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Police Officer Willingness to Use Stress Intervention Services: The Role of Perceived Organizational Support (POS), Confidentiality and Stigma

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ABSTRACT: *In spite of the overwhelm evidence of the negative consequences of untreated police stress, studies suggest that stress intervention services remain under-utilized by police officers. Using data collected from 673 Pennsylvania police officers, the present inquiry examines factors which influence officer willingness to use services, with a focus on perceived organizational support (POS). Findings indicate that officers who perceive support from the organization and view the organization as supportive of the use of services are more willing to use services. Conversely, officers who perceive issues of confidentiality and stigma related to services are less willing to use stress intervention services.*

Key words: *Police stress, stress intervention services, organizational stress, perceived organizational support*

INTRODUCTION

The topic of police stress has garnered much attention since the 1970's. This attention has led to the development of a significant body of literature on the subject. The literature has thoroughly documented the various sources of police stress and negative consequences of police stress. As a result of the negative consequences of police stress, a number of stress intervention services have been developed to assist police officers suffering from high stress.

In spite of overwhelming evidence of the negative consequences of untreated stress, studies indicate that stress intervention services remain under-utilized by police officers (Carlan & Norad, 2008; Delprino, O'Quin, & Kennedy, 1995). Researchers and practitioners cite concerns of confidentiality (Baker & Baker, 1996; Fox et al., 2012; Mullins, 1994), the possibility of the attachment of stigma (Arredondo et al., 2002; Cross & Ashley, 2004; Fair, 2009; Mullins, 1994; Stinchcomb, 2004), and lack of confidence in service providers (Atkinson-Tovar, 2003; Hackett & Violanti, 2003; Mullins, 1994) as reasons police do not use services. Although numerous, a majority of the references to these factors are anecdotal in nature. Few empirical studies have focused on a systematic examination of variables that influence officer willingness to use services (positively or negatively), particularly in light of the growth of service offerings over the last thirty years.

One factor, in particular, that has received limited attention in the literature on police stress is perceived organizational support (POS). Perceived organizational support is the degree to which an employee believes that their organization cares about them and values their contribution to the organization (Eisenberger, Huntington, Hutchinson, & Sowa, 1986). This article focuses on the influence of perceived organizational support (POS) on police officer willingness to use services. Understanding what shapes officer willingness to use stress intervention services remains a critical step in addressing the negative effects of police stress.

BRIEF REVIEW OF THE LITERATURE

The police occupation has long been recognized as a stressful occupation (Kroes, 1976; Maslach & Jackson, 1979; Haarr & Morash, 1999; Morash, Haarr, & Kwak, 2006; Reiser, 1974; Stinchcomb, 2004; Violanti, 1980). Previous studies have examined levels of police stress, sources of police stress, and the negative effects of untreated stress. Based on the volumes of research in the area of police stress, we know that police stress emanates from a variety of sources. While the terminology may differ between studies, the majority of studies have focused on stress arising from one of two broad categories: operational stressors and organizational stressors.

Operational stressors are comprised of stress resulting from the demands and duties of the occupation. These may include shift-work, overtime, excessive paperwork, exposure to job-related violence and critical-incidents (Anshel, Robertson, & Caputi, 1997; Atkinson-Tovar, 2003; Collins & Gibbs, 2003; Stevens, Muller, & Kendall, 2005; Violanti & Aron, 1995b; Waters & Ussery, 2007). Critical-incident stress has been described as "any situation faced by emergency services personnel that causes them to experience unusually strong emotional reactions which have the potentiality to interfere with their ability at the scene, or later generates unusually strong feelings in the emergency services worker" (Mitchell, 1983, p. 36). Critical-incidents may include officer-involved shootings, response to multiple death incidents, attendance at grisly crime scenes, or traumatic death of a child. While critical-incidents are rare, they are considered acute stressors that are have the potential to overwhelm an individual's natural ability to cope (Mitchell & Bray, 1990). Some researchers find that the emphasis on occupational stressors, particularly critical-incidents, has reduced the focus on a more persistent and ever-present area of police stress, organizational stressors (Collins & Gibbs, 2003; Copes, 2005; Stinchcomb, 2004)

Organizational stressors are those that arise from within the organization and stem from interpersonal relationships within the hierarchical and quasi-military nature of the police organization. Organizational stressors may include pressure from supervisors, inadequate administrative support, lack of promotional opportunities, arbitrary and inconsistent disciplinary procedures, and perceived favoritism in assignments (Beehr, Johnson, & Nievia, 1995; Copes, 2005; Liberman et al., 2002; McCarty, Zhao, & Garland, 2007; Stinchcomb, 2004; Violanti, 2011; Violanti & Aron, 1995a). Numerous studies have indicated that organizational factors may actually have a stronger overall impact on officer stress than the inherent dangers of the occupation (Collins & Gibbs, 2003; Graf,

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1986; Maguen et al., 2009; Morash et al., 2006; Norvell, Belles, & Hills, 1988; Violanti & Aron, 1993, 1995a).

It should be noted that while occupational and organizational stressors are the most often studied categories, other areas of stress remain. Regardless of the source of the stress, studies have clearly demonstrated negative consequences of stress in the lives of police officers.

Negative Consequences of Police Stress

The literature has thoroughly documented negative consequences of police stress. Negative consequences of police stress are generally separated into three major areas: psychological and mental disorders, behavioral issues, and physical health concerns.

A number of studies have found that police officers have high rates of posttraumatic stress disorder (Fox et al., 2012; Green, 2004; Kureczka, 1996; Mann & Neece, 1990; Stephens & Long, 1999). One study concluded that 12%-35% of police suffer from PTSD (Stephens & Long, 1999). Another found PTSD to be the fifth most common problem presented to police psychologists (Mann & Neece, 1990). Other psychological or mental issues that have been referenced in the literature on police stress include "burnout" (Burke & Deszca, 1986; Ellison, 2004; Golembiewski & Kim, 1990; Martinussen et al., 2007; Sterns & Moore, 1993; Walsh et al., 2012) and depression (Hart et al., 1994; Hartley et al., 2011; Violanti & Aron, 1993).

Researchers have concluded that the law enforcement population suffers from higher than average rates of domestic problems, substance abuse, and suicide (Atkinson-Tovar, 2003; Barron, 2010; Copes, 2005; Cross & Ashley, 2004; O'Hara et al., 2013; Violanti et al., 2012; Violanti et al., 1986). As early as 1971, research indicated that the suicide rate for police was the second highest out of 36 occupations (Labovitz & Hagedorn, 1971). Others have found a police suicide rate higher than that of the general public (Aamodt & Stalnaker, 2001; Violanti et al., 1986). There is some evidence that the actual suicide rate is higher than reported as police officer suicides tend to be misclassified as accidental or undetermined deaths (Violanti, 2010).

Like suicide, early studies have concluded that police officers have higher than average rates of divorce (Durner, Kroeker, Miller, & Reynolds, 1975). However, later empirical assessments of law enforcement divorce have found that police actually have lower rates when compared to the national average (Niederhoffer & Niederhoffer, 1978; Terry, 1981) and in comparison to other occupations (McCoy & Aamodt, 2009; Terry, 1981). Several studies have found that approximately 40% of American police families have experienced domestic violence (Johnson et al., 2005; Neidig et al., 1992). While studies on divorce and domestic violence are sometimes contradictory and inconclusive, practitioners report that the majority of non-mandated referral from police agencies is in relation to family and relationship problems (Miller, 2007; Woody, 2007).

Studies indicate that the police culture is conducive to a high level of alcohol consumption (Cross & Ashley, 2004; Kohan & O'Connor, 2002; Miller, 2005; Paton & Violanti, 1997; Paton et al., 1999; Violanti et al., 1983, 1985). There is extensive evidence to suggest that drinking by police officers is often a maladaptive coping mechanism in response to stress (Carter, 1990; Carter & Stephens, 1988; Violanti et al., 1986; Wagner & Brzeczek, 1983).

The literature is replete with data on the harmful effects of stress on the physical health of police officers. Studies of police populations have found that police tend to suffer from obesity, cardiovascular, and gastrointestinal disorders (Collins & Gibbs, 2003; Hartley et al., 2011; Liberman et al., 2002; Violanti et al., 1986). A recent study suggests that police officers also have increased risk for certain types of cancers (Wirth et al., 2014). There is evidence that these health problems decrease lifetime expectancies of individuals in the occupation of police officer (Violanti, Vena, & Petralia, 1998). A paradox exists where police officers are expected to start their careers in top physical and psychological condition, but little is done in most police departments to assure that police officers' health and welfare is maintained throughout his or her career.

Stress Intervention Services

In response to the abundance of evidence implicating the role of stress as a contributing factor to a host of negative effects, a variety of stress intervention services have been adopted by police organizations. In spite of the availability of stress intervention services, both empirical and anecdotal evidence indicates that police officers express reluctance to use these services. A National Institute of Justice (NIJ) study found that although 70% of the officers surveyed indicated they had services available for the treatment of stress, only 12% of those officers had used services (Delprino et al., 1995). A more recent study of Alabama officers found that only 18% of officers had ever used stress intervention services (Carlan & Nored, 2008). In most departments, stress intervention services continue to be offered on a voluntary basis, thus relying on an officer's willingness to seek services (Carlan & Nored, 2008; Cross & Ashley, 2004). Understanding what shapes police officer willingness to use services, therefore, becomes an important link in addressing the utilization of services.

Perceived Organizational Support

A factor that has escaped review in studies of police stress has been the role of perceived organizational support (POS). Perceived Organizational Support (POS) developed from Organizational Support Theory. Perceived Organizational Support, in Organizational Support Theory refers to the employees' *perception* concerning the extent to which the organization values their contribution and cares about their well-being (Eisenberger et al., 2001; Eisenberger et al., 1986). POS has been linked to positive employee behavior, including increased productivity (Armeli et al., 1998; Eisenberger et al., 2001; Lynch et al., 1999; Randall et al., 1999; Shanock & Eisenberger, 2006), increased employee retention (Eisenberger et al., 2002), and higher rates of job satisfaction (Eisenberger et al., 1997; Howard et al.,2004). Perceived organizational support has also been found to be a mediating factor for workplace stress (Allen, 1992; Beehr et al., 1990; Cropanzano et al., 1997; Leather et al., 1998; Maguen et al., 2009; Stephens & Long, 2000).

Studies of POS in police organizations are limited. However, the few studies that have been conducted in police organizations suggest that POS is relevant for a number of outcomes for police officer behavior. Armeli et al. (1998) found a positive relationship between POS and police performance. Other researchers discovered that POS is positively related to organizational commitment in police agencies (Allen, 1992; Currie & Dollery, 2006) and may serve as a mitigating factor in the aftermath or workplace trauma (Regehr et al., 2004; Maguen et al., 2009). Additionally, a recent study on police department promotion of counseling found that officers who perceive their organization as supportive of counseling not only reported significantly less stress, but also showed an increased willingness to participate in counseling opportunities (Carlan & Nored, 2008).

GAPS IN THE LITERATURE

It should be noted that research on the topic of police stress is voluminous. The preceding literature review highlights the major findings of research since the 1970s. In spite of the breadth and depth of the research, there are a number of gaps the current study seeks to address. First, organizational studies have long recognized the importance of organizational support and POS for both the

organization and the employee. In light of the fact that officers rank inadequate support (from the organization and supervisors) highest among organizational stressors (Violanti & Aron, 1995a) the relationship between organizational support and police officer stress is an important one. However, there remains a lack of studies on the potential value of organizational support in the area of policing, specifically in relation to stress and the use of stress intervention services. In theory, officers who perceive support from their organization may not only experience less stress, but may also show more willingness to use services for stress intervention.

Secondly, while the literature indicates that officers do not use stress intervention services for reasons of confidentiality and the potential that mental health stigma may attach, these references are often outdated or anecdotal in nature. In a review of the literature, less than twenty-five percent of the references were based on actual research findings. It appears that these factors have been cited so often that they have become accepted as part of our general understanding of police and use of stress intervention services. Due to the growth in services over the last thirty years, these factors merit further attention to determine if issues of confidentiality and stigma remain a concern for officers.

The literature has depicted police officers as having a lack of confidence in service providers (i.e., specifically professional service providers such as psychologists, psychiatrists, and therapists), assessing them as unable to fully understand the stress of the police job. Lack of confidence in service providers is most often cited as the reason that peer-based services started (Everly, 1995; Miller, 2005; Ostrov, 1986). Qualitative studies have documented that officers fear that psychologists and therapists provided by or referred by the department are "tools of management" that would label them as "sick" or "unstable" and put their jobs in peril (Mullins, 1994). In spite of these assertions, limited empirical evidence is available to determine officer preference of service provider (e.g., professional or peer) or whether officers avoid use of professional psychological services due to a lack of confidence in providers.

It should be noted that this study is not designed to measure stress. It is accepted, based on the extensive literature in the field, that policing is stressful and that officers may be stressed at various points in their career. This has been well-documented. The current study explores the factors that influence officer willingness to stress intervention services under the hypothetical condition that they are confronted with a critical incident or other stressor. As such, comprehensive measures of officer stress were not employed in the study; however the Perceived Stress Scale was utilized as a control for officer stress (Cohen, Kamarck, & Mermelstein, 1983).

KEY HYPOTHESES

To fill in noted gaps in the literature, the current study proposes to test the following hypotheses:

H_1: Officers who are concerned about the confidentiality of stress intervention services will be less willing to use stress intervention services.

H_2: Officers are concerned about the stigma attached to use of stress intervention services will be less willing to use such services.

H_3: Officers who have a lack of confidence in professional service providers (i.e., psychologists, therapists) will be less willing to use stress intervention services.

H_4: Officers who perceive that they are supported by the organization will be more willing to use stress intervention services.

DATA AND METHODS

Data were obtained through the use of a police officer questionnaire (POQ). The questionnaire was developed from information learned during interviews with police officers and from previous questionnaires developed by others (Delprino et al., 1995), specifically, from a National Institute of Justice (NIJ) study titled *Work and Family Services for Law Enforcement Personnel in the United States.* The entire list of stress intervention services in the questionnaire was developed from services mentioned in the literature review, those referenced in the work *A History of Police Psychological Services* (Reese, 1987), and those listed in the Delprino et al. (1995) instrument. It should be noted that due to the exploratory nature of the current research, no existing instruments were found that had been subjected to tests of reliability and validity. While some questions and scales in the POQ were based on Delprino et al. (1995) NIJ study, this was the first use of the instrument developed by the author.

Permission was obtained from the Pennsylvania State Lodge of the Fraternal Order of Police (FOP) to distribute the questionnaire to randomly-selected police officers through their membership mailing list. The Pennsylvania FOP represents between 70-75% of full-time police officers in Pennsylvania who work at various levels of government (i.e., municipal, regional, state, federal). To attempt to obtain a representative sample the FOP mailing lists was stratified by geographic region and by the size of the police organization in which the officer was employed (i.e., large >100, small <100). While use of FOP membership list did provide some limitations (i.e., not all Pennsylvania officers are members of the FOP) it was chosen as the most appropriate way to guarantee the confidentiality of responses by police on this potentially sensitive topic.

The police officer questionnaire sought information from police officers regarding their perspectives of the availability of services, actual use of services, and their willingness to use services (by service type). Additionally, the instrument was designed to capture detailed information on police officers' perspectives concerning factors shaping willingness to use services, including stigma, confidentiality, lack of confidence in services providers, and perception of organizational support and support of stress intervention services.

In total, 673 officers responded to the survey, a response rate of 18.1%. Responding officers represent 223 different law enforcement agencies, operating in 61 different counties. Eighty-nine percent of the responding officers were male. The majority of the sample was White, with a total minority population of 6.7%. Officers range from 21–72 years of age with a mean of 41.96 years. Total years of law enforcement experience range from 2–40 years with a mean of 16 years of experience. The majority of officers were patrol officers (67.3%) with the remaining officers distributed among 24 different assignments. Sixty-eight percent of the officers have not achieved rank; 15% are sergeants, 8% are corporals, and nearly 4% are detectives (this is often a rank equal to sergeant). The remaining officers have ranks greater than sergeant, including 11 police chiefs (1.6%). Forty-five percent of the respondents are employed in agencies with over 100 sworn officers; 46% are in small departments (1–49 sworn officers). The remaining officers work in medium-sized departments (50–99 sworn officers).

Variables

Dependent Variable

The primary variable of interest and the dependent variable for the analysis is officer willingness to use services. The variable consists of officer responses to the question, "How willing would you be to use the service listed if confronted with a critical incident or other stress?" Officers ranked their willingness on a Likert-type scale from (1) definitely would not use services, (2) probably would not use services, (3) unsure, (4) probably would use services, and (5) definitely would use services. Officers' responses to this question were analyzed to be included in an index variable to represent

overall willingness to use services. A reliability analysis indicated a reliability coefficient of 0.976. A reliability coefficient of 0.70 is generally considered to yield acceptable internal consistency for items to be included in an index variable (Cronbach, 1951). The variables were z-scored and averaged to create a "willingness index." Higher values indicate greater willingness to participate in stress interventions while lower scores indicate unwillingness to participate.

Primary Independent Variables: Perceived Organizational Support (POS)

Officers' views of organizational support were measured in two ways. In one section of the questionnaire, officers were asked to rank the support they feel from different entities within the organization, including: top administration of the agency, immediate supervisor, fellow officers, and the Fraternal Order of Police. A Likert-type scale was used with the following possible responses: (1) not at all supported, (2) slightly supported, (3) moderately supported, (4) very supported, (5) extremely supported. These questions were based on Organizational Support Theory and sought to obtain the officers' perceptions of organizational support.

Attempts were made to construct two separate composite variables, perceived organizational support and perceived organizational support of stress interventions, from the responses to these questions. Analyses indicated that this would be inappropriate as the variables are too strongly correlated to be included in the same regression model. A reliability analysis indicated a reliability coefficient of 0.852 for these eight items. The variables were z-scored and averaged to create an overall "perceived organizational support" composite variable. Lower scores on organizational support indicate that an officer does not feel supported and does not believe the organization supports stress intervention services. Higher scores on this variable indicate that an officer feels supported by the organization and believes that the organization supports stress intervention services.

Confidentiality and Stigma

Measures of confidentiality and stigma were included in an agree/disagree section of the questionnaire. A Likert-type scale was uses with the following possible responses: (1) definitely disagree, (2) somewhat disagree, (3) neither agree nor disagree, (4) somewhat agree, and (5) definitely agree. The following agree/disagree statements from the questionnaire were included to assess officer concerns regarding confidentiality.

"Confidentiality of stress intervention services is a concern at my agency."

"Anything I say will get back to the administration."

"I don't trust that stress intervention services are completely confidential."

"I trust that stress intervention service providers would maintain confidentiality."

The final item in the above group was reverse-coded.

Likewise, the questionnaire contained a number of questions designed to evaluate officers' concerns regarding stigma:

"People may think I am weak if I seek services for stress."

"There is stigma with seeking services for stress in my department."

"I would feel ashamed if I needed to see someone about my stress."

"Talking about stress might harm my chances of being promoted."

"Other officers might think I won't be able to back them up if I need services for stress."

"The administration might find me unfit for duty if I asked for help with stress."

Several of the measures of stigma and confidentiality were from an NIJ study conducted by Delprino et al. (1995). The authors provided their written permission for the researcher to include them the current study.

The original intent of the author was to create an index variable from each set of statements to measure the unique effect of confidentiality and stigma (separately) on officer willingness to use stress intervention services. However, a correlation analysis revealed that these variables are too highly correlated to be assessed separately. Theoretically, the two factors are intrinsically-linked. Officers are concerned about confidentiality of services as the loss of such has the possibility to result in stigma. A reliability analysis on the 10 questions yielded a reliability coefficient of .870. The above questions were z-scored and averaged to create a "confidentiality/ stigma" composite variable. Low scores indicate lower concerns about confidentiality and stigma, while higher scores indicate a higher level of concern about these issues.

Confidence in Service Providers

An agree/disagree statement, derived from the literature, was included in the questionnaire to capture views of professional service providers: "Police are unique and professional service providers do not understand us." The variable has a mean of 3.05 with a standard deviation of 1.256.

Other Variables of Interest

Health variables included the officer's self-health assessment on a scale of 1–5 (e.g., poor, fair, good, very good, excellent) and average weekly alcohol consumption (1=11 or more drinks in the past week, 0= all other categories).

To control for officer stress, two scales were included in the POQ. The first is the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983). Responses to this ten-item scale provide a measure of officers' perceived stress. Lower scores on "total perceived stress" indicate lower perceived stress; higher scores indicate higher perceived stress. The second stress measure was included to control for officer exposure to a critical incident in the last twelve months. Additionally, officers were asked if they had received CISM and/or peer-support training (1= CISM trained, 0= not CISM trained) to control for the potential effect of such training on officer willingness to use services.

Demographic variables were entered into the model to assess their impact on officer willingness to use services. These variables included gender, race, education, and marital status. Additionally, officers were asked to agree or disagree to the statement "my family is supportive of my career choice." Lower scores indicated low family support while higher scores on this variable indicate high support from family. The mean value for family support is 4.45 with a standard deviation of 0.891. A visual examination of the histogram revealed a normal distribution with a slightly negative skew.

Organizational characteristics of interest included the size of the agency and level of government. Additionally, organizational characteristics included the officer's perception as to the existence of agency policies and procedures regarding police stress (1= agency has policy, 0= agency does not have policy). It should be noted that this variable represents the officers' belief that a policy exists, not necessarily the reality.

Analysis

The primary goal of the current study is to explore the factors which influence officer willingness to use stress intervention services,

with a specific interest in the variable of perceived organizational support. A series of multiple regression models were estimated by entering predictors in a hierarchical fashion. Variables were entered in theoretically-related groups, including: individual characteristics, health and stress variables, organizational descriptors, and the primary variables of interest (confidentiality and stigma, confidence in service providers, and perceived organizational support). All predictors were entered in groups, none were deleted during the process. By entering the variables in these defined groups, it is possible to tell what types of predictors have the most influence on officer willingness to use services. Descriptive statistics are displayed in Table 1.

RESULTS

Model One

Analyses indicated that in the first model, assignment to patrol, CISM training, and family support were all significant. Officers assigned to patrol are less willing to use stress intervention services (r=-0.135, p<0.05). CISM-trained officers, as expected, are more willing to use services (r=0.378, p<0.001). Additionally, for every one unit increase in family support, officer scores on willingness to use services increased by 0.113 (p<0.000). The R^2 statistic indicated that the variables included in this model accounted for 4.7% of the variation in officer willingness to use services.

Model Two

In the second model, officer health and stress control variables were entered. Officer health variables include the officer's own assessment of his or her health and an alcohol consumption variable. The variables "total perceived stress" and "exposure to critical incidents" were entered to control for officer stress issues. Analyses revealed officers who reported being exposed to a critical incident in the last 12 months were more willing to use stress intervention services (r=0.138, p<0.05). Officers' self-health assessment and alcohol consumption variables were barely out of the range of statistical significance (p<0.055 and p<0.061, respectively). The R^2 for this model specified that the addition of the health-related variables increased the explained variance to 6.7%. This increase is statistically significant (p<0.01). Models 1 and 2 are displayed in Table 2.

Model Three

Model Three contains organizational characteristics including the level of government, the size of the agency, and whether or not the agency has policies regarding police stress. This variable is based on the officers' beliefs regarding the existence of policies or procedures at their agency to address police officer stress as indicated by "yes" on the survey (1= yes, all other =0). In Model Three, agency size and the existence of policies and procedures were found to be significantly correlated to officer willingness to use services. The unique effect of being in an agency with 100 or more officers had a negative influence on officer willingness to use services (r=-0.219, p<0.005). However, for officers in agencies with policies and procedures regarding the use of stress intervention services, there is a positive effect on officer willingness to use services (r=0.226, p<0.01). The R^2 statistic for this model indicated that the combined variables accounted for 9.3% of the variance in officer willingness to use services. This is statistically significant (p<0.001). All variables that had been found to be significant in Models 1 and 2 remained significant.

Model Four

The final model includes the primary variables of interest: Confidentiality/Stigma Index, Perceived Organizational Support Index, and confidence in service providers. Confidence in service providers was not found to be statistically significant. Confidentiality/Stigma was found to be statistically significant and negatively correlated with the dependent variable. For every one unit increase in concerns regarding confidentiality/stigma, officer willingness to use stress interventions decreased by -0.246 (p<0.001). In contrast, perceived organizational support correlated positively with officer willingness to use services. For every one unit increase in perceived organizational support, officer willingness to use services increased by 0.219 (p<0.001).

Upon entering the variables in Model 4, the unique effect of CISM training became insignificant (0.079). Additionally, the agency policy variable from Model 3 also lost significance (0.089). The effect of CISM training may have been captured in the confidentiality/stigma variable. As well, the effect of having an agency policy may be accounted for in the perceived organizational support variable. In the final model, five predictors were found to be statistically significant with officer willingness to use stress intervention services, while holding constant for officer gender, race, education level, marital status, veteran status, assignment, and rank. Additionally, the models controlled for perceived stress and exposure to critical incidents. Family support, exposure to critical incidents, agency size, confidentiality/stigma, and perceived organizational support were all found to be significantly correlated with officer willingness to use services. The R^2 statistic for Model 4 signified a sizable increase in explained variance. The total variables included in the model accounted for 21.1% of the explained variance in officer willingness to use stress intervention services (p<0.001). Models 3 and 4 are displayed in Table 3.

A review of regression statistics found that the values for tolerance and variance inflation factor (VIF) are well in line with accepted levels indicating that multicollinearity is not a problem. The Durbin Watson statistic is 2.075 indicating no significant auto correlation. A visual examination of a histogram of the residuals signifies normal distribution. A P-P plot of regression standardized residuals indicates normal and linear distribution. Additionally, a scatterplot of the standardized residuals against the standardized predictive values indicates the residuals are homoscedastic.

DISCUSSION AND CONCLUSION

The current research sought to explore the factors which influence officer willingness to use stress intervention services, with a focus on perceived organizational support. Researchers, practitioners, and service providers have noted that police officers are often reluctant to use stress intervention services. Understanding what factors influence officer willingness to use stress intervention services, therefore, is important to potentially increasing the use of service. Increasing police officer use of stress intervention services may help reduce stress and consequentially, the negative effects of stress in the police occupation.

Three of the four main hypotheses of the study were supported by the data. With regard to organizational support, the analyses indicate that officers who feel supported by the organization and believe that the organization supports the use of stress intervention services are more willing to use services. Additionally, officers who are concerned about the confidentiality of services are less willing to use services. Likewise, officers who fear stigma associated with use of services express less willingness to use services.

The findings from this study did not support the hypothesis that a lack of confidence in professional service providers (i.e., psychologists, psychiatrist, and therapists) predicts officer willingness to use services. In fact, the data does not support the often-cited assertion that police officers avoid these services. On the contrary, the majority of officers expressed a general willingness to use a referral to a psychologist or therapist. In addition, when using services outside of the organization, officers overwhelmingly used psychological service providers. The topic of police use of services

Table 1.
Descriptive Statistics for Multiple Regression Models 1–4

Variables	*M*	*Mdn*	*SD*	*Min*	*Max*
Outcome Variable (Willingness Index)	-.001	.043	.760	-1.98	1.42
Model 1					
Length of service	16.06	15	8.252	2	40
Gender (1 = female, 0 = male)	.111		.314	0	1
Current job status (1 = active, 0 = else)	.908		.288	0	1
Race (1 = minority, 0 = else)	.067		.250	0	1
Education (1 = 4 yr. +, 0 = else)	.448		.497	0	1
Marital status (1 = married, 0 = else)	.784		.411	0	1
Veteran status (1 = veteran, 0 =else)	.268		.443	0	1
Assignment (1 = patrol, 0 = else)	.674		.468	0	1
Rank (1 = rank, 0 = else)	.318		.466	0	1
CISM training (1 = training, 0 = else)	.055		.228	0	1
Family support	4.45	5	.891	1	4
Model 2					
Health assessment	3.28	3	.925	1	5
Alcohol consumption (1 = 11+, 0 = 0–10)	.142		.348	0	1
Perceived stress	13.04	12	6.36	0	35
Exposure to critical incidents (1= yes, 0 = no)	.473		.499	0	1
Model 3					
Government level (1 = municipal, 0 = else)	.722		.448	0	1
Agency size (1 = 100+, 0 = 1–99)	.448		.497	0	1
Agency policies (1 = yes, 0 = no)	.514		.500	0	1
Model 4					
Confidentiality/Stigma (Index)	-.0021	.043	.760	-1.98	2.18
Organizational Support (Index)	-.0019	.024	.699	-1.69	1.64
Confidence in providers	3.05	3	1.25	1	5

was not covered in this article due to space constraints. However, the study on which this article is based did collect information from officers on their use of services, both department-provided services and those obtained outside the department. Results revealed that most officers expressed willingness to use a department *referral* to a psychologist, psychiatrist, or therapist (51.9%). In addition, among officers who reported using services *outside* department-provided options, 78.5% reported using psychological service providers. This is a strong indication that previous information that officers avoid using psychologically-based services may be outdated.

Limitations

As with all studies, there are some identifiable limitations. One of the limitations in this study is the low response rate to the police officer questionnaire. In the case of this study, a random sample of *all* police officers in Pennsylvania was not possible. Stratified random sampling was intended to produce a diverse sample of police officers from a list of police officers/FOP members which includes approximately 70% of all full-time police officers working in the Commonwealth. The resulting data included responses from 673 officers.

Low response rates introduce the *potential* of non-response bias. "Non-response error arises when the values of statistics computed based only on respondent data differ from those on the entire sample data" (Groves, Presser, & Dipko, 2004, p. 3). One suggested strategy to assess non-response bias is to comparing the sample population to the overall population of interest on key demographics (i.e., age, race, gender, etc.) when this information is available (Armstrong & Overton, 1977; Groves, 2006; Sax, Gilmartin, & Bryant, 2003). A comparison of basic law enforcement demographics from the Pennsylvania UCR (Pennsylvania State Police, 2010) with the current study was conducted and revealed that when compared to the best available data the demographic characteristics of the study sample are in close approximation to the Pennsylvania police officer population in regards to gender, agency size, and level of government for which the officer serves.

The data were obtained from a police officer questionnaire that was distributed as part of a larger study. It was the first time the POQ was used and therefore, at the time of the data collection had not been subjected to tests of reliability and validity. The use of published scales that have been tested for reliability and validity would increase the confidence in the results of the current study.

The study did not include a full evaluation of individual factors which may play a role in officer willingness to use stress intervention services. While the study did include some measures of social support, measures of personality, hardiness, resilience, and coping styles were not included in this study. It is possible that these individual factors may influence an officer's perceived need for service and therefore their willingness to use services. In addition, this study did not assess officer's prior history of trauma (other than exposure to critical incidents), which may influence officer willingness to use stress intervention services.

Implications

The question 'what shapes officer willingness to use stress intervention services?' has important implications for researchers, practitioners, and police managers. The findings of this study lend themselves to the development of theoretical, policy-related, and practical implications which will be reviewed independently.

Theoretical Implications

The findings of this study have theoretical implications for three major areas of literature and research: police stress, organizational theory, and psychological theory. With regard to police stress and organizational theory, very few studies have attempted to integrate these two fields, although the police organization has been identified as one which exerts tremendous influence on employees (Hart & Cotton, 2003; Hart et al., 1994; Murat, 2008). The findings of the current study confirm the influence of the organization on officers both negatively (i.e., confidentiality and stigma) and positively (i.e.,

Table 2.

Multiple Regression Models 1 and 2

		Model 1			***Model 2***	
(*n=612*)	*b (SE)*	*t-ratio*	*p<*	*b (SE)*	*t-ratio*	*p<*
Intercept (Willingness Index)	-.491*(.232)*	-2.122	*.05*	-.760*(.281)*	-2.708	*.01*
Length of service	.004*(.005)*	.957	*ns*	.004*(.005)*	.918	*ns*
Active	-.015*(.114)*	-.131	*ns*	-.069*(.116)*	-597	*ns*
Gender	.060*(.102)*	.588	*ns*	.025*(.102)*	.245	*ns*
Race	-.078*(.127)*	-.612	*ns*	-.088*(.127)*	-.692	*ns*
Education	.115*(.063)*	1.815	*ns*	.091*(.064)*	1.436	*ns*
Marital status	-.081*(.078)*	-1.038	*ns*	-.090*(.078)*	-1.151	*ns*
Veteran status	.065*(.072)*	.912	*ns*	.055*(.071)*	.438	*ns*
Assignment	-.135*(.069)*	-1.953	*.05*	-.117*(.069)*	-1.701	*ns*
Rank	.013*(.074)*	.860	*ns*	.018*(.074)*	.238	*ns*
CISM/peer training	.378*(.138)*	2.749	*.005*[a]	.348*(138)*	2.525	*.05*
Family support	.113*(.035)*	3.260	*.001*[a]	.098*(.035)*	2.780	*.005*[a]
Health assessment				.037*(.035)*	1.919	*ns*
Alcohol consumption				.172*(.092)*	1.874	*ns*
Perceived stress				-.003*(.005)*	-.530	*ns*
Exposure to critical incidents				.138*(.063)*	2.204	*.05*
Model Statistics	Model R^2 [b]	*f*	*p<*	Model R^2 [c]	*f*	*p<*
	.047	2.701	*.005*	.067	2.834	*.01*

[a] Denotes predictor variables that continue to be significant after adjustment for multiple comparisons (Holm-Bonferroni).

[b] Adjusted R^2 for Model 1 is .030. [c] Adjusted R^2 for Model 2 is .043.

Table 3.

Multiple Regression Models 3 and 4

		Model 3			***Model 4***	
(*n=612*)	*b (SE)*	*t-ratio*	*p<*	*b (SE)*	*t-ratio*	*p<*
Intercept (Willingness Index)	-.640*(.296)*	-2.158	*.05*	-.476*(.286)*	1.665	*.05*
Length of service	.004*(.004)*	.988	*ns*	.005*(.004)*	1.101	*ns*
Active	-.110*(.115)*	-.956	*ns*	-.156*(.108)*	-1.450	*ns*
Gender	.007*(.101)*	-.069	*ns*	.077*(.095)*	.816	*ns*
Race	-.060*(.128)*	-.469	*ns*	-.049*(.120)*	-.413	*ns*
Education	.085*(.063)*	1.347	*ns*	.050*(.059)*	.853	*ns*
Marital status	-.098*(.077)*	-1.260	*ns*	-.080*(.073)*	-1.101	*ns*
Veteran status	.047*(.071)*	.666	*ns*	.057*(.067)*	.849	*ns*
Assignment	-.109*(.069)*	-1.577	*ns*	-.028*(.065)*	-.424	*ns*
Rank	-.003*(.073)*	-.036	*ns*	.010*(.069)*	.146	*ns*
CISM training	.327*(.137)*	2.386	*.05*	.228*(.129)*	1.762	*ns*
Family support	.102*(.035)*	2.905	*.005*	.071*(.033)*	2.159	*.05*
Health assessment	.060*(.034)*	1.735	*ns*	.046*(.032)*	1.438	*ns*
Alcohol consumption	.168*(.091)*	1.845	*ns*	.121*(.086)*	1.416	*ns*
Perceived stress	-.002*(.005)*	-.405	*ns*	.007*(.005)*	1.527	*ns*
Exposure to critical incidents	.145*(.073)*	2.322	*.05*	.142*(.059)*	2.404	*.05*
Level of government	-.130*(.076)*	-1.708	*ns*	-.076*(.071)*	-1.065	*ns*
Agency size	-.219*(.073)*	-2.985	*.005*[a]	-.158*(.069)*	-2.299	*.05*
Agency policies	.226*(.069)*	3.249	*.001*[a]	.113*(.066)*	1.704	*ns*
Confidentiality/Stigma				-.246*(.051)*	4.811	*.001*[a]
Organizational support				.219*(.047)*	4.656	*.001*[a]
Confidence in providers				-.034*(.026)*	-1.303	ns
Model Statistics	*Model R^2* [b]	*f*	*p<*	*Model R^2* [c]	*f*	*p<*
	.093	*3.373*	*.001*	*.211*	*7.514*	*.001*

[a] Denotes predictor variables that continued to be significant after adjustment for multiple comparisons (Holm-Bonferroni).

[b] Adjusted R^2 for Model 3 is .065. [c] Adjusted R^2 for Model 4 is .183.

POS). Integration of the study of police stress from an organizational theory perspective may serve to develop a better understanding of both negative and positive influences of the organization on employee mental health and behavior.

The current study supports psychological theory, in particular research regarding social stigma and help-seeking behaviors. In general, the average person would like to avoid the label of being emotionally unstable or mentally-ill based on the stigma that may attach. This desire to avoid stigma, as the literature in the field suggests, may be even stronger among the police population based on gender issues (Addis & Mahalik, 2003; O'Neil et al., 1986; Wester et al., 2010) and police subculture (Britz, 1997; Fair, 2009; Murat, 2008). To more adequately address the needs of police officers, police administrators need to recognize the relationship between confidentiality, stigma, and officer willingness to use services. The fact that issues of confidentiality and stigma may inhibit officers from using services should be addressed at the policy and practical level.

Policy Implications

The findings of this study provide for a number of policy implications. Of primary importance is the role that perceived organizational support and support of stress intervention services play in reference to officer willingness to use services. The data would support the development of ways to increase officers' perceptions of organizational support. Clearly, the simplest approach would be to implement policies and procedures which indicate the organization's support of officers and the use of stress intervention services. The mere existence of policies and procedures to address police officer stress was found to be significantly and positively related to police officer willingness in two of the four regression models. Any policy or procedure that seeks to address police stress must assure officers that the use of services is confidential and will not affect their career. To protect the confidentiality of officers, access to services should be separated from the organization itself. Providing access to services outside the realm of the organization may serve to reduce officer's concerns about confidentiality and stigma. Policies should include the provision of external contact information of individual and/or organizations that will provide completely confidential services to officers.

Practical Implications

Departments may benefit from the use of psycho-educational approaches to reducing mental health stigma. Educationally-based interventions have been found to have a positive effect on help-seeking behavior (Esters et al., 1998; Gould et al., 2007; Warner et al., 2008). The latter two studies were conducted on military personnel who share some similarities with law enforcement officers when it comes to stigma and the use of services (i.e., organizational culture, male-dominated occupation). Additionally, researchers and practitioners recommend that police leaders should be trained to recognize and address police officer stress (Chapin et al., 2008).

Likewise, the findings support the theory that training or education in police officer stress may influence officer willingness to use stress intervention services. Officers who received training in CISM or peer-support exhibited fewer issues with confidentiality and stigma and were more willing to use stress intervention services (in three of the four models). This would suggest that if department administrators wish to decrease stigma and increase officer willingness to use services, they should focus on training personnel in CISM or peer-support. This not only promotes their own psychological health, but also prepares them to assist fellow officers in crisis.

Conclusion

The goal of this study was to identify the factors which influence police officer willingness to use stress intervention services, based on a sample of police officers in Pennsylvania. Findings indicate that officers remain concerned about the confidentiality of services and fear the stigma related to use of services. The study also found that perceived organizational support is positively correlated with officer willingness to use services. Officers who believe that their organization is supportive of them and that the agency supports the use of stress intervention services are more willing to use those services.

The results of this study suggest that future research is needed to understand what factors influence officers' perceptions of organizational support. The fact that all the variables included in this study accounted for only 21.1% of the variance in officer willingness to use services is evidence that this subject requires further research. The field of police stress has benefited from research into the nature of police stress, the negative effects of police stress, and even evaluations of programs to address officer stress; however, officer willingness to use stress intervention services remains a relevant avenue of research. By cultivating a thorough understanding of factors that influence officer willingness to use services, we may be able to develop services that officers will use with the potential of mitigating, moderating, or alleviating police officer stress and the negative effects associated with such stress.

REFERENCES

Aamodt, M.G., & Stalnaker, N.A. (2001). Police officer suicide: Frequency and officer profiles. In D.C. Sheehan & J. Warren (Eds). *Suicide and Law Enforcement*. Washington, D.C.: U.S. Government Printing Office.

Addis, M., & Mahalik, J. (2003). Men, masculinity and the context of help-seeking. *American Psychologist, 58*(1), 5-14.

Allen, M.W. (1992). Communication and organizational commitment: Perceived organizational support as a mediating factor. *Western Journal of Communication*, *59,* 326-346.

Anshel, M.H., Robertson, M., & Caputi, P. (1997). Sources of acute stress and their appraisals and reappraisals among Australian police as a function of previous experience. *Journal of Occupational and Organizational Psychology*, *70*, 337-356.

Arredondo, R., Shumway, S.T., Kimball, T.G., Dersch, C.A., Morelock, M.S., & Bryan, M.S. (2002). *Law Enforcement and Corrections Family Support: Development and evaluation of a stress management program for officers and their spouses, final report*. National Criminal Justice Research Service (NIJ 197900). www.ncjrs.org.

Armeli, S., Eisenberger, R., Fasolo, P., & Lynch, P. (1998). Perceived organizational support and police performance: The moderating influence of socioemotional needs. *Journal of Applied Psychology*, *83*, 288-297.

Armstrong, J.S., & Overton, T.S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research, 14*, 396-402.

Atkinson-Tovar, L. (2003). The impact of repeated exposure to trauma. *Law & Order*, *51*, 118-123.

Baker, T.E., & Baker, J.P. (1996). Preventing police suicide. *FBI Law Enforcement Bulletin, 65*(10), 24-28. Retrieved January 12, 2009, from http://www.aele.org/law/2007FPMAY/fbi-1196-10.pdf

Barron, S. (2010). Police officer suicide within the New South Wales police force from 1999 to 2008. *Police Practice and Research, 11*(4), 371-382.

Beehr, T.A., Johnson, L.B., & Nievia, R. (1995). Occupational stress: Coping of police and their spouses. *Journal of Organizational Behavior, 16*(3), 3-25.

Beehr, T.A., King, L.A., & King, D.W. (1990). Social support and occupational stress: Talking to supervisors. *Journal of Vocational Behavior*, *36*, 61-81.

Britz, M.T. (1997). The police subculture and occupational socialization: Exploring individual and demographic characteristics. *American Journal of Criminal Justice,* 21(2), 127-146.

Burke, R.J., & Deszca, E. (1986). Correlates of psychological burnout phases among police officers. *Human Relations, 39*(6), 487-501.

Carlan, P.E., & Nored, L.S. (2008). An examination of officer stress: Should police departments implement mandatory counseling? *Journal of Police and Criminal Psychology, 23*(1), 8-15.

Carter, D.L. (1990). Drug-related corruption of police officers: A contemporary topology. *Journal of Criminal Justice, 18*, 85-98.

Carter, D.L., & Stephens, D.W. (1988). *Drug abuse by police officers: An analysis of critical policy issues*. Springfield, IL: Charles C. Thomas, Publisher.

Chapin, M., Brannen, S.J., Singer, M.I., Walker, M. (2008). Training police leadership to recognize and address operational stress. *Police Quarterly, 11*(3), 338-352.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 386-396.

Collins, P.A., & Gibbs, A.C. C. (2003). Stress in police officers: a study of the origins, prevalence and severity of stress-related symptoms within a county police force. *Occupational Medicine, 53*(4), 256-265.

Copes, H. (2005). *Policing and Stress*. Pearson/Prentice Hall: New Jersey.

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297-334.

Cropanzano, R., Howes, J. C., Grandey, A. A., & Toth, P. (1997). The relationship of organizational politics and support to work behaviors, attitudes, and stress. *Journal of Organizational Behavior, 22*, 159-180.

Cross, C. L., & Ashley, L. (2004). Police Trauma and Addiction: Coping with the dangers on the job. *FBI Law Enforcement Bulletin*, *73*(10), 24-32.

Currie, P., & Dollery, B. (2006). Organizational commitment and perceived organizational support in the NSW Police. *Policing: An International Journal of Police Strategies & Management*, *29*(4), 741-756.

Delprino, R.P., O'Quin, K., & Kennedy, C. (1995). Work and Family Services for Law Enforcement Personnel in the United States, 1995. ICPSR 2696. Buffalo, New York: Buffalo State College/Washington, D.C.: *National Association of Police Organizations* [producers], 1997. Ann Arbor, MI: *Inter-University Consortium for Political and Social Research* [distributor], 2000.

Devilly, G.J., Gist, R., & Cotton, P. (2006). Ready! Fire! Aim! The status of psychological debriefing and therapeutic interventions: In the workplace and after disasters. *Review of General Psychology, 10*(4), 318-345.

Durner, J., Kroeker, M., Miller, C., & Reynolds, C. (1975). Divorce - another occupational hazard. *Police Chief, 62*, 48-53.

Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch P.D., & Rhodes, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, *86*, 42-51.

Eisenberger, R., Cummings, J., Armeli, S., & Lynch, P. (1997). Perceived organizational support, discretionary treatment, and job satisfaction. *Journal of Applied Psychology*, *53*, 743-750.

Eisenberger, R., Huntington, R., Hutchinson, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, *71*(3), 500-507.

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhodes, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology*, *87*, 565-573.

Ellison, W.K. (2004). *Stress and the police officer (2nd Ed.)*. Springfield: Charles C. Thomas Publisher, LTD.

Esters, I.G., Cooker, P.G., & Ittenbach. (1998). Effects of a unit of instruction in mental health on rural adolescents' conceptions of mental illness and attitudes about seeking help. *Adolescence, 33*(13), 469-476.

Everly, G.S. (1995). The role of critical incident stress debriefing (CISD) process in disaster counseling. *Journal of Mental Health Counseling, 17*(3), 278-290.

Fair, D. (2009). Counseling Cops: Learning how to navigate the law enforcement subculture. *Annals of the American Psychotherapy Association*, *12*(4), 50-51.

Fox, J., Desai, M.M., Britten, K., Lucas, G., Luneau, R., & Rosenthal, M. S. (2012). Mental-health conditions, barriers to care, and productivity loss among officers in an urban police department. *Connecticut Medicine, 76*(9), 525-531.

Golembiewski, R.T., & Kim, B. (1990). Burnout in police work: Stressors, strains, and the phase model. *Police Studies, 13*(2), 74-80.

Gould, M., Greenberg, N., & Hetherton, J. (2007). Stigma and the military: Evaluation of a PTSD psychoeducational program. *Journal of Traumatic Stress, 20,* 505-515.

Graf, F. A. (1986). The relationship between social support and occupational stress among police officers. *Journal of Police Science and Administration*, *14*, 178-186.

Green, B. (2004). Post-traumatic stress disorder in U.K. police officers. *Current Medical Research and Opinion, 20*(1), 101-106.

Groves, R.M. (2006). Nonresponse rates and nonresponse error in household surveys. *Public Opinion Quarterly, 70,* 646-675.

Groves, R.M., Presser, S., & Dipko, S. (2004). The role of topic interest in survey participation decisions. *Public Opinion Quarterly, 68*, 2-31.

Haarr, R.N., & Morash, M. (1999). Gender, race and strategies of coping with occupational stress in policing. *Justice Quarterly*, *16*, 303-336.

Hackett, D.P., & Violanti, J.M. (2003). *Police Suicide: Tactics for Prevention*. Springfield, IL: Charles C. Thomas Publisher, LTD.

Hart, P.M., & Cotton, P. (2003). Conventional wisdom is often misleading: Police stress in an organizational health framework. In M.F. Dollard, A.H. Winefield & H.R. Winefield (Eds.). *Occupational stress in the service professions* (p. 103-138). London: Taylor and Francis.

Hart, P.M., Wearing, A.J., & Heady, B. (1994). Perceived quality of life, personality, and work experiences: Construct validation of the Police Daily Hassles and Uplifts Scales. *Criminal Justice and Behavior, 21,* 283-211.

Hartley, T.A., Burchfiel, C.M., Fekedulegn, D., Andrew, M.E., & Violanti, J.M. (2011). Health disparities in police officers: Comparisons to the U.S. general population. *International Journal of Emergency Mental Health, 13*(4), 211-220.

Howard, W.G., Howard-Donofrio, H., & Boles, J.S. (2004). Inter-domain work-family, family-work conflict and police work satisfaction. *Policing: An International Journal of Police Strategies & Management, 27*, 380-395.

Johnson, L.B., Todd, M., & Subramanian, G. (2005). Violence in police families: Work-family spillover. *Journal of Family Violence, 20*(1), 3-12.

Kohan, A., & O'Connor, B.P. (2002). Police officer job satisfaction in relation to mood, well-being, and alcohol consumption. *Journal of Psychology, 136,* 307-318.

Kroes, W.H. (1976). Society's victim, the policeman: An analysis of job stress in policing. Springfield, IL: Charles C. Thomas.

Kureczka, A.A. (1996). Critical incident stress in law enforcement. *FBI Law Enforcement Bulletin. 65*(2), 10-17.

Labovitz, S.E., & Hagedorn, R.S. (1971). An analysis of suicide rates among occupational categories. *Sociological Inquiry*, *41*, 67-72.

Leather, P., Lawrence, C., Beale, D., & Cox, T., (1998). Exposure to occupational violence and the buffering effects of intra-organizational support. *Work and Stress, 12*, 161-178.

Liberman, A.M., Best, S.R., Metzler, T.J., Fagan, J.A., Weiss, D.S., & Marmar, C.L. (2002). Routine occupational stress and psychological distress in police. *Policing. 25*(2), 421-440.

Lynch, P., Eisenberger, R., & Armeli, S. (1999). Perceived organizational support: Inferior versus superior performance by wary employees. *Journal of Applied Psychology, 84*(4), 467-483.

Maguen, S., Metzler, T.J., McCaslin, S.E., Inslicht, S.S., Henn-Haase, C., Neylan, T.C., & Marmar, C.R. (2009). Routine work environment stress and PTSD symptoms in police officers. *Journal of Nervous Mental Disorders, 197*(10), 754-760.

Mann, J.P., & Neece, J. (1990). Workers' compensation for law enforcement related post-traumatic stress disorder. *Behavioral Sciences and the Law, 8*(4), 447-456.

Martinussen, M., Richardsen, A.M., & Burke, R.J. (2007). Job demands, job resources, and burnout among police officers. *Journal of Criminal Justice, 35*(3), 239-249.

Maslach, C., & Jackson, S.E. (1979). Burned-out cops and their families. *Psychology Today, 12*(12), 56-62.

McCarty, W. P., Zhao, J. S., & Garland, B. E. (2007). Occupational stress and burnout between male and female police officers: Are there gender differences? *Policing: An International Journal of Police Strategies and Management*, *30*(4), 672-691.

McCoy, S.P., & Aamodt, M.G. (2009). A comparison of law enforcement divorce rates with those of other occupations. *Journal of Police and Criminal Psychology, 25*(1), 1-16.

Miller, L. (1996). Law enforcement traumatic stress: Clinical syndromes and intervention strategies. *The American Academy of Experts in Traumatic Stress*. Retrieved September 6, 2012, from http://www.aaets.org/arts/art87.htm.

Miller, L. (2005). Police officer suicide: Causes, prevention, and practical intervention strategies. *International Journal of Emergency Mental Health, 7*(2), 101-114.

Miller, L. (2007). Police families: Stresses, syndromes, and solutions. *The American Journal of Family Therapy, 35,* 21-40.

Mitchell, J.T. (1983). When disaster strikes: The critical incident stress debriefing process. *Journal of Emergency Medical Services*, *8*, 35-39.

Mitchell, J.T., & Bray, G. (1990). *Emergency services stress: Guidelines for preserving the health and careers of emergency services personnel*. Englewood Cliffs, NJ: Prentice Hall.

Morash, M., Haarr, R.N., & Kwak, D.H. (2006). Multilevel influences on police stress. *Journal of Contemporary Criminal Justice, 22,* 26-43.

Mullins, W.C. (1994). Peer support team training and intervention for the police family. In J.T. Reese and Ellen Scrivner (Eds.) *Law enforcement families: Issues and answers* (pp. 205-212). Washington, D.C.: U.S. Department of Justice.

Murat, S. (2008). Effects of organizational culture on police decision making. *TELEMASP Bulletin*, *15*(1), 1-11. Retrieved January 15, 2009, from http://www.lemitonline.org/publications/telemasp/Pdf/volume%2015no1.pdf

Neidig, P.H., Russell, H.E., & Seng, A.F. (1992). Interspousal aggression in law enforcement families: A preliminary investigation. *Police Studies, 15*, 1, 30-38.

Niederhoffer, A., & Niederhoffer, E. (1978). *Police family: From station house to ranch house.*Massachusetts: Health/Lexington.

Norvell, N.K., Belles D., & Hills, H.A. (1988). Perceived stress levels and physical symptoms in supervisory law enforcement personnel. *Journal of Police Science and Administration*, *16,* 75-79.

O'Hara, A. F., Violanti, J. M., Levenson, R. L., & Clark, R.G. (2013). National police suicide estimates: Web surveillance study III. *International Journal of Emergency Mental Health and Human Resilience, 15*(1), 31-38.

O'Neil, J.M., Helms, B., Gable, R., David, L., & Wrightsman, L. (1986). Gender role conflict scale: College men's fear of femininity. *Sex Roles 14*, 335-350.

Ostrov, E. (1986). Police/law enforcement and psychology. *Behavioral Science and the Law, 4*(4), 353-370.

Paton, D., & Violanti, J. (1997). Long term exposure to traumatic demands in police officers: Behavioural addiction and its management, In G. Habermann (Ed.), *Looking back, moving forward: fifty years of New Zealand psychology.* (pp. 194-201). Wellington, New Zealand: Psychological Society.

Paton, C., Violanti, J., & Schmuckler, E. (1999). Chronic exposure to risk and trauma: Addiction and separation issues in police officers. In J.M. Violanti & D. Paton (Eds.) *Police Trauma: Psychological aftermath of civilian combat* (pp. 78-87). Springfield, IL: Charles C. Thomas. 373-384.

Pennsylvania State Police. (2010). Crime in Pennsylvania: Annual Uniform Crime Report. Hershey, PA: Author. Retrieved January 12, 2011 from http://ucr.psp.state.pa.us/UCR/Reporting/Annual/AnnualFrames.asp?year=2010

Randall, M. L., Cropanzano, R., Bormann, C. A., & Birjulin, A. (1999). Organizational politics and organizational support as predictors of work attitudes, job performance and organizational citizenship behavior. *Journal of Organizational Behavior*, *20*, 159-174.

Reese, J.T. (1987). *A history of police psychological services*. U.S. Department of Justice. Federal Bureau of Investigation. Washington, D.C.: US Government Printing Office.

Regehr, C.I., Johanis, D., Dimitropoulos, G., Bartram, C., & Hope, G. (2004). The police officer and the public inquiry: A qualitative inquiry into the aftermath of workplace trauma. *Brief Treatment and Crisis Intervention, 3*(4), 383-396.

Reiser, M. (1974). Some organizational stressors on policemen. *Journal of Police Science and Administration, 2*(2), 156-159.

Sax, L.J., Gilmartin, S.K., & Bryant, A.N. (2003). Assessing response rates and nonresponse bias in web and paper surveys. *Research in Higher Education, 44*(4), 409-432.

Shanock, S., & Eisenberger, R. (2006). When supervisors feel supported: Relationships with subordinates' perceived supervisor support, perceived organizational support and performance. *Journal of Applied Psychology*. *91*, 689-695.

Stephens, C., & Long, N. (1999). Posttraumatic stress disorder in the New Zealand Police: The moderating role of social support following traumatic stress. *Anxiety, Stress & Coping, 12*(3), 247-265.

Stephens, C., & Long, N. (2000). Communication with police supervisors and peers as a buffer of work-related traumatic stress. *Journal of Organizational Behavior*, *21*(4), 407-424.

Sterns, G.M., & Moore, R.J. (1993). The physical and psychological correlates of job burnout in the Royal Canadian Mounted Police. *Canadian Journal of Criminology, 17*, 127-148.

Stevens, S., Muller, J., & Kendall, E. (2005). Addressing organisationally induced stress in a police jurisdiction: An Australian case study. *International Journal of Police Science and Management,* (83), 198-204. DOI: 10.1350/ijps.2006.8.3.198

Stinchcomb, J.B. (2004). Searching for stress in all the wrong places: Combating chronic organizational stressors in policing. *Police Practice & Research, 5*(3), 259-278.

Terry, W.C. (1981). Police stress: The empirical evidence. *Journal of Police Science and Administration, 11,* 389-394.

Violanti, J.M. (1980). *Police stress and coping: An organizational analysis*. (Dissertation). University of New York at Buffalo. Retrieved on June 24, 2008, from http://www.ncjrs.gov: NCJ 083603.

Violanti, J.M., Vena, J. E., & Marshall, J. R. (1986). Disease risk and mortality among police officers: New evidence and contributing factors. *Journal of Police Science and Administration*, *14*, 17-23.

Violanti, J.M., & Aron, F. (1993). Sources of police stressors, job attitudes, and psychological distress. *Psychological Reports*, *72*, 899-904.

Violanti, J.M., & Aron, F. (1995a). Ranking police stressors. *Psychological Reports, 75*, 824-826.

Violanti, J.M., & Aron, F. (1995b). Police stressors: Variations in perception among police personnel. *Journal of Criminal Justice*, *23*(3), 287-294.

Violanti, J.M., Vena, J.E., & Petralia, S. (1998). Mortality of a police cohort: 1950-1990. *American Journal of Industrial Medicine, 33*(4), 366-373.

Violanti, J.M. (2010). Suicide or undetermined? A national assessment of police suicide death classification. *International Journal of Emergency Mental Health, 12*(2) 89-94.

Violanti, J.M. (2011). Police organizational stress: The impact of negative discipline. *International Journal of Emergency Mental Health, 13*(1), 31-36.

Violanti, J.M., Mnatsakanova, A., & Andrew, M. E. (2012). Behind the blue shadow: A theoretical perspective for detecting police suicide. *International Journal of Emergency Mental Health, 14*(2) 37-40.

Wagner, M., & Brzeczek, W. (1983). Alcoholism and suicide: A fatal connection. *FBI Law Enforcement Bulletin*, *52*(8), 8-15.

Walsh, M., Taylor, M., & Hastings, V. (2012). Burnout and post traumatic stress disorder in the police: Education officers with the Stilwell TRiM approach. *Policing, 7*(2), 165-175.

Warner, C.H., Appenzeller, G.N., Mullen, K., Warner, C.M. & Grieger, T. (2008). Soldier attitudes towards mental health screening and seeking care upon return from combat. *Military Medicine, 173*(6), 563-569.

Waters, J.A., & Ussery, W. (2007). Police stress: History, contributing factors, symptoms, and interventions. *Policing: An International Journal of Police Strategies and Management*, *30*(2), 169-188.

Wester, S.R., Arndt, D., Sedivy, S.K., & Arndt, L. (2010). Male police officers and stigma associated with counseling: The role of anticipated risks, anticipated benefits and gender role conflict. *Psychology of Men & Masculinity, 11*(4), 286-302.

Wirth, M., Vena, J.E., Smith, E.K, Bauer, S.E., Violanti, J.M., Burch, J. (2014). The epidemiology of cancer among police officers. *American Journal of Industrial Medicine, 56*(4), 439-453.

Woody, R.H. (2007). Family interventions with law enforcement officers. *The American Journal of Family Therapy*, *34*, 95-105.