

Gender and Age Differences in Posttraumatic Stress Disorder and Depression Among Buffalo Police Officers

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Because of the stressful nature of police work, officers may be at increased risk for posttraumatic stress disorder (PTSD) and depression. The Impact of Event Scale (IES) and Center for Epidemiologic Studies–Depression (CES-D) survey were administered to 100 officers. Mean IES and CES-D scores and prevalence of PTSD and depression were compared across gender and age. Female officers had higher mean IES and CES-D scores than male officers. Mean CES-D scores tended to increase

with age, whereas mean IES scores varied little across age. Prevalence of depression was greater among women (22.0%) than men (12.1%), yet differences were less evident for PTSD (36.6% women, 34.5% men). Depression and PTSD tended to increase with age and were not explained by gender, marital status, or education.

Keywords: depression; epidemiology; occupation; police; posttraumatic stress disorder; risk factors; stress

Posttraumatic stress disorder (PTSD) and depression are two significant psychological health issues. The National Comorbidity Survey (NCS), a representative sample of 5,877 people in the United States aged 15 to 54 years, found a 7.8% lifetime prevalence of PTSD. Approximately 14% of people in the sample exposed to trauma developed PTSD (Kessler, Sonnega, Bromet & Hughes, 1995).

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Data from the National Institute of Mental Health (NIMH) indicated a 5.2% lifetime prevalence for depression (Weissman, Bland, Canino, & Faravelli, 1996). As a result of the stressful nature of police work, this occupation encounters potential situations that could result in an increased risk of PTSD and depression. Thus, the prevalence of PTSD and depression among police officers is expected to be higher than among the general population.

Studies have shown that women in the general population are at greater risk for both PTSD and depression (Kessler et al., 1995). According to the NCS, women were 2.1 times more likely to have PTSD than men were (Kessler et al., 1995). Gender differences in PTSD prevalence have been documented with population estimates of 18.3% in women compared to 10.2% in men and 17.1% and 11.3% among female and male health care workers, respectively, who respond to victims of an air disaster (Breslau, 1998; Breslau, Davis, Peterson & Schultz, 1997; Epstein, Fullerton, & Ursano, 1998).

A study by the NIMH found that women were 2.6 times more likely to experience depression (Weissman et al., 1996). Results from the Framingham Heart Study showed that 10% of men and 17% of

women had Center for Epidemiologic Study–Depression (CES-D) scores indicative of depression (Wuslin et al., 2005). Similarly, Inaba et al. (2005) reported both U.S. and Japanese women had significantly higher mean CES-D scores than their male counterparts.

Comorbidity and type of traumatic exposure, rather than specific biological differences, may explain the increased prevalence of PTSD in women (Breslau, 1998). A number of epidemiological surveys have demonstrated that women with PTSD are twice as likely to present with depression and anxiety disorders as compared to men (Kessler et al., 1995). Different types of traumatic events produce different levels of risk for the development of PTSD. Martin, McKean, and Veltkamp (1986) found that female officers reported exposure to more traumatic incidents, such as natural disasters, suicide, and child and spousal abuse, than male officers did. Violanti and Gehrke (2004) found a 33-fold higher risk for PTSD among female police officers who were exposed to abused children than female officers who were not and a 4.3-fold increased likelihood of PTSD when they witnessed someone dying. These studies suggest that gender differences in traumatic reactions were related to the degree of identification with victims, frequency of exposure to victims, and coping styles.

Surprisingly, in similar studies, it has been documented that women have significantly fewer occurrences of traumatic events than men do. One such study found an average of 5.3 traumatic events for men and only 4.3 for women (Kessler et al., 1995).

In addition to the findings regarding mental health disparities by gender, there has also been a growing amount of evidence in the area of the prevalence of mental illness among different age groups. Wuslin et al. (2005) found that depressive symptoms decreased with age in the Framingham Heart Study; Inaba et al. (2005) reported that older adults were significantly less depressed than younger adults in U.S. and Japanese cohorts. However, in terms of PTSD, Renck, Weisaeth, and Skarbo (2002) found that older police officers (aged 51–60 years) scored higher than younger officers on the Impact of Event Scale–Revised, a measure of PTSD symptomatology.

The current study examines the police department of Buffalo, New York, and compares the prevalence of PTSD and depression for men and women. It also compares the prevalence of PTSD and depression of police officers in the age ranges of younger than 40,

40 to 49, and 50 years and older. Factors that may contribute to these differences were also examined.

Methods

Demographic, physiological, and psychological data were collected on a random sample of 100 Buffalo, New York, police officers with an oversampling of women. For this study, demographic data, the Impact of Event Scale (IES), and the CES-D were used. Details of the study design and population have been described (Violanti et al., 2006).

The IES consists of 15 items that evaluate experiences of avoidance and intrusion related to the intensity of posttraumatic stress. Respondents were asked to rate items on a 4-point scale according to how often each has occurred in the past 7 days: 0 = *not at all*, 1 = *rarely*, 3 = *sometimes*, and 5 = *often*. Seven of the items measured intrusive symptoms (intrusive thoughts, nightmares, intrusive feelings, and imagery), and the remaining eight items measured avoidance symptoms (numbing of responsiveness; avoidance of feelings, situations, ideas). These combined items provided a total subjective score of traumatic stress symptomatology. Both the intrusion and avoidance scales of the IES have displayed acceptable reliability (Cronbach $\alpha = .79$ and $.82$, respectively) and a split-half reliability for the whole scale of $.86$ (Horowitz, Wilner, & Alvarez, 1979). The IES has also displayed the ability to discriminate a variety of traumatized groups from nontraumatized groups (Briere, 1997; Sundin & Horowitz, 2002, 2003). To more precisely appraise the variation of PTSD symptoms, the IES was categorized based on a previously established formulation: 0 to 8 = subclinical, 9 to 25 = mild, 26 to 43 = moderate, and ≥ 44 = severe (Beaton, Murphy, Johnson, Pike, & Corneil, 1998, 1999; Corneil, 1995; Corneil, Beaton, Murphy, Johnson, & Pike, 1999). Categorization was based on the mean IES score of a norm group of diagnosed PTSD patients admitted for treatment ($M = 35.3$, $SD = 17.2$; Horowitz et al., 1979). A 0.50 standard deviation from the mean defined trauma stress levels because that variation limit best distinguished those with mild and those with moderate or severe reported trauma stress symptoms. For this study, the prevalence of elevated PTSD symptoms was defined using both the moderate and severe categories (IES score ≥ 26), consistent with several other studies (Chang et al., 2003; Corneil et al.,

1999; Langeveld, Grootenhuis, Voute, & de Haan, 2004; Williams, Evans, Wilson, & Needham, 2002).

The CES-D test is a 20-item test that measures symptoms of depression. Respondents rate items on a 4-point scale according to how often the symptom occurred in the past 7 days: 1 = *rarely or none of the time, less than 1 day*; 2 = *some or little of the time, 1 to 2 days*; 3 = *occasionally or a moderate amount of the time, 3 to 4 days*; and 4 = *most of all of the time, 5 to 7 days*. Scores for the CES-D range from 0 to 60. Respondents with scores between 0 and 15 are unlikely to be clinically depressed, scores of 16 to 21 indicate mild to moderate depression, and scores of 22 or greater are associated with major depression (Radloff, 1977). A score of 16 or higher is generally considered indicative of depression (McDowell & Newell, 1996). The CES-D has acceptable reliability (Cronbach $\alpha = .85$) and a split-half reliability ranging from .76 to .85 (Radloff, 1977).

Descriptive statistics for gender, age, ethnicity, education, marital status, years of police service, and police rank were computed. The means and standard deviations for IES and CES-D scores stratified by gender and by age groups were also computed. One female police officer was omitted from this analysis because questionnaire data were incomplete. Analysis of variance was used to test for differences in IES and CES-D scores between men and women and between the following age categories: <40, 40 to 49, and ≥ 50 years. Prevalence estimates for the presence of moderate and severe PTSD symptoms and depression were computed based on clinical cut points for the IES (≥ 26) and CES-D (≥ 16) scores. The potential associations of gender and age with PTSD symptoms and depression were assessed by calculating prevalence ratios (PRs) and 95% confidence intervals (CIs). Unadjusted and multivariable-adjusted PRs were estimated using Poisson regression with robust error variance (Spiegelman & Hertzmark, 2005). All analyses were completed using SAS software Version 9.1 (SAS Institute, Cary, NC).

Results

The number of men and women in the sample was nearly equal because of oversampling of women (Table 1). A large proportion of the sample was composed of Caucasian officers (76%) and those between 40 and 49 years of age (45%). The ethnic composition of the sample, 19% African American

and 5% Hispanic, was similar to the actual composition of the Buffalo police department, with 23.4% being African American, 8.1% Hispanic, and 0.4% Native American. More than half of the sample had earned a college degree (55%), and 65% were married. Approximately half of the sample held the rank of patrol officer, and 46% had worked for 16 or more years.

A greater proportion of male officers were aged 50 years and older (32.8%) compared with female officers (16.7%). A greater percentage of male police officers reported being married (74.1%) than female police officers (52.4%) and correspondingly fewer reported being divorced (8.6% vs. 23.8%, respectively).

Comparisons across age revealed that older officers (≥ 50) held higher ranks, reported more years of police service, and were married. A greater percentage of younger officers (<40) were African American (27.6%) and reported obtaining a 4-year college degree (62.1%) than older officers.

Female police officers had higher mean CES-D and IES scores than male officers did; however, these differences were not statistically significant (Table 2). Mean CES-D scores increased with age, but the trend was not significant (p linear trend = .17). Mean IES scores were similar across age groups ($p = .91$).

The overall prevalence of depression in this sample was 16%. Although prevalence of depression was higher among female officers (22%) compared to male officers (12.1%), this difference was not statistically significant (PR = 1.8; 95% CI = 0.7-4.5; Table 3). Adjustment for age, marital status, and education attenuated this association only slightly. The prevalence of depression was 0% for officers younger than 40 years of age, 24.4% for officers aged 40 to 49 years, and 20.0% for those aged 50 years and older. Prevalence of depression did not differ between officers in the older two age groups as indicated by prevalence ratios that did not differ from 1.0 either before or after adjustment. The pattern of increasing depression from the youngest group to the middle with a decrease from the middle to the oldest age group suggests a nonlinear, possibly quadratic, relationship between depression and age. A Poisson regression model with age entered in its continuous form and as a quadratic term indicated that the increase in depression with age had both linear ($p = .015$) and curvilinear ($p = .021$) features.

The overall prevalence of moderate or severe PTSD symptoms in this sample was 35%, with 10% having severe symptoms. Female and male officers had similar rates (36.6% and 34.5%, respectively; Table 3). Prevalence of PTSD symptoms and the

Table 1.
Characteristics (in percentages) of Participants by Gender and Age

Characteristic	Gender		Age			Total (<i>n</i> = 100)
	Female (<i>n</i> = 42)	Male (<i>n</i> = 58)	<40 (<i>n</i> = 29)	40-49 (<i>n</i> = 45)	≥50 (<i>n</i> = 26)	
Gender						
Female	—	—	44.8	56.3	26.9	42.0
Male	—	—	55.2	43.7	73.1	58.0
Age (years)						
<40	21.4	34.5	—	—	—	29.0
40-49	61.9	32.8	—	—	—	45.0
≥50	16.7	32.8	—	—	—	26.0
Ethnicity						
African American	23.8	15.5	27.6	12.5	3.9	19.0
Hispanic	0.0	8.6	3.5	6.3	7.7	5.0
Caucasian	76.2	75.9	69.0	81.3	88.5	76.0
Education						
≤High school	16.7	15.5	6.9	31.3	26.9	16.0
College <4 years	28.6	29.3	31.0	25.0	26.9	29.0
College 4+ years	54.8	55.2	62.1	43.8	46.2	55.0
Marital status						
Single	23.8	17.2	29.3	6.3	7.7	20.0
Married	52.4	74.1	58.6	62.5	80.8	65.0
Divorced	23.8	8.6	12.1	31.3	11.5	15.0
Years of service						
1-5	19.1	19.0	41.4	13.3	3.4	19.0
6-10	14.3	10.3	24.1	11.1	0.0	12.0
11-15	26.2	20.7	27.6	33.3	0.0	23.0
16-20	28.6	19.0	6.9	33.3	23.1	23.0
20+ years	11.9	31.0	0.0	8.9	73.1	23.0
Rank						
Patrol officer	57.1	46.6	70.7	37.5	15.4	51.0
Sergeant/lieutenant	14.3	15.5	13.7	37.5	3.9	15.0
Captain	4.8	10.3	6.9	6.3	11.5	8.0
Detective	9.5	19.0	3.5	12.5	42.3	15.0
Other	14.3	8.6	5.2	6.3	26.9	11.0

Table 2.
Mean Depression (CES-D) and PTSD
(IES) Scores by Gender and Age

	<i>n</i>	CES-D			IES		
		<i>M</i>	<i>SD</i>	<i>p</i> ^a	<i>M</i>	<i>SD</i>	<i>p</i> ^a
Gender							
Female	41	9.8	8.9	.234	23.3	14.0	.228
Male	58	7.9	6.6		19.6	15.1	
Age (years)							
<40	29	6.9	4.1	.166	20.6	13.3	.911
40-49	45	9.3	8.6		21.6	14.7	
≥50	25	9.8	8.8		21.0	16.6	

NOTE: CES-D = Center for Epidemiologic Studies-Depression Scale; IES = Impact of Events Scale.
a. Test significant differences among the two means for gender and linear trend in means for age.

corresponding prevalence ratios tended to increase with increasing age. The prevalence ratio for PTSD symptoms comparing officers 50 years and older with the youngest officers was approximately 50% higher; however, the prevalence ratios did not differ significantly from 1.0 before and after adjustment for other factors (gender, marital status, and education). A Poisson regression model with age entered in its continuous form showed no significant effect (*p* linear trend = .27).

Discussion

Results from this analysis demonstrate that depression and reported PTSD symptoms differed by age groups in a stratified random sample of 100 Buffalo

Table 3.
Prevalence Estimates and Ratios for Depression
and PTSD by Gender and Age

Outcome	Characteristic	n	Prevalence (%)	Unadjusted		Adjusted for Age or Gender		Multivariable Adjusted ^a	
				PR	95% CI	PR	95% CI	PR	95% CI
Depression	Gender								
	Female	41	22.0	1.8	0.7-4.5	2.0	0.8-4.9	1.4	0.6-3.5
	Male	58	12.1	1.0	Referent	1.0	Referent	1.0	Referent
	Age (years)								
	<40	29	0.0	—	—	—	—	—	—
PTSD	40-49	45	24.4	1.0	Referent	1.0	Referent	1.0	Referent
	≥50	25	20.0	0.8 ^b	0.3-2.1	0.9 ^b	0.4-2.4	0.8 ^b	0.3-2.4
	Gender								
	Female	41	36.6	1.1	0.6-1.8	1.1	0.6-1.8	0.9	0.5-1.5
	Male	58	34.5	1.0	Referent	1.0	Referent	1.0	Referent
PTSD	Age (years)								
	<40	29	31.0	1.0	Referent	1.0	Referent	1.0	Referent
	40-49	45	33.3	1.1	0.5-2.1	1.0	0.5-2.1	1.0	0.5-1.9
	≥50	25	44.0	1.4	0.7-2.9	1.4	0.7-2.9	1.5	0.7-2.9

NOTE: PR = prevalence ratio; CI = confidence interval; PTSD = posttraumatic stress disorder.

a. Adjusted for age or gender, marital status, and education using Poisson regression.

b. Prevalence ratio estimated from Poisson regression model based on the two older age groups. The 29 participants in the youngest age group (<40 years) were excluded as there are no cases of depression in this group.

police officers. It appears that age may contribute to the magnitude of depressive and posttraumatic symptoms in this sample of police officers.

The prevalence of depression increased from 0% for officers younger than 40 years of age to 24.4% in those aged 40 to 49 years; prevalence in this middle age group was slightly higher than for officers aged 50 and older. Interestingly, there were no officers younger than 40 years of age with CES-D scores greater than or equal to 16. This result may be partially related to the length of time in police service for this youngest group. Police service during the early years is generally a period of exuberance and high ideals among new police officers, which may account for less depression and stress (Violanti, 1983). Sixty-five percent of these officers have been in police service for 10 or fewer years. Age was positively correlated with length of police service ($r^2 = .8, p < .0001$); thus, older officers are more likely to be exposed to traumatic work incidents for a longer period of time and are more likely to experience resultant depressive symptoms (Chang et al., 2003). The association of age with reported depression may point to an additive impact of trauma exposure at work and differential societal roles. Age appears to exacerbate depression in

the general population (Kessler et al., 1995), and increasing age together with continued exposure to work trauma may serve only to make matters worse for those in police work. Older police officers may thus experience a combined effect of increasing age and prolonged exposure to untoward work events (Paton & Violanti, 1997).

The decrease in depression from officers aged 40 to 49 years to officers aged 50 and older is consistent with studies by Wuslin et al. (2005) and Inaba et al. (2005), which found decreases of depression with increasing age. One possible explanation for this decrease in depression may be career attrition or retirement. Violanti (1983), in an earlier study of the Buffalo Police Department, found a curvilinear relationship between depression and years of police service. Officers who had more than 15 years of service reported lower depression and stress. Officers in the Buffalo, New York, Police Department can retire after 20 years of service, regardless of age (J. M. Violanti, personal communication, March 13, 2006). Therefore, some police officers may choose to retire or move on to second careers in their mid- to late 40s. In fact, 42% of officers aged 40 to 49 years in this sample have at least

16 years of police service, 9% of whom have more than 20 years and are therefore eligible for retirement.

In addition, 73% of police officers aged 50 years and older have more than 20 years of police service, indicating that these officers may simply enjoy police work more or use different coping mechanisms to deal with stressful situations than those who may have left police service. A study of retired police officers found that early retirement was associated with enhanced levels of depression (Tuohy, Knussen, & Wrennall, 2005). Because of this, our results could represent an underestimate of the true prevalence of depression among older police officers.

Older police officers held higher police ranks than younger officers did. Only 15% of those officers aged 50 years and older were patrol officers compared to 38% of those aged 40 to 49. Patrol officers may be more likely to experience stressful events compared to other police ranks. These stressful events could increase their risk of depression.

PTSD prevalence showed a direct relationship with increasing age. Officers aged 50 years and older had an unadjusted PR that was 40% higher than officers younger than 40 years of age, whereas the PR comparing 40- to 49-year-old officers with younger officers was elevated by only 10%. As noted earlier, age was positively correlated with years of service; therefore, older officers are likely to be exposed to more traumatic incidents. This finding is consistent with the work of Chang et al. (2003), who reported that younger firefighters had less posttraumatic morbidity than older firefighters did but is in contrast with results in health care workers following an air disaster that indicated that younger workers were more likely to develop PTSD than older health care workers (Epstein et al., 1998).

Stratification by gender yielded mixed results. The prevalence of depression in female officers was found to be approximately 2 times that of male officers, which is consistent with results found in the past (Noble, 2005). Differences by gender were not as dramatic for PTSD, with prevalence being nearly equal for men and women. The increased prevalence of depression among women may be related to comorbidity with PTSD and the type of traumatic events experienced. Brown and Fielding (1993) found that women reported differential exposure to work trauma and higher levels of stress from dealing with violent persons. In addition, women reported exposure to sex discrimination and prejudice. Female correctional officers reported high levels of

peer harassment and were negatively affected by such harassment (Savicki, Cooley, & Gjesvold, 2003). Thompson, Kirk-Brown, and Brown (2000) found that management stressors affected female officers more than the dangers of police work. Dormann and Zapf (2002) argued that social isolation, conflict with colleagues, and negative group climate are relatively strong predictors of depression in policewomen. Such stressors may be problematic for women, given that support is perceived as important by women in achieving job satisfaction (Harris, Moritzen, Robitshek, Imhoff, & Lynch, 2001).

Female officers may be confronted with work and family conflict more often than male officers. The increased stress associated with managing multiple roles could leave female officers more susceptible to depression. Over the years, the number of female-headed single-parent families has increased, and women are having children at a later age (Kasen, Cohen, Chen, & Castille, 2003). In this study, 83% of female police officers were younger than 50 years, and therefore, some are likely to have children in the home. More female officers reported being single (23.8%) or divorced (23.8%) than male officers (17.2% and 8.6%, respectively). It is possible that some of these female officers are heads of single-parent households and therefore have sole responsibility for raising children.

Although mixed results were found by age and gender for PTSD, the total sample reported a high prevalence of PTSD (35%) compared to other populations. This elevated prevalence may largely be due to the nature of police work. Emergency responders, such as police officers, firefighters, and emergency medical technicians, are challenged with psychologically stressful situations, including exposure to death, violent acts, and abuse, potentially subjecting them to an increased risk of PTSD. The prevalence of PTSD among this sample is nearly 3 times higher than the prevalence reported among adult survivors of childhood cancer (Langeveld et al., 2004) and twice as high as victims of severe traumatic brain injury (Williams et al., 2002). In addition, this sample demonstrated higher rates of PTSD compared to other emergency responders and other cohorts of police officers (Bennett, Williams, Page, Hood, & Woollard, 2004; Chang et al., 2003; Corneil et al., 1999; Robinson, Sigman, & Wilson, 1997; Wagner, Heinrichs, & Ehler, 1998).

Prevalence of depression among this sample (16%) was consistent with results from other large

epidemiologic studies. The Framingham Heart Study found a prevalence of 14% among adults aged 30 to 91 years, whereas national surveys conducted in the United States and Japan found depression among 18.2% of U.S. adults aged 28 to 78 years and 16.2% of Japanese adults aged 28 to 77 years (Wulsin et al., 2005; Inaba et al., 2005). However, compared to these other studies, our sample was somewhat younger and was obtained from a working population, which could have influenced these comparisons.

It is generally agreed that PTSD and depression are comorbid in many persons (Kessler et al., 1995). Interestingly, our findings suggest that PTSD levels were higher in older officers, whereas depression remained at a lower level. First, in this study, we measured PTSD symptomatology and not diagnosis. PTSD symptoms often mask depressive symptoms as well. Second, many persons express PTSD symptomatology primarily because of frequent traumatic event exposures and may not be depressed. Third, age, closely correlated with years of police service ($r = .80$), may reflect the cumulative impact of trauma exposure and not that of depression, which often occurs in a cyclical fashion.

Limitations of this study include a small sample size for some comparisons and the cross-sectional study design, which precludes causal inferences.

Strengths of this study include the availability of standardized, reliable, and widely used psychosocial measures; the use of a standardized protocol; and high response rates and cooperation by police officers. Although the sample size was small relative to some studies, response for the stratified random sample was 100%. The police occupation offers an excellent opportunity to study a population exposed to trauma and one that may be vulnerable to resultant PTSD and depression. The police population represents approximately 708,000 sworn officers in the United States alone (Reaves & Hickman, 2004). Larger prospective studies are presently being planned to assess psychological health over time and differential exposures to other conditions such as life event stress, prior trauma, and coping skills.

Recognizing that trauma and depression may affect police officers is important because these factors impinge not only on police officers' well-being but also on job performance. In an occupation as critical as police work, it is important to have well-adjusted and psychologically healthy persons contributing to the work force. Mental health professionals should be aware of these issues as they work with police

officers to enhance the officers' professional and personal lives.

It is important to consider the implications of the presence of elevated PTSD symptoms and depression in police work. A defining characteristic of police work is the risk of exposure to highly challenging and potentially threatening events capable of eliciting acute stress and posttrauma stress reactions. A substantial portion of this risk can be attributed to difficulty predicting what officers will be called on to deal with, when and where this will take place, who and what will be involved, and what may have caused the incident in the first place. To appreciate the significance of this point, it is important to accept that stress risk cannot easily be identified. It is the unpredictability of the nature and mix of these characteristics from one event to another that results in risks being an enduring quality of police work (Paton, Violanti, Dunning, & Smith, 2004).

Recent acts of terrorism present new challenges and thus introduce new sources of risk (Paton & Violanti, in press). Terrorism has also increased the risk of trauma in more fundamental ways. For example, officers must accommodate the legacy (e.g., increased levels of fear in the community, changes in security precautions, perceiving the world as increasingly threatening) of terrorism into their thinking. In short, the range of circumstances that may affect officers' vulnerability has increased dramatically since the terrorist attacks of September 11, 2001.

Given these new challenges and the high risk of trauma exposure in police work, it is essential that policies for risk management be implemented. If factors in police work that predict trauma can be identified as they were in the present pilot study, it may be possible to manipulate them in ways that afford opportunities to make informed choices regarding the psychological consequences of responding to challenging events. However, for this risk to be managed, there must exist a capability to make choices regarding outcomes by exercising control over the causes of adverse stress reactions or over the factors that influence how these experiences are interpreted (Paton et al., 2004).

In conclusion, our results indicate that this sample of police officers had a higher prevalence of PTSD symptoms and similar prevalence of depression than other populations did. Gender did not affect PTSD symptoms, but female police officers had a higher prevalence of depression than male officers did. The largest differences in PTSD symptoms and depression

occurred between age groups. There was an increasing trend of PTSD symptoms with age. The prevalence of depression was curvilinear, with younger officers having the lowest and 40- to 49-year-old officers the highest prevalence. Results warrant further investigation to explain the patterns of PTSD symptoms and depression found in police officers. Future research should involve a prospective investigation of PTSD symptoms and depression. Research involving police recruits would be worthwhile in this regard because it would allow for analysis at younger ages. Prospective tracking of traumatic events over years of police service, prior trauma experiences, life events, and health impact are all areas for future research in trauma and depression outcomes in police work.

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