Organizational Stressors Associated with Six Aspects of Police Officer Stress in South Korea

Hyungjin Lim[1], Jeong L. Kim[2]

1   Nowon Police Station, Seoul Metropolitan Police Agency, 277 Hangeulbiseok-ro, Junggye-dong, Nowon-gu, Seoul, Korea

2   School of Criminology, Criminal Justice and Strategic Studies, Tarleton State University, Stephenville, Texes, United States

Correspondence: Hyungjin Lim

✉ limtigers@daum.net

Nowon Police Station, Seoul Metropolitan Police Agency, 277 Hangeulbiseok-ro, Junggye-dong, Nowon-gu, Seoul, Korea

Tel: 513-748-7657

Abstract

Background: As an inevitable social institution, police work should be efficient, effective, appropriate, and legitimate. While studying organizational behavior, during the last five decades, behavioral school of management has found that personal stress has a great impact on individual job performance.

Objectives: To investigate correlations between police officers' perceptions of organizational job environment assessed by the Job Diagnostic Survey (JDS) along with the Bureaucracy Level Assessment and perceptions of distress symptoms measured by Brief Symptom Inventory (BSI).

Methods: Survey data collected between November 2013 and January 2014 from the Korea National Police Agency including 512 male and female police officers are used in the multivariate analysis.

Results: Female officers showed higher levels of the distress symptom in obsessive-compulsive and interpersonal sensitivity; officers working in suburban/rural areas displayed higher levels of interpersonal sensitivity and anxiety than counterparts in urban areas; not married officers showed higher level of hostility than married officers; officers in supervisory positions reported higher levels of obsessive-compulsive, interpersonal sensitivity, anxiety, and hostility; finally, officers having longer service years demonstrated a lower level of hostility than officers having shorter service years. Level of education did not show statistically significant influence on police occupational stress. While controlling demographic characteristics and police-community relationships, individual perceptions of bureaucracy level have a more significant impact than police job characteristics on individual perceptions of distress symptoms.

Conclusion: The bureaucratic environment should be changed to allow more discretion and responsibility for field officers, as well as reallocating budget for inadequate staff and poor working conditions. Work redesign which allows field officers to carry out identifiable task with various skills and allows field officers to have more autonomy on their jobs should be followed. In addition, gender discrimination should be eliminated.

Keywords: Organizational stressors; Five core job characteristics; Community relationship; Bureaucracy level; South Korea police officers

Introduction

As an inevitable component of a modern democratic society, police are expected to sustain the status quo primarily by maintaining social order, preventing crime, apprehending criminals, and providing a wide range of police services. By nature, police work often requires police officers to confront citizens in conflicts and dangerous cases. Considering that police officers are continually

confronted with hostility, physical violence, and harshness, and routinely become involved in high-pressure, urgent situations, policing is deemed as one of a handful of vocations that require workers to continually deal with potential risk and to put their own lives at risk at any time [1]. Such features of police function are linked to work-related stress as stress triggers, i.e., stressors [2]. Police work-related stress adversely affects its employees; for instance, police officers who are subject to substantial degrees of work-related stress are exposed to an increased number of physical and mental health troubles that inhibit job performance [3]. The majority of people under serious work-related stress are plagued by bad health [4], exhibit more absenteeism [5], suffer from exhaustion [6], are discontented with their job assignments [7], do not properly commit themselves to their careers, and retire early [8]. When people experience work-related emotional tension, they may develop elevated persistent substance and alcohol abuse, digestive system disorders, cardiovascular disease, depressive disorders, and divorce. Suicide can be a result of overwhelming stress [9].

Manolias [10] stated that there are vital rationales why police officers' stress should be seriously examined. First, police officers play an essential role in the protection of society [11]. In order to meet their responsibilities effectively, the police force should be efficacious; however, work-related stress quite possibly undermines that efficacy along with the quality of the law enforcement service provided [2]. As a consequence, the impact of police occupational stress, which includes hyper-aggression and an excessive use of force, can result in public mistrust and deterioration of public support for police agencies in general [12]. In addition, on a more individual basis, it is possible that a police officer under stress can become an actual menace to his or her own safety as well as others [13]. Therefore, police officer stress impacts both the general public safety and personal officer health [12]. For this reason, police officer work-related stress can be a considerable issue for police managers and for the general public to face [2]. Consequently, it is necessary to note specific stress triggers which may then be ameliorated to relieve work-related stress [14].

Literature Review

Behavioral studies

To locate individuals' stressors, predict stress outcomes, and understand an employee's emotional status or motivations for certain actions in the organization, behavioral scientists have tried to examine the employees' observable and measurable behaviors which reflect their mindsets, based on the assumption that behaviors are learned or unlearned (behaviorism). Hackman and Oldham [15] developed five central dimensions for evaluating worker perceptions of the work environment in the Job Diagnostic Survey: the meaningfulness of the work atmosphere assessed by three aspects of skill variety, task identity, and task significance; responsibility for the job represented by autonomy; and the knowledge of actual outcomes of the task performance evaluated by feedback from the job. They noted that these central dimensions were strongly linked to individual organizational commitment and occupational satisfaction [15]. From the time

of the platform's development in the mid-1970s, Hackman and Oldham's [16] methods for evaluating central job dimensions have been employed for surveys from a broad range of private-sector workers [17] along with a number of public-sector and law enforcement department personnel [18].

During the early decades of the twentieth century, organizational theorists attempted to establish a perspective of organizations along with a pair of principles for productive operation [19] by employing the premise that operational efficiency was the eventual requirement for administrations to achieve, and with the idea that the application of scientific managerial techniques would let administrators automatically meet this requirement. These conventional theorists formulated and expounded on a range of principles of management, such as chain of command, span of control, division of labor, and so on that could take full advantage of efficiency and rationality in organizational operation [15]. Studies conducted early in the twentieth century, however, revealed that numerous workers had been fairly vocal in their disaffection with routinized function; their disaffection was expressed by not coming to work punctually, disrupting their work or devices, or by controlling the amount of their productivity in those jobs [15,20].

These issues with conventional strategies to work design gave rise to more attitude-oriented strategies to the design of work [21]. As for inquiries of how productivity could be raised and what made men work, by the early 1950s, behavioral scientists acknowledged the importance of an environment conducive to positive self-motivation [22]. The behavioral school of management claimed that an individual's motivational elements, such as one's own developmental and growth desires and anticipations, should be prioritized as an essential concern within a formal organizational venue [23,24]. According to the arguments of behavioral scientists, since a police agency is structured by a bureaucracy with a rigid hierarchical arrangement wherein the highest level of management rests at the top of the agency, workers at the bottom level in the agency with the biggest demands and the smallest amount of control are affected by the highest degrees of tension from their work [3,25].

Stressors inherent to work

A number of studies on police stress have narrowed their attention to the features of police work and the systematized structural design of police departments [3,26-28]. In general, the most intense types of police officer stress are deemed to be related to the application of deadly force against and by police officers [2,28], when examining the arguments supporting why police work is more stressful than other occupations. The stress that police officers encounter when exposed to the violent death of their colleagues reinforces a powerful and broader reality about police work-related stress; as a result, officers are seized with fear of a constantly present and unforeseen potential for assault, harm, and death [2,29]. Although these crucial occasions accompany extreme stress, they represent a minor part of the whole panoply of activities during a police officer's patrol shift, especially for a small-sized police department [2,26].

In addition, some studies suggest that features of policing

typically regarded as significant stressors (e.g., hurting or killing someone during work or experiencing the effects of a fellow officer's murder) might be over-emphasized as a stressor [2]. Along with those who assert that there are few or no scientific grounds to sustain the traditional belief that a police job is inherently stressful, an expanding body of studies indicate that law enforcement officers are not more distressed compared to other professionals [4,30]. For instance, when Pendleton, Stotland [31] compared police officers to government workers and firefighters in terms of stress levels, they found that the level of police stress was measured to be between the level of government workers (the greatest stress) and firefighters (the least). Also, in their research with more than 500 Australian police officers, Hart, Wearing [32] found that police work was not exceedingly stressful.

Stressor nested in organizational structure

Previous studies on law enforcement officer stress evaluated police organizational layout and administrative practices as the main reasons for occupational stress [26,33]. These stressors include work conditions, personnel practices, and supervision [34,35]. More specifically, Reiser [36] contended that broad and excessive department regulations which codified work conditions but often constrained creative options to complicated situations might be a significant stressor. For example, rank-and-file officers rarely got an opportunity to take part in management-type policy making processes [25]. When police officers sensed inadequate leadership and insufficient supervisory support, there were elevated feelings of distrust and skepticism toward superiors and managers as well as reductions in performance [37].

Hierarchical organization structures and the requirement for goal-oriented managerial practices are commonly recognized as occupational stressors, such as when officers are required to deal with a disproportionate amount of paperwork, deal with repetitive tasks, or must comply with department rules and regulations for almost all activities within the range of standardized operational processes [38,39]. In order to appraise the influence of bureaucratic features over police officers' occupational stress, one study used a bureaucracy level assessment and found that the level of bureaucracy is positively associated with the level of stress [33].

Several survey-based research projects have consistently found that organizational stressors are more profound than task-related stressors [40]. For example, analyzing the data collected from 811 officers in the Turkish National Police, Buker and Wiecko [26] reported that the most significant stressors are seated in the management practices and the structure of the police department. In addition, in a survey of 947 officers from 11 police departments, Morash and her colleagues [3] found that a perception of an officer's insufficient influence on work and department policy was one of the strongest predictors of police stressor. In their analysis of the association between five core job motivational elements and police officers' perceptions toward work-related stress with 305 sworn personnel from two large police departments placed in the Pacific Northwest, Zhao et al. [33] reported that autonomy and feedback from the job influenced officers' psychological and physiological distress

symptoms favorably (motivators) while bureaucracy level index was an adverse influence (a demotivator).

In order to evaluate the usefulness and generalizability of the behavioral school's approach, it would be helpful to investigate the association between police officers' testified experience with work place stress and their perceptions toward the workplace by analyzing data collected from various settings [33]. These data include information on conditions concerning the core job characteristics, the hierarchical organization structure, bureaucratic practices, and supervisory types, that the officers reported relating to their occupational stress. Therefore, this study investigated the relationships between police officers' perceptions toward occupational stress and two organizational variables, five core job characteristics and bureaucracy level index, in an organization after controlling demographic characteristics and police-community relationship with research questions below.

Research questions

1. Explanatory research questions:
(1) What is the relationship between organizational core job dimensions and seriousness of the occupational stress?
(2) What is the relationship between the level of bureaucracy and seriousness of the occupational perception?
2. Exploratory research questions:
(1) To what extent do perceived features of organizational core job dimensions and the level of bureaucracy correlate with occupational stress?
(2) Are perceived features of organizational core job dimensions more highly correlated with occupational stress than the level of bureaucracy?
(3) To what extent do perceived features of organizational core job dimensions and the level of bureaucracy differ among different police working settings?
(4) Which of the regressed explanatory variables are influential in predicting police occupational stress?
(5) To what extent do various personal demographic characteristics influence on the occupational stress?

Methodology

Data

For the present empirical study, a survey questionnaire composed of five sections was created using existing survey instruments and translated into Korean. With the final version of the survey questionnaire created after multiple pre-tests and alterations, the first author contacted 11 Korean police officers to ask for cooperation in distributing the online-based survey using SurveyMonkey. All but one male officer positively accepted the request and voluntarily participated in the survey as well as invited other officers to the survey.

The 10 police cooperators invited 585 colleagues to complete the online-based survey, and two police cooperators among the 10 cooperating police officers invited an additional 599 colleagues to complete the paper-survey. The online-based survey was open from November, 2013 to January, 2014, and 229 out of 585 police officers responded to the request (response rate: 39.2 %).

During the same period, the paper-survey was distributed by the two police cooperators, and 359 out of 599 police officers returned the survey after completion (response rate: 59.9 %). As a result, a total of 1,184 police officers from the Korean National Police Agency, Korean National Police University, 10 police headquarters, and 105 police stations were invited to participate in the survey, and 588 police officers from 111 police agencies and stations answered with a response rate of marginally less than 50 % (49.7 %).

Among the returned responses, 76 out of 588 responses were excluded: 65 of them responded in a pattern, seven of them had too many missing values from 56 % to 98 %, and four of them responded that they did not answer the questionnaire honestly.[1] Even though less than 8 % of the Korean police force is female (about 7.5 % as of December 2012), encouragingly 68 female officers (11.6 %) took part in the survey.

Dependent variables

Stress perceptions were measured with the Brief Symptom Inventory (BSI), an abbreviated form of the Symptom Check List 90 [41].

(1) Somatization (SOM) It reflects psychological distress developing from a perception of physical disorder. Grievances generally concentrate on cardiac, digestive, and breathing difficulties along with other systems and require robust autonomic mediation. Pains, aches, and irritability localized inside the entire musculature are regular symptoms.

(2) Obsessive-compulsive (O-C) It emphasizes insights and behavior that are experienced as unremitting and overwhelming by the person and are of an undesired nature. Examples include repeatedly double-check behavior, trouble in making selections, and difficulty in concentration.

(3) Interpersonal sensitivity (I-S) It reveals inner thoughts of individual impotence and inferiority. Self-deprecation, emotions and thoughts of discomfort, and noticeable unease in the course of social communications are features of an individual with significant degrees of interpersonal sensitivity.

(4) Depression (DEP) It displays indicators of health-related depressive symptoms. Signs and symptoms of dysphoric affect and feelings, withdrawal of enthusiasm in daily life functions, decrease of crucial energy, and feelings or expressions of hopelessness are mirrored by this aspect.

(5) Anxiety (ANX) It includes a group of signs and symptoms typically related to extremely obvious tension. Uneasiness, nervousness, and strain are typical markers suggestive of anxiety and are presented in experiences that demonstrate uncontrolled panic and anxiety.

(6) Hostility (HOS) It is structured around three sets of aggressive conduct: thoughts, feelings, and behaviors. Common occurrences include those of frustration and annoyance, prompts to destroy items, habitual bickering, and unrestrainable outbursts of temper.

Independent variables: In order to reflect the work atmosphere at both individual perspective and organizational attribute levels, independent variables are composed of two parts: organizational core job dimensions and bureaucracy level index.

Core job characteristics: As laid out within the Job Diagnostic Survey (JDS), the personal perspectives of work atmosphere level assessment included five central aspects: skill variety, task identity, task significance, autonomy, and feedback. To avoid response pattern bias, one item in each aspect was coded inversely.

(1) Skill variety. The degree to which the task demands a number of various activities in undertaking the task, including the use of a variety of diverse skills and talents of the individual.

(2) Task identity. The degree to which a task demands completing a "whole" and recognizable portion of work, i.e., carrying out a task from beginning to end with an observable result.

(3) Task significance. The degree to which a task possesses a considerable influence on the lives of other people, despite whether or not those individuals are within the immediate organization or within the world at large.

(4) Autonomy. The degree to which the task offers considerable flexibility, self-reliance, and discretion for the person in arranging the work and in selecting the processes to be employed in doing it.

(5) Job feedback. The degree to which performing the work activities expected by the task offers people straight and obvious information concerning the effectiveness of their performances.

Bureaucracy level index The rating of the quantity of bureaucracy found in each organizational level is measured by the Bureaucracy Level Assessment developed by Zhao and his colleagues [33]. The Bureaucracy Level Index consists of nine indicators: excessive work load, inadequate equipment/technology, inadequate staff, inadequate specific policies/procedures, inadequate supervision/monitoring, poor working conditions, inadequate budget resources, too much red tape, and inadequate supervisor's direction/order. In addition, a bureaucracy level index used by the current study was created by summing up nine indicators and dividing it by the number of indicators, i.e., nine, which represented overall bureaucracy level in an organization.

Control variables

In accordance with an assessment in the extant research [11,25,33,42] and to assist reduce spurious interactions, controls for demographic characteristics of gender, work environment, marriage, educational attainment, position, years of service, and police-community relationships were employed.

Statistical analyses: In order to explore the correlations between the police organizational working environment (core job characteristics and the level of bureaucracy) and occupational stress while controlling demographic characteristics and community relationship, the correlation and hierarchical multiple regression analyses were utilized.

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[1]The survey questionnaire included an item of "Did you answer to this questionnaire honestly? (1) yes; (2) no," and excluded four respondents answered "no" to the question.

Results of Data Analyses

Descriptive statistics

The majority of the respondents were male (86.6 %), married (86.4 %), and had a college degree and above (58.3 %). Slightly over half of those responding reported working in urban areas (51.7 %). In addition, the majority of respondents positioned themselves as a non-supervisory officer (69.8 %), having between 11 to 15 years of experience in police work (34.1 %). The participants' ranking for the community index was 2.82, which slightly leans toward agreement with the four questions placed in Appendix I addressing views of citizens as collaborators in policing. The five measurements of the Job Diagnostic Survey demonstrate that police officers graded higher for task significance, task identity, and autonomy as opposed to feedback and skill variety **(Table 1).**

These discoveries indicate that police officers, in general, do not see the work environment in an unfavorable light. In reality, these mean scores show that the majority of police officers consider they are undertaking a meaningful job as a whole with a decent amount of autonomy to achieve the tasks given to them. Finally, the respondents' rating on the bureaucracy index was 3.09, which is slightly close to disagreement for the nine statements placed in Appendix I dealing with perceptions of police officers toward the bureaucracy level in their agencies. The Cronbach's alpha coefficients for the seven independent variables along with the six dependent variables are placed in **Appendix I.** The alpha coefficients vary from a minimum of .49 (task identity) to a maximum of .91 (depression).

Correlations

Table 2 revealed correlations between explanatory variables and six dimensions of distress symptom. Of six demographic characteristics, gender, work environment, marriage status, and position were partially correlated with six symptoms. Gender was negatively correlated to somatization, obsessive-compulsive, and interpersonal sensitivity, meaning that female officers were more vulnerable than male officers to those symptoms. Work environment was negatively correlated to anxiety, suggesting that officers working in a rural/suburban area demonstrated a higher level of anxiety than their counterparts working in urban settings. Marriage status was negatively correlated to obsessive-compulsive and hostility, meaning that married officers were less vulnerable than not married officers to those symptoms. Finally, position was negatively correlated to anxiety, meaning that officers in a supervisory position were more likely to be anxious than officers in non-supervisory positions.

The community relationship index (CI) was negatively correlated with all six symptoms, meaning that negative perceptions of police officers toward the citizens were correlated with a higher level of the six symptoms.[2] With regards to five core

[2]This finding is different from Zhao et al.'s American police study. In their regression analysis, Zhao et al. [33] found that the community-police relationship was significant only for hostility. This difference might come from the different level of homogeneity between Korean police and their American counterpart. Compared to American police in a melting pot society, Korean police are more homogeneous with the public they serve, ethnically and culturally. As a result, they were more likely to attach to communities, hence, more likely to be affected by relationships with communities.

job characteristics, skill variety and task significance were not correlated to any symptom in the current dataset. On the other hand, both task identity and autonomy were significantly and negatively correlated to all six distress symptoms, meaning that less task identity and autonomy were correlated with more distress symptoms. However, the correlation value was low: minimum -.129 at $p < .05$ level between task identity and somatization and maximum -.244 at $p < .01$ level between autonomy and interpersonal sensitivity. Finally, feedback was negatively correlated with somatization, obsessive-compulsive, and depression, meaning that less feedback was correlated with more distress symptom in those three dimensions.

The bureaucracy level index was positively correlated with all six symptoms, meaning that a higher degree of bureaucracy was correlated with higher levels of the six symptoms.

Correlations between the bureaucracy level index and six symptoms ranged from a minimum .368 at $p < .01$ level between bureaucracy index and anxiety to a maximum .397 at $p < .01$ level between the bureaucracy index and somatization.

Hierarchical multivariate analysis: multiple regression

Prediction for six symptoms: In order to obtain information regarding organizational stressors, six symptoms were employed as the dependent variables and the independent variables were categorized into three blocks for each symptom: (a) demographic characteristics and community relationship index as control variables, (b) five core job characteristics, and (c) bureaucracy level index. Next, to assess the ability of two organizational variables, hierarchical multivariate regression was utilized; demographic characteristics and community relationship index were entered at Step 1, five core job characteristics were entered at Step 2, and bureaucracy index was entered at Step 3 by the forced entry method. Preliminary examinations were undertaken to confirm no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The subsequent analysis depicts the details in all models for individual distress symptoms, which were discovered to considerably fit the data.

Predicting six symptoms with individual items

The results described in **Tables 3-5** provide the outcomes of hierarchical multivariate analyses examining the degree to which police officers' stress can be estimated by the explanatory and control variables. To report the relative contribution of each variable to the regression equations for the six measurements of stress, the standardized (beta) as well as unstandardized coefficients are recorded.

Model 1: Demographic characteristics and community index: As shown in **Table 3**, gender is correlated with all symptoms but hostility; work environment is associated only with anxiety; position is associated with obsessive-compulsive, interpersonal sensitivity, anxiety, and hostility; years of service is related with obsessive-compulsive and hostility. While demographic characteristics predict six symptoms partially, the community index shows a significant prediction power for all six symptoms. Ranging from .075 on the somatization to .127 on the obsessive-

Table 1 Descriptive statistics of explanatory and control variables.

Variables	M	SD	*n*	%
Gender				
Female = 0			66	13.4
Male = 1			426	86.6
Work environment				
Suburban/rural = 0			240	48.3
Urban = 1			257	51.7
Marriage				
Not married = 0			85	13.6
Married = 1			427	86.4
Educational attainment				
BA and + = 0			285	58.3
Less than BA = 1			208	41.7
Position				
Supervisor = 0			149	30.2
Officer = 1			344	69.8
Years of service	11 – 15[a]		167	34.1
Community index	2.82	.68		
Job characteristics				
Skill variety	4.29	1.07		
Task identity	4.83	1.26		
Task significance	5.04	1.07		
Autonomy	4.42	1.15		
Feedback	4.36	1.08		
Bureaucracy index	3.09	.08		

Note: a. Mode

compulsive, the R^2 statistics for the six regression models are all statistically significant.

Model 2: Core job characteristics: When five core job characteristics were added to Model 1, as shown in **Table 4**, the five core job characteristics explained an additional 3.4 %, 4.2 %, 4.1 %, 4.8 %, 3.8 %, and 2.8 % of the variance in somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, and hostility respectively, after controlling for demographic characteristics and community index. Among the five job characteristics, skill variety predicts only interpersonal sensitivity; task identity predicts obsessive-compulsive, interpersonal sensitivity, depression, anxiety, and hostility; task significance predicts only obsessive-compulsive; autonomy predicts all six symptoms. Ranging from .109 on the somatization to .169 on the obsessive-compulsive, the R^2 statistics for the six regression models are all statistically significant.

Model 3: Bureaucracy level index When the bureaucracy level index was added to Model 2 in the regression, as shown in **Table 5**, the bureaucracy index explained an additional 9.2 %, 6.6 %, 7.8 %, 7.4 %, 5.7 %, and 6.7 % of the variance in somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, and hostility respectively, after controlling for demographic characteristics, community index, and five job characteristics.

Bureaucracy index predicts all six symptoms. Ranging from .200 on the somatization to .238 on the interpersonal sensitivity, the R^2 statistics for the six regression models are all statistically significant.

Findings, Implications, Limitations, and Conclusion

Findings

The current study suggested two types of research queries: two explanatory questions and five exploratory questions. With regard to the relationship between five core job characteristics and six symptoms in the Model 2 (Explanatory RQ (1)), task significance and feedback were not correlated to six symptoms. However, task identity was negatively correlated with all but somatization and autonomy was also negatively correlated with all six distress symptoms, meaning that less task identity and autonomy were correlated with more distress symptoms. Skill variety was marginally correlated to interpersonal sensitivity **(Table 4)**. With regard to the relationship between the level of bureaucracy and six symptoms (Explanatory RQ (2)), the bureaucracy level index was positively correlated with all six symptoms, meaning that a higher degree of bureaucracy was correlated with a higher level of six symptoms **(Table 5)**. This finding supports the existing studies [26,33].

Table 2 Correlation of variables.

	1	2	3	4	5	6	7	8	9	10
1. Somatization	1									
2. O-C	.768**	1								
3. I-S	.712**	.789**	1							
4. Depression	.731**	.756**	.810**	1						
5. Anxiety	.805**	.783**	.765**	.761**	1					
6. Hostility	.754**	.771**	.726**	.734**	.790**	1				
7. Skill variety	-.048	-.031	-.036	-.052	-.031	-.034	1			
8. Task identity	-.129**	-.150**	-.143**	-.168**	-.152**	-.149**	.381**	1		
9. Task significance	-.037	.040	.009	-.034	.035	.034	.472**	.370**	1	
10. Autonomy	-.205**	-.234**	-.244**	-.234*	-.216**	-.193**	.396**	.476**	.323**	1
11. Job feedback	-.138**	-.095*	-.084	-.128**	-.068	-.081	.401**	.368**	.403**	.461**
12. Bureaucracy index	.397**	.380**	.394**	.388**	.330**	.367**	-.093*	-.119**	-.010	-.281**
13. Community relationships	-.263**	-.298**	-.277*	-.286**	-.267**	-.311**	.161**	.098*	-.021	.241**
14. Gender	-.091*	-.159**	-.180**	-.070	-.084	-.049	.070	.063	.027	.174**
15. Work environment	.005	.010	-.035	-.014	-.097*	.022	-.087	-.029	-.071	-.040
16. Marriage status	-.023	-.089*	-.062	-.015	-.063	-.120**	.052	.068	.020	.107*
17. Education level	-.051	-.052	-.061	-.045	-.026	-.047	.012	-.003	.013	.054
18. Position	-.049	-.077	-.078	-.054	-.129**	-.057	-.043	.022	-.131**	-.013
19. Length of service	.016	-.048	-.005	.055	.027	-.068	.087	.062	.140**	.105*
	11	12	13	14	15	16	17	18	19	
11. Job feedback	1									
12. Bureaucracy index	-.161**	1								
13. Community relationships	.168**	-.277**	1							
14. Gender	.099*	-.052	.060	1						
15. Work environment	-.056	.050	-.019	.001	1					
16. Marriage status	.083	.022	.004	.190**	-.041	1				
17. Education level	.117**	-.077	.051	.200**	-.016	.106*	1			
18. Position	-.054	-.093*	-.011	-.115*	-.078	.011	-.126**	1		
19. Length of service	.150**	-.082	-.027	.213**	-.034	.452**	.314**	-.526**	1	

Note: *p < .05 **p < .01 *** p < .001

Table 3 Regression Analyses with Control Variables (Model 1).

	SOM		O-C		I-S		DEP		ANX		HOS	
	b	β	b	β	b	β	b	β	b	β	b	β
Constant	1.318***		1.940***		1.816***		1.358***		1.556***		1.670***	
Demographic												
Gender	-.125	-.088†	-.206	-.149***	-.283	-.177***	-.118	-.078†	-.113	-.085†	-.015	-.010
Work environment	-.003	-.003	-.012	-.013	-.066	-.061	-.035	-.034	-.104	-.116**	.003	.003
Marriage	-.005	-.003	-.017	-.012	.015	.009	-.020	-.013	-.035	-.026	-.105	-.071
Education	-.012	-.012	.021	.022	-.011	-.010	-.031	-.030	.009	.010	.012	.012
Position	-.069	-.066	-.149	-.145**	-.145	-.123*	-.040	-.036	-.172	-.176***	-.128	-.118*
Years of service	-.010	-.026	-.043	-.116†	-.026	-.061	.018	.044	-.024	-.066	-.052	-.132*
Community Index	-.183	-.250***	-.209	-.293***	-.221	-.269***	-.217	-.281***	-.178	-.261***	-.231	-.305***
R²	.075***		.127***		.118***		.093***		.108***		.118***	

Note: †p < .10 *p < .05 **p < .01 *** p < .001

Each final model of the multivariate analysis demonstrated how much perceived features of organizational core job dimensions and the level of bureaucracy correlate with occupational stress (Exploratory RQ (1)). **Table 5** demonstrates that when the five core job characteristics were examined with a bureaucracy level index while controlling individual officer's demographic characteristics and community relationship, their impacts on six symptoms were marginal at best (Exploratory RQ (2)). Therefore, these findings provided an answer to the next question of "Are perceived features of organizational core job dimensions more highly correlated with occupational stress than the level of bureaucracy?" The answer is "no" in the current data set.

With regards to discrepancies of perceived features of

Table 4 Regression Analyses with Control Variables and Five Core Job Characteristics (Model 2).

	SOM		O-C		I-S		DEP		ANX		HOS	
	b	β	b	β	b	β	b	β	b	β	b	β
Constant	1.511***		1.934***		1.890***		1.579***		1.605***		1.685***	
Demographic												
Gender	-.098	-.069	-.177	-.127**	-.247	-.155***	-.082	-.055	-.086	-.065	.005	.004
Work environment	-.003	-.003	-.005	-.005	-.061	-.056	-.034	-.033	-.099	-.111**	.010	.010
Marriage	.004	.003	.000	.000	.032	.020	-.006	-.004	-.020	-.015	-.090	-.061
Education	-.010	-.010	.020	.021	-.015	-.014	-.034	-.033	.004	.005	.009	.009
Position	-.055	-.053	-.125	-.122*	-.123	-.104†	-.021	-.019	-.152	-.155**	-.107	-.099†
Years of service	-.002	-.006	-.040	-.107†	-.021	-.049	.026	.064	-.020	-.057	-.050	-.126*
Community Index	-.158	-.217***	-.181	-.254***	-.193	-.235***	-.187	-.242***	-.155	-.227***	-.211	-.279***
Job characteristics												
Skill variety	.037	.082	.034	.078	.044	.087†	.038	.080	.024	.056	.031	.066
Task identity	-.030	-.079	-.040	-.107*	-.038	-.090†	-.043	-.106*	-.043	-.120*	-.050	-.127*
Task significance	.002	.005	.045	.103*	.022	.043	.005	.010	.030	.072	.037	.079
Autonomy	-.053	-.125*	-.067	-.163**	-.091	-.190***	-.080	-.178***	-.062	-.156**	-.044	-.101†
Feedback	-.029	-.063	-.007	-.015	.012	.023	-.006	-.012	.011	.026	-.001	-.003
R^2	.109**		.169***		.159***		.140***		.146***		.146***	
R^2 change	.034**		.042***		.041***		.048***		.038***		.028*	
Note: †$p < .10$ *$p < .05$ **$p < .01$ *** $p < .001$												

organizational core job dimensions and the level of bureaucracy among different police working settings (Exploratory RQ (3)), in **Table 5** the current data demonstrated that police officers worked in suburban/rural areas revealed a higher level of anxiety and interpersonal sensitivity than officers in urban areas. Among the regressed explanatory variables with six symptoms, the bureaucracy level index was most influential in predicting all six dimensions of police occupational stress invariably (Exploratory RQ (4)). The next influential variable for somatization was community index; for obsessive-compulsive, community index followed by supervisory position; for interpersonal sensitivity, community index followed by gender; for depression, community index followed by task identity; for anxiety, community index followed by supervisory position; finally, for hostility, community relationship index followed by supervisory position.

These findings indicated that the community index is the second influential predictor for all six dimensions of police occupational stress following the bureaucracy index. On the other hand, three measurements of the five core job were statistically influential in predicting the distress symptom in the final model of the multivariate analysis: skill variety for interpersonal sensitivity; task identity for obsessive-compulsive, interpersonal sensitivity, depression, and anxiety; and autonomy for obsessive-compulsive, interpersonal sensitivity, and depression.

In the final model of the multivariate analysis, five demographic characteristics were statistically significant in predicting occupational stress (Exploratory RQ (5)). As shown in **Table 5**, female officers showed higher levels of the distress symptom in obsessive-compulsive and interpersonal sensitivity; officers working in suburban/rural areas displayed higher levels of interpersonal sensitivity and anxiety than counterparts in urban areas; not married officers showed marginally higher level of

hostility than married officers; officers in supervisory positions reported higher levels of obsessive-compulsive, interpersonal sensitivity, anxiety, and hostility; finally, officers who had longer service years demonstrated a lower level of hostility than officers who had shorter service years. Level of education did not show any statistically significant influence on police occupational stress. Previous studies showed that education was a main variable to predict police occupation stress [33]. As more than 80.5% of Korean police officers had an education level of some two-year college and above, education level might have lost its power to predict police occupational stress.

Implications

Findings revealed the multiple dynamic and static factors by which Korean police officers were stressed out. Dynamic stressors, which are changeable, include bureaucracy level within an organization, community-police relationship, and three job characteristics of skill variety, task identity, and autonomy. Static stressors, which are not changeable, include gender, length of service years, supervisory position, and location of police agency/station. Therefore, implications in this section focus on dynamic stressors. In addition, since the topic of the current study is locating organizational stressors, only implications for bureaucracy level, skill variety, task identity, and autonomy are suggested.

As the most influential predictor for police occupational stress, the bureaucracy level index provides an effective leverage to improve the organizational working environment to lessen police occupational stress. The bureaucracy level index can be broken down into nine items (Appendix I), and five items among the nine items had higher mean values than that of bureaucracy level index, 3.09: inadequate budget resources = 3.46; inadequate staff = 3.39; inadequate policies/procedures = 3.32; too much red tape

Table 5 Regression Analyses with Control Variables, Five Core Job Characteristics, and Bureaucracy Index (Model 3).

	SOM		O-C		I-S		DEP		ANX		HOS	
	b	β	b	β	b	β	b	β	b	β	b	β
Constant	.717***		1.274***		1.065***		.825***		1.022***		.982***	
Demographic												
Gender	-.101	-.071	-.179	-.129**	-.250	-.157***	-.085	-.056	-.088	-.067	.003	0.002
Work environment	-.016	-.017	-.016	-.017	-.075	-.069†	-.047	-.046	-.109	-.122***	-.001	-0.001
Marriage	-.039	-.028	-.036	-.026	-.013	-.008	-.047	-.031	-.051	-.038	-.128	-0.087†
Education	-.004	-.004	.025	.026	-.010	-.009	-.029	-.028	.009	.009	.014	0.014
Position	-.077	-.074	-.143	-.140**	-.146	-.124*	-.042	-.038	-.168	-.172***	-.127	-0.117*
Years of service	.008	.025	-.031	-.083	-.010	-.023	.036	.089	-.013	-.035	-.040	-0.102†
Community Index	-.111	-.152***	-.142	-.198***	-.143	-.174***	-.142	-.183***	-.120	-.175***	-.169	-.223***
Job characteristics												
Skill variety	.035	.078	.033	.074	.042	.083†	.036	.076	.022	.053	.051	.103
Task identity	-.029	-.075	-.039	-.103*	-.037	-.086†	-.041	-.102*	-.042	-.117*	-.033	-.080
Task significance	-.013	-.030	.032	.073	.005	.011	-.010	-.021	.019	.044	.014	.027
Autonomy	-.016	-.039	-.037	-.089†	-.053	-.110*	-.045	-.100†	-.035	-.088	-.020	-.046
Feedback	-.020	-.045	.000	.001	.021	.041	.003	.005	.017	.041	.006	.013
Bureaucracy Index	.179	.330***	.149	.281***	.187	.306***	.171	.297***	.132	.259***	.159	.282***
R^2	.200***		.235***		.238***		.214***		.203***		.213***	
R^2 change	.092***		.066***		.078***		.074***		.057***		.067***	

Note: †$p < .10$ *$p < .05$ **$p < .01$ *** $p < .001$

= 3.23; and poor working conditions = 3.13. Therefore, to change the bureaucratic environment more favorably to police officers, more discretion and responsibility for field officers as well as reallocations of available budget for inadequate staff and working conditions are required. Secondly, with regard to the three core job characteristics of skill variety, task identity, and autonomy, a dual-track approach based on a behavioral strategy can be suggested: work redesign and supervisory training [43].

In work redesign, police officers' flexibility, self-reliance, and discretion for arranging the work and selecting the processes should be increased. In addition, police tasks should be a whole and recognizable portion of work from beginning to end with an observable result which requires more than a simple skill. In order to secure the practicality of work redesign, the quality of supervision should be adjusted by supervisor training to support autonomous field officers who have more responsibility and discretion than before for expanded process of task.

Finally, to lessen police occupational stress and trauma from disrupting officers' health and appropriate enforcement of law, police departments are strongly recommended to provide law enforcement assistance programs to manage police occupational stress and trauma. Examples include the Trauma Counseling and Response Program of the New York City Police Department, Behavioral Sciences Services of the Los Angeles Police Department and San Francisco Police Department, and the Police Employee Assistance Program of the Las Vegas Metropolitan Police Department.[3]

Limitations

Survey design: Despite data screening to eliminate those respondents who provided answers in patterns and dishonest answers, the quality was still not completely assured. For example, the only direct way to screen out dishonest responses was to examine the last question at the end of the questionnaire which asked respondents if they answered the questionnaire honestly. Even though responses which demonstrated a pattern in the answers, for example, marking the same number for every question in each section, or a response which had too many missing values (more than 50%) were deleted, further screening designed to ensure the quality of responses should be added. In addition, triangulations such as interviews and/or field observations are recommended.

Questionnaire: The instruments used in this study measured an expressed attitude or behavior rather than the attitude or behavior itself. In addition, due to the limited length of the questionnaire, the instruments that were used to measure organizational stressors contained limited items in each dimensions. Thus, various measurements other than self-report survey and more questions should be added in order to increase measurement precision. Translation also might have played a critical role. In spite of the researchers' best efforts, translation of a survey measuring attitudes from English to Korean does not necessarily convey subtlety of meaning.[4]

Generalizability issue: Given the time and resources available as well as ensuring the anonymity of officers, the current study adopted a convenience sampling. Although the current data came from 111 police agencies and stations across the country, due to the convenience sampling, it might have a generalizability issue. Therefore, future study is expected to employ a random sampling to eliminate this issue.

Conclusion

Since police play a tremendous role to sustain our society

[3]For more details, see Pranzo PJ, Pranzo R (1999) Stress management for law enforcement. Gould Publications.

[4]The translation was reviewed by (1) a Korean professor who is good at English, (2) a Ph.D. student of the University of Cincinnati, and (3) five English-speaking officers at the Seoul Metropolitan Police Agency.

by maintaining social order, preventing crime, apprehending criminals, and providing a wide range of police services, police work performance should be efficient, effective, appropriate, and legitimate.

In order to attain effectiveness, efficiency, and legitimacy in employees' job performance, the behavioral school of management put its belief in the worker's desire for individual advancement and human relationships. As personal stress has been found to have a great impact on individual job performance, stressors have been intensively studied by various scientist groups including physicists, medical personnel, and social scientists during the last five decades.

In this vein, the current study has examined organizational stressors, the five core job characteristics of skill variety, task identity, task significance, autonomy, and feedback from the job as well as the level of bureaucracy, with controlling demographic characteristics and police-community relationships. According to the current study, the effort to loosen or eliminate occupational stress should start with changing the bureaucratic environment to allow more discretion and responsibility for field officers, as well as reallocating available budget for inadequate staff and working conditions. In addition, work redesign which allows field officers to carry out identifiable task with various skills and allows field officers to have more autonomy on their jobs should be followed. Future research is expected to explore a wider range of organizational stressors with a better representative sample using sophisticated statistical techniques which can locate a causal relationship between organizational stressors and occupational stress.

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