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Associations Between Major Life Events, Traumatic Incidents, and Depression Among Buffalo Police Officers

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Abstract: *Police officers are considered to be a highly stressed population due to the nature of the work they perform. Repeated exposures to work stress and stressful life events can affect one's psychological and physiological well-being. The objective of this study was to determine whether negative life events and traumatic police incidents are associated with depression in police officers. One hundred randomly selected urban officers completed a series of self-report measures as part of a cross-sectional pilot study. Using four negative life event categories (none, low, medium, and high) a J-shaped pattern was observed with mean depression scores (±SD) of 9.26 (±7.41), 6.21 (±5.94), 8.17 (±7.42), and 14.64 (±8.04), respectively (test for linear trend p = 0.0186). Adjustment for age (p = 0.0209), then age, gender, and ethnicity together (p = 0.0184) did not alter this pattern appreciably. No association between traumatic police incidents and depression was observed. Results indicate that exposure to multiple negative life events is significantly associated with elevated depression scores among this sample. Police agencies should consider developing psychological assistance efforts to help affected officers cope with these events and deal with depression.   [International Journal of Emergency Mental Health, 2007, 9(1), pp. 25-35].*

Key words: *police officers, depression, life events, traumatic incidents*

Stressors, either acute events or ongoing situations, invoke a strong emotional reaction (Brown & Harris, 1978; Wheaton, 1994). Stressors have been classified as life events, chronic stressors, or work-related stressors (Orpana & Lemyre, 2004). The present study focused on two types of stress: exposure to negative life events and traumatic work stress.

Life Events

According to the American Psychological Association, two-thirds of Americans have reported experiencing at least one stressful life event, such as the death of a family member, divorce, or the birth of a child, in the last two years. As these events accumulate, stress levels increase: 17% of those with two life events and 20% with three or more events reported concern over the level of stress in their lives. Additionally, of those experiencing three or more stressful life events, one-third rated their physical health and 20% rated their psychological health as fair or poor (American Psychological Association, 2006). Significant associations between depression and multiple negative life events, such as a loss or separation, have been found in children (Goodyer, 1995). The risk for depressive episodes has been shown to be five-fold greater for individuals experiencing a single negative event and nearly eight-fold higher for those experiencing multiple events compared to individuals having no negative events (Patton, Coffey, Posterino, Carlin, & Bowes, 2003).

The psychological effects of experiencing life events have been well studied. Life events often precede depressive episodes and psychiatric disorders such as anxiety states, alcoholism, bulimia, and schizophrenia (Kendler, Karkowski, & Prescott, 1998; Kendler, Kessler, Neale, Heath, & Eaves, 1993), contribute to depression, and are associated with greater risk of illnesses (Brown & Harris, 1989).

In recent years, researchers have established a biological link between life events and the development of depression. Among individuals reporting multiple stressful life events over a five year period, Caspi and colleagues (2003) identified a gene variant between those who developed depression and those who did not. Forty-three percent of those with a "short" or stress-sensitive version of the serotonin transporter gene developed depression compared to only 17% with the "long" protective version of the gene, suggesting that the short variant leaves an individual vulnerable to stress (Caspi et al.).

Alzheimer caregivers experiencing more life events in addition to the chronic stress of caregiving had higher plasma norepinephrine levels than those caregivers experiencing fewer life events (Mills et al., 1997). The physical effects from the combination of chronic and acute stress may result in an increased risk of coronary artery disease (von Kanel, Dimsdale, Patterson, & Grant, 2003). Additionally, caregivers experiencing four or more life events had higher D-dimer lev-

els, indicative of a hypercoagulable state, than those experiencing less than four events (von Kanel et al.).

Work Stress

Sixty-two percent of Americans say work has a significant impact on their stress levels, and more than half are concerned that stress will lead to future health problems (American Psychological Association, 2006). Work stress has been significantly associated with a number of unhealthy outcomes, including chronic back pain, alcohol abuse, and depression (Chen et al., 2006). Police officers, because of the nature of their occupation, are known to experience high levels of workplace stress. Police stress has been defined as any condition that negatively affects an officer's well-being (Crank & Caldero, 1991). Police officers contend with chronic stressors, such as organizational issues, large amounts of paperwork, and court appearances, and are faced with handling traumatic incidents involving shootings and witnessing violent acts. The chronic stress associated with frequent exposure to occupational stress may compound the symptoms police officers experience following traumatic incidents (Liberman, Fagan, Weiss, & Marmar, 2002; Patterson, 2001a). Police stress has been linked to physical conditions, such as hypertension, ulcers, and cardiovascular disease, and emotional disturbances, such as alcoholism, divorce, and suicide (Ayres & Flanagan, 1992; Reiser & Dash, 1978). Patterson (2001a) described five types of police officer stress: external stressful events, work-related events outside of the law enforcement organization; internal stressful events, dealing with internal policies and procedures; task-related stressful events, performing law enforcement tasks; individual stressful events or life events; and traumatic incidents in law enforcement.

Traumatic incidents can be a significant source of work stress for police officers. Most incidents involve intentional, human-made disasters, such as rape, abuse, and shootings (Patterson, 2001a). While police officers may adapt to the negative effects of chronic stress, acute traumatic incidents necessitate specialized mental health treatment for police officers (Patterson, 2001a). Two studies utilizing the 60-item Spielberger Police Stress Survey asked police officers to rate the amount of stress associated with each item. Violanti and Aron (1994) observed that police officers perceived task-related events such as "killing someone in the line of duty," a "fellow officer being killed," and "physical attack" to be the highest work stressors. Spielberger and colleagues (1981) observed similar results with police officers ranking "fellow

officer killed in the line of duty," "killing someone in the line of duty," and "exposure to battered or dead children" as the most stressful.

Several demographic factors may contribute to the type and number of traumatic incidents experienced. Female officers have reported exposure to more traumatic incidents, such as natural disasters, suicide, and child and spousal abuse, than male officers reported (Martin, McKean, & Veltkamp, 1986). Patterson (2001b) found that officers who were female, older, non-white, assigned to specialty units, had no prior military experience, and had more years of police experience reported fewer traumatic incidents than male officers, younger officers, white officers, officers assigned to patrol units, officers with prior military experience, and officers with fewer years of police experience. Older police officers may be more experienced, more likely to be promoted in rank and transferred to units where they may be exposed to fewer criminal acts, while younger officers have less experience and are likely to be assigned to units where more criminal acts occur. Additionally, previous research has found that younger officers are more aggressive and make more arrests than older officers (Patterson, 2001b).

Stress and Depression

Repeated exposures to acute work stressors (e.g., violent criminal acts, sad and disturbing situations, and physically demanding responses), in addition to contending with negative life events (e.g., divorce, serious family or personal illness, and financial difficulties), can affect both the psychological and physiological well-being of this population. Therefore, when evaluating the stress level and its relationship to the police officers' overall health, the influence of traumatic events, including those related to work and personal life, is important to consider. The objective of this study was to determine to what extent negative life events and traumatic police incidents are associated with depression in police officers. Our hypotheses were that: (1) police officers who experienced more negative life events would have higher depression scores than officers who experienced fewer negative life events, and (2) police officers who experienced more traumatic police incidents would have higher depression scores than officers who experienced fewer traumatic police incidents.

METHODS

Study Population

The Buffalo, New York, Police Department, with a police force of 934 officers in 2001, was the selected site. A random sample ($N = 100$) was generated from all police officers in the department using a computer-generated random number table. Female officers were over-sampled (42 females, 58 males). No specific inclusion criteria were used for the study, other than the participant had to be a sworn police officer and willing to participate in the study.

The Center for Preventive Medicine, University of New York at Buffalo, School of Public Health and Health Professions, Buffalo, New York served as the data collection site. Details of the study design and population have been described elsewhere (Violanti et al., 2006). The study protocol was approved by the State University of New York at Buffalo Internal Review Board.

This cross-sectional study involved a series of self-report measures, including the Center for Epidemiologic Studies-Depression (CES-D) scale, a modified version of Paykel's Life Events Scale, and a measure of traumatic police incidents based on a summarized categorization of all traumatic events listed by police officers and used in a recent paper by Violanti and Gehrke (2004). Complete data were available for 99 out of 100 police officers.

Study Measures

Life Events

Participants were asked to complete a 41-item life events scale assessing type of stressful events encountered during the previous year, including events related to work, home, and family, using a *yes* and *no* response format. This scale was slightly modified from the 1971 version of Paykel's Life Events Scale (Paykel, Prusoff, & Uhlenhuth, 1971).

Each life event was categorized as positive (e.g., marriage) or negative (e.g., death of a close relative). A total life event score was calculated by summing the 41 events. Separate scores for positive events and negative events were also computed using the same approach. Negative life events were divided into four ordinal categories: none ($n = 23$), low $1 - 2$ events ($n = 33$), medium $3 - 4$ events ($n = 29$), and high ≥ 5 events ($n = 14$).

Traumatic Police Incidents

The traumatic police incidents scale asks the participant to indicate occurrence (*yes/no*) of traumatic events experienced during the past year. Items include witnessing the shooting of another police officer, being involved in a shooting incident, seeing abused children, seeing victims of a serious traffic accident, seeing someone die, seeing dead bodies, seeing severely assaulted victims, and seeing victims of a homicide. A total traumatic police incident score was calculated by summing the *yes* (affirmative) responses to the nine questions (range = 0 – 9). Traumatic police incidents were divided into four ordinal categories: none ($n = 11$), low $1 – 3$ incidents ($n = 30$), medium $4 – 6$ incidents ($n = 39$), and high $\geq$ 7 events ($n = 19$).

Depression

The CES-D scale is a 20-item test measuring symptoms of depression (e.g., restlessness, sadness, poor appetite). Respondents rate items on a 4-point scale according to how often the symptom occurred in the past seven days: 0 (rarely or none of the time, less than 1 day), 1 (some or little of the time, 1 - 2 days), 2 (occasionally or a moderate amount of the time, 3 - 4 days), and 3 (most of all of the time, 5 - 7 days). Scores are calculated by summing the 20 items and can range from 0 to 60. The CES-D has been widely used in identifying symptoms of depression. Respondents with scores of $0 – 15$ are unlikely to be clinically depressed, scores of $16 – 21$ indicate mild to moderate depression, and scores of 22 or greater are associated with major depression (Radloff, 1977). A score of $\geq$ 16 has been reported as an indicator of clinical depression (McDowell & Newell, 1996). The CES-D score ranged from 0 to 34 for our sample. The scale has a correlation of 0.56 with a clinical rating of depression severity (McDowell & Newell).

Statistical Methods

Descriptive statistics for gender, age, ethnicity, education, marital status, years of police service, and police rank were computed. The means and standard deviations for life events, negative life events, traumatic police incidents, and CES-D scores were also computed. One female police officer was omitted from this analysis because questionnaire data were incomplete. Analysis of variance (ANOVA) was used to test for differences in total life events, negative life events, traumatic police incidents, and CES-D scores by age catego-

ries (< 40, $40 – 49$, and ≥ 50 years), gender, and ethnicity. Unadjusted, age-adjusted and multivariable-adjusted associations between depression and negative life events or traumatic police incidents were examined using analysis of covariance (ANCOVA). Negative life event and traumatic police incident scores were classified into four ordinal categories and the trend in mean depression scores across these categories was assessed using orthogonal polynomial coefficients. An alternative statistical method, the Poisson regression model, was also used to relate mean depression score to negative life events and confirm the results obtained thorough ANOVA. All analyses were completed utilizing SAS software version 9.1© (SAS Institute, Cary, NC). All hypotheses were performed at the 0.05 significance level. Categorical variables were dummy coded. Checks for normality and homogeneity of variance were performed.

RESULTS

Demographics

The study population included 58 male and 41 female police officers (Table I). Nearly one half of the officers were between 40 and 49 years of age. Sixty-three percent of the female officers were $40 – 49$ years of age, while male officers were evenly distributed between the three age categories. Three-quarters of the sample were Caucasian and over half had earned a college degree. A larger percentage of male officers were married (74.1%) than female officers (51.2%) and correspondingly, more female officers were divorced (24.4%) than male officers (8.6%). Two-thirds of the sample had 11 or more years of police experience. A larger percentage of male officers had 20 or more years of experience than female officers and males held higher police ranks than female officers.

Life Events

Officers had experienced an average of 2.78 (SD ± 2.64) life events during the previous year. The most frequently reported life events were negative: 1) experiencing a major argument with boss or coworker (28.3%); 2) decrease in income (27.3%); 3) death of a close relative (20.2%); 4) serious argument with spouse or partner (19.2%); 5) major damage to home or property (15.2%); and 6) death of a close friend (15.2%). Life events did not differ by age, gender, or ethnicity (Table II).

Table I
Demographic characteristics of BCOPS Pilot Study Police Officers.

Characteristics	Male N=58	Female N=41	Total N=99
Age			
Less than 40	34.5*	22.0	29.0
40 – 49	32.8	63.4	45.0
50 or older	32.8	14.6	26.0
Ethnicity			
Caucasian	75.9	75.6	76.0
African American	15.5	24.4	19.0
Hispanic American	8.6	0.0	5.0
Education			
≤ High Sch/GED	15.5	17.1	16.0
College < 4 years	29.3	26.8	29.0
College ≥ 4 years	55.2	56.1	55.0
Marital Status			
Single	17.2	24.4	20.0
Married	74.1	51.2	65.0
Divorced	8.6	24.4	15.0
Years of Police Svc.			
1 – 5 years	19.0	19.5	19.0
6 – 10 years	10.3	14.6	12.0
11 – 15 years	20.7	26.8	23.0
16 – 20 years	19.0	26.8	23.0
20 + years	31.0	12.2	23.0
Police Rank			
Patrol Officer	46.6	56.1	51.0
Sgt/Lieutenant	15.5	14.6	15.0
Captain	10.3	4.9	8.0
Detective	19.0	9.8	15.0
Other	8.6	14.6	11.0

Data are percentages.

Negative Life Events

Our hypothesis focused on the exposure to negative life events, a subset comprised of 34 questions from the total life events scale. Officers in this sample had experienced an average of 2.45 (SD ± 2.41) negative life events during the previous year. The number of negative life events did not differ by age or gender; however, African Americans had experienced a significantly higher number of negative life events than Caucasians (Table II). The prevalence of experiencing a positive life event across the four negative life event categories (none, low, medium, and high) was 13.0%, 18.2%, 24.1% and 42.9%, respectively, and was significant (linear trend $p = 0.0385$).

Traumatic Police Incidents

Police officers had experienced an average of 4.16 (SD ± 2.48) traumatic police incidents during the previous year. The most frequently occurring incidents reported were: 1) seeing dead bodies (73.7%); 2) seeing severely assaulted victims (69.7%); and 3) seeing abused children (60.6%). The number of traumatic police incidents did not differ by age or ethnicity; however, male officers experienced a significantly higher number of incidents than female officers (Table II).

Depression Scores

The mean depression score for this sample of police officers was 8.69 (SD ± 7.60). The mean depression score was higher among officers aged 40 and older than among younger officers. Female officers had higher scores than male officers, and Hispanic officers had higher scores than either Caucasian or African American officers. However, these differences were not statistically significant (Table II).

Negative Life Events and Depression

Analysis of variance and covariance were used to examine the association between negative life events and depression. A J-shaped pattern was observed with mean depression scores (± SD) across the four negative life event categories (none = 9.3 ± 7.4, low = 6.2 ± 5.9, medium = 8.2 ± 7.4, high = 14.6 ± 9.0; test for linear trend $p = 0.0186$). In addition to the significant linear trend, the test for quadratic trend was also significant ($p = 0.0024$). Adjustment for age ($p = 0.0209$) and for age, gender, and ethnicity ($p = 0.0184$) did not alter the pattern of mean depression scores appreciably (Figure I). An increasing stepwise trend was observed for officers experiencing one and progressively more negative life events (Figure I).

Results from Poisson regression analyses indicated that a one unit increase in negative life event was associated with a 7 % increase in the estimated mean depression score ($p = 0.0127$). Adjustment for age ($p = 0.0254$) and age, gender, and ethnicity ($p = 0.0227$) did not affect the result.

When the three lowest negative life events categories were collapsed and compared to the highest category (none, low, and medium: 0 – 4 versus high: ≥ 5), the mean depression score was nearly twice as high in the group with ≥5 negative

Table II
Life events, traumatic police incidents and depression scores by selected demographic characteristics.

Characteristics	Total Life Events Mean ± SD	Negative Life Events Mean ± SD	Traumatic Police Incidents Mean ± SD	CES-D* Mean ± SD
Age				
Less than 40	2.45 ± 1.86	2.03 ± 1.64	4.62 ± 2.47	6.90 ± 4.10
40 – 49	3.00 ± 3.01	2.78 ± 2.74	4.11 ± 2.46	9.22 ± 8.51
50 or older	2.76 ± 2.76	2.36 ± 2.55	3.72 ± 2.53	9.80 ± 8.81
*p-value**	*0.668*	*0.623*	*0.186*	*0.164*
Gender				
Female	2.95 ± 2.77	2.54 ± 2.41	3.44 ± 2.46	9.76 ± 8.84
Male	2.66 ± 2.57	2.40 ± 2.43	4.67 ± 2.38	7.93 ± 6.56
*p-value***	*0.585*	*0.778*	*0.014*	*0.241*
Ethnicity				
Caucasian	2.45 ± 2.19	2.12 ± 1.88	4.40 ± 2.45	8.56 ± 7.70
African American	3.79 ± 3.22	3.53 ± 3.20	3.68 ± 2.40	8.11 ± 7.21
Hispanic American	3.80 ± 5.22	3.40 ± 4.72	2.40 ± 2.70	12.80 ± 7.82
*p-value***	*0.096*	*0.049*	*0.140*	*0.454*

* *CES-D, Center for Epidemiologic Studies Depression scale*
** *p-values test for linear trend*
*** *p-values test any differences among the means*

life events compared with those experiencing four or fewer events (14.6 ± 9.0 and 7.7 ± 6.9, respectively, $p = 0.0013$; Figure II).

Traumatic Police Incidents and Depression

Analyses of variance and covariance were used to examine the association between traumatic police incidents and depression. A V-shaped pattern was observed for mean depression scores (± SD) across the four traumatic police incident categories (none = 12.0 ± 9.5, low = 7.1 ± 6.9, medium = 8.4 ± 7.2, high = 10.0 ± 8.0; test for linear trend $p = 0.5930$, test for quadratic trend $p = 0.0560$). Adjustment for age ($p = 0.7901$) and for age, gender, and ethnicity ($p = 0.8231$) did not alter this pattern (Figure III). An increasing stepwise trend was observed among officers experiencing one and progressively more traumatic police incidents (Figure III).

In addition, a two-way ANOVA model relating depression to the four negative life event categories, four traumatic police incident categories and their interaction showed no evidence of interaction between traumatic police incidents and exposure to negative life events in relation to depression

(interaction $p = 0.4725$). A more general multiple regression analysis using negative life events, traumatic police incidents, age, gender, and ethnicity as independent variables and depression score as the dependent variable showed negative life events as the only predictor with significant association to depression ($p = 0.0479$).

Higher Depression Scores for Zero Event Categories

Police officers who experienced either zero negative life events or zero traumatic police incidents in the past year appeared to have higher depression scores than those experiencing at least one negative life event (9.26 vs. 8.51, $p = 0.6814$) or traumatic police incident (12.00 vs. 8.27, $p = 0.1256$). We explored a number of potential explanations for this occurrence. In comparisons of officers reporting zero negative life events and officers reporting one or more negative life events, there were no differences for the following characteristics: age, marital status, police rank (patrol officer or sergeant, lieutenant or captain, detective or 'other'), number of positive life events reported in the past year, or number of traumatic police incidents encountered in the past year.

Figure I Association between negative life events and depression.
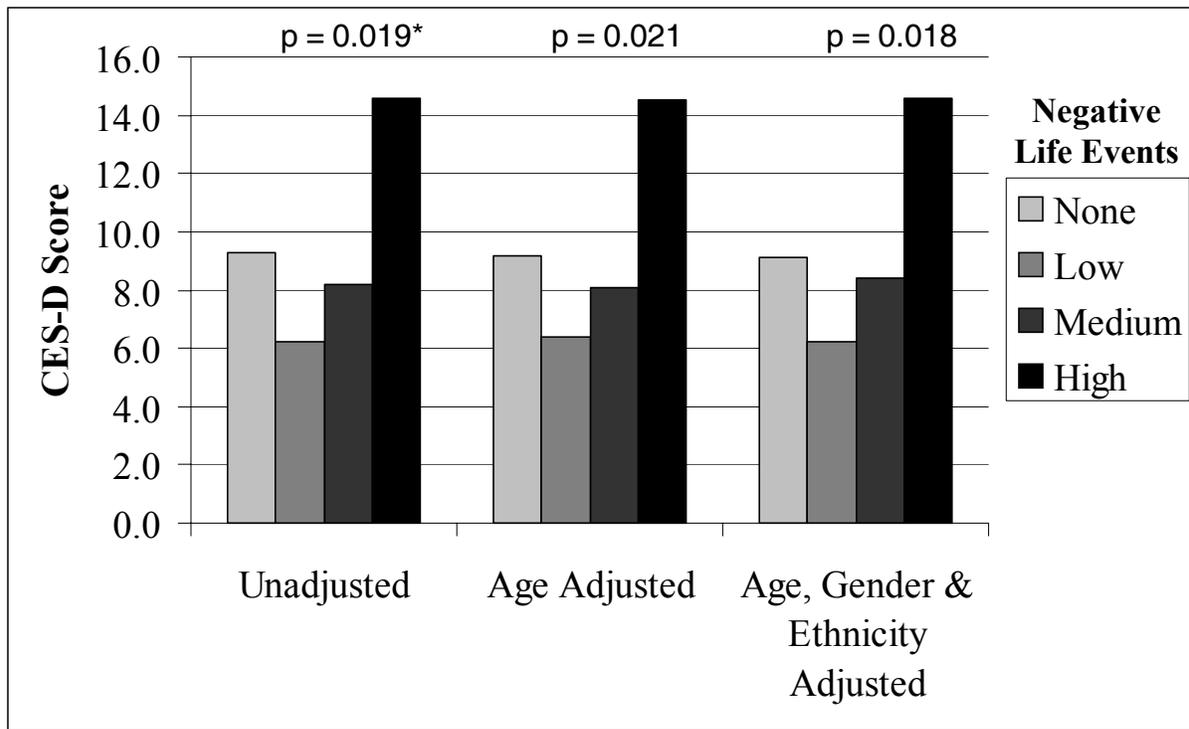
p-values test for linear trend

We also explored the possibility that those officers experiencing one or more negative life events were hardier than officers who experienced zero negative life events and thus, experiencing these negative events would not be associated with higher depression scores. Hardiness is defined as one's control, commitment, and challenge or opportunity in response to stressful events (Bartone, 1991). Additionally, were officers who experienced zero negative life events avoiding activities reminiscent of a past event? The avoidance construct is a subscale of the Impact of Event scale developed by Horowitz and colleagues (Horowitz, Wilner, & Alvarez, 1979). However, no differences were found between the two groups in terms of hardiness or avoidance.

The two groups did differ in the number of years of police service. Police officers reporting zero negative life events averaged 18.74 ± 8.9 (± SD) years of service, while those reporting one or more negative life events averaged 13.72 ± 8.9 years of service ($p = 0.021$).

A comparable approach was taken for traumatic police incidents. Eleven officers reported experiencing zero incidents in the previous year. We compared this group to officers experiencing one or more incidents. The groups did not differ

for the following variables: marital status, police rank (patrol officer or sergeant, lieutenant or captain, detective or 'other'), number of negative life events reported in the past year, hardiness (Bartone, 1991), and avoidance (Horowitz et al., 1979). The two groups did differ in age and the number of years of police service. Police officers reporting zero traumatic police incidents were older than officers experiencing at least one incident (48.3 ± 8.8 years versus 43.4 ± 7.3, $p = 0.0415$) and had more years of police service (20.2 ± 7.8 versus 14.2 ± 9.1, $p = 0.0415$).

DISCUSSION

It has been well documented in the literature that exposure to stressful life events increases the risk of depression (Brown & Harris, 1989; Caspi et al, 2003; Kendler et al, 1998; Kessler, 1997). It has also been established that police officers experience a great deal of chronic work-related stress, such as paperwork and shift work, as well as acute work stress, threats to personal safety and exposure to injury and death (Collins & Gibbs, 2003; Violanti & Gehrke, 2004). Additionally, police officers are also challenged with negative life events, such as family illnesses, financial difficulties, and

Figure II. Differences in depression scores between 0 – 4 negative life events and 5 or more events.
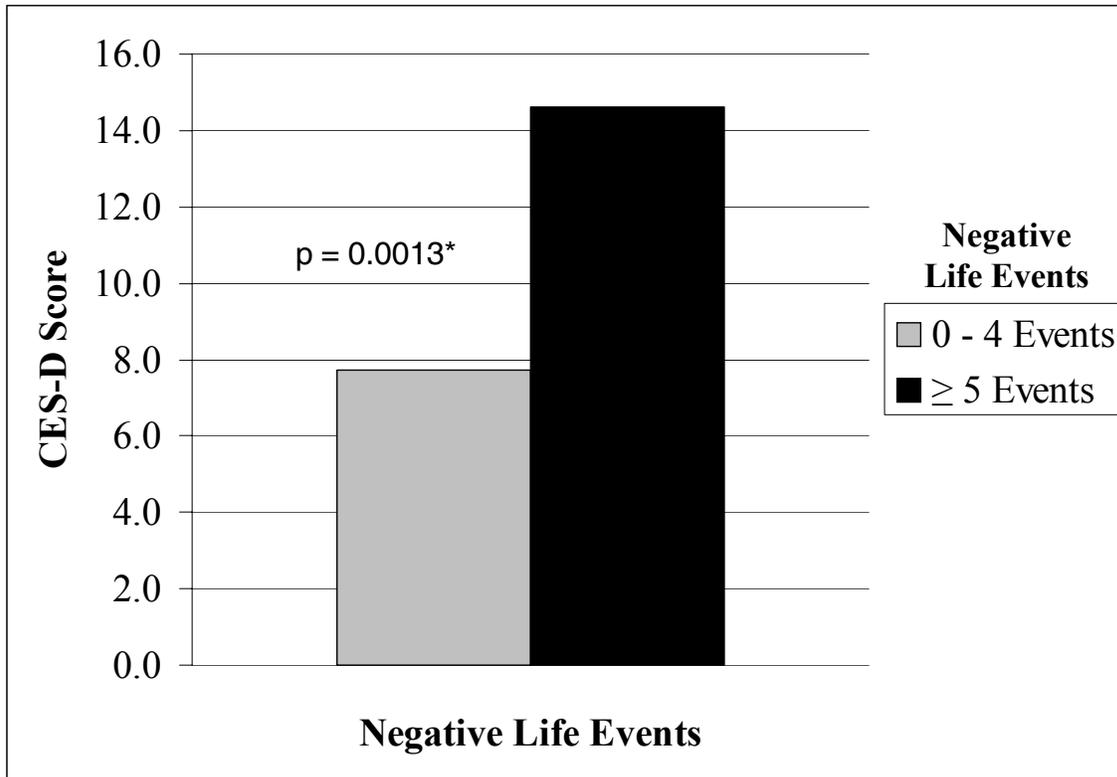
p-value test for difference

divorce. This study examined two sources of stress – negative life events not specifically related to police work (off duty) and traumatic police incidents, and their association with depression among a random sample of 100 Buffalo, New York police officers.

Life Events and Depression

This sample of police officers averaged nearly three life events during the previous year. Among the most reported life events were: the death of a close relative or friend, decrease in income, and serious arguments with spouse, boss, or coworkers. Therefore, our analyses focused on exposure to negative life events, a subset of the life events scale, with our sample experiencing 2.5 negative events during the previous year. Results reveal associations between exposure to negative life events and depression. Depression scores for this sample increased as the number of negative life events increased. Age, gender, and ethnicity did not alter the association. An increasing stepwise trend in depression scores was observed between officers experiencing a low, medium, and high number of negative life events, a finding consistent with work by Patton and colleagues (2003).

Further analyses revealed that experiencing a high number of negative life events (≥5) over the past year compared to four or fewer events nearly doubled depression scores in this sample of police officers. Kendler and colleagues (1998) have proposed a positive interactive model where a coping threshold is reached, such that an individual's coping ability withstands one event but becomes overwhelmed by exposure to multiple events. Perhaps this sample of police officers possesses a higher coping threshold or the ability to withstand more events than other populations.

Officers reporting zero negative life events had higher depression scores than officers who experienced up to four negative life events. Further examination of this group indicated that officers experiencing zero negative life events had significantly more years of service than officers experiencing at least one negative life event, but the groups did not differ in age, martial status, or police rank. This was an unusual result, as previous work has demonstrated associations between life events and depression (Brown & Harris, 1989; Caspi et al, 2003; Kendler et al, 1998; Kessler, 1997). There are sev-

Figure III. Association between traumatic police incidents and depression
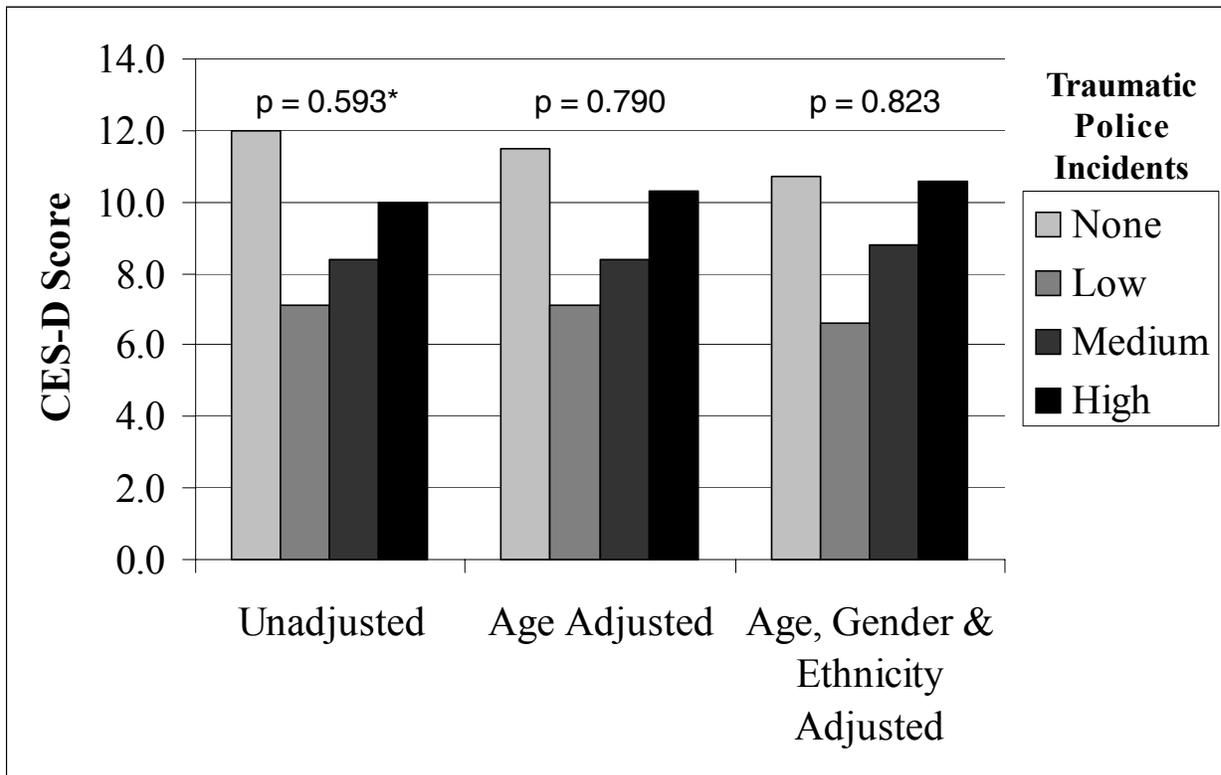
* p-values test for linear trend

eral possible explanations for the present result. First, there were a small number of police officers who fell into this zero negative life event category ($n = 11$); therefore, results may not be consistent with reported and validated larger national samples where associations between depression and life events have been found (Kessler, 1997). Secondly, reporting bias may be possible among police officers, and questions concerning life events or depression may have been answered conservatively or not at all due to guardedness. Third, officers reporting one or more negative life events may have had significantly better sources of social support and, therefore, were better able to cope with the life events they did experience. Future work in this area should include measures of instrumental and perceived social support.

Traumatic Police Incidents and Depression

Our sample averaged over four traumatic police incidents during the previous year. Among the most frequently reported were exposure to dead bodies, abused children, and victims of assault. Male officers experienced a significantly higher number of incidents than female officers. This finding is con-

sistent with previous work where female officers reported fewer traumatic incidents than male officers (Patterson, 2001b).

There were no associations between the number of traumatic police incidents and depression scores. However, a stepwise trend was observed among police officers experiencing one or more traumatic incidents; depression scores increased as the number of incidents experienced increased.

Police officers who reported zero traumatic police incidents were significantly older and had more years of police service than officers experiencing at least one incident, a finding consistent with other studies (Patterson, 2001b). This finding may imply that the duties of the younger, less experienced police officers differ from those of the older, more experienced officers. Older, more experienced officers may be assigned to areas where fewer criminal acts occur, either by choice or seniority. Younger, less experienced officers may be in position to respond more quickly to dispatch calls, and previous research has found that younger officers are more aggressive and make more arrests than older officers (Patterson, 2001b).

Limitations

This study was based on cross-sectional data and, therefore, causal relations cannot be determined. Kessler (1997) cautioned against making associations between life events and depression because depression can itself lead to some events and individuals with a history of depression have been shown to have more events than those without episodes of depression. The number of participants was somewhat limited for some of the comparisons. Additionally, some level of recall bias may be introduced as the survey measures asked participants to recall events and experiences that occurred over the course of the previous year.

Strengths

Strengths of this study include the use of a standardized protocol, high response rates, and cooperation by the police officers. Police officers are a unique occupational group, given their frequent exposure to various forms of acute and chronic stress. Efforts to understand these sources of stress and associated physical and psychological outcomes could be beneficial in developing strategies for stress prevention and reduction.

Next Steps

These results warrant further investigation into the effects of negative life events and traumatic police incidents on this population, both psychologically and physically. A multi-year prospective study would be beneficial in determining both when the event or incident occurred and when depression occurred, and thus, clarifying the temporal relationship and providing a stronger basis for causality.

The type of negative life event experienced may be a better predictor of depression than the frequency, as past research has shown that severe events are more strongly associated with depression than non-severe events (Kessler, 1997). A global occupational stress score, including both routine organizational and traumatic police incidents, would yield a clearer, more informative assessment of the effects of work-related stress on this population. Additionally, including a measurement of lifetime depression would offer a better estimate of when depressive symptoms first occurred and length of occurrence instead of a snapshot of symptoms experienced over the previous seven days.

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