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Trauma Resilience Training for Police: Psychophysiological and Performance Effects

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Abstract The objective of this study is to test the effects of police trauma resilience training on stress and performance during a critical incident police work simulation. Rookie police officers ($N=18$) participated in a randomized trial of a 10-week imagery and skills training program versus training as usual. Twelve months later, psychophysiological stress and police work performance were assessed during a live critical incident simulation. Training resulted in significantly less negative mood, less heart rate reactivity, a larger increase in antithrombin, and better police performance compared to controls. Trends for cortisol and self-reported stress also suggested benefits of training. This novel training program is a promising paradigm for improving police well-being, stress resiliency, and optimizing job performance.

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Abbreviations

CIT	critical incident trauma
POMS	profile of mood states
PTSD	posttraumatic stress disorder

Introduction

Natural disasters, vehicular and industrial accidents, fires, bombings, riots, and a multitude of violent crimes are life-threatening, often terrifying, critical incident trauma (CIT) experienced by first responders such as police, firefighters, and emergency medical technicians (Holloway and Fullerton 1994). Because their work requires them to repeatedly manage potentially traumatic crime and disaster incidents and they are at increased risk of assault, injury, or death on the job, first responders are at elevated risk of developing occupationally derived, trauma-induced adjustment and mental health disorders with potentially substantial implications for their health, well-being, and job performance (Breslau et al. 1999; Federal Bureau of Investigation 2007; Violanti and Paton 1999).

Police officers are first responders who are frequently exposed to job-derived trauma and, consequently, are at elevated risk of adverse mental health outcomes, including adjustment disorder, acute stress disorder, posttraumatic stress disorder (PTSD), as well as impaired job performance (Buchanan et al. 2001; Marmar et al. 2006; Reiser and Geiger 1984; Rudofossi 1997; Ursano et al. 1990; Violanti 1997; Violanti and Paton 1999). For example, the point prevalence of PTSD among New Orleans Police Department officers exposed to a single trauma was 7% (NIOSH 2006) and others have found rates of PTSD in police officers as high as 13% (Robinson et al. 1997). Additionally, the rates of acute stress disorder and other distressing symptoms that cause meaningful impairments (Stein et al. 1997), such as partial PTSD, are even higher than those of full PTSD (Marshall et al. 1999; McMillen et al. 2000; Sloan 1988; Smith et al. 1990). In fact, partial PTSD has been identified in up to 34% of police officers exposed to trauma (Carlier et al. 1997). Partial PTSD is defined as symptoms of PTSD (American Psychiatric Association 2000) which cause impairment, but fail to meet full criteria for PTSD diagnosis though they may still require the same level of care (Carlier and Gersons 1995). Furthermore, depression, other anxiety disorders, cognitive impairments, and substance abuse are elevated in samples exposed to trauma as well as disaster work (Gross et al. 2006; Smith et al. 1990); these sequelae represent alternative trajectories for the expression of adverse psychological reactions to trauma. A final set of risks associated with trauma exposure include impaired police occupational performance, which can lead to injury or death among both citizens and officers, as well as substantial fiscal repercussions in the case of citizen litigation.

Fear during and after trauma or critical incident exposure is thought to activate brain systems including the amygdala and hypothalamic–pituitary–adrenal axis that have a role in triggering and regulating peripheral physiological activation (Davis 1992; Yehuda 2002). Such activation, if prolonged or particularly intense, appears to contribute to the psychophysiological, cognitive, and behavioral abnormalities associated with PTSD (Pole 2007). Treatments for people with current PTSD, including imaginal exposure and cognitive processing therapy, have been tested and empirically supported. Yet, such tertiary approaches to intervention have substantial limitations for emergency personnel such as police; they are notoriously underutilized, in part due to a police culture that stigmatizes admission of emotional difficulties (Amaranto et al. 2003). Furthermore, the consequences of living with PTSD prior to eventually obtaining treatment (for those few who have treatment) can be substantial, particularly because the police must serve the public. In contrast to tertiary interventions, secondary prevention interventions, such as critical incident stress debriefing, are designed to prevent the development of adjustment problems among people who have been exposed to trauma by having them discuss and process the experience soon after exposure. Yet, these psychological debriefing interventions, although widely implemented, have not been well-studied using randomized designs, and available reviews of the few published papers suggest limited efficacy of these interventions (Feldner et al. 2007; Rose et al. 2002; van Emmerik et al. 2002; Wessely and Deahl 2003). Moreover, neither of these tertiary or secondary interventions attempt to enhance professional skills as effective coping strategies.

The high cost of police trauma exposure and the substantial limitations of both tertiary and secondary prevention suggest a real need for primary prevention research on ways to increase resiliency to trauma, promote successful adjustment, counteract negative consequences, and reduce social and financial costs, using methods that are appropriate for police cultures in order to ensure utilization (Amaranto et al. 2003; Violanti et al. 2006). Therefore, we developed and tested a primary prevention intervention to prepare police officers to attenuate or counteract CIT-induced fear when future exposures occur. This intervention focused on preparing officers to encounter traumatic experiences and to respond optimally. Our intervention is based upon empirical research supporting the potential of imaginal exposure and skills training for increasing resilience to a variety of stressors and also enhancing performance. For example, research on preparation for stressful medical procedures (Anderson and Masur 1983; Schultheis et al. 1987), stress inoculation training (Meichenbaum 2003), and visual motor behavior rehearsal used in sports psychology (Suinn 1997) informed the development of our method. Overall, these literatures point to a confluence of effective components that can increase resilience to trauma including exposure (often via imagery) to a range of potential stressors, practicing adaptive responses during and after exposure, and frequent practice of both exposure and skills. By enhancing stressor-specific adaptive responses, predictability and control are increased, which decreases risk for adverse psychological outcomes and facilitates optimal behavioral performance.

We hypothesized that the intervention would increase resilience to the stress of CIT by attenuating acute stress responses. We tested this hypothesis by conducting a randomized trial of the effects of preparatory imagery and skills training among police officers versus no additional preparatory training (police training as usual) on self-rated stress, physiological arousal, and job performance during a highly stressful critical incident simulation. Such randomized trials of preventive approaches are rare, and we know of none that have involved trained police officers.

Despite the logistical challenges, a highly stressful, realistic, critical incident police work simulation was implemented for all participants to test the effects of the training. We did this because well-known laboratory stress paradigms (e.g., involving speech or cognitive challenges) do not resemble the real-life, potentially traumatic exposures that officers will face, and traditional laboratory stressors generate substantially less arousal (Kirschbaum et al. 1993; Kudielka et al. 2004; Larson et al. 2001). To our knowledge, a controlled stress performance and coping enhancement program such as ours has never been evaluated in police using potent, realistic assessment methods.

Method

Participants

Participants were 18 healthy, young, male police officers with 1 year of experience on the Swedish police force. These officers were recruited from a larger, longitudinal study of 75 police cadets who had been randomly assigned to complete either an imagery and skills training program or no additional preparatory training during their education at the police academy. One year later, a subsample of 25 participants was randomly selected from the parent study and invited to participate in a live, life-like critical incident simulation involving the reenactment of a post office robbery; 18 of the 25 invited officers (72%; nine from the imagery training group and nine from the control group) agreed. The study was approved by the Karolinska Institute's Ethics Committee, and informed consent was obtained from the officers.

Intervention

The imagery training program included an initial psycho-educational session followed by ten weekly, 2-h, small group (ten or fewer participants) sessions consisting of relaxation and imagery training with mental skill rehearsal. These sessions were held during regular police academy hours and facilitated by national special forces senior officers who had been trained by the researchers in administering the specific intervention. These senior officers had prior exposure to mental training as part of their special forces background. Each intervention facilitator worked with the same small group of participants during each training session in order to develop and maintain rapport.

The sessions began with training and practice in both progressive and cue-controlled relaxation methods wherein officers learned how to induce relaxation regardless of the situation. This was followed by imagery training using verbally presented scripts of various CITs to help the officers create mental images of specific, police work-relevant stressors and mentally rehearse appropriate responses. The scenarios were developed by interviewing highly experienced police officers and then developing a police survey measure based on the data we gathered. The survey consisted of 33 police-relevant scenarios; police officer respondents were asked to rate which ten were most common of the 33. Those scenarios rated as most common were used in our imagery training intervention (e.g., another officer's life is in immediate danger, a domestic violence call where children are adversely affected). These scenarios were found to be highly similar to those published by Spielberger et al. (1981). After the visualization exercise, the leader presented cognitive and behavioral skills training in effective coping techniques (e.g., using cue-controlled relaxation to achieve optimal focus, effective weapons management, and navigating novel environments during a critical incident). Group discussion of thoughts and feelings surrounding the imagery work was also facilitated by the leaders. Finally, imagery training group members were encouraged to practice at home between sessions and received a scripted audiotape to facilitate at-home training in cue-controlled relaxation. For further information on the intervention methods, please contact the first author.

Critical Incident Simulation

Police officers participated in the critical incident simulation in pairs, which is consistent with usual police patrols, but all data were collected from individual officers. On the day of the critical incident simulated reenactment, each officer was instructed to fast prior to his arrival at the academy in the morning. Upon arrival at the academy, blood samples were drawn and survey measures were completed. The officer then ate a standardized breakfast meal and was deployed to the simulation. Upon deployment, the officer received a set of handcuffs, a loaded paintball gun, an extra round of ammunition, a closed radio system, and an unmarked police car, and then was instructed to go about his usual patrol work.

Following deployment, the officer received three dispatch calls prior to the post office robbery call. The first call requested assistance with a drug-dealing suspect at the police academy building. Before arriving at the scene, the officer received another dispatch call informing him that the suspect had moved to the shooting range where he was demonstrating aggressive and hostile behavior toward the public. Prior to arriving at the shooting range, the officer was called off and redirected to investigate a suspicious vehicle at a restricted military airfield. Again, before completing this call, the officer was redirected to investigate the scene of a post office robbery (approximately 90 min postdeployment).

The officer was informed by dispatch that a post office had been robbed and the suspect had fled the scene; this was done to lower the participants' expectations about dangerousness of the call. The identity of the informant who called reporting the incident was stated as unknown to the dispatcher. The officer was instructed to meet the building maintenance manager inside an exterior door, which had been damaged during the robbery. Upon arrival at the scene, the officer observed the informant (an actor) standing 60 yards away from the building in an open field; he was pointing to the broken door. The officer then walked 15–20 yards toward the door when, without warning, two masked and heavily armed suspects (actors) exited the building. These suspects took aim at the police officers, and the first suspect immediately fired a shot from his (paintball) weapon. The second suspect, who spoke only English, turned right and stopped. Participating officers were fluent in both Swedish and English, but were not informed in advance that the second suspect spoke only English. The suspects followed the officers' clear, unambiguous orders if they were comprehensible to them (e.g., in a language they understood or communicated via body language/hand signals). The simulation ended when the officer handcuffed the suspects. All critical incident simulations were completed within 2 h of deployment.

Measures

Biological measures

Blood samples were collected presimulation and post-simulation (within 15 min of scenario completion) for later determination of stress biomarkers. Antithrombin (anticoagulant; prevents thrombosis) and cortisol (helps restore homeostasis after stress and counteract sustained catecholamine-driven heart rate stress activation) were measured using standard laboratory tests. Increases in these biomarkers during acute stress represent healthy, adaptive, biological stress responses (McEwen 1998, 2002; von Kanel et al. 2001).

Psychophysiological measure

Heart rate, used as the primary indicator of psychophysiological arousal, was measured continuously using a portable heart rate monitor. Although heart rate is expected to rise under conditions of stress, moderate rather than extreme increases that return to baseline after stress exposure are adaptive and predict better outcomes (McEwen 1998, 2002; Schuler and O'Brien 1997).

Behavioral performance

An independent police officer, who was a subject matter expert and who was blinded to group assignment, observed the critical incident simulations in vivo from a rooftop vantage point. Based on these observations, the observer rated each officer on the following eight behavioral benchmarks: tactics, material management/dexterity, verbal communication, nonverbal communication, self-control, control of suspect, control of public, and confidence in incident management safety. Proficiency in each area was rated on a scale ranging from "poor" (0) to "excellent" (100). These scores were summed to yield a composite ranging from 0 to 800 points; higher scores indicate better performance.

Mood

Participants completed the widely used profile of mood states (POMS) within 40 min of completing the simulation (McNair et al. 1971); POMS is a factor-analytically derived, 65-item self-report inventory tapping six distinct factors (tension–anxiety, depression–dejection, anger–hostility, fatigue–inertia, confusion–bewilderment, vigor–activity). Participants rated items on five-point scale ranging from "not at all" to "extremely," based on their mood "right now." Because the first five subscales are moderately correlated, these were averaged to create a "negative mood" composite, which was analyzed separately from the vigor–activity subscale, which reflects positive mood. Higher scores indicate higher levels of negative or positive mood.

Stress

Participants completed a 100-mm visual analog scale (VAS) of perceived stress "right now" within 40 min of completing the simulation (Arnetz et al. 1985; Hasson and Arnetz 2005). The VAS had anchors of "not at all stressed" (0) and "maximum stress" (100).

Statistics

First, we conducted a manipulation check of the potency of the stressful simulation by examining the sample of 18 participants as a whole. Next, our primary analyses addressed the effects of our training program by comparing the experimental (trained) and control group on the measures obtained during and after the stress-inducing critical incident simulation. For those measures for which there was a baseline (preexposure) assessment, analyses of covariance were conducted, covarying the baseline measure. For measures collected only during or post stress induction, we used independent groups t tests to compare group means.

Results

Manipulation Check

The critical incident simulation was perceived as highly realistic; demonstrated by the fact that 55.6% of the

Table 1 Manipulation check: stress responses to the critical incident simulation for the full sample (N=18 unless otherwise noted)

Measure	Mean (SD)	Effect size (d)	t	p
Cortisol (nmol/L)				
Pre	465.06 (127.5)			
Post	384.44 (104.23)	−0.69	2.15	0.046
Antithrombin (AT kIE/L)				
Pre	1.060 (0.150)			
Post	1.126 (0.135)	0.46	−2.35	0.031
Heart rate (BPM)				
Pre	68.33 (8.64)			
During	120.12 (16.09)	4.03	−10.34	<0.001
Post	83.11 (10.84)	1.54	−4.67	<0.001
VA stress (units)				
Pre	24.33 (16.35)			
Post	33.94 (25.01)	0.45	−2.42	0.027

Due to an equipment malfunction, heart rate during the scenario was measured on 17 participants instead of 18

participants fired a shot (n=11) and 44% experienced tunnel vision (no significant differences between groups). The critical incident simulation also successfully induced a substantial stress response as evidenced by the paired-samples t tests comparing participants' presimulation and postsimulation scores on heart rate during a critical time (handcuffing), serum cortisol and antithrombin, and self-reported stress. Effect sizes were particularly large for heart rate response (mean increase of 53 bpm) (see Table 1).

Group Differences in Mood and Performance

Imagery-trained police officers reported significantly less negative mood than the control group following the simulation; the effect was large. Positive mood, however, did not significantly differ between groups. Also, the imagery-trained group was rated by the blinded observer as performing significantly better than the control group as measured by the performance composite score with a large effect size.

An analysis of covariance (ANCOVA) was used to test the effects of group on perceived stress (VAS). As shown in Table 2, the imagery-trained groups' mean self-reported stress levels (VAS) increased less than the control group from precritical to postcritical incident simulation. The magnitude of this effect of imagery training on self-reported stress was large.

Group Differences in Biomarkers

As shown in Table 3, the imagery-trained participants' heart rate increased significantly less, from presimulation to the most critical moment (handcuffing the perpetrator), than the control group's heart rate, and this training effect was large. However, heart rate increases from presimulation to postsimulation were not affected by group assignment. Both groups' antithrombin levels increased during the simulation; however, imagery training resulted in significantly greater increases, and the magnitude of this effect was large. Prior to the simulation, the imagery-trained group had lower mean cortisol levels than the control group, $t(16)=-1.76$, p=0.097. After the simulation, both groups' cortisol levels had dropped, but the magnitude of this drop was larger in the control group (a decrease of 1.33 standard deviations [SD] from the control baseline) than the imagery group (a decrease of only 0.11 SD); and this decrease in cortisol was marginally less in the trained than the control group, $t(16)=1.89$, p=0.077. The magnitude of this effect was large. An ANCOVA in which the differences in baseline cortisol were taken into account, however, yielded no group differences.

Discussion

This study demonstrated that a police-specific imagery and skills training program decreases subjective distress and physiological stress reactions and simultaneously improves job performance during exposure to a realistic, stressful critical incident simulation. Like techniques to prepare patients for stressful medical procedures (Anderson and Masur 1983; Schultheis et al. 1987) or enhance athletes' performance (Suinn 1997), our police-specific imagery and relaxation training program effectively prepares the target population for impending stressful events and optimizes responses. It is noteworthy that our prevention program demonstrated incremental utility above and beyond the standard police training methods; these findings demonstrate that police officers can reap important benefits from

Table 2 Results of t tests comparing groups on mood and performance postsimulation

Measure	Intervention (n=9) M (SD)	Control (n=9) M (SD)	Effect size (d)	t	p
Negative mood composite	16.56 (4.59)	24.89 (9.61)	−1.11	−2.35	0.03
POMS vigor	17.89 (2.76)	17.67 (7.30)	0.04	0.09	0.93
Obj. performance composite	298.89 (33.74)	253.44 (38.23)	1.26	2.67	0.02

Table 3 Results of ANCOVA comparing groups on postsimulation stress, adjusted for baseline stress level

Measure	Intervention, *M* (SD)	Control, *M* (SD)	Effect size (*d*)	*F*	*p*
VA stress (units)	(*n*=9)	(*n*=9)			
Pre	23.56 (8.90)	25.11 (22.08)			
Post	26.78 (14.69)	41.11 (31.59)			
Change	3.22 (11.97)	16.00 (19.22)	−0.80		
Adjusted mean	27.65 (5.47)	40.24 (5.47)		2.65	0.13
Cortisol (nmol/L)	(*n*=9)	(*n*=9)			
Pre	415.11 (129.62)	515.00 (110.14)			
Post	400.33 (117.97)	368.56 (92.73)			
Change	−14.78 (159.89)	−146.44 (135.07)	0.89		
Adjusted mean	406.93 (37.83)	361.96 (37.83)		0.65	0.43
Antithrombin (AT kIE/L)	(*n*=9)	(*n*=9)			
Pre	1.04 (0.16)	1.08 (0.14)			
Post	1.16 (0.14)	1.09 (0.13)			
Change	0.12 (0.13)	0.01 (0.08)	1.03		
Adjusted mean	1.18 (0.03)	1.08 (0.03)		4.82	0.04
Heart rate (BPM) (handcuffing =9)	(*n*=8)	(*n*=9)			
Pre	69.33 (7.65)	67.33 (9.90)			
During	107.13 (6.58)	131.67 (12.70)			
Change	38.50 (9.23)	64.33 (20.92)	−1.60		
Adjusted mean	107.49 (3.35)	131.34 (3.16)		26.82	0.00
Heart rate (BPM) (post)	(*n*=9)	(*n*=9)			
Pre	69.33 (7.65)	67.33 (9.90)			
Post	83.56 (10.30)	82.67 (11.96)			
Change	14.22 (13.34)	15.33 (14.27)	−0.08		
Adjusted mean	83.48 (3.85)	82.74 (3.85)		0.02	0.90

Effect sizes are also reported. Adjusted mean rows show the mean (standard error). All other rows show the mean (SD). Due to an equipment malfunction, heart rate during handcuffing was measured on 17 participants instead of 18

training programs that incorporate psychological theory and methodology to mentally prepare them for optimal performance and psychological resilience.

A major strength of this study is that the critical incident simulation was a potent and realistic stress induction technique for this type of police stress research. This method stands in stark contrast to other commonly used laboratory-based methods of stress induction (Kirschbaum et al. 1993) that involve tasks such as challenging speech and mental arithmetic. Compared to such techniques, our stress induction method is more ecologically valid with regard to actual police duties, and therefore, increases the generalizability of results. Our critical incident simulation induced substantially greater mean heart rate reactivity at the most critical time point (+52 bpm) than is typically reported in laboratory studies (e.g., increases of 13–16 bpm; Hughes and Stoney 2000; Kudielka et al. 2004; Larson et al. 2001). Both the qualitative (similarity to police work) and quantitative (potency of the stressor) characteristics of our methodology more closely emulate on-the-job police stressors than other more commonly used methods of laboratory stress induction. However, the logistical and cost limitations of a simulation such as that used in the current study suggest that more feasible alternatives, such as virtual reality exposure, should be considered and tested in future research.

The development of PTSD is predicted by greater reported distress and increased heart rate reactivity during the peritraumatic period (Kangas et al. 2005; Pole 2007; Shalev et al. 1998; Yehuda 2002). Thus, it is quite notable that the imagery-trained group experienced less self-reported stress and negative mood following the critical incident simulation, and this improved subjective experience was paralleled by attenuated physiological response. The trained group had a smaller heart rate increase during the critical moment in the scenario. Thus, the ability of this prevention program to attenuate distress and physiological arousal in response to this realistic scenario suggests that it has the potential to prevent the development of posttrauma stress reactions when exposures occur in the field.

The training program also improved several psychobiological and even behavioral measures. It led to a more adaptive anticoagulant response (larger mean increases in antithrombin), which is viewed as protective against undesired clotting during stressful encounters (von Kanel et al. 2001; von Kanel et al. 2002; Yanada et al. 2002). We also found that the training group had a smaller decrease in cortisol response than the controls. However, the interpretation of this finding is less clear because the training group had somewhat lower levels of cortisol presimulation than did controls, and both groups decreased in cortisol over the 2-h simulation, which might have been simply a reflection of circadian decreases in cortisol from morning elevations. The observed differences in prescenario cortisol may result from the trained group being less aroused or challenged by the anticipation of the upcoming critical incident simulation or they benefited from generally better adaptation to stressors during their 1-year career as a police officer (and since the training). This suggests that training had benefits not only during the simulation at a 1-year follow-up, but that trained officers accrued benefits over time prior to the simulation. With regard to postscenario differences in cortisol, it is plausible that training led to a more adaptive response to the simulation, which is reflected in maintaining appropriate cortisol elevations during stress; indeed, research has shown that an adequate cortisol response during trauma exposure predicts resilience against the development of PTSD (Delahanty et al. 2000). Although, the observed between-groups crossover effects in cortisol levels before and after the stressor complicate this interpretation, complex findings such as these are not unprecedented. In fact, in a recent article on the relation between cortisol levels and PTSD, Yehuda (2002) reviewed a body of literature that failed to reveal consistent or predictable patterns. Rather, it seems that although cortisol differences are often observed between resilient and disordered groups, the direction of this difference varies and may be influenced by a variety of factors including prior trauma exposure, time of day, as well as acute and anticipatory stress. Clearly, further research is needed to elucidate whether there are optimal peritraumatic cortisol response patterns, whether these patterns covary with other variables (e.g., time of day) and what factors may facilitate or impede optimal cortisol responding. Research into other biochemical markers of resilience [e.g., DHEA (Arnetz 1996); NPY (Haglund et al. 2007)] in the face of traumatic stress may also provide an alternate route to clarifying this issue. Haglund et al. (2007) provides a thoughtful review of this topic.

Finally, the intervention was found to improve actual performance of adaptive police behaviors during the simulation, such as safety and control of the public, as rated by a blinded, expert observer. This is noteworthy because more adaptive overt police behavior may be the most important outcome for the officers themselves, the police administration, and the public at large because better police performance reduces the risk of adverse police outcomes (injuries, accidental deaths, brutality, and litigation). The effect of this training intervention 1-year earlier leading to better objectively rated police performance is quite noteworthy and suggests that the effects of the training are not subtle.

Admittedly, the sample is relatively small, in large part because of the expense and logistical difficulties of implementing this type of simulation and comprehensive assessment. It is noteworthy, however, that there were a number of statistically significant group differences because of the large effect sizes—ranging from 0.8 to 1.6 SD. Effect sizes of this substantial magnitude are rarely reported in the prevention literature (Butler et al. 2006), and the effects in this study are certainly larger than the small or nonsignificant effects from randomized studies of psychological debriefing (van Emmerik et al. 2002). The magnitude (and breadth) of the effects of the imagery and skills training on stress and performance provides a compelling argument that the officers reaped tangible benefits as a result of our training intervention. However, the effects reported in this paper are short-term, and it is not known whether this intervention would prevent the development of PTSD and other adjustment problems over time in response to real-life stressors. Although our findings are promising, replication and extension is needed to confirm our findings with a larger sample. Future researchers should design longitudinal studies with follow-up assessments in order to test this and provide information about the temporal durability of the intervention. Future investigations would also benefit by testing the intervention on more diverse samples in order to test generalizability, detect more subtle group differences, and explore possible moderators.

Although the findings are in need of extension and replication, these results suggest that our police imagery and skills training program has the potential to reduce negative sequelae of trauma exposure in police officers and perhaps other first responders. Such a preparatory approach may prove to be superior to debriefing methods after exposure, although future research should test this. Furthermore, effective primary prevention efforts are superior to secondary prevention methods because they result in fewer lost work days and less human suffering and may be more acceptable to officers than seeking help for psychological problems.

In conclusion, our imagery and skills training intervention provides incremental utility above police training as usual in enhancing performance and attenuating stress responses in police during critical incident simulations. The critical incident simulation was a potent and realistic paradigm for inducing occupational stress and testing the effects of our intervention. Therefore, our trauma resilience training intervention for police should transport readily to implementation in the field of police work.

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