

UNDERSTANDING POLICE OFFICER STRESS: A REVIEW OF THE LITERATURE



ILLINOIS CRIMINAL JUSTICE INFORMATION AUTHORITY

ALYSSON GATENS, RESEARCH ANALYST
H. DOUGLAS OTTO, RESEARCH ANALYST

Abstract: The nature of police work may at times involve stressful situations such as the threat of, and actual, physical harm and witnessing the human toll of violence. The stress of the job combined with organizational stressors may severely impact police officers and their work. Stress can lead to substance misuse and disorders, trauma, and suicide. Police departments can address officer stress through interventions, such as counseling, peer support groups, and stress management training. This article summarizes literature on the effects of police officer stress and trauma. Police officers that embrace active coping styles may be better able to handle stress.

Introduction

Research suggests that police work can have a profound effect on officers and impact their ability to do their jobs.¹ For officers, actions taken or not taken on the job may have stressful legal and social consequences.² In addition, some officers experience trauma resulting from exposure to violence and human suffering.³ One study found over 20% of a sample of police officers had witnessed the intentional killing of at least one colleague and about 24% had seen the bodies of more than 50 deceased persons.⁴ Another study found mental health problems were associated with officers who had more time on the police force.⁵

Officers experiencing occupational stress may report the following symptoms:

- Physical (e.g., fatigue, headaches, dizziness),
- Cognitive (e.g., confusion, poor concentration, poor memory),
- Emotional (e.g., depression, anger, irritability), and
- Behavioral (e.g., antisocial behavior, loss of appetite, increased alcohol consumption).⁶

These symptoms may be indicative of a diagnosable mental health disorder.

In addition to police work itself, organizational issues, such as race and gender discrimination, lack of trust in other officers, and lack of job satisfaction are sources of stress.⁷ Researchers theorize that, to some extent, police expect, and are prepared for, stressful situations when interacting with the public, but not within their own organization. Organizational stress may lead to feelings of betrayal and cause a loss of trust in their department.⁸ Several studies have noted an association between perceived stress and shift work, common in policing.⁹ The variation in scheduling and hours worked can cumulatively place additional stress on officers.¹⁰

This article explores the effects that stress and trauma can have on the general well-being of police officers and identifies future areas for research to better understand the problem.

Effects of Stress and Trauma on Police Officers

Impacts of police stress range from mild to severe. Common effects of stress include headache, irritability or anger, fatigue, and social withdrawal, among others.¹¹ Over time, stress can lead to more severe physical health consequences, such as heart disease and high blood pressure.¹² Research suggests that police officers may even have lower life-expectancies than the general population due to stress, however, much more research is needed to determine the extent and nature of this relationship.¹³

Symptoms of Stress

Poor sleep. Several police surveys have indicated an association between high levels of perceived stress and self-reported poor sleep.¹⁴ One study found that organizational stressors were strongly related to poor overall sleep quality, whereas stress resulting from critical incident exposure was related to nightmares but less associated with general sleep issues.¹⁵ Another study

found a link between increased stress, lower perceived health, and more sleep complaints in police officers.¹⁶ Other research has identified significant deficits in cognition (e.g., attention, learning, memory) as a result of sleep deprivation, which could be detrimental to police work.¹⁷

Negative coping mechanisms. Many officers develop negative coping mechanisms as they adjust to police culture.¹⁸ Negative coping mechanisms include avoidance of friends and family, substance use, and repression of emotions which can reinforce feelings of isolation.¹⁹ Alcohol consumption is often employed as a way for officers to socialize and as a maladaptive coping mechanism for stress.²⁰ After experiencing trauma, some officers develop coping mechanisms that reinforce their separation and isolation from the civilian population.²¹

Burnout. Maslach et al. (2001) defined burnout as a “prolonged response to chronic emotional and interpersonal stressors on the job.”²² Police officers may be susceptible to burnout due to the nature of police work, which requires officers to interact with the public in stressful or emotional situations.²³ Over time, this type of exposure can foster feelings of exhaustion that result in emotional and cognitive distancing from work.²⁴ Officers may exhibit burnout by adopting more cynical attitudes to their work and the public and insulating themselves from the emotional exhaustion of repeated exposure to stressful situations. One study found that efforts to feel true emotional sympathy for people were significantly positively correlated with elevated levels of emotional exhaustion among police officers.²⁵

Aggression and violence. In one study of police officers, those who reported experiencing a higher level of perceived stress were more likely to report engaging in intimate partner violence.²⁶ Another study sample found 60% of police spouses experienced verbal and/or emotional abuse.²⁷ Some research suggests a positive association between number of hours worked by an officer and the likelihood of domestic violence.²⁸ In fact, one study found that the effect of police officer exposure to violence on spousal violence is mediated through burnout (i.e., emotional exhaustion and detachment from the job) and authoritarian spillover (i.e., acting in an authoritarian manner toward family members).

To date, there is limited research regarding the impact that stress among police officers may have on the likelihood of using force in police-civilian interactions. Existing research findings have shown mixed results, though these studies may be outdated and/or lack generalizable samples.²⁹

Mental Health Disorders

Trauma and stress-related disorders. The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) includes a new category of clinical mental health diagnoses: Trauma and Stress-Related Disorders.³⁰ While most individuals experience some level of distress with a traumatic incident, some will go on to experience persistent issues, such as posttraumatic stress disorder (PTSD), requiring treatment.³¹ Mental health treatment can be beneficial to anyone experiencing distress after exposure to trauma, regardless of symptom severity.³²

Chronic stress. Chronic stress can impair individuals’ abilities to regulate emotions, make timely decisions, and exercise sound judgment. Defined as the “stress resulting from repeated exposure to situations that lead to the release of stress hormones,”³³ chronic stress can

also have negative physical effects.³⁴ Police officers can develop chronic stress through exposure to critical incidents.³⁵ According to the Occupational Safety and Health Administration, critical incidents include exposure to tragedy, death, serious injuries, and threatening situations; stress caused by exposure to critical incidents can manifest in negative physical, cognitive, emotional, or behavioral symptoms.³⁶

In one study, officers in urban areas reported witnessing an average of 168.5 critical incidents in their careers; rural officers reported witnessing an average of 188.5 critical incidents.³⁷ A survey of police officers in a large urban department revealed over a quarter of respondents had shot someone, and nearly a third of those respondents indicated the incident had a high emotional effect.³⁸ In addition, a study of police officers found that about 32% of respondents screened positive for PTSD.³⁹ This research suggests that police officers are at a high risk for trauma and stress-related mental health disorders.

Posttraumatic stress disorder (PTSD). The American Psychiatric Association defines PTSD as a psychiatric disorder brought on by experiencing any traumatic event. Symptoms include intrusive thoughts, thought avoidance, negative changes in mood, and changes in physical and emotional reactions (i.e., being easily startled, self-destructive behavior, irritability).⁴⁰ Elevated stress levels are associated with increased risk of PTSD and depression among police officers.⁴¹

The medical community views PTSD and related mental health disorders among first responders as occupational hazards, normalizing their occurrence within the profession.⁴² Officers can experience trauma directly or be subject to vicarious trauma (e.g., witnessing death or abuse).⁴³ Both the frequency and severity of exposure to critical incidents are important factors in the likelihood of developing PTSD.⁴⁴ Research suggests police officers exhibit higher rates of PTSD than the general population, with estimates of prevalence between 7% and 19%.⁴⁵ Many officers may also experience significant symptoms of posttraumatic stress, but do not meet the diagnostic criteria for PTSD; this level of stress can be described as a subsyndromal form of PTSD.⁴⁶

Substance use disorders. Addiction and substance use disorders are defined as brain diseases whereby changes to the brain's wiring cause intense cravings for certain substances.⁴⁷ Symptoms include lack of control over substance use, social dysfunction, substance-related risk-taking behaviors, and increased tolerance and withdrawal symptoms.⁴⁸ Research is somewhat split on whether police officers use alcohol at rates higher than those of the general population. One study of Mississippi police officers found no statistically significant difference in the amount of alcohol consumed by the police than the general population.⁴⁹ This study also found that much like the general population, young single male officers exhibited more hazardous alcohol consumption behaviors. Additionally a Florida study found officers did not exhibit higher rates of problematic alcohol consumption than the general population.⁵⁰ Another study found law enforcement officers who used alcohol as a coping strategy to deal with stress and trauma were at greater risk for suicidal ideation.⁵¹

There is little evidence to suggest that police officers regularly engage in drug use generally or as a result of work-related stress or trauma. The lack of research on this topic could be due to the inherently hidden nature of drug use.⁵² One of the only pieces of research on this topic is a study

from 1988 that found that 10% and 20% of a sample of police officers used non-prescription drugs and marijuana, respectively, while on-duty.⁵³ However, this study included less than 100 officers from only one police department and was not intended to hold generalizable implications. Additionally, the study did not determine the extent to which the officers used drugs or whether they suffered from substance use disorders.⁵⁴ While departmental drug testing could inform levels of police drug and alcohol use, this measure may be unreliable due to announcement effects (i.e., where police are alerted to the testing in advance) and officer familiarity with the testing procedures.⁵⁵ Additionally, large-scale drug testing across many jurisdictions would be needed to generalize the results.⁵⁶

Police Officer Suicide

Conducting research on police officer death by suicide is often difficult due to a lack of comprehensive available data.⁵⁷ The U.S. Bureau of Labor Statistics reports 24 workplace suicides by police personnel and six by correctional staff were logged between 2011 and 2014. These counts were high compared to other professions.⁵⁸ Some research indicates the prevalence of suicide is higher among police officers than the general population as well. One study found police officers had a 69% greater risk for suicide than those in the general employed population.⁵⁹ However, studies on the extent and nature of police suicides have been lacking in methodological rigor.⁶⁰ Still, it is important to understand police suicide with other considerations in mind, such as demographics and risk factors unique to the police profession. In addition, some argue police suicides may be classified under “other causes of death” or as “undetermined,” suggesting the actual rate of suicides may be higher.⁶¹

Who is at risk? Demographic studies reveal significant trends in police officer suicide. One study found that male officers had a similar rate of suicide compared to the rate within the general male population.⁶² However, female officers had a rate that was four times higher than that of women in the general population.⁶³ Research also showed White officers had higher risk for suicide than Black or Hispanic officers.⁶⁴ Another study revealed PTSD and increased alcohol use were linked to a marked increase in suicidal ideation in police officers.⁶⁵ Other research indicated officers those who were single had a significantly higher risk for suicidal ideation than those who were married or in a committed relationship.⁶⁶ Furthermore, a recent study showed family members of law enforcement have a higher rate of suicide than the national rate.⁶⁷

Some research suggests that departmental factors (e.g., low levels of job satisfaction, organizational stress/strain, lack of managerial support) were associated with risk for suicidal ideation.⁶⁸ One study found suicide rates were higher among police than correctional officers.⁶⁹ Some research shows that department size also may have an impact. One study found that police departments with 50 or fewer officers have a significantly higher annual suicide rate than large departments.⁷⁰ This may be due in part to officers in smaller rural departments facing additional stress due to working alone, having fewer officers available for backup in dangerous situations, and lacking access to resources for addressing mental health issues.⁷¹ Additionally, some longitudinal research indicates retired officers may be less likely to commit suicide than working officers. One 50-year follow-up study found that working officers were about eight times more likely to commit suicide.⁷² Some research suggests increases in age are significantly correlated

with increases in risk for suicide among female officers, while this relationship is not statistically significant for male officers.⁷³

Warning signs for anyone contemplating suicide include feelings of hopelessness, anger, anxiety, mood swings, and reckless or risky behavior.⁷⁴ Warning signs unique to police officers may include entering dangerous situations without backup, threatening themselves or others, or flouting department rules.⁷⁵ One study found 88% of law enforcement personnel who committed suicide used a firearm, compared to 27% in the general population.⁷⁶ A comparison study found that in New York City, officers had a rate of suicide twice as high as civilians; however, in London, where officers do not carry firearms, the rate was comparable to the civilian rate.⁷⁷ A study of the Israeli Defense Force found that when policy was changed and members were prohibited from bringing their weapons home on the weekends, suicides decreased by 40%.⁷⁸

Protective Factors and Growth

Police officers may demonstrate greater resiliency to stress than the general public.⁷⁹ Some research suggests that having more benevolent worldviews, higher levels of extraversion, and lower levels of neuroticism are all protective factors that increase capacity for resilience to PTSD.⁸⁰ Additionally, police officers that demonstrate higher levels of positive emotion prior to active duty are more likely to demonstrate resilience to stress than officers with elevated levels of negative emotions.⁸¹ To become a police officer, an individual must be cleared through psychological assessments to be considered fit for duty.⁸² One study found that individuals with longer tenures of employment as police officers were less at risk of PTSD and suicidal ideation; this may be due to greater development of coping skills over time.⁸³ In fact, active coping styles (i.e., identifying sources of stress and developing a plan to overcome them) have been noted as effective protective factors at the individual level.⁸⁴ Other protective factors include strong social and intimate connections, peer support and counseling, and education.⁸⁵

Posttraumatic growth. Some officers experience positive outcomes after a traumatic experience. In such cases, trauma alters an individual's worldview and leads to cognitive reprocessing, an experience known as post-traumatic growth.⁸⁶ Five aspects of post-traumatic growth include:

- Growth related to new possibilities.
- Ability to relate to others.
- Increased sense of personal strength.
- Greater appreciation for life.
- Spiritual change.⁸⁷

Research findings are mixed on the relationship between posttraumatic stress symptoms and post-traumatic growth; some research demonstrates an association, while others find no reliable connection.⁸⁸ Several studies examining the relationship between traumatic events and post-traumatic growth among police officers found symptoms of the two were significantly positively correlated.⁸⁹ Therefore, it appears officers who experience trauma are more likely to experience greater post-traumatic growth.

Conclusion

Police officers are often exposed to violent or traumatic incidents that result in stress.⁹⁰ Stress among police officers also can be caused by less salient issues—organizational or work-place stressors such as discrimination, job dissatisfaction, and shift work.⁹¹ Stress takes an emotional and physical toll on police officers, often leading to PTSD, which is estimated to be higher among police officers than among those in the general population.⁹²

Officers suffering from stress may turn to negative coping mechanisms, such as substance misuse, putting them at greater risk for suicidal ideation.⁹³ However, research on police suicide is limited or inconclusive.⁹⁴ In addition, practitioners have a limited understanding of the differences in stress between officers in rural versus urban jurisdictions. Finally, treatment services intended to assist police officers with stress and mental health issues require future evaluation in the effort to determine efficacy.⁹⁵

This project was supported by Grant #16-DJ-BX-0083, awarded to the Illinois Criminal Justice Information Authority by the U.S. Department of Justice Office of Justice Programs' Bureau of Justice Assistance. The opinions, findings, and conclusions or recommendations expressed in this publication/program/exhibition are those of the author(s) and do not necessarily reflect the views of the Department of Justice or grant-making component, or the Illinois Criminal Justice Information Authority.

Acknowledgement: Jessie Holton, PhD., police officer, training director for Law Enforcement Today, and co-founder of T-6 Advanced Training & Career Development Group provided feedback on this article.

Suggested citation: Gatens, A., & Otto, H. D. (2020). *Understanding police officer stress: A review of the literature*. Chicago, IL: Illinois Criminal Justice Information Authority.

¹ Garbarino, S., Cuomo, G., Chiorri, C., & Magnavita, N. (2013). Association of work-related stress with mental health problems in a special police force unit. *BMJ Open*, 3(7), e002791

² Chopko, B. A. (2010). Posttraumatic distress and growth: An empirical study of police officers. *American Journal of Psychotherapy*, 64(1), 55-72.

³ Heyman, M., Dill, J., & Douglas, R. (2018). *The Ruderman white paper on mental health and suicide of first responders*. Boston, MA: The Ruderman Family Foundation.

http://rudermanfoundation.org/white_papers/police-officers-and-firefighters-are-more-likely-to-die-by-suicide-than-in-line-of-duty/

⁴ Weiss, D. S., Brunet, A., Best, S. R., Metzler, T. J., Liberman, A., Pole, N., Fagan, J. A., & Marmar, C. R. (2010). Frequency and severity approaches to indexing exposure to trauma: The Critical Incident History Questionnaire for police officers. *Journal of Traumatic Stress*, 23(6), 734-743.

⁵ Garbarino, S., Cuomo, G., Chiorri, C., & Magnavita, N. (2013). Association of work-related stress with mental health problems in a special police force unit. *BMJ Open*, 3(7), e002791.

⁶ Occupational Safety and Health Administration. (n.d.) *Critical incident stress guide*. <https://www.osha.gov/SLTC/emergencypreparedness/guides/critical.html>

⁷ Chae, M. H., & Boyle, D. J. (2013). Police suicide: Prevalence, risk, and protective factors. *Policing: An International Journal of Police Strategies & Management*, 36(1), 91-118.; Collins, P. A., & Gibbs, A. C.

-
- C. (2003). Stress in police officers: a study of the origins, prevalence and severity of stress-related symptoms within a county police force. *Occupational Medicine*, 53(4), 256-264.; Gershon, R. R., Barocas, B., Canton, A. N., Li, X., & Vlahov, D. (2009). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, 36(3), 275-289.; Kirkcaldy, B., Cooper, C. L., & Ruffalo, P. (1995). Work stress and health in a sample of US police. *Psychological Reports*, 76(2), 700-702.; Violanti, J. M., & Aron, F. (1994). Ranking police stressors. *Psychological Reports*, 75(2), 824-826.
- ⁸ Gershon, R. R., Barocas, B., Canton, A. N., Li, X., & Vlahov, D. (2009). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, 36(3), 275-289.
- ⁹ Violanti, J. M., & Aron, F. (1995). Police stressors: Variations in perception among police personnel. *Journal of Criminal Justice*, 23(3), 287-294.; Violanti, J. M., Charles, L. E., Hartley, T. A., Mnatsakanova, A., Andrew, M. E., Fekedulegn, D., Vila, B., & Burchfiel, C. M. (2008). Shift-work and suicide ideation among police officers. *American Journal of Industrial Medicine*, 51(10), 758-768.; Yamauchi, H., Iwamoto, M., & Harada, N. (2001). Physiological effects of shift work on hospital nurses. *Journal of Human Ergonomics*, 30, 251-254.
- ¹⁰ Chapin, M., Brannen, S. J., Singer, M. I., & Walker, M. (2008). Training police leadership to recognize and address operational stress. *Police Quarterly*, 11(3), 338-352.
- ¹¹ Mayo Clinic. (2019, April 4). *Stress symptoms: Effects on your body and behavior*. <https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/stress-symptoms/art-20050987>
- ¹² Sheehan, D. C., & Van Hasselt, V. B. (2003). Identifying law enforcement stress reactions early. *FBI Law Enforcement Bulletin*, 72, 12.
- ¹³ Violanti, J. M., Hartley, T. A., Gu, J. K., Fekedulegn, D., Andrew, M. E., & Burchfiel, C. M. Life expectancy in police officers: A comparison with the U.S. general population. *International Journal of Emergency Mental Health*, 15(4), p. 217.
- ¹⁴ Charles, L. E., Slaven, J. E., Mnatsakanova, A., Ma, C., Violanti, J. M., Fekedulegn, D., Andrew, M. E., Vila, B. J., & Burchfiel, C. M. (2011). Association of perceived stress with sleep duration and sleep quality in police officers. *International Journal of Emergency Mental Health*, 13(4), 229.; Gerber, M., Kellmann, M., Elliot, C., Hartmann, T., Brand, S., Holsboer-Trachsler, E., & Pühse, U. (2013). Perceived fitness protects against stress-based mental health impairments among police officers who report good sleep. *Journal of Occupational Health*, 13-0030.
- ¹⁵ Neylan, T. C., Metzler, T. J., Best, S. R., Weiss, D. S., Fagan, J. A., Liberman, A., Rogers, C., Vedantham, K., Brunet, A., Lipsey, T. L., & Marmar, C. R. (2002). Critical incident exposure and sleep quality in police officers. *Psychosomatic Medicine*, 64(2), 345-352.
- ¹⁶ Gerber, M., Hartmann, T., Brand, S., Holsboer-Trachsler, E., & Pühse, U. (2010). The relationship between shift work, perceived stress, sleep and health in Swiss police officers. *Journal of Criminal Justice*, 38(6), 1167-1175.
- ¹⁷ McCoy, J. G. & Strecker, R. E. (2013). The cognitive cost of sleep lost. *Neurobiology of Learning and Memory*, 96(4), 564-582.
- ¹⁸ Gershon, R. R., Lin, S., & Li, X. (2002). Work stress in aging police officers. *Journal of Occupational and Environmental Medicine*, 44(2), 160-167.
- ¹⁹ Rees, B., & Smith, J. (2008). Breaking the silence: The traumatic circle of policing. *International Journal of Police Science & Management*, 10(3), 267-279.; Richmond, R. L., Wodak, A., Kehoe, L., & Heather, N. (1998). How healthy are the police? A survey of life-style factors. *Addiction*, 93(11), 1729-1737.; He, N., Zhao, J., & Archbold, C. A. (2002). Gender and police stress: The convergent and divergent impact of work environment, work-family conflict, and stress coping mechanisms of female and male police officers. *Policing: An International Journal of Police Strategies & Management*, 25(4), 687-708.
- ²⁰ Chae, M. H., & Boyle, D. J. (2013). Police suicide: Prevalence, risk, and protective factors. *Policing: An International Journal of Police Strategies & Management*, 36(1), 91-118.

-
- ²¹ Rees, B., & Smith, J. (2008). Breaking the silence: The traumatic circle of policing. *International Journal of Police Science & Management*, *10*(3), 267-279.
- ²² Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(1), 397-422.
- ²³ McCarty, W. P., Zhao, J., & Garland, B. E. (2007). Occupational stress and burnout between male and female police officers: Are there any gender differences? *Policing: An International Journal of Police Strategies & Management*, *30*(4), 672-7
- ²⁴ Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(1), 397-422.
- ²⁵ Schaible, L. M. & Six, M. (2016). Emotional strategies of police and their varying consequences for burnout. *Police Quarterly*, *19*(1), 3-31.
- ²⁶ Gershon, R. R., Barocas, B., Canton, A. N., Li, X., & Vlahov, D. (2009). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, *36*(3), 275-289.
- ²⁷ Street, A. E., & Arias, I. (2001). Psychological abuse and posttraumatic stress disorder in battered women: Examining the roles of shame and guilt. *Violence and Victims*, *16*(1), 65.
- ²⁸ Neidig, P. H., Russell, H. E., & Seng, A. F. (1992). Interspousal aggression in law enforcement families: A preliminary investigation. *Police Studies*, *15*, 30.
- ²⁹ Manzoni, P. & Eisner, M. (2006). The police and the public: Influences of Work-related stress, job satisfaction, burnout, and situational factors. *Criminal Justice and Behavior*, *33*(5).; Lechette, Z. J. (2018). *Job satisfaction, organizational stress and use of force attitudes among patrol officers in North Carolina*. [Doctoral dissertation, Nova Southeastern University]. NSUWorks. https://nsuworks.nova.edu/cgi/viewcontent.cgi?article=1184&context=fse_etd/
- ³⁰ American Psychiatric Association. (2013) *Diagnostic and statistical manual of mental disorders*, (5th ed.). Washington, DC: Author.
- ³¹ Gupton, H. M., Axelrod, E., Cornell, L., Curran, S. F., Hood, C. J., Kelly, J., & Moss, J. (2011). Support and sustain: Psychological intervention for law enforcement personnel. *The Police Chief*, *78*(8), 92-97.
- ³² Gupton, H. M., Axelrod, E., Cornell, L., Curran, S. F., Hood, C. J., Kelly, J., & Moss, J. (2011). Support and sustain: Psychological intervention for law enforcement personnel. *The Police Chief*, *78*(8), 92-97.
- ³³ Centre for Studies on Human Stress. (2019). *Acute vs. chronic stress*. <https://humanstress.ca/stress/understand-your-stress/acute-vs-chronic-stress/>
- ³⁴ Greenwood, D. C., Muir, K. R., Packham, C. J., & Madeley, R. J. (1996). Coronary heart disease: A review of the role of psychosocial stress and social support. *Journal of Public Health Medicine*, *18*(2), 221-231.
- ³⁵ Weiss, D. S., Brunet, A., Best, S. R., Metzler, T. J., Liberman, A., Pole, N., Fagan, J. A., & Marmar, C. R. (2010). Frequency and severity approaches to indexing exposure to trauma: The Critical Incident History Questionnaire for police officers. *Journal of Traumatic Stress*, *23*(6), 734-743.
- ³⁶ Occupational Safety and Health Administration. (n.d.) *Critical incident stress guide*. <https://www.osha.gov/SLTC/emergencypreparedness/guides/critical.html>
- ³⁷ Weiss, D. S., Brunet, A., Best, S. R., Metzler, T. J., Liberman, A., Pole, N., Fagan, J. A., & Marmar, C. R. (2010). Frequency and severity approaches to indexing exposure to trauma: The Critical Incident History Questionnaire for police officers. *Journal of Traumatic Stress*, *23*(6), 734-743.; Chopko, B. A., Palmieri, P. A., & Adams, R. E. (2015). Critical incident history questionnaire replication: Frequency and severity of trauma exposure among officers from small and midsize police agencies. *Journal of Traumatic Stress*, *28*(2), 157-161
- ³⁸ Gershon, R. R. M., Barocas, B., Canton, A. N., Li, X., & Vlahov, D. (2009). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, *36*(3), 275-289.

-
- ³⁹ Asmundson, G. J. G. & Stapleton, J. A. (2008). Associations between dimensions of anxiety sensitivity and PTSD symptom clusters in active-duty police officers. *Cognitive Behaviour Therapy*, 37(2), 66-75.
- ⁴⁰ American Psychiatric Association. (January 2020). What is posttraumatic stress disorder? <https://www.psychiatry.org/patients-families/ptsd/what-is-ptsd>
- ⁴¹ Gershon, R. R., Barocas, B., Canton, A. N., Li, X., & Vlahov, D. (2009). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, 36(3), 275-289.; Gershon, R. R., Lin, S., & Li, X. (2002). Work stress in aging police officers. *Journal of Occupational and Environmental Medicine*, 44(2), 160-167.; Wang, Z., Inslicht, S. S., Metzler, T. J., Henn-Haase, C., McCaslin, S. E., Tong, H., Neylan, T. C., & Marmar, C. R. (2010). A prospective study of predictors of depression symptoms in police. *Psychiatry Research*, 175(3), 211-216.
- ⁴² Heyman, M., Dill, J., & Douglas, R. (2018). *The Ruderman white paper on mental health and suicide of first responders*. Boston, MA: The Ruderman Family Foundation. http://rudermanfoundation.org/white_papers/police-officers-and-firefighters-are-more-likely-to-die-by-suicide-than-in-line-of-duty/
- ⁴³ Arter, M. L., & Menard, K.S. (2018). An examination of the reasons police officers fail to seek treatment for occupational stress. *Law Enforcement Executive Forum*, 18(1), 30-42.
- ⁴⁴ Weiss, D. S., Brunet, A., Best, S. R., Metzler, T. J., Liberman, A., Pole, N., Fagan, J. A., & Marmar, C. R. (2010). Frequency and severity approaches to indexing exposure to trauma: The Critical Incident History Questionnaire for police officers. *Journal of Traumatic Stress*, 23(6), 734-743.
- ⁴⁵ Marmar, C. R., McCaslin, S. E., Metzler, T. J., Best, S., Weiss, D. S., Fagan, J., Liberman, A., Pole, N., Otte, C., Yehuda, R., Mohr, D., & Neylan, T. (2006). Predictors of posttraumatic stress in police and other first responders. *Annals New York Academy of Sciences*, (1071), 1-18.; Regehr, C., & LeBlanc, V. R. (2017). PTSD, acute stress, performance and decision-making in emergency service workers. *The Journal of the American Academy of Psychiatry and the Law*, 45(2), 184-192.; Yuan, C., Wang, Z., Inslicht, S. S., McCaslin, S. E., Metzler, T. J., Henn-Haase, C., Apfel, B. A., Tong, H., Neylan, T. C., Fang, Y., & Marmar, C. R. (2011). Protective factors for posttraumatic stress disorder symptoms in a prospective study of police officers. *Psychiatry Research*, 188(1), 45-50.
- ⁴⁶ Marmar, C. R., McCaslin, S. E., Metzler, T. J., Best, S., Weiss, D. S., Fagan, J., Liberman, A., Pole, N., Otte, C., Yehuda, R., Mohr, D., & Neylan, T. (2006). Predictors of posttraumatic stress in police and other first responders. *Annals New York Academy of Sciences*, (1071), 1-18.; Stein, M. B., Walker, J. R., Hazen, A. L., & Forde, D. R. (1997). Full and partial posttraumatic stress disorder: Findings from a community survey. *American Journal of Psychiatry*, 154(8), 1114-1119.
- ⁴⁷ American Psychiatric Association. (January 2017). What is addiction? <https://www.psychiatry.org/patients-families/addiction/what-is-addiction>
- ⁴⁸ American Psychiatric Association. (January 2017). What is addiction? <https://www.psychiatry.org/patients-families/addiction/what-is-addiction>
- ⁴⁹ Lindsay, V. (2008). Police officers and their alcohol consumption: Should we be concerned? *Police Quarterly*, 11(1), 74-87.
- ⁵⁰ Oehme, K., Donnelly, E. A., & Martin, A. (2012). Alcohol abuse, PTSD, and officer-committed domestic violence. *Policing: A Journal of Policy and Practice*, 6(4), 418-430.
- ⁵¹ Violanti, J. M. (2004). Predictors of police suicide ideation. *Suicide and Life-Threatening Behavior*, 34(3), 277-283.
- ⁵² Gorta, A. (2009). Illegal drug use by police officers: Using research and investigations to inform prevention strategies. *International Journal of Police Science & Management*, 11(1), 85-96.
- ⁵³ Kraska, P. B., & Kappeler, V. E. (1988). Police on-duty drug use: A theoretical and descriptive examination. *American Journal of Police*, 7(1), 1-28.
- ⁵⁴ Kraska, P. B., & Kappeler, V. E. (1988). Police on-duty drug use: A theoretical and descriptive examination. *American Journal of Police*, 7(1), 1-28.
- ⁵⁵ Stinson, P. M. (2015). Police crime: The criminal behavior of sworn law enforcement officers. *Sociology Compass*, 9(1), 1-13.

-
- ⁵⁶ Stinson, P. M. (2015). Police crime: The criminal behavior of sworn law enforcement officers. *Sociology Compass*, 9(1), 1-13.
- ⁵⁷ Violanti, J. M. (1995). The mystery within: Understanding police suicide. *FBI Law Enforcement Bulletin*, 64, 19.
- ⁵⁸ Harris, R. (2016). Suicide in the workplace. *Monthly Labor Review*. Atlanta, GA: U.S. Bureau of Labor Statistics. <http://www.sprc.org/sites/default/files/resource-program/suicide-in-the-workplace%20%28003%29.pdf>
- ⁵⁹ Violanti, J. M., Robinson, C. F., & Shen, R. (2013). Law enforcement suicide: A national analysis. *International Journal of Emergency Mental Health and Human Resilience*, 15(4), 289-298.
- ⁶⁰ Hem, E., Berg, A. M., & Ekeberg, Ø. (2001). Suicide in police—A critical review. *Suicide and Life-Threatening Behavior*, 31(2), 224-233.
- ⁶¹ Violanti, J. M. (2010). Suicide or undetermined? A national assessment of police suicide death classification. *International Journal of Emergency Mental Health*, 12(2) 89-94.
- ⁶² Marzuk, P. M., Nock, M. K., Leon, A. C., Portera, L., & Tardiff, K. (2002). Suicide among New York City police officers, 1977–1996. *American Journal of Psychiatry*, 159(12), 2069-2071.
- ⁶³ Marzuk, P. M., Nock, M. K., Leon, A. C., Portera, L., & Tardiff, K. (2002). Suicide among New York City police officers, 1977–1996. *American Journal of Psychiatry*, 159(12), 2069-2071.
- ⁶⁴ Violanti, J. M., Robinson, C. F., & Shen, R. (2013). Law enforcement suicide: A national analysis. *International Journal of Emergency Mental Health and Human Resilience*, 15(4), 289-298.
- ⁶⁵ Violanti, J. M. (2004). Predictors of police suicide ideation. *Suicide and Life-Threatening Behavior*, 34(3), 277-283.
- ⁶⁶ Burke, R. J., & Mikkelsen, A. (2005). Gender differences in policing: Signs of progress?. *Employee Relations*, 27(4), 425-436.
- ⁶⁷ Strategic Applications International. (2018). *Officers' physical and mental health and safety: Emerging issues and recommendations. Officer safety and wellness group summary*. Washington, DC: Office of Community Oriented Policing Services. <https://ric-zai-inc.com/Publications/cops-w0862-pub.pdf>
- ⁶⁸ Pienaar, J., Rothmann, S., & Van De Vijver, F. J. (2007). Occupational stress, personality traits, coping strategies, and suicide ideation in the South African Police Service. *Criminal Justice and Behavior*, 34(2), 246-258.; Strijdom, G., & Rothmann, S. (2002). Suicide ideation in the South African police services in the North West Province. *South African Journal of Industrial Psychology*, 28(1), 44-48.
- ⁶⁹ Violanti, J. M., Robinson, C. F., & Shen, R. (2013). Law enforcement suicide: A national analysis. *International Journal of Emergency Mental Health and Human Resilience*, 15(4), 289-298.
- ⁷⁰ Violanti, J. M., Mnatsakanova, A., Hartley, T. A., Andrew, M. E., & Burchfiel, C. M. (2012). Police suicide in small departments: A comparative analysis. *International Journal of Emergency Mental Health*, 14(3), 157.
- ⁷¹ Violanti, J. M., Mnatsakanova, A., Hartley, T. A., Andrew, M. E., & Burchfiel, C. M. (2012). Police suicide in small departments: A comparative analysis. *International Journal of Emergency Mental Health*, 14(3), 157.
- ⁷² Violanti, J. M., Gu, J. K., Charles, L. E., Fekedulegn, D., Andrew, M. E., & Burchfiel, C. M. (2011). Is suicide higher among separated/retired police officers? An epidemiological investigation. *International Journal of Emergency Mental Health*, 13(4), 221-228.
- ⁷³ Violanti, J. M., Fekedulegn, D., Charles, L. E., Andrew, M. E., Hartley, T. A., Mnatsakanova, A., & Burchfiel, C. M. (2008). Suicide in police work: Exploring potential contributing influences. *American Journal of Criminal Justice*, 34(1/2), 41-53.
- ⁷⁴ Rudd, M. D., Berman, A. L., Joiner, T. E., Nock, M., K., Silverman, M., M., Mandrusiak, M., Van Orden, K., & Witte, T. (2006). Warning signs for suicide: Theory, research and clinical applications. *Suicide and Life-Threatening Behavior*, 36(3).
- ⁷⁵ Miller, L. (2005). Police officer suicide: Causes, prevention, and practical intervention strategies. *International Journal of Emergency Mental Health*, 7(2), 101.
- ⁷⁶ Deal, K. (2014). Preventing law enforcement officer suicide. *Community Policing Dispatch (The e-newsletter of the COPS office)*, 7(6). <https://cops.usdoj.gov/html/dispatch/06->

2014/preventing_officer_suicide.asp; Koloff, A. (2017). Concerns about PTSD amid rise in NJ police suicides. *USA Today Network (northjersey.com)*.

<https://www.northjersey.com/story/news/watchdog/2017/05/11/concerns-ptsd-amid-rise-nj-police-suicides/100610510/>; Miller, L. (2005). Police officer suicide: Causes, prevention, and practical intervention strategies. *International Journal of Emergency Mental Health*, 7(2), 101.

⁷⁷ Friedman, P. (1968). Suicide among police: A study of 93 suicides among New York City policemen 1934-40. In E.S. Shneidman (Ed.), *Essays of Self Destruction*. New York: Science House.

⁷⁸ Lubin, G., Werbeloff, N., Halperin, D., Shmushkevitch, M., Weiser, M., & Knobler, H. Y. (2010). Decrease in suicide rates after a change of policy reducing access to firearms in adolescents: A naturalistic epidemiological study. *Suicide and Life-Threatening Behavior*, 40(5), 421-424.

⁷⁹ Galatzer-Levy, I. R., Brown, A. D., Henn-Haase, C., Metzler, T. J., Neylan, T. C., & Marmar, C. R. (2013). Positive and negative emotion prospectively predict trajectories of resilience and distress among high-exposure police officers. *Emotion*, 13(3), 545.; Yuan, C., Wang, Z., Inslicht, S. S., McCaslin, S. E., Metzler, T. J., Henn-Haase, C., Apfel, B. A., Tong, H., Neylan, T. C., Fang, Y., & Marmar, C. R. (2011). Protective factors for posttraumatic stress disorder symptoms in a prospective study of police officers. *Psychiatry Research*, 188(1), 45-50.

⁸⁰ Yuan, C., Wang, Z., Inslicht, S. S., McCaslin, S. E., Metzler, T. J., Henn-Haase, C., Apfel, B. A., Tong, H., Neylan, T. C., Fang, Y., & Marmar, C. R. (2011). Protective factors for posttraumatic stress disorder symptoms in a prospective study of police officers. *Psychiatry*, 188(1), 45-50.; Fauerbach, J. A., Lawrence, J. W., Schmidt Jr., C. W., Munster, A. W., & Costa Jr., P. T. (2000). *The Journal of Nervous and Mental Disease*, 188(8), 510-517.

⁸¹ Galatzer-Levy, I. R., Brown, A. D., Henn-Haase, C., Metzler, T. J., Neylan, T. C., & Marmar, C. R. (2013). *Emotion*, 13(3), 545-553.

⁸² Heyman, M., Dill, J., & Douglas, R. (2018). *The Ruderman white paper on mental health and suicide of first responders*. Boston, MA: The Ruderman Family Foundation.

http://rudermanfoundation.org/white_papers/police-officers-and-firefighters-are-more-likely-to-die-by-suicide-than-in-line-of-duty/; Violanti, J. M. (2004). Predictors of police suicide ideation. *Suicide and Life-Threatening Behavior*, 34(3), 277-283.

⁸³ Violanti, J. M. (2004). Predictors of police suicide ideation. *Suicide and Life-Threatening Behavior*, 34(3), 277-283.

⁸⁴ Chae, M. H. & Boyle, D. J. (2013). Police suicide: Prevalence, risk, and protective factors. *Policing: An International Journal of Police Strategies & Management*, 36(1), 91-118.

⁸⁵ Chae, M. H. & Boyle, D. J. (2013). Police suicide: Prevalence, risk, and protective factors. *Policing: An International Journal of Police Strategies & Management*, 36(1), 91-118.

⁸⁶ Chopko, B. A. (2010). Posttraumatic distress and growth: An empirical study of police officers. *American Journal of Psychotherapy*, 64(1), 55-72.

⁸⁷ Tedeschi, R. G., & Calhoun, L. G. (1996). The Posttraumatic Growth Inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455-471.

⁸⁸ Hobfoll, S. E., Hall, B. J., Canetti-Nisim, D., Galea, S., Johnson, R. J., & Palmieri, P. A. (2007).

Refining our understanding of traumatic growth in the face of terrorism: Moving from meaning cognitions to doing what is meaningful. *Applied Psychology*, 56(3), 345-366.; Powell, S., Rosner, R., Butollo, W., Tedeschi, R. G., & Calhoun, L. G. (2003). Posttraumatic growth after war: A study with former refugees and displaced people in Sarajevo. *Journal of Clinical Psychology*, 59(1), 71-83.

⁸⁹ Chopko, B. A. (2010). Posttraumatic distress and growth: An empirical study of police officers. *American Journal of Psychotherapy*, 64(1), 55-72.; Chopko, B. A., Palmieri, P. A., & Adams, R. E. (2018). Relationships among traumatic experiences, PTSD, and posttraumatic growth for police officers: A path analysis. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10(2), 183.

⁹⁰ Heyman, M., Dill, J., & Douglas, R. (2018). *The Ruderman white paper on mental health and suicide of first responders*. Boston, MA: The Ruderman Family Foundation.

http://rudermanfoundation.org/white_papers/police-officers-and-firefighters-are-more-likely-to-die-by-suicide-than-in-line-of-duty/

-
- ⁹¹ Chae, M. H., & Boyle, D. J. (2013). Police suicide: Prevalence, risk, and protective factors. *Policing: An International Journal of Police Strategies & Management*, 36(1), 91-118.; Collins, P. A., & Gibbs, A. C. C. (2003). Stress in police officers: a study of the origins, prevalence and severity of stress-related symptoms within a county police force. *Occupational Medicine*, 53(4), 256-264.; Gershon, R. R., Barocas, B., Canton, A. N., Li, X., & Vlahov, D. (2009). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, 36(3), 275-289.; Kirkcaldy, B., Cooper, C. L., & Ruffalo, P. (1995). Work stress and health in a sample of US police. *Psychological Reports*, 76(2), 700-702.; Violanti, J. M., & Aron, F. (1994). Ranking police stressors. *Psychological Reports*, 75(2), 824-826.; Violanti, J. M., & Aron, F. (1995). Police stressors: Variations in perception among police personnel. *Journal of Criminal Justice*, 23(3), 287-294.; Violanti, J. M., Charles, L. E., Hartley, T. A., Mnatsakanova, A., Andrew, M. E., Fedulegn, D., Vila, B., & Burchfiel, C. M. (2008). Shift-work and suicide ideation among police officers. *American Journal of Industrial Medicine*, 51(10), 758-768.; Yamauchi, H., Iwamoto, M., & Harada, N. (2001). Physiological effects of shift work on hospital nurses. *Journal of Human Ergonomics*, 30, 251-254.
- ⁹² Gershon, R. R., Barocas, B., Canton, A. N., Li, X., & Vlahov, D. (2009). Mental, physical, and behavioral outcomes associated with perceived work stress in police officers. *Criminal Justice and Behavior*, 36(3), 275-289.; Gershon, R. R., Lin, S., & Li, X. (2002). Work stress in aging police officers. *Journal of Occupational and Environmental Medicine*, 44(2), 160-167.; Wang, Z., Inslicht, S. S., Metzler, T. J., Henn-Haase, C., McCaslin, S. E., Tong, H., Neylan, T. C., & Marmar, C. R. (2010). A prospective study of predictors of depression symptoms in police. *Psychiatry Research*, 175(3), 211-216.; Marmar, C. R., McCaslin, S. E., Metzler, T. J., Best, S., Weiss, D. S., Fagan, J., Liberman, A., Pole, N., Otte, C., Yehuda, R., Mohr, D., & Neylan, T. (2006). Predictors of posttraumatic stress in police and other first responders. *Annals New York Academy of Sciences*, (1071), 1-18.; Regehr, C., & LeBlanc, V. R. (2017). PTSD, acute stress, performance and decision-making in emergency service workers. *The Journal of the American Academy of Psychiatry and the Law*, 45(2), 184-192.; Yuan, C., Wang, Z., Inslicht, S. S., McCaslin, S. E., Metzler, T. J., Henn-Haase, C., Apfel, B. A., Tong, H., Neylan, T. C., Fang, Y., & Marmar, C. R. (2011). Protective factors for posttraumatic stress disorder symptoms in a prospective study of police officers. *Psychiatry Research*, 188(1), 45-50.
- ⁹³ Chae, M. H., & Boyle, D. J. (2013). Police suicide: Prevalence, risk, and protective factors. *Policing: An International Journal of Police Strategies & Management*, 36(1), 91-118.; Rothmann, S., & Van Rensburg, P. (2002). Psychological strengths, coping and suicide ideation in the South African Police Services in the North West Province. *South African Journal of Industrial Psychology*, 28(3), 39-49.; Violanti, J. M. (2004). Predictors of police suicide ideation. *Suicide and Life-Threatening Behavior*, 34(3), 277-283.
- ⁹⁴ Hem, E., Berg, A. M., & Ekeberg, Ø. (2001). Suicide in police—A critical review. *Suicide and Life-Threatening Behavior*, 31(2), 224-233.; Violanti, J. M., Mnatsakanova, A., & Andrew, M. E. (2013). Suicidal ideation in police officers: Exploring an additional measure. *Suicidology Online*, 4, 33-41.; Aamodt, M. G. & Stalnaker, N. A. (2001). Police officer suicide: Frequency and officer profiles. *Suicide and Law Enforcement*, 383-398.
- ⁹⁵ Stinchcomb, J. B. (2007). Searching for stress in all the wrong places: Combating chronic organizational stressors in policing. *Police Practice and Research*, 5(3), 259-277.



ILLINOIS CRIMINAL JUSTICE INFORMATION AUTHORITY

300 W. ADAMS STREET, SUITE 200

CHICAGO, ILLINOIS 60606

PHONE: 312.793.8550

TDD: 312.793.4170

WWW.ICJIA.STATE.IL.US

FOLLOW US

