

The Causal Model Analysis of Job Demand-Control-Support, Job Stress, And Job Satisfaction: The Samples From Correctional Officers in Taiwan

Hsiang Te Liu¹ and Hung Hwei Liu²

¹Ming Chuan University, Taiwan and ²Aletheia University, Taiwan

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ABSTRACT

Job stress is considered to be an increasing problem of correctional officers for prison management. The occupation of correctional officers is a high-risk industry, and there is increasing attention that correctional officers reported to an increase in job stress and there was no much further information about this problem in Taiwan. This study adopted the model of Job Demand-Control-Support (JDCS) and job stress to predict job satisfaction in 281 correctional officers in Taiwan. We also employed a confirmatory factor analysis and structural equation model (SEM) to justify hypotheses being explored. The results show that social support positively influenced job satisfaction; monitoring, operational, organizational demand and job stress negatively affected their job satisfaction. Finally, this study also justified that a female correctional officer had higher job stress than male correctional officers. For government agencies, the supervisor needs to give more care and rewards to correctional officers and give them more work autonomy. Supervisors need to adopt transformational leadership and to avoid working too long for correctional officers. Executive supervisors should also pay attention to the work pressure of female employees and give them more social support.

Keywords: *correctional officers, job demands, job satisfaction, social support, job stress.*

INTRODUCTION

Correctional officers have been regarded as high-stress professionals (Lambert et al.2002; Rosine, 1992), partially because they often face hostility, disrespect, isolation, and confinement in their work environment (Cheek and Miller, 1983). Potential stress lies in the organization and works itself and the corrections system, making correctional works full of pressure (Finn, 1998; Moon and Maxwell, 2004).

Organizational stress mainly comes from the lack of staff, work overtime, shift rotation, role conflict, and role ambiguity (Dowden and Tellier, 2004; Lambert et al., 2006; Lambert et al., 2005; Swenson et al., 2008). Pressure from the work itself comes from inmate violence, handling inmates' demands, and issues between colleagues (Cullen et al., 1985; Finn, 1998; Lambert et al., 2007). Undesirable image and low wage are also one of the factors that generate the stress of the corrections system. According to Van Fleet's argument (1992), the media often portray correctional officers as the managers of foolish, bestial, meaningless failures of the society,

which also formed part of the stress of correctional officers.

In recent years, correctional officers in Taiwan have experienced high-level of occupational stress, including excessive housing, increasing housing of violent inmates, the gradual increase of inmates serving long sentences, an increase in the housing of senior inmates. In addition, militarized management of the correction authorities, shift rotation and negative perception from the public have also brought invisible psychological stress to the correctional officers. Furthermore, since the activation of the amendment of the Military Justice Act on August 15th, 2013, correction authorities are bound to imprison more on-duty servicemen committing crimes, which include cases of attention by the public. As a result, this has invisibly increased the management difficulty for correctional officers. Compared to regular civil service workers, correctional officers indeed experience a higher level of psychological stress, depression, and frustration.

In recent decades, some studies have confirmed that correctional officers face occupational stress (Dowden and Tellier, 2004). The reason that correction units are crowded is due to the increasing average sentence length, an increasing number of offenders with psychiatric symptoms, and an increasing number of violent offenders. These have led to an increase in the frequency of correctional officers beating criminals (Finn, 1998; Martinez, 1997). The job attributes of correctional officers have also generated occupational stress, including militarized management, shift-based working hours, the unfavorable impression of the public toward correction units, and conflicts between the demands of the correction management level and the demands of prisoners (see Moon and Maxwell, 2004). Correctional officers' occupational pressure comes from work that generates anxiety and depression, rather than from emergencies (Gehrke, 2004). Such an argument comes from police literature. Police officers' psychological stress mainly results from organizational stressors, rather than special work incidents encountered by police officers. These forms of occupational stress are extremely harmful to organizational management and outputs (Brough and Frame, 2004; Hart et al., 1993), and they decrease correctional officers' job satisfaction.

Occupational stress will increase the cost of correctional work. It will also make correctional officers uncomfortable and decrease their job satisfaction. For instance, per thousand-reported South Australian, correctional officers have experienced psychological pressure, second only to labor service workers, education personnel, and police officers (Dollard et al., 2001; Caulfield et al., 2004). Some experiences show that correctional officers face more psychological stress, damaged family relations (Finn, 1998; Lambert et al. 2004), and poor health than other professionals (Cheek and Miller, 1983). Due to correctional officers' absenteeism, resignations, work overtime, and early retirement compensation, the budget of correction units has increased (Childress et al., 1999). Since there are not many related studies on the job demands, job control and job stress of correctional officers and the cause and effect analysis of social support and job satisfaction in Taiwan, it is particularly worth exploring.

The Job Demands-Control-Support Model

Job control is defined as the decision latitude of work decision-making, which includes decision

authority – individuals' ability to make decisions related to work. Second, skill discretion could determine the level of skill usage. According to the Job Demands-Control Model, when there are too many job demands, job control will reduce.

The concept of employee job control has already been found in organizational behavior theory and studies early (Ganster and Fusilier, 1989; NOHSC, 2003). It is also the core concept of participation in decision-making (Locke and Schweiger, 1979; Spector, 1986). In addition, it is a part of job design literature (Hackman and Oldham, 1976). Recent three decades, job control has been involved in the discussion of occupational stress and job satisfaction, including Karasek and his colleagues (Karasek, 1979; Karasek et al., 1981).

Karasek himself points out that job demands are not necessarily harmful, but when job control is low, employees are likely to have cardiovascular diseases (Karasek, 1979). When both job demands and job control are high, Karasek considers this as active. Job demand is seen as a challenge, not a psychological and physical stressor. From this perspective, when occupational decision latitude and control at workplaces are strengthened while job demand remains unchanged, productivity improves.

The studies over the past two to three decades have confirmed that occupational stress is significantly influenced by Job Demands-Control model (Karasek, 1979). Some scholars even modified it into Job-Demands-Control-Support model (Johnson and Hall, 1988). These theoretical models portray the relationship between work environment and psychological stress symptoms. Job Demands-Control model advocates that workers' psychological stress comes from job demands and control. When workers have job demands but believe that they have control over their work, they are expected to have improvement in their job performance and job satisfaction. However, when they have low job control, adverse effects will be generated, including psychological stress and reduced job performance and job satisfaction (Mansell and Brough, 2005).

Job Demands-Control-Support model adds a new construct, which is social support. Social support is seen as a way to influence the relationship between job demands, control and stress (Johnson and Hall, 1988). Job Demands-Control-Support model advocates that when job demand is high, and job control and social

support is low, and psychological stress will be generated. Dollard and Winefield (1998) used Australian correctional officers as samples, and their study shows that employees with high level of job demand awareness have a higher probability of experiencing high-level psychological stress, job dissatisfaction, and health warning. Such a situation will become worse, especially when the level of job demand is high, coupling with a low level of job control and social support. Social supports include supervisor support, support from colleagues, and support from outside of work including family and friends. Caplan et al. (1975) and Brough & Pears (2004) also mention that supports from supervisors and colleagues are closely connected to job satisfaction and psychological health (Caplan et al., 1975; Brough et al., 2005; Brough, 2004; Eisenberger et al., 2002).

Job Demands-Control-Support model has already been widely explored (Mansell and Brough, 2005; Van der Doef and Maes, 1999). Moreover, job control is divided into the control of time and method. In terms of the interactive effects of social supports and job demands, different studies have different results. Van der Doef and Maes (1999) found that there are only 50% of the studies investigating the moderating effect of job control that is also the reason why this study does not include moderating effects of job demand and social support. The insignificance of interactive effects might be due to poor measurement, low statistical power, and without the consideration of non-linear relationship (Mansell and Brough, 2005). Therefore, Job Demands model and Job Demands-Control-Support model are still important theories for the investigation of occupational stress and job satisfaction (De Lange et al., 2003, Holman and Wall, 2002).

Literature Review and Hypothesis Development

Job control is considered as a kind of feeling of ability that can influence one's work environment perception. At the same time, it can make one get awarded, avoiding punishments (Ganster and Fusilier, 1989). Many studies on occupational health and performance hypothesize that as long as employees have the feelings of job control, their psychological health, job satisfaction, and job performance will be improved (Hackman and Lawler, 1971). When a certain level of feeling of job control is given to employees, they will learn how to control jobs through trial and error and achieve occupational goals and gain values, including increased job performance and job satisfaction. Same goes for correctional officer

management if only job demands are given; to some extent, it will only generate negative influence and occupational stress on correctional officers. If correctional officers have a certain degree of job control, through trial and error, they will achieve job demands, improving job satisfaction awareness.

H1: Job control positively influences job satisfaction

When psychological demands increase, individuals will be awakened on a psychological level and begin to confront challenges. These psychological responses will make employees face their challenges. If employees are restricted to responding to these challenges, which means giving low decision latitude of decision-making, or when job demands surpass job control, the adverse effects of job demands will continue to exist. The inability of choosing the most appropriate activity will later generate occupational stress and physical illnesses.

Based on the above model, when job demand is high and bureaucratic regulations are rigid- limiting the development and response of employees, high-level stress will be generated (Karasek and Theorell, 1990). Low-level stress exists when job demand is low, and job control is high. Mid-level stress exists when job demand is low, and job control is low, which is considered as passive jobs. On the other hand, high-level job demand and high-level job control are active jobs. Therefore, when correctional officers experience high-level job demand and operate under a rigid system of organizations that limits the development and response of correctional officers, stress will be generated, and job satisfaction awareness is lowered.

H2: Job demand negatively influences job satisfaction

The awareness of social support directly influences job satisfaction level (Kirmeyer and Lin, 1987). When employees are aware of supervisors' care, and when socioemotional support is provided, employees will have positive feedback on their environments, directly enhancing job satisfaction perception (Kopelman et al., 1990; Brough, 2005). With regard to correctional officers, social support awareness will also enhance their job satisfaction perception.

Etzion defines social support as an informal social network that provides individual emotional caring, empathy, practical assistance, and informal support and appraisal (Etzion, 1984; Nelson and Quick, 1991). Social support at workplaces focuses on problem-

solving, information sharing, and access to multiple recommendations by colleagues and supervisors. Johnson and Hall lead social support to the Job Demand Control model of Karasek (1979), which considers that when job demand is high, and job control is low if there is a high level of social support, employees' job pressure will not increase. The role of social support as a stress reliever has already been confirmed by many researchers (Carayon, 1995).

A majority of studies about social support have confirmed that social support has a positive impact on health status (Beehr and McGrath, 1992; Cohen and Wills, 1985; Vaux, 1988). Perhaps there is not a consistent definition of social support in the literature on occupational stress. However, many people have gradually considered that social support might be coming from job and non-job related levels, including emotional support and instrumental support. The latter involves providing help in problem-solving (Beehr and McGrath, 1992; Caplan et al., 1975; Kaufmann and Beehr, 1986; McIntosh, 1991).

Many studies on social support are based on the positive impact of social support on health (Shumaker, 1984). Two main models explain the relationship above, including the direct model and indirect model. The direct model that involves social support posing an impact on health includes social support that responds to the basic affiliated demand of humans (Fiske 1998). Social support is beneficial to individuals' immune systems and improves their job satisfaction (Argyle, 1992). The indirect model of social support, on the other hand, focuses on stress literature (Beehr and O'Hara, 1987). It believes that social support is a conditioning variable that influences the relationship between stressors, health and job satisfaction.

Many researchers have argued about the direct model and the indirect model of social support. Some of its inconsistency lies in the methodological differences (Cohen and Wills, 1985). In a literary analysis of occupational stress, it has been confirmed that the direct and indirect models of social support exist (Viswesvaran et al., 1999). This study also believes that the social support perception of correctional officers positively influences their job satisfaction perception.

H3: Social support positively influences job satisfaction

According to Lazarus (1999) argument, in the construct of occupational stress, excessive demands and

the lack of appropriate resources could result in negative effects of employees' wellbeing. Health problems resulting from stress experienced by correctional officers include job-related, psychological and emotional, physical, and maladaptive behaviors. With regard to work-related outputs, occupational stress negatively influences job satisfaction of correctional officers, organizational commitment, and workplace safety (Finn, 2000; Lambert, 2004; Lambert et al., 2007; Lambert et al., 2007; Quick et al., 1998); however, it positively influences absenteeism, resignations (Finn, 1998), and burnout (Lambert and Hogan, 2010). On a psychological and emotional level, work pressure makes correctional officers nervous, tired, and irritated, excited and depressed (Lambert et al., 2006; Obidoa et al., 2011; Mansell et al., 2006, Miller, 2003). According to the research literature related to correctional officers from 1977 to 2007, Morgan discovered that heart diseases, poor blood circulation, high blood pressure, teeth grinding, head, neck and back pain are commonly seen among correctional and police officers (Morgan, 2009). The probability of having these health problems is higher among them than workers in other industries. Many studies have confirmed that occupational stress is connected to symptoms such as depression, low job satisfaction level, and burnout (Landsbergis, 1988; De Jonge, 1996, Landsbergis et al., 2002). It is also associated with blood pressure (Fox, 1993). The same goes for correctional officers.

H4: occupational stress negatively influences job satisfaction

According to studies, occupations with high-level stress include police officers and correctional officers. Women have a different perception of stress in this male-dominated industry (Brown and Fielding, 1993). For instance, female correctional officers have lower burnout and turnover ratio. However, they have a relatively higher rate of absenteeism (Lambert et al., 2005). Savicki et al. (2003) also found that female correctional officers experience more harassment, which is then converted to different levels of burnout and stress. Savicki et al. (2003) even point out that female correctional officers have to develop a related strategy to cope with their work environment. Overall, female correctional officers still have higher occupational stress than male correctional officers.

H5: Gender (female) positively affects occupational stress

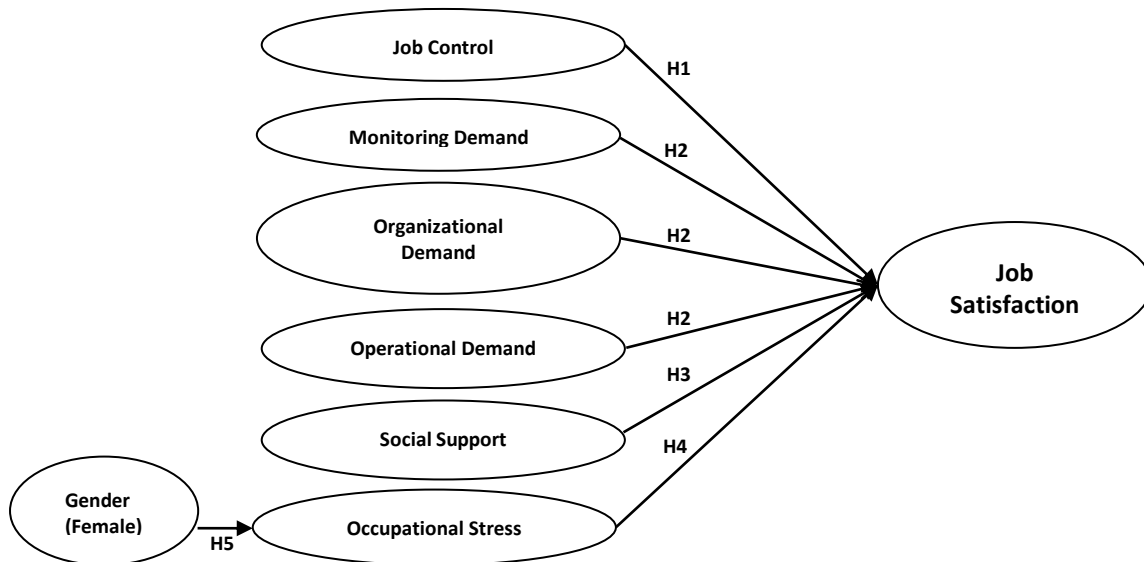


Figure 1: Conceptual framework

METHODOLOGY

Sample, Tools, and Procedure

This study collected 281 valid correctional officers who worked at the public correction organization in Taiwan with the method of simple random sampling. Simple random sampling was known as pure random sampling. The characteristic is that each sample unit is drawn at the same probability, each unit of the sample is completely independent, and there is no certain correlation and exclusion between each other. A valid sample is a sample in which all variables have valid values. We examined all samples in this study and made sure that all answers were complete. Respondents were asked to provide information about their attitudes and perception toward job satisfaction (JS), job control (JC), social support (SS), occupational stress (OS), monitoring demand (MD), organizational demand (OD), operational demand (ODE). Respondents were assured of full confidentiality.

The profile of samples showed that 71.2% were males, 62.6% obtained bachelor's degrees and master's degrees, and 73.2% worked in correctional institutions for more than three years. The demographic characteristics of the sample were very similar to those of the total correctional officers in correctional organizations.

Measures

Dependent Variables

Job satisfaction was measured by revising these

items developed by Warr et al. (1979) and Warr (1990). Subjects responded to these questions on a 7-point scale, ranging from 1 for “strongly disagree” to 7 for “strongly agree.” Internal reliability Cronbach’s α of the scale was 0.89.

Independent Variables

Job control (JC) and job demand (JD) was designed to measure correctional officers' perception of job control and job demand in their jobs. This study revised the scale developed by Williams (2004), Jackson et al. (1993), Wall et al., (1995) and Mansell & Brough (2005). Subjects responded to all the independent variables on a 7-point scale, ranging from 1 for "strongly disagree" to 7 for "strongly agree." Job demand was divided into three sub-constructs including monitoring demand (MD), operational demand (OD) and organizational demand (ODE). JC, MD, OD and ODE's scale internal reliability were 0.88, 0.89, 0.86 and 0.88. Social support (SS) was measured using ten items adapted from the scale developed by Caplan et al. (1975). Subjects responded to all the independent variables on a 7-point scale, ranging from 1 for "strongly disagree" to 7 for "strongly agree," scale internal reliability was .94. Occupational stress (OS) was measured by revising these items developed by De Bruin and Taylor (2006), Subjects responded to these questions on a 5-point scale, ranging from 1 for "strongly disagree" to 5 for "strongly agree." Internal reliability Cronbach's α of the scale was 0.82. Gender was recorded to be a dummy variable named ‘female.’

Controlling for Common Method Variance (CMV)

CMV (common method variance) is defined as “variance that is attributable to the measurement method rather than to the constructs the measures represent” (Podsakoff et al., 2003). CMV creates a false internal consistency, that is, an apparent correlation among variables generated by their common source. This study had addressed the problem of CMV by many methods.

First, respondents were assured of the anonymity and confidentiality in this study, that there were no right or wrong answers, and that they were required to answer as honestly as possible. Secondly, this study simultaneously adopted 5 and 7 point Likert scale in our measures which was considered to be able to diminish method biases (Podsakoff et al., 2003). This method should reduce method biases caused by commonalities in scale endpoints and anchor effects. Besides, this study also counterbalanced the order of questions relating to different scales and constructs makes CMV less likely, as the respondent cannot then easily combine related items to cognitively “create” the correlation needed to produce a CMV-biased pattern of responses (Murray et al., 2005).

Thirdly, this study also used Harman's single-factor test to assert that our research is not pervasively affected by CMV. A Harman's single factor tests to see whether the majority of the variance can be explained by a single factor. If CMV is an issue, a single factor will account for the majority of the variance in the model. This method loads all items from each of the constructs into an exploratory factor analysis to see whether one single factor does emerge or whether one general factor does account for a majority of the covariance between the measures; if not, the claim is that CMV is not a pervasive issue. The single factor just accounted for only 31.04% covariance between the measures, and it justified CMV was not a pervasive issue in this study.

Fourthly, this study uses a common latent factor (CLF) to capture the common variance among all observed variables in the research model. We add a latent factor to the CFA model, and then connect it to all observed items in the model. Then compare the standardized regression weights from this model to the standardized regression weights of a model without the CLF. If the standardized regression weights differences are greater than 0.20, then we need to retain the CLF as you either impute composites from factor scores. The

differences are all smaller than 0.20, further confirmed that CMV was not a pervasive issue in this study.

Statistical Analysis

Validity and Reliability Analysis

Confirmatory factor analysis (CFA) was utilized to assure the convergent validity of the latent factor. This procedure let the coherent items to be highly convergent in the same latent factor (Joreskog and Sobom, 1993). This study measured seven latent factors including job satisfaction (JS), job control (JC), social support (SS), occupational stress (OS), monitoring demand (MD), organizational demand (OD) and operational demand (ODE). Gender as a dummy variable, it was not included in validity and reliability analysis.

Notably, items' absolute loading values λ constructed by the study were significant >0.50 , above the level recommended by Hair et al. (1998), Bagozzi et al. (1991) and Fornell & Larcker (1981) which indicated satisfactory convergent validity. Additionally, this study also examined the correlation coefficient matrix. Messick (1998) had mentioned that high correlation coefficients mean a lack of discriminant validity. In general, the correlation coefficient >0.7 was considered to be highly correlated, and all construct coefficients' absolute values in this study were <0.67 , indicating that constructs had satisfactory discriminant validity. On the other side, all those constructs including JS, JC, SS, OS, MD, OD and ODE were revised from famous scales which were used by previous experts and researchers many times. These experts had evaluated those constructs' items carefully to measure their defined content (Polit and Beck, 2006), that also justified constructs' content validity in this study.

The average variance extracted (AVE)¹ and composite reliability (CR)² were calculated in this study. Constructs' AVE ranged from 0.57-0.78 (>0.5) in this study, above the level recommended by Fornell & Larcker (1981). CR ranged from 0.88-0.95 (>0.7), above the level recommended by Hair et al. (1998). The AVE and CR value reconfirmed constructs' convergent validity and reliability. Finally, all constructs' square root of AVE were greater than inter-construct correlations, ranged from 0.75 to 0.88 and reconfirmed satisfactory discriminant validity (Bagozzi et al., 1991).

¹ AVE = $(\sum \lambda)^2 / ((\sum \lambda)^2 + \sum \epsilon_j)$

² CR = $\sum \lambda^2 / (\sum \lambda^2 + \sum \epsilon_j)$

Table 1. Construct loading and model fits

Constructs & Items		Lambda Loading	AVE	CR	Construct & Items		Lambda Loading	AVE	CR
Job Satisfaction					Social Support				
JS 1	0.76	0.57	0.91	SS 1	0.76	0.67	0.95		
JS 2	0.79			SS 2	0.71				
JS 3	0.69			SS 3	0.84				
JS 4	0.78			SS 4	0.84				
JS 5	0.76			SS 5	0.80				
JS 6	0.78			SS 6	0.88				
JS 7	0.72			SS 7	0.90				
JS 8	0.74			SS 8	0.91				
			SS 9	0.78					
			SS 10	0.76					
Job Control		Occupational stress							
JC 1	0.71	0.67	0.91	OS 1	0.68	0.59	0.88		
JC 2	0.79			OS 2	0.86				
JC 3	0.90			OS 3	0.80				
JC 4	0.88			OS 4	0.71				
JC 5	0.81			OS 5	0.76				
Monitoring Demand		Organizational Demand							
MD 1	0.90	0.73	0.91	OD 1	0.88	0.74	0.92		
MD 2	0.88			OD 2	0.89				
MD 3	0.84			OD 3	0.87				
MD 4	0.78			OD 4	0.80				
Operational Demand									
ODE 1	0.90	0.78	0.91						
ODE 2	0.83								
ODE 3	0.90								

Descriptive Statistics and Inter-Correlations

Table 2 presents the square root of AVE and inter-correlations among study constructs. Two significant findings are notable. First, square roots of AVE were all greater than inter-construct correlations. Thus, we can assure that this study’s constructs all had satisfactory discriminant validity. Secondly, all correlations among research constructs were in predicted directions.

According to the inter-correlation table, we could observe constructs' initial relationships. The JS was positively correlated with JC and SS and negatively correlated with OD, ODE, and OS. In summary, the

correlations among independent variables and dependent variables were moderately low; however, none exceeded 0.67(<0.7), indicating the absence of regression multi-collinear problem in this study (Messick, 1998).

On the other side, discriminant validity was also confirmed where Maximum Shared Variance (MSV) and the Average Shared Squared Variance (ASV) were both lower than the Average Variance Extracted (AVE) for all the constructs (Hair et al., 2010). Table 2 also shows that all ASV and MSV were all lower than the Average Variance Extracted (AVE) for all the constructs in this study.

Table 2. Square root of AVE and inter-correlations

	JC	MD	OD	ODE	OS	JS	SS	AVE	ASV	MSV
JC	(0.82)							0.67	0.04	0.09
MD	-0.07	(0.85)						0.73	0.04	0.19
OD	-0.29	0.43	(0.88)					0.78	0.08	0.19
ODE	-0.24	0.04	0.30	(0.86)				0.74	0.06	0.13
OS	-0.17	0.15	0.17	0.36	(0.77)			0.59	0.04	0.13
JS	0.38	0.06	-0.22	-0.50	-0.40	(0.75)		0.57	0.12	0.25
SS	0.46	0.07	-0.15	-0.46	-0.27	0.67	(0.82)	0.67	0.10	0.21

Note : The figures in the parentheses indicate the square root of AVE of the study constructs.

MSV=Maximum Share Variance, ASV= Average Share Variance.

Hypotheses Testing

This study used SEM (structural equation model) to test those hypotheses we explored. Table 3 shows the result of path coefficients, STDEV, and T-Values (absolute value). Table 3 shows that job demand positively affected job satisfaction (JS),

where the causal coefficient =0.05, p>0.10, and H1 was rejected. This result does not accord with what Hackman & Lawler (1971) ever found. They justified that correctional officers perceive a certain level of job control; they should learn how to control jobs through trial and error and achieve correctional organization

goals, finally improve their job satisfaction. But those arguments are not verified in this study. Maybe one of the reason is that militarized management requirement from the correction authorities does not delegate much job control to correctional officers.

Job demand was divided into three sub-constructs in this study, and they are monitoring demand, operational demand, and organizational demand. The means of monitoring demand, operational demand, and organizational demand are 5.87, 5.64, and 4.50, all larger than job control's 3.11. Correctional officers' perception of job control is lower than their perception of job demand perception in Taiwan, which will further decrease correctional officers' job satisfaction. The causal coefficient between monitoring demand and job satisfaction was -0.11, $p < 0.10$; the causal coefficient between operational demand and JS was -0.10, $p < 0.05$; the causal coefficient between organizational demand and JS was -0.17, $p < 0.01$, and H2 was fully accepted. This result accords with what Karasek and Theorell (1990) ever found: when job demands increase, correctional officers will be awakened on a psychological level and begin to confront challenges. If correctional officers were not given high decision latitude of decision-making, the negative effects of job demands would continue to exist. When correctional officers experience high-level job demand and operate under a rigid system of organizations that limits the development and response of correctional officers, their job satisfaction will decrease.

The means of social support is 4.37, which is also larger than job control's 3.11 in this study. The causal coefficient between social support and JS was 0.48, $p < 0.01$, and H4 was accepted. As what

Kirmeyer and Lin (1987) and Kopelman et al. (1990) ever found, correctional officers perceive supervisors' care, and when socioemotional support is provided, they will enhance correctional officers' job satisfaction. Social support provides correctional officers emotional caring, empathy, practical assistance, informal support, and appraisal, which further increase correctional officers' job satisfaction.

The causal coefficient between occupational stress and JS was -0.19, $p < 0.01$, and H4 was accepted. As what Finn (2000), Lambert (2004) and Lambert et al. (2007) ever found occupational stress negatively influences job satisfaction of correctional officers. From a psychological and emotional perspective, occupational stress makes correctional officers nervous, tired, and irritated, excited and depressed (Lambert et al. 2006, Obidoa et al., 2011). Morgan (2009) discovered that correctional officers always had the problem of heart diseases, poor blood circulation, high blood pressure, teeth grinding which were connected to symptoms of low job satisfaction (Landsbergis, 1988; De Jonge et al., 1996).

The causal coefficient between gender (female) and OS was 0.14, $p < 0.05$, and H5 was accepted. As Lambert, Edwards, Camp, & Saylor ever found Lambert et al. (2005), female correctional officers have lower burnout and turnover ratio. However, they have a relatively higher rate of absenteeism. Savicki et al. (2003) also found that female correctional officers experience more harassment, which is then converted to different levels of burnout and stress. In this male-dominated and high-level stress industry, female correctional was justified having higher occupational stress than male.

Table 3. Path Coefficients (Coefficients, STDEV, T-Values)

Causal Path	Coefficients	Standard Deviation	T Statistics (Absolute Value)
Job Control -> Job Satisfaction	0.06	0.05	1.14
Monitoring Demand -> Job Satisfaction	-0.11*	0.06	1.73
Operational Demand -> Job Satisfaction	-0.09**	0.04	2.02
Organizational Demand -> Job Satisfaction	-0.17***	0.06	3.00
Social Support -> Job Satisfaction	0.49***	0.06	8.25
Occupational stress -> Job Satisfaction	-0.20***	0.06	3.42
Female -> Occupational stress	0.14**	0.06	2.43

Note: *, **, *** represent statistically significant at $p < 0.10$, $p < 0.05$ and $p < 0.01$, respectively.

Direct and Indirect Effect

This study used the Mediation Procedure macro to compute the direct and indirect effect of gender on job satisfaction. The procedures and recommendations

outlined by Hayes (2013) to test direct and indirect effects were used to examine the mediation models in this study. The gender dummy variable: female was positively influenced occupational stress; the causal

coefficient was 1.76, $p=0.017<0.05$. When job satisfaction as an outcome variable, occupational stress's causal coefficient was $-0.484(p=0.000)$ and the female's causal coefficient was $-1.726(p=0.058<0.10)$. Total effect of gender(female) on job satisfaction was $-2.578, p=0.008<0.01$, direct effect of female on job satisfaction was $-1.726, p=0.058<0.10$, indirect effect of female on job satisfaction was -0.852 , confidence interval ranged from -1.7249 to $-.2029$. Confidence intervals that do not include the value of zero are

considered statistically significant at $p < .05$. The normal theory tests for indirect effect was that Z value was $-2.233(p=.025)$, which made sure that occupational stress partially mediates the relationship between gender and job satisfaction. Correctional officers' occupational stress mediates the relationship between gender and job satisfaction. The table of summary of hypotheses testing results in this study is presented below.

Table 4. Summary of hypotheses testing results

Hypotheses	Model Path	Path Coefficient	Accept or Reject
H1	JC -> JS	0.06	Reject
H2	MD -> JS	-0.11*	Accept
H3	OD -> JS	-0.09**	Accept
H3	ODE -> JS	-0.17***	Accept
H3	SS -> JS	0.49***	Accept
H4	OS -> JS	-0.20***	Accept
H5	Female -> OS	0.14**	Accept

Note: *, **, *** represent statistically significant at $p<0.10, p<0.05$ and $p<0.01$, respectively.

DISCUSSION AND CONCLUSION

This study justified that correctional officers' job demand negatively influence their job satisfaction, sub-constructs of job demand including monitoring demand, operational demand and organizational demand all negatively affect job satisfaction. Correctional officers always face a high level of job demand (including monitoring, operational and organizational demand), if they are not given high decision latitude of decision-making, their job satisfaction will decrease. Karasek (1979) had pointed out that job demands are not necessarily harmful, but when job control is low. This study made sure that mean of job control was less than monitoring, operational and organizational demand. Job demand indeed negatively influences job satisfaction. Job Demands-Control-Support model had verified that when job demand is high, and job control and social support is low, psychological stress will be generated, then reduced correctional officers' job satisfaction. Supervisor at correctional organization needs to provide a lot of social support and job control to correctional officers, which may increase their perception of job satisfaction.

The relationship between correctional officers' social support and job satisfaction was confirmed in this

study. Correctional officers' job satisfaction would increase while they perceive supervisors' care and socioemotional support was provided. Providing correctional officers with emotional caring, empathy, practical assistance, informal support and appraisal were considered to effectively increase correctional officers' job satisfaction perception.

The negative relationship between occupational stress and job satisfaction was confirmed in this study. Occupational stress makes correctional officers nervous, tired, irritated, excited, and depressed. Correctional officers have always been considered to be a high-stress professional, and they face hostility, disrespect, isolation, and confinement in their work environment. Compare to general public servants, and correctional officers indeed perceive a higher level of psychological stress, depression, and frustration. Especially the development of militarized management, shift-based working hours, and unfavorable impression of the public toward correction units in correction organization all increase correctional officers' occupational stress, then further decrease their job satisfaction. This problem would be retarded when supervisors give a lot of job control and social support to correctional officers.

Female correctional officers were confirmed having higher occupational stress than male officers in this study. In the male-dominated and high-level stress industry, female indeed face more harassment, burnout, and stress. Although female correctional officers had developed a related strategy to cope with their work environment, they still need to face the problem of hostility, disrespect, isolation, and confinement as male correctional officers do. All the job environment in correction organization still increase their occupational stress.

This study also used the mediation procedure to compute the direct and indirect effect of gender on job satisfaction and finally made sure that correctional officers' occupational stress partially mediates the relationship between gender and job satisfaction. Female correctional officers feel more occupational stress than male correctional officers do, then the occupational stress would further decrease their job satisfaction. Supervisor at correctional organization needs to take care and give more social support to female correctional officers.

On the methodology, this study had successfully controlled the Common Method Variance (CMV) which was seldom done well in the research field of public administration in Taiwan. This study also used confirmatory factor analysis (CFA) to check scale validity and reliability which was considered one of the precise ways in research of management and organization science. Finally, we used SEM (structural equation model) to test those hypotheses explored which were also considered an appropriate method to analyze causal relationships.

POLICY RECOMMENDATION

For government agencies, reducing the monitoring, operational, and organizational requirements of correctional officers, and giving them more work autonomy, can improve correctional officers' job satisfaction. In the past, the personnel management of the correction unit always started with the purpose of monitoring, which inevitably caused the correctional officer's work pressure. In addition, if the supervisor gives more care and rewards to the subordinates, it can also improve correctional officers' job satisfaction.

The work of the correction unit has always been considered as a high-pressure position, and correctional

officers are faced with significant work pressure, which reduces their job satisfaction perception. Correction units and supervisors must be aware of the work pressure of the subordinates. The working environment is different from that of ordinary public servants and must be given more attention and care. For militarized management, it should be supplemented by transformational leadership. Avoid working too long, which results in increased work pressure.

For a female correctional officer, the workplace hostility, isolation, and disrespect of corrective work have increased their work pressure. Executive supervisors should pay attention to the work pressure of female employees, give more social support, which can reduce female correctional officer's work pressure, and minimize their family and work conflicts which were caused by long working time.

REFERENCES

- Argyle, M. (1992). Benefits produced by supportive social relationships, In H. O. F. Veiel & U. Baumann (Eds.), *The meaning and measurement of social support* (pp. 13–32), Hemisphere, New York.
- Bagozzi, R.P., Yi, Y., and Phillips, L.W. (1991). *Assessing construct validity in organizational research*, Administrative Science Quarterly, Vol.36, No.3, 421-458.
- Beehr, T. A., & O'Hara, K. (1987). Methodological designs for the evaluation of occupational stress interventions, In S. V. Kasl & C. L. Cooper (Eds.), *Stress and health: Issues in research methodology* (pp. 79–112), John Wiley & Sons, Chichester.
- Beehr, T.A. & McGrath, J.E. (1992). *Social support, occupational stress, and anxiety*, *Anxiety, Stress, and Coping*, Vol.5, 7-19.
- Brough, P. (2004). *Comparing the influence of traumatic and organizational stressors upon the psychological health of police, fire, and ambulance officers*, International Journal of Stress Management, Vol.11, 227-244.
- Brough, P. (2005). *Workplace violence experienced by paramedics: Relationships with social support, job satisfaction, and psychological strain*, Australasian Journal of Disaster and Trauma Studies, Vol.2, 1–12.
- Brough, P., & Frame, R. (2004). *Predicting police job satisfaction, work well-being and turnover intentions: The role of social support and police organizational variables*, New Zealand Journal of Psychology, Vol.33, No.1, 8-18.
- Brough, P., & Pears, J (2004). *Evaluating the influence of the type of social support on job satisfaction and work-related psychological well-being*, International Journal of

Organisational Behaviour, Vol.8, No.2, 472-485.

No.3, 243-264.

- Brough, P., O'Driscoll, M., & Kalliath, T. (2005). *The ability of 'family friendly' organizational resources to predict work-family conflict and job and family satisfaction*, Stress and Health, Vol.21, 223-234.
- Brown, J.M., & Fielding, J. (1993). *Qualitative differences in men and women police officers' experience of occupational stress*, Work and Stress, Vol.7, No.4, 327-340.
- Caplan, R.D., Cobb, S., French, J.R.P., Harrison, R., & Pinneau, S.R. (1975). *Job demands and worker health: Main effects and occupational differences*, US Department of Health, Education and Welfare: Washington DC.
- Carayon, P. (1995). *Chronic effect of job control, supervisor, social support, and work pressure on office worker stress*, in SL Sauter & LR Murphy (eds.), *Organizational Risk Factors for Job Stress* (pp.357-370), American Psychological Association, Washington, DC.
- Caulfield, N., Chang, D., Dollard, M. F., & Elshaug, C. (2004). *A review of occupational stress interventions in Australia*, International Journal of Stress Management, Vol.11, 149-166.
- Cheek, F. E., & Miller, M. (1983). *The experience of stress for correction officers: A double-blind theory of correctional stress*, Journal of Criminal Justice, Vol.11, 105-120.
- Childress, R., Talucci, V., & Wood, J. (1999). *Fighting the enemy within: Helping officers deal with stress*, Corrections Today, Vol.61, 70-72.
- Cohen, F. & Wills, A.T. (1985). *Stress, social support, and the buffering hypothesis*, Psychological Bulletin, Vol.98, 310-357.
- Cullen, F. T., Link, B. G., Wolfe, N. T., & Frank, J. (1985). *The social dimensions of correctional officer stress*, Justice Quarterly, Vol.2, No.4, 505-533.
- De Bruin, G.P. & Taylor, N. (2006). *The job-demands-control model of job strain across gender*, South African Journal of Industrial Psychology, Vol.32, No.1, 66-73.
- De Jonge, J., Janssen P.P.M. & van Breukelen G.J.P. (1996). *Testing the Demand-Control-Support Model among health-care professionals: a structural equation model*, Work & Stress, Vol.10, 209-224.
- De Lange, A.H., Taris, T.W., Kompier, M.A.J., Houtman, I.L.D., & Bongers, P.M. (2003). *The very best of the millennium. Longitudinal research and the demand-control-(support) model*, Journal of Occupational Health Psychology, Vol.8, No.4, 282-305.
- Dollard, M.F. & Winefield, A.H. (1998). *A test of the Demand-Control/Support model of work stress in correctional officers*, Journal of Occupational Health Psychology, Vol.3, No.3, 243-264.
- Dollard, M.F., Winefield, H.R., & Winefield, A.H. (2001). *Occupational Strain and Efficacy in Human Service Workers: When the Rescuer Becomes the Victim*, Kluwer Academic Publishers, Dordrecht, The Netherlands.
- Dowden, C., & Tellier, C. (2004). *Predicting work-related stress in correctional officers: A meta-analysis*, Journal of Criminal Justice, Vol.32, No.1, 31-47.
- Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). *Perceived supervisor support: Contributions to perceived organisational support and employee retention*, Journal of Applied Psychology, Vol.87, 565-573.
- Etzion, D. (1984). *Moderating effect of social support on the stress-burnout relationship*, Journal of Applied Psychology, Vol.69, 615-622.
- Finn, P. (1998). *Correctional officer stress: A cause for concern and additional help*, Federal Probation, Vol.62, No.2, 65-74.
- Finn, P. (2000). *Addressing Correctional Officer Stress: Programs and Strategies*, National Institute of Justice, Washington, D.C.
- Fiske, A. P. (1998). *Human sociality*, The International Society for the Study of Personal Relationships Bulletin, Vol.14, 4-9.
- Fornell, C. R., and Larcker, F. F. (1981). *Structural equation models with unobservable variables and measurement error*, Journal of Marketing Research, Vol.18, 39-51.
- Fox, M. L., Dwyer, D.J. & Ganster, D.C. (1993). *Effects of stressful job demands and control on physiological and attitudinal outcomes in a hospital setting*, Academy of Management Journal, Vol.36, 289-318.
- Ganster, D. C. & Fusilier, M. R. (1989). *Control in the workplace*, In Cooper, C. L., and Robertson, I. (Eds) *International Review of Industrial and Organizational Psychology* (pp. 235-280), John Wiley and Sons Ltd., London.
- Gehrke, C. (2004). *Review of 2002 Psychological/Psychiatric Injury claims*, Unpublished report produced for DCS. DCS, Brisbane.
- Hackman, J. R. & Oldham, G. R. (1976). *Motivation through the design of work: Test of a theory*, Organizational Behavior and Human Performance, Vol.16, 250-279.
- Hackman, J.R. & Lawler, E.E. (1971). *Employee reactions to job characteristics*, Journal of Applied Psychology, Vol.55, 259-286.
- Hair, J., Black, W., Babin, B., and Anderson, R. (2010). *Multivariate data analysis* (7th ed.), Prentice-Hall, Inc.

Upper Saddle River, NJ, USA.

- Hair, J. F., Anderson, R. E., Tatham, R. L., and Black, W. C. (1998). *Multivariate Data Analysis with Reading*, Prentice-Hall, NJ.
- Hart, P. M., Wearing, A. J., & Headey, B. (1993). *Assessing police work experiences: Development of the Police Daily Hassles and Uplifts Scales*, *Journal of Criminal Justice*, Vol.21, 553-572.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*, Guilford Press, New York, NY.
- Holman, D.J., & Wall, T.D. (2002). *Work characteristics, learning-related outcomes, and strain: A test of competing for direct effects, mediated, and moderated models*, *Journal of Occupational Health Psychology*, Vol.7, 283-301.
- Jackson, P.R., Wall, T.D., Martin, R., & Davids, K. (1993). *New measures of job control, cognitive demand and production responsibility*, *Journal of Applied Psychology*, Vol.78, No.5, 753-762.
- Johnson, J.V., & Hall, E. (1988). *Job strain, workplace social support, and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population*, *American Journal of Public Health*, Vol.78, No.10, 1336-1342.
- Jöreskog, K. G. and Söbom, D. (1993). *LISREL 8: Structural equation modeling with the SIMPLIS command language*, Scientific Software International, Chicago.
- Karasek, R. & Theorell, T. (1990). *Healthy work: Stress, productivity, and the reconstruction of working life*, New York: Basic Books.
- Karasek, R. (1979). *Job demands, job decision latitude, and mental strain: Implications for job redesign*, *Administrative Science Quarterly*, Vol.24, 285-306.
- Karasek, R., Baker, D., Marxer, F., Ahlbom, A. & Theorell, T. (1981). *Job decision latitude, job demands, and cardiovascular disease: A prospective study of Swedish men*, *American Journal of Public Health*, Vol.71, 694-705.
- Kaufmann, G. M., & Beehr, T. A. (1986). *Interactions between job stressors and social support: Some counterintuitive results*, *Journal of Applied Psychology*, Vol.71, 522-526.
- Kirmeyer, S. L. & Lin, Thung-Rung (1987). *Social support: its relationship to observed communication with peers and superiors*, *Academy of Management Journal*, Vol.30 (March), 138-151.
- Kopelman, R. E., Brief, A. P. & Guzzo, R. A. (1990). *The Role of Climate and Culture in Productivity*. In B. Schneider(Ed), *Organizational Climate and Culture* (Pp. 282-313), Jossey-Bass, San Francisco, CA.
- Lambert, E. (2004). *The impact of job characteristics on correctional staff*, *Prison Journal*, Vol.84, 208-227.
- Lambert, E. G., & Hogan, N. L. (2010). *Work-family conflict and job burnout among correctional staff*, *Psychological Reports*, Vol.106, No.1, 19-26.
- Lambert, E. G., Cluse-Tolar, T., & Hogan, N. L. (2007). *This job is killing me: The impact of job characteristics on correctional staff job stress*, *Applied Psychology in Criminal Justice*, Vol.3, No.2, 117-142.
- Lambert, E. G., Hogan, N. L., & Barton, S. M. (2002). *The impact of work-family conflict on correctional staff job satisfaction: An exploratory study*, *American Journal of Criminal Justice*, Vol.27, No.1, 35-52.
- Lambert, E. G., Hogan, N. L., & Barton, S. M. (2004). *The nature of work-family conflict among correctional staff: An exploratory examination*, *Criminal Justice Review*, Vol.29, No.1, 145-172.
- Lambert, E. G., Hogan, N. L., & Griffin, M. L. (2007). *The impact of distributive and procedural justice on correctional staff job stress, job satisfaction, and organizational commitment*, *Journal of Criminal Justice*, Vol.35, 644-656.
- Lambert, E. G., Hogan, N. L., Camp, S. D., & Ventura, L. A. (2006). *The impact of work-family conflict on correctional staff: A preliminary study*, *Criminology & Justice*, Vol.6, No.4, 371-387.
- Lambert, E.G., Edwards, C., Camp, S.D., & Saylor, W.G. (2005). *Here today, gone tomorrow, back again the next day: Antecedents of correctional officer absenteeism*, *Journal of Criminal Justice*, Vol.33, 165-175.
- Landsbergis P.A. (1988). *Occupational stress among health care workers: A test of the job demands-control model*, *Journal of Organizational Behavior*, Vol.9, 217-239.
- Landsbergis, R.D., Van Haveren, R.A., & Pearson, C.A. (2002). *Correctional officer burnout: Further analyses*, *Criminal Justice and Behavior*, Vol.29, No.2, 144-160.
- Lazarus, R. S. (1999). *Stress and emotion*, Springer, New York, NY.
- Locke, E. & Schweiger, D. (1979). *Participation in decision making: One more look*. In: Staw, B. (Ed.) *Research in Organizational Behavior*, Vol. 1, JAI Press, Greenwich, CT.
- Mansell, A., & Brough, P. (2005). *A comprehensive test of the job demands-control interaction: Comparing two measures of job characteristics*, *Australian Journal of Psychology*, Vol.57, 103-114.
- Mansell, A., Brough, P., & Coles, K. (2006). *Stable predictors of job satisfaction, psychological strain, and employee retention: A longitudinal evaluation in the New Zealand*

- Customs Service*, International Journal of Stress Management, Vol.13, No.1, 84-107.
- Martinez, A.R. (1997). *Corrections officer: The "Other" prisoner*, The Keeper's Voice, Vol.18, No.1, 8-11.
- McIntosh, N. J. (1991). *Identification and investigation of properties of social support*, Journal of Organizational Behavior, Vol.72, 201-217.
- Messick, S. (1998). *Test validity: A matter of consequence*, Social Indicators Research, Vol.45, 35-44.
- Miller, P. (2003). *The last ten years: Trends in Australian jurisdictions stress claims: Statistical data to accompany jurisdictional activity*, Australian Psychologist, Vol.38, 81-83.
- Moon, B., & Maxwell, S. R. (2004). *The sources and consequences of corrections officers' stress: A South Korean example*, Journal of Criminal Justice, Vol.32, 359-370.
- Morgan, W. J. Jr. (2009). *Correctional officer stress: A review of the literature 1977-2007*, American Jails, Vol.23, No.2, 33-42.
- Murray, J. Y., Kotabe, M., & Zhou, J. N. (2005). *Strategic alliance-based sourcing and market performance: Evidence from foreign firms operating in China*, Journal of International Business Studies, Vol.36, No.2, 187-208.
- National Occupational Health & Safety Commission (NOHSC) (2003). *Compendium of workers' compensation statistics, Australia, 2000-2001*, Canberra, Australia.
- Nelson, D.L. & Quick, J.C. (1991). *Social support and newcomer adjustment in organizations: Attachment theory at work?* Journal of Organizational Behavior, Vol.12, 543-554.
- Obidoa, C., Reeves, D., Warren, N., Reisine, S., & Cherniack, M. (2011). *Depression and work-family conflict among corrections officers*, Journal of Occupational and Environmental Medicine, Vol.53, No.11, 1294-1301.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). *Common method biases in behavioral research: A critical review of the literature and recommended remedies*, Journal of Applied Psychology, 88, No.5, 879-903.
- Polit, D. F., & Beck, C. T. (2006). *The content validity index: Are you sure you know what is being reported? Critique and recommendations*, Research in Nursing & Health, Vol.29, 489-497.
- Quick, J. C., Quick, J. D., Nelson, D. L., & Hurrell, L. J. (1998). *Preventive stress management in organizations*, American Psychological Association, Washington, DC.
- Rosine, L. (1992). *Exposure to critical incidents: What are the effects on Canadian correctional officers?* Forum on Corrections Research, Vol.4, No.3, 1-36.
- Savicki, V., Cooley, E., & Gjesvold, J. (2003). *Harassment as a predictor of job burnout in correctional officer*, Criminal Justice, and Behaviour, Vol.30, No.5, 602-619.
- Shumaker, S. A., & Brownell, A. (1984). *Toward a theory of social support: Closing conceptual gaps*, Journal of Social Issues, Vol.40, 11-36.
- Spector, P. (1986). *Perceived control by employees: A meta-analysis of studies concerning autonomy and participation at work*, Human Relations, Vol.39, 1005-1116.
- Swenson, D. X., Waseleski, D., & Hartl, R. (2008). *Shift work and correctional officers: Effects and strategies for adjustment*, Journal of Correctional Health Care, Vol.14, No.4, 299-310.
- Van der Doef, M., & Maes, S. (1999). *The job demand-control (-support) model and psychological well-being: A review of 20 years of empirical research*, Work and Stress, Vol.13, No.2, 87-114.
- Van Fleet, F. (1992). *Correctional officers and their families: Dealing with stress*, In American Correctional Association, *The effective correctional officer* (pp. 37-44), Author, Laurel, MD.
- Vaux, A. (1988). *Social support: Theory, research, and intervention*, Praeger, New York.
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). *The role of social support in the process of work stress: A meta-analysis*, Journal of Vocational Behavior, Vol.54, 335-349.
- Wall, T. D., Jackson, P. R., & Mullarkey, S. (1995). *Further evidence on some new measures of job control, cognitive demand and production responsibility*, Journal of Organizational Behavior, Vol.16, 431-455.
- Warr, P. (1990). *The measurement of well-being and other aspects of mental health*, Journal of Occupational Psychology, Vol.63, 193-210.
- Warr, P., Cook, J., & Wall, T. (1979). *Scales for the measurement of some work attitudes and aspects of psychological well-being*, Journal of Occupational Psychology, Vol.52, 129-148.
- Williams, J. (2004). *Sources of workplace stress for Queensland Correctional Officers*, Master of Organisational Psychology Thesis, School of Psychology, Griffith University.