD as a consequence to their overall high level of stress on the job.<sup>14</sup>

Post-traumatic stress reaction in police officers may occur after the individual enters an extremely stressful situation outside the normal range of human behavior, such as a shooting incident. When stress occurs in an individual so acutely, the person may later recall the incident vividly and as if in slow motion. But, at the time, the stress can be so severe that much of the trauma is internalized so as to make the immediate pain as avoidable as possible. When stress is internalized like this, a delayed stress reaction may occur, and post-traumatic stress disorder may manifest itself.

When an experienced officer makes a split-second decision on the use of deadly force, it was found that he/she considers situational cues more important than personal disposition.<sup>15</sup> The nature of the crime and the information surrounding it -- such as, the subject's weapon, physical distance, presence of bystanders, and availability of backup -- are more important than the physical stature and attributes of the suspect (weight, height, race and sex).

The decision an officer makes is either to take no action, to draw weapon and hold at side, or to point the weapon at the suspect. In a study by Holzworth (1985), a series of hypothetical situations were presented to officers and they were asked to indicate the likelihood that they would draw their firearms. The mean level of agreement

among the officers as to what their response would be was over fifty percent. The implication is that in shooting situations, uniform behaviors are taught; however, there is room for judgment. But, since when certain situations arise, the officers are taught in training to respond in a certain manner, this gives rise to the concept that there is a right and a wrong way to respond in any situation.<sup>16</sup>

Since there is a "right" and a "wrong" way, the officer's behavior may deviate from the expected, in his own eyes and the eyes of the department and public. The possibility of guilt feelings and humiliation if she/he does not do the "right" thing may be present somewhere in the back of the officer's mind before the situation even occurs. However, if it does occur, the removal of the officer's weapon by the department, and the impending investigation, tend to exacerbate these feelings. This standardized treatment of all shooting situations may heighten levels of stress immediately following the incident, and contribute to PTSD.<sup>17</sup>

It has been noted that the highest period of symptomatic reactions manifesting in PTSD usually occur in the first forty-eight to seventy-two hours after the incident.<sup>18</sup> Intrusive thoughts of the incident are contemplated inside the officer's mind. Says one officer, "I went over the event in my head about a thousand times each day for the first three or four days after."<sup>19</sup> The

intrusive thoughts cannot be disposed of at will, and the officer may believe that he is going crazy.

Flashbacks may occur, where the trauma is relived and the emotions surrounding the incident are experienced as if they were happening at the moment. The flashbacks in most instances are vivid and are presented in slow motion. Traumatic imagery can briefly overwhelm the individual, and is seen as an "integral aspect of the adaptive failure following exposure to trauma."<sup>20</sup> Often these flashbacks occur from watching police programs on television.<sup>21</sup>

Because these flashbacks are so emotionally overwhelming and powerful, the officer tends to avoid situations which remind him or her of the incident, so as not to reexperience those feelings again. These avoidances may rise to a phobic level, forcing the officer to resign from the force completely, or to a desk job. Increased cautiousness and the heightened startle response is experienced if the officer is forced into a situation which reminds him of the incident.

Sleep disturbances caused by nightmares and recurring dreams are a manifestation of the syndrome. Sensitivity to criticism, guilt feelings cause by the thoughts that maybe they could have prevented the incident or acted differently, and the reevaluation of life goals and values typically follow the traumatic event. However, police officers do not

seem to suffer from as much guilt as Vietnam veterans do. The veterans had difficulty finding justification or meaning for their use of force, whereas the police officers had markedly less difficulty.<sup>22</sup>

In a study performed by Robert Loo (1986), it was found that among police officers, the impacts of PTSD having the greatest adverse effect on the members were:

Preoccupation with the incident	39%
Anger over the incident	25%
Sleep disturbances	20%
Flashbacks to the incident	20%
Reexamination of personal values	18%
Guilt feelings	14%
Wishes what happened could be undone	14%
Depression	13%

James H. Shaw in his article (1981), "Post-Shooting Trauma," states that PTSD may surface within a few days of the incident, or may delay its manifestation of symptoms for years. Shaw's observations of the symptoms of post-shooting trauma are as follows:

1. Sleep pattern disturbances.
2. Flashbacks of the incident.
3. Development of emotional isolation.
4. Episodes of depression and helplessness.
5. Fears and anxiety.

6. Alienation, cynicism, and distrust of the agency in particular and the system in general.

In a study of 37 police officers who had been involved in serious shooting incidents between 1977 and 1984, 17 had PTSD. Of the PTSD negative group, 17 still showed an impressive pattern of PTSD symptoms. Only 3 showed no symptoms at all.<sup>23</sup> In 1988, a survey was conducted by mailing questionnaires to 363 municipal officers in 121 Texas cities. A total of 296 survey instruments were returned. Data were analyzed using analysis of variance and descriptive statistics. A reported 12 percent reported symptomatology of PTSD.<sup>24</sup>

Law enforcement officers, in addition to performing law enforcement functions, are responsible for the public safety in natural disasters. In a case study of 79 police and emergency personnel following tornado disasters, it was determined that most had impressive patterns of PTSD. A symptoms check list was utilized and coping inventory check list rated the extent of their support networks.<sup>25</sup>

## CHAPTER 4

### STRESS AND PTSD: IT'S TOLL ON LAW ENFORCEMENT PERSONNEL

Police officers have a significantly higher mortality rate than other municipal employees for cancer, suicide, and increasing risk of death from arteriosclerotic heart disease with increasing years of police service. Risks increase with increasing years of police service and are related to police occupational factors and accompanying lifestyle habitation. Risk factors include a high stress work environment, irregular sleeping and eating habits, poor health habits, and lack of exercise.<sup>26</sup>

Police work has been implicated as one of the most stressful occupations in the world.<sup>27</sup> and stress has been linked to disease. Stress-related diseases have been described as "diseases of adaptation" for which stress disrupts the chemical balance of the body and leads to subsequent disease. Stress disrupts the regulatory functions of the body--the nervous and endocrine systems. All organs could eventually be affected. No disease, however, is due entirely to stress.

One particular condition thought to be brought about by stress is immunosuppression: a lowered immunity to viruses and cancer causing substances. The abnormal amounts of adrenalin secreted during stress might actually reduce the immune capability of the body and increase susceptibility to malignancy.<sup>28</sup> The elevated rate of cancer among police

officers in this study may be in part due to the high stress of the police occupation.

Stress may also play a part in digestive organ cancers. In stressful situations, peristalsis (the movement of the intestines to digest food) is decreased. Under such conditions, food and waste material containing carcinogens may remain in the intestines for a longer period of time increasing exposure and the risk of cancer in that area.<sup>29</sup>

All of these factors are exacerbated by the police occupation. The relative risk of death from heart disease, particularly arteriosclerotic heart disease, increased with increasing years of police service. Further, it was found that officers react to the stress of police work by turning to alcohol as a coping device. Violanti, et al. (1985) estimated that 25 percent of all police personnel are dependent to some degree on alcohol as a stress reliever. The risk of death from alcohol-related cancer of the esophagus was significantly elevated among police officers.<sup>30</sup>

In a study of twenty-five police officers who were evaluated upon employment and again two years later, eleven of the officers were available for follow-up four years after recruitment. Minnesota Multiphasic Personality Inventory (MMPI) scores showed significant changes over time, suggesting increased somatic symptoms, anxiety, and alcohol vulnerability. The increased vulnerability to

alcohol abuse was the strongest finding. Results demonstrate the need for periodic reevaluation to prevent stress-associated problems and also initiate early intervention programs.<sup>31</sup>

Role ambiguity becomes a stressor when it produces in the individual a sense of frustration over what is expected of him. When a person experiences role conflict, he or she knows the demands of the job, but for some reason, psychologically or logistically, is not able to fulfill that role. This sense of role ambiguity contributes to the stress which manifests itself in the high rate of heart attacks and strokes among officers and also in the post-traumatic stress disorder.<sup>32</sup>

A final point of discussion is the significantly high suicide rate found among police officers. The rate is almost three times that of other municipal workers. These factors have been proposed as playing a part in the risk of disease.<sup>33</sup>

Law enforcement officers are in a constant state of vigilance. Alternating periods of boredom and potentially dangerous situations keep the body in constant flux and cause shifts in adrenalin and blood sugar levels. These weaken bodily defenses and increase the likelihood of various stress related physical diseases, including high blood pressure, heart attacks, diabetes, ulcers, chronic fatigue, skin problems, headaches, panic attacks,

hyperventilation, gastric disturbances, sexual dysfunction and myriad of other disorders. Physical disabilities and ailments are evidenced in much greater numbers than in the rest of the population. Stressful psychological factors are chronic and cumulative. Consequent emotional exhaustion further weakens immunological systems and deteriorating mind and body interaction can ensue.

## CHAPTER 5

### MANAGEMENT AND INTERVENTION IN POLICE PTSD

The feelings of stress are as old as man himself and are built into our individual genetic and psychological makeup. Stress is often described as the wear and tear of life. The issue thus is not to avoid all stress, but rather the prevention of overload of pressures that are caused by stressors. The incidence of PTSD increases in frequency the higher the level of generalized stress. There is less likelihood of PTSD manifesting itself if an officer is not already suffering from a high level of generalized stress. Alleviation of general stress then becomes an objective in preventing the incidence of PTSD.

It would appear that there are specific actions that management of the police organization can do in order to better manage the stress that police personnel encounter.<sup>34</sup>

These include:

1. Development of training programs in stress awareness. Police should consider stress management as simply another skill to be learned and mastered just as is criminal law or police procedure. Police personnel at all levels need training in understanding the nature of stress, coping behavior alternatives, and the incorporation of stress management skills into supervisory practice. Prevention activities

should be developed which are designed to block or reduce the effect of the occupational stressors on the police. Relaxation techniques and family communication skill development are emphasized.

2. Establishment of specific police stress programs is recommended. These programs can be part of larger departmental psychological services, or as a part of an organizational health program, or as part of a general employee assistance program. These programs should deal with line-of-duty trauma situations. These can be group-focused activities intended to enable officers to work through feelings associated with the trauma incident while at the same time receiving group support.
3. Peer counseling programs should be utilized. Because peers may have already experienced many of the same problems, they are seen as invaluable sources of help to fellow officers. With the proper training and supervision, peer counselors can be very effective in short-term crisis intervention. The development of support groups has a rich history in helping people to cope with a variety of problems. Applying the idea of support groups to the police is easily accomplished within the organization by taking advantage of the natural groups which already

exist informally and formally within the structure.

4. Total wellness programming efforts can enhance the physical and emotional well being of officers by stressing preventive physical and mental health efforts and should include:
  - (a) Aerobic Physical Exercise
  - (b) Proper Diet
  - (c) Attain and Maintain Ideal Body Weight
  - (d) Get 7-8 Hours of Sleep Daily
  - (e) Avoid Use of Alcohol and Tobacco
5. When treating PTSD, treatment should always be coordinated with mental health professionals, and their advice strictly followed.

## CHAPTER 6

### CONCLUSIONS AND RECOMMENDATIONS

Post-traumatic stress disorder occurs in individuals who have a severe stress experience that would be considered out of the normal range of human experience and would be stressful to almost anyone. Combat, childhood sexual abuse, car accidents and police shooting incidents are examples of those incidences that fall outside the range of normal human experience. It is possible for PTSD to occur following any of these events; however the incidence of the disorder is not known and there are widely varying opinions among researchers as to the number of occurrences of PTSD.

The disorder definitely occurs and presents a problem in the police force after an officer has experienced a traumatic situation. Loss of police personnel and the emotional suffering of the officer are reasons that this disorder need be addressed and, hopefully, dealt with and alleviated. Judging from the nature of the studies done on PTSD and the recently more highly recognized manifestations of the disease, it is concluded that PTSD is not a rare phenomenon among police officers. The research results lead one to believe that PTSD may possibly be a very common occurrence among officers who have experienced a traumatic stress situation.

Now that PTSD is becoming more highly recognized, more

adequate treatment can ensue for the disorder.

Encouragement of seeking support among peers and shedding the "macho" image, encouragement or mandatory requirements to see a staff psychologist following a traumatic incident, the realization by the department of the problems that an officer might encounter after such a situation and their attempt to alleviate them, and the extension of counseling to the officer's family to provide them with understanding of the disorder and behaviors, all combine to provide a more adequate manner of dealing with the problem of post-traumatic stress disorder.

However, PTSD can and should be addressed and attempted to be dealt with long before any traumatic situation ensues and the disorder is developed. If the literature written on this disorder is correct, there is less likelihood of PTSD occurring if the officer is not already suffering from a high level of generalized stress. Attempts to alleviate general occupational stress should become a priority. When traumatic experiences occur preventive measures should be taken by requiring treatment for the disorder before it ever manifests itself in symptoms. By the time the delayed symptoms occur, they may be more difficult to alleviate.

When law enforcement officers learn to deal with the everyday stresses of police work in a positive manner, perhaps fewer traumatic situations would manifest themselves to PTSD.

Presently there is much emphasis on wellness at the work site. In view of this, and the findings of significantly high risk of disease for certain causes of death among police officers, with stress as one of the highest of the risk factors, such emphasis should be extended to police work. This may be accomplished primarily through education and organizational policy implementing the management and intervention techniques previous outlined. Given the difficult task of societal regulation and the related need for fitness and alleviation of as much stress as possible in police work, improved health should become a major goal of both the individual officer and the police organization. Involved in this health goal should be the availability of support networks, counseling programs, and stress awareness programs to combat stress in general and PTSD in particular.

## NOTES

1. R. Spitzer, J, Williams, Diagnostic and Statical Manual of Mental Disorders, 3rd ed., (Washington, D.C., 1980), 236.
2. Ibid.
3. John G. Stratton, Police Passages (Manhattan Beach: Glennon, 1984), 46.
4. Ibid., 47.
5. Spitzer, Williams, 240.
6. Ibid.
7. Ibid., 246.
8. R. Loo, "Post-Traumatic Stress Reaction Among Police Officers," Journal of Human Stress 12 (December 1986):27.
9. J. D. Hermann, "Sudden Death and the Police Officer," Issues in Comprehensive Pediatric Nursing 12 (December 1989): 237.
10. Catherine P. Martin, et. al., "Post-Traumatic Stress Disorder in Police and Working with Victims: A Pilot Study," Journal of Police Science and Administration 14 (June 1986): 99.
11. Ibid., 102.
12. Ibid., 100.
13. R. James Holzworth, et. al., "Drawing a Weapon: An Analysis of Police Judgments," Journal of Police Science and Administration 13 (March 1985): 185.
14. Ibid.
15. Stephen Carson, " Post Shooting Stress Reaction" The Police Chief. October 1982, 66.
- 16, Ibid.
17. A. P. Haas, "What is the Role of Traumatic Imagery?" Journal of Traumatic Stress 143 (January 1986): 124.

19. Carson, 67.
20. Loo, 29.
21. Ibid.
22. James H. Shaw, "Post-Shooting Trauma; Effective Measures to Deal with the Delayed Stress Reaction," The Police Chief, June 1981, 58.
23. B. P. Gersons, "Patterns of PTSD among Police Officers following Shooting Incidents: A two dimensional Model and Treatment implication," Journal of Traumatic Stress 2 (March 1989): 251.
24. Billy D. Haddock, "Police Stress: An empirical investigation by job function" (Ph.D. diss., Texas A&M University, 1988), 48.
25. S. McCammon, et al, "Emergency Workers' Cognitive Appraisal and Coping with Traumatic events," Journal of Traumatic Stress 1 (March 1988): 256.
26. J. M. Violanti, J. E. Vena, J. R. Marshall, "Disease risk and mortality among police officers: new evidence and contributing factors," Journal of Police Science and Administration 14 (January 1986): 18.
27. R. Loo, "Policy development for Psychological Services in the Royal Canadian Mounted Police," Journal of Police Science and Administration 13 (February 1985):29.
28. B. H. Fox, "Premorbid psychological factors as related to cancer incidence," Journal of Behavioral Medicine 1 (January 1978): 54.
29. Ibid., 60.
30. Violanti, Vena, Marshall, 22.
31. L. E. Beuther, P.D. Nussbaum, K. E. Meredith, "Changing Personality Patterns of Police Officers," Professional Psychology Research and Practice 19 (May 1988):506.
32. Shaw, 60.
33. Violanti, Vena, Marshall, 20.
34. R. E. Farmer, "Clinical and Managerial Implications of Stress Research on Police," Professional Psychology Research and Practice 17 (March 1990): 215.

## BIBLIOGRAPHY

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Washington, D.C.: American Psychiatric Association, 1987.
- Beutler, L. E., Nussbaum, P. D., Meredith, K. E. "Changing personality patterns of police officers." Psychology Research and Practice 19 (May 1988): 503-507.
- Carson, S. "Post shooting stress reaction." The Chief of Police, October 1982, pp. 66-67.
- Farmer, R. E. "Clinical and managerial implications of stress research on police." Journal of Police Science and Administration 17(March 1990): 205-218.
- Fox, B. H. "Premorbid psychological factors as related to cancer incidence." Journal of Behavioral Medicine 1(Jan. 1978): 45-113.
- Gersons, B. P. "Patterns of PTSD among police officers following shooting incidents: a two-dimensional model and treatment implication." Journal of Traumatic Stress 2(Feb. 1989): 247-257.
- Haas, A. P. "What is the role of traumatic imagery?" American Journal of Psychiatry 143(Jan. 1986): 124.
- Haddock, Billy D. "Police stress: an empirical investigation by job function." Ph.D. dissertation, Texas A&M University, 1988.
- Holzworth, J. R. "Drawing a weapon: an analysis of police judgment." Journal of Police Science and Administration 13(March 1985): 185.
- Leventman, S. and C. R. Figley. Strangers at home. New York, N.Y.: Praeger, 1980.
- Loo, R. "Post-shooting stress reaction among police officers." Journal of Human Stress 12 (Jan. 1986): 27-31.
- Loo, R. "Policy development for psychological services in the Royal Canadian Mounted Police." Journal of Police Science and Administration 13(Feb. 1985): 46-54.
- Martin, C. A., McKean, H. E. and H. E. Veltkamp. "Post traumatic stress disorder in police and working with victims: a pilot study," Journal of Police Science Administration 14(Feb. 1986): 98-101.

Ochberg, Frank M., ed. Post-Traumatic Therapy and Victims of Violence. New York: Brunner/Mazel, Inc., 1988.

Shaw, J. H. "Post-shooting trauma, effective measures to deal with the delayed stress reaction." The Police Chief, June 1981, pp. 58-59.

Stratton, John G. Police Passages. Manhattan Beach, CA: Glennon, 1984.

U.S. Department of Justice. Bureau of Justice Assistance. Resource Book: Preventing Law Enforcement Stress: An Organizations Role. [Washington, D.C.]: U.S. Department of Justice, Bureau of Justice Assistance, 1990.

U.S. Department of Justice, Resource Book: Coping with Police Stress. [Washington, D.C.]: U.S. Department of Justice, National Institute of Justice, 1985.

Williams, Tom. "Trauma Victims Learn to Live Again." Denver Rocky Mountain News, 15 August 1985, 4(A).

Wilson, S. P. Trauma, transformation and healing. New York, N.Y.: Brunner/Mazel 1989.