Cover Sheet
Publication date: 29 July 2010

Stress Management Training and Development Programs for Police Officers and Recruits

Names of Reviewers

Lead reviewer:

George T. Patterson, Ph.D.
Assistant Professor
Hunter College School of Social Work
The City University of New York
129 East 79th Street
New York, NY 10075
Phone: (212) 452-7101
Fax: (212) 452-7150
e-mail: george.patterson@hunter.cuny.edu

Second reviewer:

Irene Chung, Ph.D.

Sources of Support

Hunter College School of Social Work (HCSSW) of the City University of New York (CUNY) will provide secretarial support; internet and computer support; computer software for the project such as the bibliographic software Refworks; copying and duplicating; and telephone, e-mail and office support for the review team. The HCSSW has its own library with a focus on social science resources and will provide support through a librarian, inter-library loan, and access to bibliographic databases. The review team also has access to John Jay College of Criminal Justice (CUNY) were additional criminal justice related bibliographic databases, journals, books, dissertations, theses, and reports are located.
Background for the Review

A body of knowledge exists that identifies sources of police stress, categories of stress, and the strategies officers and recruits use to cope with stress. Early research in this area suggested that aloofness, alcoholism, authoritarianism, cynicism, depersonalization, emotional detachment, and suspiciousness were either coping strategies used to manage stress or personality characteristics that develop in police officers over the length of their careers (Bonifacio, 1991; Davidson & Veno, 1980; Evans, Coman, Stanley, & Burrows, 1993; Kroes, 1985; Niederhoffer, 1967; Violanti & Marshall, 1983). Some of these factors were ineffective when used by police officers as coping strategies. For instance Violanti, Marshall, and Howe (1985) examined cynicism as a coping strategy and found that it did not reduce the negative effects of stress, but increased stress and alcohol use.

Because police officers’ work is critical to society and they are the first line in the criminal justice system (Lester, Leitner, & Posner, 1984), and a great deal of media and research attention has been given to police stress, it is important to address it.

Stress can affect an officer’s psychological and physiological well-being. Stinchcomb (2004) distinguished between physiological symptoms (headaches, stomachaches, backaches, ulcers, heart attacks) and psychological symptoms (anxiety, depression, flashbacks, panic attacks). Although the following studies do not show a direct relationship between stress and outcomes; depression, alcohol and substance use, divorce, and suicide have been commonly suggested as stress outcomes among police officers (Anshel, 2000; Biggam, Power, & MacDonald, 1997; Brown, Cooper, & Kirkcaldy, 1996; Cooper, & Davidson, 1987; Kirkcaldy, Cooper, & Ruffalo, 1995; Violanti, 1995). Some relationships have been found between police stress and burnout (Burke & Deszca, 1986), whereas other research explores the relationships between risk factors and suicide in police officers (Janik & Kravitz, 1994; Lennings, 1995).

Finn and Tomz (1997) categorized the sources of stress for police officers in four areas. These four areas have been commonly used among researchers to categorize police stress:

1) The law enforcement organization includes situations that arise as a result of working within the bureaucratic structure of the law enforcement organization. Examples include inadequate equipment, shiftwork, inadequate training or supervision, and excessive paperwork.

2) Law enforcement work is direct work in the community that is inherently demanding and stressful. Examples include frequent exposure to individuals who are suffering, the responsibility for protecting others, role conflicts, and exposure to dangerous work and stressful assignments.

3) The criminal justice system and working with the public involve officer’s perceptions about the criminal justice system, the public and the media. Examples include officer’s negative perceptions that court rulings are too lenient on offenders and too restrictive on police functions such as; evidence collection and investigations, perceptions of a lack of respect from the public, and negative media coverage of police officers.

4) The officer’s personal life may also be a source of stress because police officers are likely to experience stressful life events such as the birth of a child, purchasing a new home, the death of a family member or close friend, and experiencing financial problems.
Most traumatic incidents experienced by law enforcement personnel are intentional, human-made disasters (as opposed to natural, accidental disasters) such as sexual assault, officers’ involvement in shootings, hostage situations, the death of an officer in the line of duty, and the death or serious injury of children (Kirschman, 1997). These incidents are also a source of stress for police officers. Consequently, Patterson (2001) asserted that the traumatic incidents that police officers experience should be reconceptualized as a fifth category of work stress given the potential negative effects that such incidents have on officers’ psychological well-being.

Cross-sectional studies investigating coping strategies that officers use to manage stress have examined cognitive-behavioral coping among police officers (Evans et al., 1993; Kirmeyer, & Diamond, 1985; Patterson, 2003) and recruits (Violanti, 1992); as well as other coping strategies that officers are likely to use (Fain & McCormick, 1988; Graf, 1986). Anshel (2000) asserted that a limitation of law enforcement training and job supervision is the lack of teaching a cognitive behavioral model for coping. Anshel suggested that in-service training is needed to teach cognitive models to police officers, including appraisals of stressful events, adaptive and maladaptive coping strategies. Cognitive appraisals are an important component in the stress-distress relationship (Folkman & Lazarus, 1991; Folkman & Lazarus, 1985; Lazarus & Folkman, 1984; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

Law enforcement organizations provide many types of interventions to help both veteran police officers and recruits manage stress. The most common approach is the provision of training developed and implemented to help officers recognize the warning signs of stress, and to use individual coping strategies (On the Job, 2000; Sewell, 1999). A wide variety of officer training and development programs have been recommended as interventions for dealing with stress among police officers, recruits, and their families (Finn & Tomz, 1997). Examples of interventions include: goal setting, time management, financial planning, physical fitness, meditation, progressive relaxation, biofeedback, social support, and cognitive coping strategies (Ellison & Genz, 1983; Webb & Smith, 1980). Anderson, Swenson, and Clay (1995) described a similar typology: spot checking and scanning, positive self-talk, deep breathing, anchoring, cognitive rehearsal and desensitization, progressive muscle relaxation, exercise, antogenic training, meditation, imagery and biofeedback. Other interventions include stress debriefing (Addis & Stephens, 2008; Carlier, Lamberts, van Uchelen, & Gersons, 1998), critical incident stress management (CISM) (Everly, Flannery, & Mitchell, 2000), and those that target the law enforcement organization and supervisors (Chapin, Brannen, Singer, & Walker, 2008; Ellison & Genz, 1983).

Penalba, McGuire and Leite (2009) conducted a Cochrane review to assess the effectiveness of psychosocial interventions given to law enforcement to prevent psychological disorders. Randomized and quasi-randomized controlled trial studies were included. Law enforcement personnel (police officers and military police) and all types of psychosocial interventions, such as exercise, comprised the inclusion criteria. Of the 10 studies included in the review, the authors indicated that only five reported data that could be used for analysis. The studies were low quality, no study fully met the review quality criteria, studies contained missing data and the data showing effectiveness were minimal. The authors concluded that performing a meta-analysis was not possible, and insufficient evidence exists to indicate whether psychosocial interventions given to law enforcement to prevent psychological disorders are effective.

Advances in stress and coping research have demonstrated a progression in methodologies and comprise a vast literature of definitions, measurement techniques, and various outcomes including physiology and physical health (Aldwin, 2007). For instance, Gaab et al (2003)
investigated the effects of cognitive-behavioral stress management training on endocrine stress responses and cognitive appraisals in a randomized controlled trial study. Outcomes included physiological and psychological self report measures. Similarly, Blumenthal et al (2005) examined the effects of stress management training in a randomized controlled trial that combined physiological and psychological self report measures. Whereas these studies did not use samples of police officers and the methods alone do not provide evidence of stress management program effectiveness, these studies are indicative of the advances made in investigating the efficacy of such programs.

Despite the limitations of police stress research, it is generally agreed upon that stressful work and life events often have a negative impact on police officers and recruits that can be quite pervasive. It can adversely affect the officer’s sense of well-being, job performance, family members, the law enforcement organization and the community (Finn & Tomz, 1997). The impact on police families can not be ignored (Burke, 1993).

In sum, numerous classifications of coping, measurement strategies and methods are used to investigate work stress and interventions (Dewe & Cooper, 2007). However, there is a gap of knowledge on the effectiveness of the wide range of interventions and the rigor of the research methods used to investigate stress management training and development programs for police officers and recruits.

**Objectives of the Review**

This protocol describes a systematic review that will be conducted to identify, retrieve, evaluate and synthesize the available evidence regarding outcomes of stress management and development programs for veteran police officers and recruits. Such a review can inform readers about the effectiveness of these programs and the strengths of the existing evidence.

**Review question:**

What are the effects of officer stress management and development programs on stress outcomes?

To answer this question our review team will:

1. Examine the conceptual differences in interventions given to police officers and recruits.
2. Explain variations in approaches to interventions given to police officers and recruits.
3. Synthesize the body of knowledge on sources and types of stress for police and recruits, and the strengths and limitations of the interventions.
4. Discover reasons for conflicting training effects (e.g., different curricula, different outcome measures, different research methods).
5. Synthesize what is known about the impact of different study designs, research methods, interventions, and data analysis procedures on outcomes.
Methods

A variety of search methods will be used to identify studies. These methods include: (1) searching electronic databases; (2) handsearching relevant journals, books, and conference proceedings; (3) searching Internet websites; (4) visually scanning reference lists from relevant studies; (5) contacting organizations and authors who have knowledge of police stress management and development program evaluations; and (6) citation searching.

We will also use the above methods to search for “grey literature” (e.g., book chapters, government reports, doctoral dissertations and master’s theses, conferences proceedings, and organizations that provide stress management and development programs to police officers). This will reduce publication bias.

Criteria for inclusion and exclusion of studies in the review

Process for study selection

Two reviewers will independently apply the criteria and extract data from retrieved studies. Retrieved studies will be selected based on a two stage process recommended by the Centre for Reviews and Dissemination (CDR, 2009). The first stage will involve making decisions based on the study title and abstract using the criteria for inclusion described below. At this stage of the selection process it may be obvious that a study does not meet the inclusion criteria. If so, the study will be excluded without further documentation. For studies that address the review topic but do not meet one or more of the inclusion criteria, the reason why these studies did not meet the criteria will be documented.

The second stage applies to studies that either appear as if they meet the inclusion criteria, or studies where decisions based on the title and abstract alone cannot be made. In these instances the full study will be retrieved using inter-library loan, electronic databases or contacting authors. The following study illustrates the importance of the second stage in the study selection process. The study Searching for stress in all the wrong places: Combating chronic organizational stressors in policing (Stinchcomb, 2004) illustrates the problems with reviewing only the title and abstract, as well keywords, to make inclusion decisions. For instance, the title “Combating chronic organizational stressors in policing”; the keywords “police stress…organizational stress… proactive stress reduction”; and the abstract “this paper explores…organizational stress in policing...along with potential strategies for proactively combating it” (p. 259) may suggest that this study investigates interventions for addressing organizational stress in policing. Upon reading the article it was determined that the article is a literature review of interventions used by police departments to address stress. This example demonstrates why the review team will review entire studies to make decisions, not only the titles, keywords, and abstracts.

A flow chart describing the process for study selection is shown in Table 1. As the table shows, the number of studies examined at each stage of the selection process will be documented. Studies that are excluded will be categorized together with reasons for exclusion, for example non-English studies.
The lead reviewer will train the review team to become familiar with police terms and other relevant concepts based on the lead reviewer’s extensive experience in policing. It is important that the team is familiar with the topic and the definitions associated with it (CDR, 2009).

Criteria for inclusion

The criteria for inclusion of retrieved studies in this systematic review will focus on population characteristics and sampling strategies, interventions, study methods and designs, data analysis and outcome results.

(1) The population will include veteran police officers, police recruits, and/or civilian (non-sworn) police personnel. Civilians will be included because stress management programs often include both sworn and non-sworn police personnel. Studies with a mixed population of police officers and non-police officers (e.g., teachers, nurses, firefighters) will be included in the review only if the findings can be extricated for police officers, police recruits, and/or civilian (non-sworn) police personnel.

(2) All interventions that focus on stress among the population will be included. The following examples illustrate the range of interventions given to the population: (a) eye movement desensitization and reprocessing (EMDR) (an eight step clinical approach in which negative thoughts are focused on while moving one’s eyes back and forth in a rapid lateral manner); (b) debriefing (talking in a supportive environment to reduce the effects of a traumatic event (Everly, Flannery, & Mitchell, 2000); (c) goal setting (assessing goals and priorities, examine ways to achieve goals); (d) time management (address symptoms of poor time management and achieve a balance when scheduling time, set goals and establish deadlines); (e) financial planning (rational efforts and systematic planning for financial spending and budget development); (f) physical fitness (physical fitness programs intended to improve physical health and increase ability to deal with stress); (g) meditation (learning to direct attention toward a mental device such as a visual symbol to facilitate calm and relaxation (Benson (1975) and Seer (1979) as cited in Ellison and Genz (1983); (h) progressive relaxation (a form of relaxation that make the participant aware of muscle tension and works on the principle that a muscle which is held very tense will automatically relax in a short period of time); (i) biofeedback (a realization technique in which participants are trained to control such supposedly involuntary reactions as muscle tension, seating, and heart rate); (j) social support (tangible or emotional support provided by others. Sources of support include other officers, family members, nonpolice friends); (k) cognitive-behavioral coping strategies (emotional and behavioral coping techniques used to manage stressful events).

(3) Retrieved studies that were published within the last 39 years (1970-2009). This time frame was selected because police stress research dates back to the 1970s.

(4) Studies that utilize a randomized controlled trial (RCT) or random assignment to conditions, and quasi-experimental designs that utilize a control group will be included.

(5) Qualitative data will be included only if the data are reported as part of a mixed methods study that meet the inclusionary criteria of the systematic review.
(6) Published and non-published studies, doctoral dissertations and master’s theses, conference papers, and book chapters.

(7) One or more outcomes are reported for each intervention, training or officer development program. Outcomes include psychological (attitudes, knowledge, perceptions of stress and coping); behavioral (skills); or physiological outcomes that are based on self report or objective data (cardiac autonomic control, salivary free cortisol response) including observation.

(8) Any geographic location.

**Examples of retrieved studies that will be included**

The following two studies illustrate examples of retrieved studies that will be included in the systematic search using the criteria described above. First, *Stress management with law enforcement personnel: A controlled outcome study of EMDR versus a traditional stress management program* (Wilson, Tinker, Becker, & Logan, 2001):

1. the study population is veteran police officers;
2. an intervention (EMDR) was given to the population;
3. the study was published in 2001;
4. a randomized controlled trial was used;
5. qualitative data were not reported;
6. the study was published in a journal;
7. four outcomes were reported for the intervention; and
8. the study was conducted using a sample of American police officers in the U.S.

A second study, *The effectiveness of individual wellness counseling on the wellness of law enforcement officers* (Tanigoshi, Kontos, & Remley, 2008) also meets the inclusion criteria:

1. the study population is veteran police officers;
2. an intervention (individual wellness counseling) was given to the population;
3. the study was published in 2008;
4. a randomized controlled trial was used;
5. qualitative data were not reported;
6. the study was published in a journal;
7. outcomes were reported for the intervention; and
8. the study was conducted using a sample of American police officers in the U.S.

**Reliability of relevance decisions**

Reliability of relevance decisions will be assessed based on a research synthesis report (Halvorsen, 1994) that will be developed to indicate the agreement rate between the two reviewers, and how differences regarding study inclusion were resolved. Differences that arise will be resolved by reaching a consensus on each study. In situations where consensus can not be reached, arbitration will be used by consulting one or more members of the research teaching faculty at HCSSW. The agreement rate (AR), or percent agreement, will be calculated using the following formula proposed by Orwin (1994):

\[ \text{AR} = \frac{\text{number of observations agreed upon}}{\text{total number of observations}} \]
Search strategy for identification of relevant studies

We have begun a preliminary search to identify and retrieve relevant studies in several ways. First, it was determined that the Dialog database was not a cost effective use of resources since much, if not most, of the articles to be found in Dialog are available free of charge to Hunter College faculty via the Hunter College Library databases. Although Dialog searching serves as a master index of databases, our review team found that the library electronic databases were adequate.

Next, Ulrichs Periodicals Directory was used to inform the review team of the databases that list the periodicals relevant to our systematic search. The “criminology and law enforcement” section was particularly useful in this regard.

The initial Boolean searches used the following terms: police and (stress and (management or training or development)) and “suicide prevention”. A more complex Boolean strategy will be employed in further enquiries. The next iteration of the search will use key terms such as randomized controlled trial, evaluation, relaxation, stress prevention, stress awareness, goal setting, time management, financial planning, physical fitness, meditation, progressive relaxation, well-being, biofeedback, social support, and cognitive coping strategies among other terms identified in the literature. An example of the search strategy will involve the following Boolean search strategy: ((stress or suicide or “substance abuse” or “alcohol abuse”) and (management or prevention or awareness or debriefing or development)) and (training or program*).

The following electronic databases will be searched:


After identifying studies, the studies will be imported to the bibliographic software Refworks. Refworks will be used to manage and share the studies among the review team, and create the
American Psychological Association (APA) bibliographic style. Duplicate studies will not be treated as separate studies.

**Description of the methods used in the component studies**

It is likely that few studies investigating stress management and development programs for police officers and recruits will utilize RCTs. While RCTs are the preferred designs to assess intervention effectiveness, these designs are sometimes impractical in police settings particularly among police recruits. Because observational designs (those in which natural changes in interventions are examined) are weaker in external validity (CRD, 2009), these designs will be excluded from the systematic review. RCTs and quasi-experimental designs that utilize a control group will be the methods used in the component studies.

The samples most likely used in the component studies will be volunteers who were randomly assigned to control and experimental conditions. It is likely that few studies will consist of samples that were randomly recruited from police departmental employee sampling frames.

Self report data are used most often to assess outcomes. A wide variety of outcome measures have been used to investigate stress management and development programs for police officers and recruits. As mentioned, these include psychological (attitudes, knowledge, perceptions of stress and coping); behavioral (skills); or physiological outcomes based on self report or objective data (cardiac autonomic control, salivary free cortisol response) including observation.

The following studies provide examples of the methods used in the component studies.

**Stress management with law enforcement personnel: A controlled outcome study of EMDR versus a traditional stress management program** (Wilson, Tinker, Becker, & Logan, 2001) used a sample of 62 veteran police officers who were randomly assigned to an EMDR stress management program or a standard stress management program (SMP). Self-report measures of PTSD symptoms, subjective distress, job stress, anger and martial satisfaction were taken at pretest, posttest and again at a 6 month follow-up period. Baseline measures were assessed using analysis of variance (ANOVA) and treatment effects were assessed using analysis of covariance (ANCOVA).

The study **Impact of the HeartMath self-management skills program physiological and psychological stress in police officers** (McCrary & Tomasino, 1999) used volunteer participants who were first recruited to volunteer in the program, then randomly assigned to an experimental and a control group. Subjective and objective data were collected at three time points in the experimental group and two time points in the control group. Self-report measures assessed officers’ ability to recognize and identify stress related attitudes and experiences. Objective physiological measures included heart rate, blood pressure changes, and autonomic nervous system assessments. The statistics necessary to conduct a meta-analysis are missing from this article. The article represents an example where the review team will contact authors to obtain data that are missing from retrieved studies.

Table 2 shows a preliminary description of how the methods used in the component studies will be summarized.

**Criteria for determination of independent findings**

Data obtained from retrieved studies may have been collected at different time points within the same study or several outcomes may be reported within the same study. Because the
outcomes are measured among the same sample of study participants the data will not be treated as independent estimates of the intervention. In such instances we will not treat each finding as independent of other findings within the same study.

Effect size estimates may lack statistical independence because different effect size estimates may be calculated on the same participants using different outcomes measures; effect sizes may be calculated by comparing different interventions within a single control group or different control groups within a single intervention group; different samples may be used in the same study to calculate an effect size for each sample; or a series of studies may be conducted by the same research team (Hedges, 1990).

To address these issues we will separate out the effect sizes by outcome type and analyze effect sizes separately for different outcome types. If a study contains multiple measures of the same outcome type (physiological measures), we will average these within a given study. Effect sizes will not be averaged across different outcome types. The standardized measure of effect Hedges’ $g$ will be used to estimate the effect size.

However, averaging the effect sizes within studies may result in biased average effect estimates and incorrect sampling errors if the effect sizes from different studies vary in precision (have different standard errors). Therefore each effect size calculated for a study will be weighted proportional to its precision, thereby giving more weight to studies with more precision and larger samples. This will be done by weighting each study effect size according to the inverse of its sampling variance (Hedges & Olkin, 1985).

**Details of study coding strategies**

Data extraction will begin immediately upon retrieving studies. A pilot test will first be conducted. The coding protocol (coding form, codebook) will be piloted prior to beginning the primary data collection from retrieved studies. The pilot test will also assist reviewers with testing procedures to resolve disagreements that may arise regarding relevance decisions.

The characteristics of retrieved studies that will be included in the systematic search are shown in Table 3. As the coding form shows, publication characteristics, sampling and population characteristics such as gender and officer rank, type of intervention, measurement, design and data analysis characteristics will be examined.

A preliminary codebook is shown in Table 4. The relevant variables were created using eight characters or less; and the data will be entered, cleaned and analyzed using the data editor of the Predictive Analytic Software (PASW) (formerly the Statistical Package for the Social Sciences, SPSS).

**Coding reliability**

Cohen’s kappa (1960) will be used to assess interrater reliability. Cohen’s kappa is highly recommended as a statistical method for evaluating coding decisions that involve nominal (categorical) data because it removes chance agreement from interrater coding (Light, 1971; Shrout, Spitzer, & Fliess, 1987). We will code and analyze numerous nominal variables, such as police officer rank and type of intervention, from the retrieved studies. Orwin (1994) described numerous properties of Cohen’s kappa which make it an appropriate method for our work and a much stronger method than using an agreement rate approach. A statistical consultant will assist with calculating Cohen’s Kappa. Table 5 shows the data collection and analysis technique that
will be used to evaluate coder reliability. As the table illustrates, a matrix will be used to analyze interrater reliability. The table is taken from the work of Orwin (p. 149).

The review team will not remove identifying information such as author, institution, journal name or study results prior to study section, data extraction and coding. Unmasked assessment conducted by two independent reviewers is an acceptable method (CDR, 2009).

**Statistical procedures and conventions**

Descriptive statistics will be used to summarize the data extracted from retrieved studies. Categorical (nominal) data will yield frequencies and percentages. Interval and ratio data will yield measures of central tendency: mean, standard deviation, and range. Extracted data will be entered and analyzed using PASW (formerly SPSS).

A random effects meta-analytic model using the inverse variance weight method will be performed. The random effects model will be assumed a priori. Because the combined effect size will vary as a result of numerous sources such as population (recruit, veteran police officer or civilian), and length and type of stress management intervention, the random effects model is appropriate for our analysis (Borenstein, Hedges, Higgins, & Rothstein, 2009).

A means odds-ratio and homogeneity of effects will be calculated using the inverse variance weight method and will be calculated across studies. The inverse variance weight method will be used to assess homogeneity of effects. The variance-component estimate will be used to test the null hypothesis that the between-studies variance in effects is not greater than would be expected due to sampling error alone. If the null hypothesis is rejected, the between-studies variance is not equal to zero and an estimate of the variance component will be provided. The meta-analysis will be performed using the computer software program Comprehensive Meta-Analysis.

Several moderators are theorized to influence stress management outcomes. These include: length of stress management intervention, type of stress management intervention (exercise, counseling, education), population (recruit, veteran police officer, civilian), gender, rank, and years employed as a police officer. Additional factors include random assignment to conditions and attrition. The moderator analysis will be conducted by calculating the full-information maximum likelihood random effects mean odds-ratio for each of these binary variables to examine their influence on outcomes. These binary factors are included in the codebook.

A sensitivity analysis will be performed to examine the impact of each study on the mean effect. The analysis will be performed in several ways. First, it will be run with all studies included except the first study, then with all studies except the second study, and so forth. A second approach will perform the analysis with larger studies removed, then with smaller studies removed. Finally, the analysis will be performed with moderators removed to assess the impact that these factors might have on the mean effect.

Using only published studies for analysis can result in a file drawer problem. Not including unpublished studies in a meta-analysis can result in findings that are misleading (Glass, 1981), and overestimate the true effect size (Borenstein, Hedges, Higgins, & Rothstein, 2009). Moreover, to ignore dissertations based on assumptions that they lack rigor is unwarranted (Glass, 1981), and to assume that journal peer reviewed results in high quality studies can be misleading (Borenstein, Hedges, Higgins, & Rothstein, 2009).

To address publication selection bias, our review team will use a method of assessing bias proposed by Borenstein, Hedges, Higgins, and Rothstein (2009). The model examines the
relationship between sample size and effect size. If a relationship is found, it can be attributed to missing studies or studies being excluded from the meta-analysis. A forest plot will developed and examined to show whether retrieved studies are distributed symmetrically around the mean of the effect size.

**Treatment of qualitative research**

CDR (2009) summarized the numerous issues related to the synthesis of qualitative studies: many qualitative studies contain quotes that have not been analyzed, no information is provided regarding how the data was collected and analyzed, and the methods and tools used to identify and retrieve qualitative studies from electronic databases are not as developed as they are for qualitative studies.

As previously mentioned, qualitative data will be included only if the data are reported as part of a mixed methods study that meet the inclusionary criteria of the systematic review. The following studies illustrate examples where the qualitative data are not included as part of a mixed methods study that meet the inclusion criteria: *Breaking the silence: The traumatic circle of policing* (Rees & Smith, 2008) and *Illegal drug use by police officers: Using research and investigations to inform prevention strategies* (Gorta, 2009). Therefore, such studies will be excluded.
Timeframe

<table>
<thead>
<tr>
<th>Dates</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 1, 2009</td>
<td>Hire research assistant; begin electronic searches; begin handsearches; begin pilot test of inclusion criteria, coding form, reliability of relevance decisions, and process for differences that arise such as reaching consensus and arbitration.</td>
</tr>
<tr>
<td>October 1, 2009</td>
<td>Complete pilot test and modifications to inclusion criteria, coding form and other protocol. Begin actual data extraction from studies.</td>
</tr>
<tr>
<td>January 1, 2009</td>
<td>Consult with an advisory group consisting of one current and one retired law enforcement training director. Review/edit draft of preliminary findings.</td>
</tr>
<tr>
<td>February 15, 2010</td>
<td>Preliminary findings will be available for presentation at a meeting.</td>
</tr>
<tr>
<td>June/July 2010</td>
<td>Review/edit draft of final report</td>
</tr>
<tr>
<td>August 31, 2010</td>
<td>Submit final report.</td>
</tr>
</tbody>
</table>

Plans for Updating the Review

The review team will assume responsibility for updating the systematic review. An updated review will be conducted every three years after the present systematic review is completed based on Campbell Collaboration guidelines.

Acknowledgements

The review team acknowledges the assistance of Professor Phillip G. Swan, Head Librarian, Hunter College School of Social Work (CUNY) New York, NY with the preparation of this protocol. The review team also acknowledges the assistance of Professor Marvie Brooks, Instruction Librarian, John Jay College of Criminal Justice (CUNY) New York, NY.

Statement Concerning Conflict of Interest

Neither the two reviewers, nor any others involved in this review have financial conflicts of interest. The review team will not receive a benefit in cash or kind, any hospitality, or subsidy that may influence the outcome of the review.
References


### TABLE 1 - Flow chart describing study selection process

- Number of Titles and Abstracts Identified and Screened
- Number of studies excluded
- Number of studies where unable to obtain/further information needed to make assessment
- Number of full copies retrieved and assessed
- Number of excluded studies (due to no outcome/training or intervention, police and non-police population, duplicate publication)
- Studies identified from searching reference lists/publications providing additional information for locating published studies
- Number of studies meeting inclusion criteria
- Number of studies included in the systemic search
TABLE 2 - Summary of studies included in systematic review

<table>
<thead>
<tr>
<th>Study (author, year)</th>
<th>Population</th>
<th>Intervention/training</th>
<th>Design</th>
<th>Measurement</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 3

CODING FORM

<table>
<thead>
<tr>
<th>Study Code Number:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coder Number:</td>
<td>Length of time for this review:</td>
</tr>
</tbody>
</table>

PUBLICATION CHARACTERISTICS

1) Retrieved from:
   1 – Electronic database (e.g., Criminal Justice Abstracts)
   2 – Reference from other study
   3 – Website
   4 – Other ______________

2) Review Process:
   1 – Peer reviewed
   2 – Not peer reviewed
   3 – Not known

3) Type:
   1 – Journal article
   2 – Book chapter
   3 – Doctoral dissertation
   4 – Master’s thesis
   5 – Unpublished report
   6 – Other ______________

4) Publication year: ______________

5) Published study:
   1 – Yes
   2 – No
SAMPLING STRATEGY AND POPULATION CHARACTERISTICS

1) Sampling strategy:
   1 – Convenience
   2 – Random
   3 – Other
   4 – Not reported _______________

2) Total sample size: __________

3) Sub-sample size: __________ (e.g., gender, race/ethnicity, number of nonsworn participants)

4) Gender:
   1 – Male
   2 – Female
   3 – Males and females

5) Nationality: _______________

6) Age data for sample reported:
   1 – yes
   2 – no

7) Average age and standard deviation of sample: age _______ SD________

8) Sample characteristics:
   1 – Veteran police officers
   2 – Recruits
   3 – Veteran police officers and non-sworn personnel
   4 – Recruits and non-sworn personnel
   5 – Veteran police officers, recruits non-sworn personnel

9) Rank: (check as many as apply)
   1 – Patrol officer 5 – Civilian personnel
   2 – Sergeant 6 – N/A (recruits)
   3 – Lieutenant 7 – not reported
   4 – Captain

10) Years of police experience: years ___ SD______
THE INTERVENTION or TRAINING

1) Were the intervention or training curriculum/materials reproduced?
   1 – yes
   2 – no

2) Was the focus of the intervention or training curriculum/materials discussed?
   1 – yes
   2 – no

   If yes, were the aims of the intervention or training discussed (e.g., stress reduction, suicide prevention):
   ______________________

3) How many hours and weeks of intervention or training were provided:
   In the experimental group? __________
   In the control group? ______________

4) What concepts were used to describe the intervention or training? (Be sure to write in the exact concepts used to describe the intervention or training modality):
   1 – Stress management training
   2 – Debriefing
   3 – Stress awareness
   4 – Suicide prevention
   5 – Relaxation techniques
   6 – Other __________________

5) What concepts were used to describe the intervention or training provided to the control group? (Be sure to write in the exact concepts used to describe the intervention or training modality):
   1 – Stress management training
   2 – Debriefing
   3 – Stress awareness
   4 – Suicide prevention
   5 – Relaxation techniques
   6 – Other __________________

6) Was a citation provided to credit the source of the intervention or training for the experimental group?
   1 – yes
   2 – no

   If yes, indicate the source/citation: _____________________
7) Was a citation provided to credit the source of the intervention or training for the control group?
   1 – yes
   2 – no
   3 – N/A (no intervention)

   If yes, indicate the source/citation:_____________________

8) Intervention setting:
   1 – Police training academy
   2 – In-house location
   3 – Off-site location
   4 – Other_____________

9) Number of trainers in first intervention (experimental group)_______
   N/A – not reported

10) Number of trainers in second intervention (control group)__________
   N/A – not reported

**MEASUREMENT**

1) Were standardized instruments used?
   1 – yes
   2 – no

2) Indicate the name of the instrument(s) and construct measured:
   ______________________
   ______________________
   ______________________

3) Were reliability data reported? If yes, indicate the instrument again and indicate the reliability coefficient:
   ______________________
   ______________________
   ______________________

4) If no reliability data were reported indicate the instrument again and state none:
   ______________________
   ______________________
   ______________________
5) Were validity data reported? If yes, indicate the instrument again and state the type of validity reported (e.g., face validity, construct validity):

________________________
________________________
________________________

6) If no validity data were reported indicate the instrument again and state none:

________________________
________________________
________________________

**DESIGN**

1) Quantitative design:
   1 – Randomized controlled trial  2 – Quasi-experimental

2) Qualitative design:
   1 – Focus groups  2 – Interviews
   3 – Case study  4 – Narratives
   5 – Grounded theory  6 – Observation
   7 – Other

3) Mixed methods

**EFFECT SIZE**

1) Sample size for treatment group (document attrition)

2) Sample size for comparison group (document attrition)

3) Outcome type:
   1 – Psychological
   2 – Physiological
   3 – Job performance/behavioral

4) Number of weeks/hours intervention measure was taken

5) Reactivity of measure: (1) low…(5) high

6) Calculation of effect size: (1) mean difference over control s.d., (2) MS within, (3) ms total minus treatment, (3) probit, (4) chi square, (5) T table, (6) mean and p, (7) nonparametrics, (8) correlations, (9) raw data, (10) estimates, (11) other
7) **Source of means:** unadjusted post-test, covariance, adjusted, residual gains, pre-post differences, other

8) **Significance of treatment effect:** .10, .05, .01, .005, .001, not significant

9) Treatment group pre-mean

10) Treatment pre-standard deviation

11) Treatment post-mean

12) Treatment post-standard deviation

13) Comparison group pre-mean

14) Comparison pre-standard deviation

15) Comparison post-mean

16) Comparison post-standard deviation

17) T statistic

18) F statistic

19) mean square within, residual, or common

20) Treatment group percentage improved

21) Comparison group percentage improved

22) Effect size

23) Average of all effect sizes in study
TABLE 4

CODEBOOK

---

<table>
<thead>
<tr>
<th>Study number: _______</th>
<th>Date: _______</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code name: _______</td>
<td>Timofrev _______</td>
</tr>
</tbody>
</table>

1) **Retfrom:**
   1 – Electronic database (e.g., Criminal Justice Abstracts)
   2 – Reference from other study
   3 – Website
   4 – Other____________________

2) **Revpro:**
   1 – Peer reviewed
   2 – Not peer reviewed
   3 – Not known

3) **Type:**
   1 – Journal article
   2 – Book chapter
   3 – Doctoral dissertation
   4 – Master’s thesis
   5 – Other____________________

4) **Pubyr:**

5) **Pstudy:**
   1 – yes
   2 – no

6) **Samstrat**
   1 – Convenience
   2 – Random
   3 – Other
   4 – Not reported

7) **Totsamsi:**
8) **Subgen:**

   1 – African American  
   2 – Asian American  
   3 – Latino/Hispanic  
   4 – Native American  
   5 – Other

9) **Gender:**

   1 – Male  
   2 – Female  
   3 – Males and females

10) **Nation:**

   1 – American  
   2 – New Zealand  
   3 – European  
   4 – South African  
   5 – Israeli  
   6 – Other

11) **Agedata:**

   1 – yes  
   2 – no

12) **Avage:**

13) **standev:**

14) **Samchar:**

   1 – Veteran police officers  
   2 – Recruits  
   3 – Veteran police officers and non-sworn personnel  
   4 – Recruits and non-sworn personnel  
   5 – Other ___________________

15) **Rank:**

   1 – Patrol officer  
   2 – Sergeant  
   3 – Lieutenant  
   4 – Captain  
   5 – Civilian personnel

16) **Yrsexpo:**

17) **Sdyrspo**
18) Currepo:
1 – yes  
2 – no

19) Intfoci:
1 – yes  
2 – no

20) Aims:
1 – Stress reduction  
2 – Stress awareness  
3 – Stress management  
4 – Debriefing  
5 – Suicide prevention  
6 – Relaxation  
7 – Other

21) HrsintE:

22) HrsintC:

23) Concepts:
1 – Stress management training  
2 – Debriefing  
3 – Stress awareness  
4 – Suicide prevention  
5 – Relaxation techniques  
6 – Other

24) Citation:
1 – yes  
2 – no

25) Source

26) Setting:
1 – Police training academy  
2 – In-house location  
3 – Off-site location  
4 – Other_____________

27) Instrum:
1 – yes  
2 – no
28) Catinstr
   1 – Attitude scale
   2 – Knowledge scale
   3 – Depression scale
   4 – Stress scale
   5 – Other

29) Reliabil:
   1 – yes
   2 – no

30) Validity
   1 – yes
   2 – no

31) Typval:
   1 – Face validity
   2 – Construct validity
   3 – Concurrent validity
   4 – Other

32) Quantdes:
   1 – Randomized controlled trial
   2 – Quasi-experimental design

33) Qualdes:
   1 – Focus groups
   2 – Interviews
   3 – Case study
   4 – Narratives
   5 – Grounded theory
   6 – Other

34) Mixmethd:
   1 = Yes
   2 = No

35) Quantan:
   1 – Descriptive statistics
   2 – Inferential statistics
36) Qualan:
1 – Grounded theory
2 – Open coding
3 – Axial coding
4 – Selective coding
5 – Other___________
TABLE 5 – Data collection and analysis for coder reliability

<table>
<thead>
<tr>
<th>Coder 1</th>
<th>Value</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coder 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* adapted from the work of Orwin (1994).