Gender and police stress

The convergent and divergent impact of work environment, work-family conflict, and stress coping mechanisms of female and male police officers

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Abstract This study explores the impact of work environment, work-family conflict, and coping mechanisms on physical and psychological stresses of police officers. Using survey data from a large police department located in the New England area, we pay specific attention to analyzing similar and dissimilar results while comparing across gender groups. Our research indicates that for both gender groups, work-family conflict (spillover) and destructive coping mechanisms are among the strongest and most consistent stressors, regardless of the measures of dependent variable employed (i.e. somatization, anxiety and depression). On the other hand, we also find divergent impact of exposures to negative work environment, camaraderie, and constructive coping mechanisms on different measures of work related stresses across the two gender groups. Implications of these convergent and divergent effects are discussed.

Introduction

Police work is often considered to be a highly stressful occupation. Not only are police officers frequently exposed to the most violent, antisocial, and mistrustful elements of society, they are also expected to exercise discretion under critical circumstances (Crank and Caldero, 1991; Violanti and Aron, 1994). Researchers have long argued that police officers’ job performance can be affected deleteriously when officers experience chronic stress (McGreedy, 1974; Goodman, 1990). However, most of the early research fails to examine the differences of the impact of stress among both male and female police officers. Early police stress studies focus primarily on male police officers.

Observations and subsequent policy implications derived from police stress research based solely on male police officers may not be applicable to female police officers. Research on stress and gender in occupations outside of the scope of policing indicates that there are significant differences in the perceptions and coping skills of male and female workers (Barnett et al., 1987).
Though limited, there is also research that suggests that female police officers experience stress derived from sources that are different from male police officers, and that female officers cope with stress differently than male officers (Pendergrass and Ostrove, 1984; Brown and Campbell, 1990). There have been few studies that examine stress coping mechanisms of both male and female officers through direct comparison.

The concern of the impact of stress and female police officers should be given more attention now that female police officers have become a steadily growing demographic in many police agencies. The representation of female police officers in US police agencies grew from 4.6 percent in 1980 to 14.3 percent in 1999 (National Center for Women and Policing, 2000; Martin, 1993). The increase in the presence of female police officers, coupled with research findings that suggest that stress can have a negative impact on job performance provides justification for additional research on gender and police stress.

In spite of the plethora of literature on the general relationship between police work and job-related stress, there is a paucity of empirical evidence pertaining to the study of gender differences in coping with police stress. Most of the earlier studies on police stress did not have sample sizes large enough to allow for meaningful comparisons between male and female police officers (Burke, 1993). The current study uses survey data from a large metropolitan police department located in the New England area to explore the impact of work environment, work-family conflict, and coping mechanisms on physical and psychological stresses of both male and female police officers. Among those who responded to the survey, there were 943 male officers and 157 female officers. This relatively large sample size allows us to perform an in-depth analysis of gender-specific police stress using clinical measurements.

The purpose of the current study is to investigate whether levels of clinically developed measures of psychological and physical stress are similar between male and female police officers, and the impact of work environment, work-family conflict, and stress coping mechanisms on the stress of both male and female police officers. In our analysis, we use three indexes to measure the levels of physical and psychological stress in the workplace considering both male and female officers. Four categories of explanatory variables including work environment, work-family conflict, coping mechanisms, and demographic variables are also employed to predict levels of stress among male and female police officers.

Literature review
Researchers who study stress across a wide variety of professions often utilize gender as a key factor in their studies. Stress studies using clinically developed survey instruments consistently show that females report significantly higher levels of psychological and physical stress than their male counterparts (for a review of the literature, see Derogatis and Savitz, 1999). Moreover, these studies have revealed that male and female employees possess different
conceptualizations and adaptations to stress. First, male and female workers often have different views on what is stressful – the source of stress (Stotland, 1991). Second, male and female workers usually adopt different coping strategies when they are under stress (Barnett et al., 1987, p. 350). It is argued that females are more likely to use “emotional-focused” coping strategies compared to males who are more proficient with “problem-focused” coping strategies (Billings and Moos, 1981; Stone and Neale, 1984). It is possible that the gender differences found in the perceptions and coping mechanisms used to deal with stress among male and female workers in non-police-related occupations, might also be found among male and female police officers.

**Gender and stress in police work**

Research shows that gender is a key explanatory factor in predicting the sources and coping strategies of stress among police officers (Pendergrass and Ostrove, 1984; Brown and Campbell, 1990). For example, previous literature reveals that female police officers are likely to encounter higher levels of harassment, overt hostility, and other negative social interactions on the job compared to their male counterparts (Deaux and Ullman, 1983; Balkin, 1988; Martin, 1990). A common explanation for this maltreatment of female officers is that police organizational culture, in general, is adversarial toward them. Moreover, the negative side of police work may bear its mark more on female police officers than their male counterparts. Wexler and Logan (1983, p. 48) revealed that:

> The sources of stress mentioned were negative attitudes of male officers, training, exposure to tragedy and trouble, group blame, and rumors.

Therefore, both the internal organizational culture and external work environment are much less favorable to female officers.

The studies that were previously discussed suggest that stress may have different effects on male and female police officers. However, there has been little research focused specifically on psychological and physical stress between male and female police officers, using the same measurement. Most of the previous studies on police stress and gender focus on male or female officers separately due to limitations of the collected data (e.g. Wexler and Logan, 1983).

**Sources associated with occupational stress among police officers**

In this section, we highlight five major convergent and divergent sources of police stress identified in the literature. It is evident that police work is often cited as one of the most stressful occupations (Eisenburg, 1975; Selye, 1978; Alkus and Padesky, 1983; Loo, 1984; Kroes, 1985; Violanti, 1985; Reese, 1986; Dantzer, 1987; Goodman, 1990; Burke, 1993). The sources associated with stress in police work are well documented by scholars and practitioners (Symonds, 1970; Cruse and Rubin, 1973; Kroes et al., 1974; Reiser, 1974; 1976). Major sources of police stress that are frequently highlighted in the literature include:
The first major source of stress identified in police work is associated with the unique work environment of police officers. The danger associated with police work is usually highlighted in surveys of law enforcement officers where police officers are asked to rank-order a list of possible stressors. Not surprisingly, the death of a partner or having to take a life in the line of duty are typically among the top stressors identified by officers (Coman and Evans, 1991; Violanti and Aron, 1993). Other elements of stress often mentioned in the literature include making violent arrests, and gruesome crime scenes (Violanti and Aron, 1993). Overall, violent and unpredictable incidents involved in police work are commonly considered to be the leading sources of both psychological and physical stress among law enforcement officers.

Next, a substantial body of literature addresses the important role of peer support and trust of co-workers and supervisors in buffering the effects of stress related to police work (House and Wells, 1978; LaRocco et al., 1980; House, 1981; Dignam et al., 1986; Ganster et al., 1986; Quick et al., 1992; Morris et al., 1999). Researchers have argued that peer support is especially salient to police officers because the nature of their work requires them to place their lives in the hands of fellow police officers in dangerous situations, and because work-related stress may only be completely comprehensible to fellow police officers (Ellison and Genz, 1983; Graf, 1986). Further, research indicates that police officers who perceive themselves as having a strong work-related peer support system, also perceived their jobs as being less stressful (LaRocco et al., 1980; Graf, 1986). With respect to gender, peer support from fellow officers is regarded as especially important to female and minority officers who are “breaking and entering” into an occupation that has traditionally been dominated by White male officers (Walker, 1985; Martin, 1990).

Bureaucratic characteristics of police organizations are identified as a third major source of stress among police officers (Violanti and Aron, 1993). Studies have identified the unique characteristics of police agencies as a significant factor predicting stress among police officers (Spielberger et al., 1981; Maslach, 1982; Martelli et al., 1989; Brown and Campbell, 1990). Organizational stressors include the events precipitated by police administration that are troublesome to members of the organization. Given the bureaucratic nature of police organizations (such as impersonal rules, and a distinct chain of command) individual input at the workplace is often reduced to a minimal level (Coman and Evans, 1991). Furthermore, Golembiewski and Kim (1991) make the argument that the quasi-military nature of police organizations tends to breed alienation among police officers. This is especially problematic as police
officers are required to exercise considerable discretion while being tightly controlled by a plethora of administrative rules surrounding their work.

The fourth major source of stress in police work involves work/family relationships. Research on work/family interface have long recognized that the personal lives of police officers are affected by the unique nature of police work which, in turn, makes officers perceive their job as more psychologically and physically stressful (Hughes et al., 1992; Galinsky et al., 1993; 1996). Several studies have identified work-family conflict as an important predictor of psychological burnout among police officers (Jackson and Maslach, 1982; Burke, 1989; 1993). This is particularly true for female officers because the demands of their domestic role as wife and mother are greater than those of male police officers (Martin, 1980, p. 200). For example, research findings suggest that marriage is distinctly beneficial for most husbands but much less for most wives (Bernard, 1972), and married women experience more strain than do married men (Gove and Tudor, 1973). However, very few studies have empirically examined this issue within the context of gender and police work.

The final source of police stress concerns the availability and choice of coping mechanisms adopted by male and female police officers in order to reduce their stress. Although coping literature is replete with varied definitions of the concept of coping, most researchers agree that only the conscious use of a cognitive or behavioral strategy that is intended to reduce perceived stress or improve a person’s resources to deal with stress reflects the coping process (Evans et al., 1993; Anshel, 2000).

A review of the literature on stress reveals that individuals in a variety of professions usually take two approaches to reduce psychological and physical stress (Burke, 1993). The first approach focuses on positive coping strategies that usually involve gaining family and social support in an attempt to reduce stress. A few examples of positive coping strategies include support group meetings, sharing stressful experiences with others (including family members), and religious-based support groups. The second approach used to cope with stress includes negative coping strategies. Generally, negative coping strategies involve self-destructive methods to reduce stress, including increased cigarette smoking, and avoidance of friends and family members. Violanti et al. (1985) also observed that certain stress-related job “demands” of policing are also associated with alcohol use. They argued that psychological and physical stress is directly or indirectly related to alcohol use. Similarly, Haar and Morash (1999) found that male and female officers use different coping methods, attempting to reduce their stress at the workplace.

Not surprisingly, positive coping mechanisms are considered to be the more appropriate approach to reduce psychological and physical stress. Several studies indicate that improper or maladaptive coping contributes to the intensity of perceived stress instead of reducing stress levels (Lazarus, 1990; Aldwin, 1994). In addition, failure to cope effectively with stress can lead to long-term and chronic stress (Loo, 1984). Police officers who use maladaptive coping skills (e.g. excessive alcohol intake, smoking, overeating, or drug use)
are more likely to experience chronic, long-term stress (Hurrel, 1986). Consequently, ongoing and long-term police stress can result in burnout, reduced motivation and, ultimately, withdrawal from police work (Maslach, 1976; Violanti and Aron, 1993).

After reviewing the body of literature on police stress and gender, it is clear that we do not clearly know how some of the main sources of stress related to police work impact both male and female officers. Using a comparison of both male and female officers, the current study explores the impact of work environment, coping mechanisms, and work-family conflict on psychological and physical stress of male and female police officers.

Methodology

The current study utilizes data that was originally used in Gershon’s (1999) study titled “Police stress and domestic violence in police families in Baltimore, Maryland, 1997-1999.” We acquired this data set from Inter-university Consortium for Political and Social Research’s (ICPSR #2976) Web site.

The sampling strategy that was used in data collection for Gershon’s study involved three steps:

(1) obtain the total number of sworn employees in each precinct for all shifts;

(2) attend one or two roll calls for each shift in all nine of the Baltimore precincts and main headquarters to obtain a convenience sample of volunteers; and

(3) distribute self-administered questionnaires to police officers who volunteered to participate in the study.

The reported response rate was 68 percent in the original study (see Gershon, 1999 for more details). The five-page instrument distributed to Baltimore police officers included questions regarding symptoms of psychological and physical stress and likely stressors, perceptions of current stress levels, coping mechanisms to deal with stress, and health outcomes related to stress.

Dependent variable

The instrument developed to measure police stress in Gershon’s (1999) survey was adopted with minor modifications from the brief symptom inventory (BSI), a brief form of the Symptom Check List 90 (Derogatis and Melisaratos, 1983). The original BSI instrument comprise 53 items, which measure nine dimensions of psychological and physical symptoms of stress. Each of the items is rated on a five-point scale of distress ranging from not at all (0) to extremely troublesome (4). The BSI was developed in 1975 and is designed to assess the psychological symptom patterns of community residents, and psychiatric and medical patients (Derogatis and Savitz, 1999). Its psychometric validity has been tested and sustained in numerous empirical studies reported in the USA (for a review see Derogatis and Savitz, 1999).
Gershon’s (1999) survey includes three of the nine dimensions of stress symptoms and uses a four-point scale of distress ranging from never (1) to always (4). The first dimension is somatization, a scale that reflects the psychological distress arising from perception of bodily dysfunction. Complaints typically focus on cardiovascular, gastrointestinal, respiratory, and other systems with strong autonomic mediation. Aches, pains, and discomfort localized in the gross musculature are also frequent manifestations of stress. The second dimension is anxiety, a scale in which general indicators such as restless, nervousness, and panic attacks are represented. The third dimension is depression, a scale that reflects a broad range of the elements constituting the clinical depressive syndrome. Symptoms of dysphoric effect and mood are represented, as are signs of withdrawal of interest in activities, lack of motivation, and loss of vital energy (for a detailed discussion of dimensions see Derogatis et al., 1973). Survey items contained in each scale are presented in Appendix 1.

**Independent variables**
The current study also includes six independent variables in three major contexts including:

1. work environment;
2. work-family conflict; and
3. stress coping mechanisms.

Three variables are used to represent the characteristics unique to the police work environment. First, negative exposures related to police work are used to measure the dangerous or negative aspects of work events that police officers often experience (e.g. making violent arrests, shooting someone, attending police funerals, etc.). Second, camaraderie is a measure of peer support and trust within police officers’ immediate work groups (e.g. cooperation between units, and trust between police partners). And third, unfairness measures police officers’ perceptions of treatment as an officer both within the context of bureaucratic nature of police organization and by the media.

Work-family conflict and its impact on psychological and physical stress of individual police officers are measured by spillover. Unhappiness in someone’s personal life, and workplace burnout are thought to have significant influence on stress levels. This would include those situations were police officers are too physically and emotionally exhausted to deal with their spouses or significant others, and they begin to treat family the way that they treat suspects at work. This study examines how the “spillover” of conflict associated with family and work impacts stress of both male and female police officers.

This study also uses two measures of coping mechanisms including constructive and destructive coping mechanisms. Constructive coping is a measure of direct, positive, and active responses to work-related stress (e.g. talk to spouse, relative and friends about the problem, make a plan of action and follow it, pray for guidance and strength, etc.). Destructive coping measures the
negative and avoidance techniques used to deal with work-related stress (e.g. stay away from everyone, yell or shout at spouses/significant others or family members, smash or break things, increased smoking, drinking, and/or gambling, or pretend that nothing is wrong).

Five demographic variables are used as control measures in this analysis:

1. ethnicity;
2. marital status;
3. education status;
4. rank; and
5. years of service.

Previous studies suggest that the rank of officers, and years of police service are important occupational characteristics associated with exposure to stressors and experience of their consequences (Robinson, 1981; Gudjonsson and Adlam, 1985; Fielding, 1987; Brown and Campbell, 1990). Other studies found inconsistent and weak relationships of stress and individual demographic characteristics (e.g. Maslach, 1982; Burke and Richardsen, 1993; Burke, 1993). We include these five control variables to ensure that the potentially intervening effects of respondent demographic background or work experience are not accounting for any observed relationships between work environment, work-family conflict, coping mechanisms, and the reporting of stress symptoms among officers. See Appendix 2 for the correlation matrix of all the variables included in this study.

Findings
Table I reports the major demographic characteristics of the survey respondents. The survey sample includes 943 male officers (86 percent) and 157

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean (SD)</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female = 0</td>
<td>157</td>
<td></td>
<td>14.3</td>
</tr>
<tr>
<td>Male = 1</td>
<td>943</td>
<td></td>
<td>85.7</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White = 0</td>
<td>696</td>
<td></td>
<td>66.2</td>
</tr>
<tr>
<td>African American = 1</td>
<td>355</td>
<td></td>
<td>33.8</td>
</tr>
<tr>
<td>Marriage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not married = 0</td>
<td>441</td>
<td></td>
<td>40.1</td>
</tr>
<tr>
<td>Married = 1</td>
<td>658</td>
<td></td>
<td>59.9</td>
</tr>
<tr>
<td>Education attainment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BA and + = 0</td>
<td>326</td>
<td></td>
<td>29.8</td>
</tr>
<tr>
<td>Less than BA = 1</td>
<td>768</td>
<td></td>
<td>70.2</td>
</tr>
<tr>
<td>Rank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor = 0</td>
<td>202</td>
<td></td>
<td>18.4</td>
</tr>
<tr>
<td>Officer = 1</td>
<td>898</td>
<td></td>
<td>81.6</td>
</tr>
</tbody>
</table>

Table I. Descriptive statistics of demographic variables

| Years of service                   | 11.52 (9.28) |     |     |
female officers (14 percent). There are 696 officers who identified themselves as White (66 percent), and 355 officers who identify themselves as African American (34 percent). Few respondents are in the other racial categories. For the simplicity of comparison, percentages for the variable ethnicity are calculated based on White and African American officers only. About 60 percent of officers in this survey are married. The majority of the respondents (70 percent) do not have a college degree. A total of 18 percent of the survey respondents stated their ranks as sergeant or higher. The average length of police service is about 12 years.

Our first research question examines the levels of clinically developed measures of stress between male and female officers in the Baltimore City Police Department. Table II presents the results of a comparison between male and female police officers on all of the dependent and independent variables using t-tests. The findings indicate that female officers have statistically significant higher levels of stress in two of the three indexes measuring psychological and physical stress. The means of depression and somatization among female officers (1.58, 1.54) are both higher than those of their male counterparts (1.47, 1.36), respectively. However, no statistically significant difference was found between male and female officers on anxiety.

Among the three sets of independent variables, statistically significant differences were found between male and female officers in all three measures of work environment. Male officers were found to have experienced more work related negative exposures (1.34) and tended to report higher levels of camaraderie (3.62) than do their female counterparts (1.22, 3.44), respectively. Male officers reported a higher level of unfairness in the department (3.04) than their female counterparts (2.81). There were no statistically significant differences detected between male and female officers in the means of spillover. And finally, we found statistically significant gender differences in coping

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Baltimore PD Scale mean (SD)</th>
<th>Male officers Scale mean (SD)</th>
<th>Female officers Scale mean (SD)</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatization</td>
<td>1.39 (0.38)</td>
<td>1.36 (0.36)</td>
<td>1.54 (0.45)</td>
<td>4.58*</td>
</tr>
<tr>
<td>Anxiety</td>
<td>1.27 (0.36)</td>
<td>1.27 (0.36)</td>
<td>1.26 (0.37)</td>
<td>-0.16</td>
</tr>
<tr>
<td>Depression</td>
<td>1.47 (0.39)</td>
<td>1.45 (0.38)</td>
<td>1.58 (0.45)</td>
<td>3.56*</td>
</tr>
<tr>
<td>Work environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative exposures</td>
<td>1.33 (0.65)</td>
<td>1.34 (0.65)</td>
<td>1.22 (0.61)</td>
<td>-2.21*</td>
</tr>
<tr>
<td>Camaraderie</td>
<td>3.60 (0.80)</td>
<td>3.62 (0.80)</td>
<td>3.44 (0.84)</td>
<td>-2.70*</td>
</tr>
<tr>
<td>Unfairness</td>
<td>3.00 (0.66)</td>
<td>3.04 (0.66)</td>
<td>2.81 (0.62)</td>
<td>-3.98*</td>
</tr>
<tr>
<td>Work-family conflict</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spillover</td>
<td>2.38 (0.78)</td>
<td>2.40 (0.78)</td>
<td>2.30 (0.77)</td>
<td>-1.43</td>
</tr>
<tr>
<td>Coping</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructive coping</td>
<td>2.39 (0.60)</td>
<td>2.35 (0.60)</td>
<td>2.66 (0.57)</td>
<td>5.98*</td>
</tr>
<tr>
<td>Destructive coping</td>
<td>1.55 (0.33)</td>
<td>1.56 (0.33)</td>
<td>1.50 (0.32)</td>
<td>-2.17*</td>
</tr>
</tbody>
</table>

Note: *p < 0.05

Table II. Testing the differences in the dependent and independent variables between male and female police officers in Baltimore PD.
mechanisms employed by police officers. Female officers seemed to use more constructive coping (2.66) than male officers (2.35). Although statistically significant, the differences in the destructive coping measures were rather marginal when male (1.56) and female officers (1.50) are compared.

Tables III and IV show the results of separate multivariate analyses used to answer our second research question (whether the sources of stress and coping strategies are indeed similar between the two gender groups). Both the unstandardized and standardized (beta) coefficients are reported to document the relative contribution of each individual variable to the equations for the three dimensions of stress[1]. In both the male and female police officer samples, the $R^2$ statistics for all of the regression models are statistically significant, ranging from 0.24 on the anxiety dimension (female sample) to 0.34 on the depression dimension (male sample).

In the male police officer sample, the results of regression analysis indicate that the majority of the independent variables have statistically significant impact on all three stress indexes. More specifically, we found that four variables are particularly important in predicting the levels of both psychological and physical stress among male officers. These four variables include:

1. negative exposures to police work;
2. camaraderie (work environment);
3. spillover effect (work-family conflict); and
4. destructive coping (coping strategy).

<table>
<thead>
<tr>
<th></th>
<th>Physical stress</th>
<th>Psychological stress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Somatization</td>
<td>Anxiety</td>
</tr>
<tr>
<td></td>
<td>b</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Work environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative exposures</td>
<td>0.086</td>
<td>0.157*</td>
</tr>
<tr>
<td>Camaraderie</td>
<td>-0.076</td>
<td>-0.174*</td>
</tr>
<tr>
<td>Unfairness</td>
<td>-0.007</td>
<td>-0.013</td>
</tr>
<tr>
<td>Work-family conflict</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spillover</td>
<td>0.102</td>
<td>0.227*</td>
</tr>
<tr>
<td>Coping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructive coping</td>
<td>0.010</td>
<td>0.016</td>
</tr>
<tr>
<td>Destructive coping</td>
<td>0.259</td>
<td>0.238*</td>
</tr>
<tr>
<td>Demographic</td>
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</tr>
<tr>
<td>Ethnicity</td>
<td>-0.059</td>
<td>-0.075</td>
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<tr>
<td>Marriage</td>
<td>-0.033</td>
<td>-0.045</td>
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<tr>
<td>Education</td>
<td>0.011</td>
<td>0.014</td>
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<tr>
<td>Rank</td>
<td>0.021</td>
<td>0.024</td>
</tr>
<tr>
<td>Years of service</td>
<td>0.001</td>
<td>0.031</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.288*</td>
<td>0.276*</td>
</tr>
</tbody>
</table>

**Table III.** Regression analyses – somatization, anxiety and depression as the dependent variables using the male officers sample

**Note:** *p < 0.05
<table>
<thead>
<tr>
<th></th>
<th>Physical stress</th>
<th>Psychological stress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Somatization b</td>
<td>Anxiety b</td>
</tr>
<tr>
<td>Work environment</td>
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<tr>
<td>Negative exposures</td>
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<td>0.102</td>
</tr>
<tr>
<td>Camaraderie</td>
<td>−0.051</td>
<td>−0.093</td>
</tr>
<tr>
<td>Unfairness</td>
<td>−0.023</td>
<td>−0.031</td>
</tr>
<tr>
<td>Work-family conflict</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spillover</td>
<td>0.104</td>
<td>0.174*</td>
</tr>
<tr>
<td>Coping</td>
<td></td>
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<tr>
<td>Constructive coping</td>
<td>0.067</td>
<td>0.080</td>
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<tr>
<td>Destructive coping</td>
<td>0.510</td>
<td>0.345*</td>
</tr>
<tr>
<td>Demographic</td>
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<tr>
<td>Ethnicity</td>
<td>0.051</td>
<td>0.054</td>
</tr>
<tr>
<td>Marriage</td>
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<td>Adjusted R²</td>
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**Note:** *p < 0.05

Moreover, all of the signs of the four statistically significant variables are pointed in the hypothesized directions (see Table III). We also discovered that married male officers have less psychological stress compared to unmarried male officers. And it appears that the years of service in the police force is a statistically significant contributor to depression, as reported by male officers.

In comparison, our regression analysis using the female officer sample revealed some more interesting findings (see Table IV). First, none of the work environment measures yielded statistically significant impact on female police officer stress. It seemed that female officers’ stress was not influenced by the three variables measuring work environment[2]. In addition, it is also interesting to note that none of the demographic variables were statistically significant predictors of female officers’ psychological and physical stress.

Second, similar to those findings from the male officer sample, spillover (work-family conflict) and destructive coping (coping strategy) were statistically significant contributors to female officer stress. However, unlike those found in the male officer sample, constructive coping is now a statistically significant “buffer” to depression for female officers. It is important to point out that although fewer variables are significant in predicting stress levels of female officers, the explanatory power of the two variables (i.e. spillover and destructive coping) are high judging by their respective beta weights. The variance explained measures ($R^2$) obtained from the three regression analyses using the female sample ($R^2 = 0.30, 0.24$, and $0.33$ respectively) are similar to those obtained using the male officer sample ($R^2 = 0.29, 0.28$, and $0.34$ respectively).
Discussion and conclusions
In regard to our first research question, the findings of this study indicate that male and female police officers differ statistically significantly in their work environment. The results show that police officers generally experience more job stressors and have higher levels of depression compared to their male counterparts, respectively. These findings are generally consistent with relevant previous research findings in the area of psychology and mental health (e.g., Dröge and Savitz, 1999).

To answer our second research question, a multivariate analysis examines the sources of stress and coping strategies used by male and female officers. We find both convergent and divergent effects of work environment, work conflict, and coping strategies on the physical and psychological stress and depression of police officers. In both male and female officer samples, there appears to be a strong correlation between the signs and values of the standardized regression coefficients (beta) and the impact of spillover and destructive coping on all three measures of depression, anxiety, and stress (Somiation, anxiety, and depression).

Nevertheless, we find no evidence to suggest that male and female officers differ statistically significantly in any coping strategies in their police work.

There are unmistakable signs of divergent effects of some work environment and coping variables on stress that appear to be gender specific. For example, in the analysis using the female officer sample, there is a statistically significant finding for one type of female police officer stress—depression. About half of all female officers used the following coping strategies:

- Talk with a spouse, relative or friend about the problem (female – 52.3 percent; male – 27.1 percent),
- Pray for guidance and strength (female – 50.1 percent; male – 28.5 percent),
- Make a plan of action and follow it (female – 48.0 percent; male – 44.2 percent),
- Pray for guidance and strength (female – 61.9 percent; male – 35.3 percent).

To further understand the intricate nature of police work environment, we compared the percentage of male and female police officers who agreed to specific coping strategies (Appendix 3 for analysis of item responses). The results of comparison between the two groups revealed that the female officers are more likely to use the following coping strategies:

- Talk with a spouse, relative or friend about the problem (female – 52.3 percent; male – 27.1 percent),
- Pray for guidance and strength (female – 50.1 percent; male – 28.5 percent),
- Make a plan of action and follow it (female – 48.0 percent; male – 44.2 percent),
- Pray for guidance and strength (female – 61.9 percent; male – 35.3 percent).

The results indicate that female officers are more likely to use coping strategies that focus on spiritual guidance and consultation with spouse and friends.
when dealing with stress. We suggest that this observation has significant policy implications.

**Policy implications**

The results of this study provide the basis for several policy implications related to police stress and gender. First, our findings suggest that police administrators should pay attention to the convergent factors that lead to police officer stress. Stressors such as work-family conflict and negative coping are common among both male and female officers. To ameliorate the stress associated with work-family conflict, police management should play a leading role in creating greater flexibility in accommodating police officers’ professional, personal, and family needs. In more practical terms, efforts need to be made to actively solicit input from both police officers and their family members. For example, police stress training sessions targeting work-family conflict should consider the possibility of involving both police officers and their spouses/significant others.

Second, with regard to improving police officers’ coping skills, police stress management programs should be tailored to fit the specific needs of a police department. A sensible approach would involve the following three major components:

1. assessment of police officers’ physical and psychological stress, which includes identifying both internal and external stressors;
2. monitoring police officers’ adaptive and maladaptive coping skills; and
3. effective use of appropriate intervention strategies such as peer counseling.

In particular, peer counseling could be a realistic and effective way to deal with police officer stress (Klyver, 1983). Some male police officers are notoriously shy in seeking professional help for fear of being viewed as weak by fellow officers (Graf, 1986).

Finally, police stress management programs could also benefit from learning the divergent impact of work environment and coping mechanisms on police stress that is gender specific. Our study indicates that work environment has had greater impact on stress of male police officers. While negative exposures to work related incidents remain a significant stressor to male officers, camaraderie among colleagues could counteract its negative impact on the well being of male police officers. Although we did not find a statistically significant impact of work environment on female officers’ stress in this study, the signs of the indicators of work environment were similar in both gender groups. Additionally, it is encouraging that constructive coping has been found to have a significant impact on reducing depression for female police officers. The constructive coping techniques used by female officers that result in decreased depression could be promoted among male police officers in pursuit of similarly positive impact on their stress. In sum, employee stress is an important issue that no police agency can afford to overlook. Stress management in policing is
essential because police work is such a highly stressful profession. In addition, police officers unable to deal effectively with stress might fail to provide efficient quality police services to citizens.

We would like to point out three caveats in regard to the findings of our study. First, we acknowledge that the findings derived from our analysis were based on a large police department located in the east coast. Therefore, the results might be more informative to large police agencies compared to medium-sized, or smaller police agencies. Second, we would caution the possible risk of model specification errors. Third, although we are able to test our hypotheses based on larger sub-samples of male \((n = 943)\) and female officers \((n = 157)\) than many of the previous police stress and gender studies, we would prefer even greater numbers from broader jurisdictions in future studies on this topic.

We invite other police scholars and practitioners to join in the study of police stress management with an eye on further exploring possible group (e.g. gender, race) differences. Longitudinal and cross-sectional studies are needed to both increase our understanding of the sources of police stress, and to develop more effective responses to manage police officer stress. We hope that our study of the convergent and divergent impact of work environment, work-family conflict, and coping mechanisms on female and male officer stress is a step forward in police stress research.

Notes
1. Multicollinearity is a potential serious problem associated with the use of ordinary least square (OLS) regression analysis. Accordingly, the variance inflation factor (VIF) often is used to detect whether collinearity exists among independent variables. Some researchers use a VIF score of 4 or greater as an indication of noteworthy multicollinearity (Fisher and Mason, 1980; Judge et al., 1988). The collinearity statistics run on theses data showed that none of the VIF values exceeded 2. It is safe to say that multicollinearity was not a problem in our analysis.
2. Our reviewers correctly pointed out that since we are using a convenience sample originated from a single site the generalizability of our findings might be limited.
3. To our best knowledge, there is no prior study in policing using similar clinical measures of stress as used in our current study. This renders a difficult exercise for us to compare our findings to the existing literature in the field of policing.

References


House, J.S. (1981), Work Stress and Social Support, Addison-Wesley, Reading, MA.


Gender and police stress


Appendix 1. Composite index construction

*Dependent variables*

Response categories are rated from 1 (never) to 4 (always).

*Somatization* (alpha = 0.76):

Questions. In the past six months, how often did you have:
- Pains or pounding in your heart and chest.
- Faintness or dizziness.
- Headaches or pressure in your head.
- Nausea, upset stomach, stomach pains.
- Trouble getting your breath.
- A lump in your throat.

*Anxiety* (alpha = 0.85):

Questions. In the past six months, how often did you have:
- Suddenly scared for no reason.
- Feeling that something bad was going to happen to you at work.
- Spells of terror or panic.
- Feeling so restless you could not sit still.

*Depression* (alpha = 0.67):

Questions. In the past six months, how often did you have:
- Lost of sexual interest or pleasure.
- Feelings of low energy or slowed down.
- Feelings of being trapped or caught.
- Blame yourself for things.
- Feeling blue.
- Feeling no interest in things.
- Feeling hopeless about the future.
- Thoughts of ending your life.
- Crying easily.

*Independent variables*

*Negative exposures* (alpha = 0.79):

Questions. If you have ever experienced any of the following, please indicate how much it emotionally affected you. Please check N/A if you have not experienced it.
- Making a violent arrest.
- Shooting someone.
- Being the subject of an IID investigation.
- Responding to a call related to a chemical spill.
- Responding to a bloody crime scene.
- Personally knowing the victim.
- Being involved in a hostage situation.
- Attending a police funeral.
- Experiencing a needle stick injury or other exposure to blood and body fluids.

Response categories are: 0 (N/A), 1 (not at all), 2 (a little) and 3 (very much).

*Camaraderie* (alpha = 0.53):

Questions: Please check the box that best describes how much you agree with the following statements:
- There is good and effective cooperation between units.
- I can trust my work partner.

Original response categories are from 1 (strongly agree) to 5 (strongly disagree). Categories have been reversed coded in current study.
Unfairness (alpha = 0.60):
Questions. Please check the box that best describes how much you agree with the following statements:

- Compared to my peers (same rank), I find that I am likely to be more criticized for my mistakes.
- I feel that I am less likely to get chosen for certain assignments because of “who I am” (e.g. race, gender, sexual orientation, physical characteristics).
- Within the department, gender-related jokes are often made in my presence.
- When I am assertive or question the way things are done, I am considered militant.
- Media reports of alleged police wrongdoing are biased against us.
- The department tends to be more lenient in enforcing rules and regulations for female officers.

Original response categories are from 1 (strongly agree) to 5 (strongly disagree). Categories have been reversed coded in current study.

Spillover (alpha = 0.65):
Questions. Please check the box that best describes how much you agree with the following statements:

- I often get home too physically and emotionally exhausted to deal with my spouse/significant other.
- I catch myself treating my family the way I treat suspects.
- At home, I can never shake off the feeling of being a police officer.
- I expect to have the final say on how things are done in my household.

Original response categories are from 1 (strongly agree) to 5 (strongly disagree). Categories have been reversed coded in current study.

Constructive coping (alpha = 0.66):
Questions. When dealing with stressful events at work, how often do you:

- Talk with your spouse, relative or friend about the problem.
- Pray for guidance and strength.
- Make a plan of action and follow it.
- Exercise regularly to reduce tension.
- Rely on your faith in God to see you through this rough time.

Response categories are from 1 (never) to 4 (always).

Destructive coping (alpha = 0.57):
Questions. When dealing with stressful events at work, how often do you:

- Stay away from everyone you want to be alone.
- Smoke more to help you relax.
- Yell or shout at your spouse/significant other, a family member, or a professional.
- Let your feelings out by smashing things.
- Hang out more with your fellow officers at a bar.
- Gamble.
- Increase your sexual activity.
- Try to act as if nothing is bothering you.

Response categories are from 1 (never) to 4 (always).
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Note: *<i>p</i> < 0.05
Appendix 3. Analysis of selected item responses

_Constructive coping_ (percentage responded that they have frequently or always done the following things when dealing with stressful events at work):

- Rely on your faith in God to see you through this rough time
  (male – 35.3 percent; female – 61.9 percent).
- Pray for guidance and strength
  (male – 28.5 percent; female – 59.1 percent).
- Talk with your spouse, relative or friend about the problem
  (male – 37.1 percent; female – 52.3 percent).
- Make a plan of action and follow it
  (male – 44.2 percent; female – 48.0 percent).
- Exercise regularly to reduce tension
  (male – 37.3 percent; female – 27.9 percent).

_Spillover_ (percentage strongly agree or agree with the following items):

- I often get home too physically and emotionally exhausted to deal with my spouse/significant other
  (male – 42.4 percent; female – 41.7 percent).
- I catch myself treating my family the way I treat suspects
  (male – 74.2 percent; female – 81.2 percent).
- At home, I can never shake off the feeling of being a police officer
  (male – 63.3 percent; female – 71.1 percent).
- I expect to have the final say on how things are done in my household
  (male – 61.3 percent; female – 59.3 percent).

_Destructive coping_ (percentage responded that they have frequently or always done the following things when dealing with stressful events at work):

- Stay away from everyone, you want to be alone
  (male – 10.5 percent; female – 13.1 percent).
- Smoke more to help you relax
  (male – 11.3 percent; female – 13.0 percent).
- Yell or shout at your spouse/significant other, a family member, or a professional
  (male – 5.6 percent; female – 6.5 percent).
- Let your feelings out by smashing things
  (male – 1.2 percent; female – 1.9 percent).
- Hang out more with your fellow officers at a bar
  (male – 5.5 percent; female – 1.3 percent).
- Gamble
  (male – 1.1 percent; female – 1.2 percent).
- Increase your sexual activity
  (male – 14.4 percent; female – 8.5 percent).
- Try to act as if nothing is bothering you
  (male – 28.2 percent; female – 21.4 percent).

_Negative exposures_ (percentage responded that the following items affect them emotionally very much):

- Attending a police funeral
  (male – 53.5 percent; female – 64.5 percent).
- Being the subject of an IID investigation
  (male – 34.9 percent; female – 27.3 percent).
- Experiencing a needle stick injury or other exposure to blood and body fluids
  (male – 29.7 percent; female – 29.7 percent).
- Making a violent arrest
  (male – 19.4 percent; female – 18.8 percent).
– Personally knowing the victim (male – 15.7 percent; female – 20.6 percent).
– Responding to a bloody crime scene (male – 15.2 percent; female – 18.1 percent).
– Shooting someone (male – 8.9 percent).
– Being involved in a hostage situation (male – 8.1 percent; female – 6.5 percent).
– Responding to a call related to a chemical spill (male – 4.6 percent; female – 3.9 percent).

*Camaraderie* (percentage strongly agree or agree with the following items):
– There is good and effective cooperation between units (male – 27.8 percent; female – 33.5 percent).
– I can trust my work partner (male – 6.2 percent; female – 11.9 percent).