PUTTING NEIGHBORHOOD CONTEXTS INTO THE MIX: A MULTILEVEL ANALYSIS OF JOB SATISFACTION AMONG SOUTH KOREAN POLICE OFFICERS

By

Dae-Hoon Kwak

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ABSTRACT

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Most prior research shows that the primary determinants of police officers' job satisfaction are the officers' individual traits, such as age, gender, education, and rank (or years of service), work environment and workplace conditions. However, relatively few studies have focused on neighborhood contexts that influence levels of job satisfaction among police officers. In addition, most prior inquiries have been limited to Western societies.

To extend the knowledge of police officers' job satisfaction, this study examines the neighborhood contexts that influence job satisfaction among police officers in South Korea using the self-reported survey data (2006) from Korean National Police Agency, official crime data (2006), and Korean census data (2000). More specifically, the current study seeks to fill the theoretical and methodological gaps in prior research on job satisfaction research by: (1) incorporating theoretically relevant neighborhood- and organizational-level predictors into the analysis; (2) employing a multilevel analysis (i.e., hierarchical linear model) to examine the impacts of neighborhood contexts on job satisfaction and test cross-level effects of both individual and neighborhood factors, or both individual and organizational variables on job satisfaction simultaneously; and (3) examining the external validity of existing information regarding the roles of individual, organizational, and neighborhood characteristics on job satisfaction among South Korean police officers.

The results from a series of hierarchical linear models revealed that neighborhood-level immigrant concentration was significantly and negatively associated with job satisfaction. However, violent crime rate, concentrated disadvantage, and residential instability were not significantly related to job satisfaction. Moreover, none of the organization-level predictors (workload, department size, and divisions) had significant effects on levels of individual officers' job satisfaction. At the individual level, the results also confirmed that female, experienced and higher ranking officers reported a higher level of job satisfaction compared to male, inexperienced, and lower ranking officers. Interestingly, work type and assignment were also found to be significant predictors of job satisfaction. These individual, organizational, and neighborhood factors, however, had limited explanatory power for job satisfaction. Implications for practice and future research are discussed. This work is dedicated to my parents and my wife, Young Hwa, without their support, love, and encouragement it would not have been possible.

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CHAPTER I. INTRODUCTION

Job satisfaction is one of the most widely researched topics in industrial and organizational psychology, human resources, industrial relations, and other social science fields (Locke, 1976; Halsted, Bromley, & Cochran, 2000). Research on job satisfaction first began in the early 1920s. The famous Hawthorne study conducted by Elton Mayo and his associates at the Western Electric Company was one of the earliest research studies on job satisfaction among individual workers. During the course of their investigations, they found that factors of a social nature (e.g., happiness of the worker) were affecting workers' satisfaction with their jobs as well as their productivity (Gruneberg, 1976, p. x). It makes sense that those employees who are satisfied with their job will better perform in necessary tasks (Petty, McGee & Cavender, 1984; Jacobs & Solomon, 1977), will have less job withdrawal (Herzberg, Mausner, & Snyderman, 1959; Lawler & Porter, 1969; Locke, 1976; Quarstein, McAfee, & Glassman, 1992), will have fewer absences (Herzberg, Mausner, & Snyderman, 1959; Judge, Parker, Colbert, Heller, & Ilies, 2001; Lawler & Porter, 1968; Locke, 1976; O'Toole & Lawler, 2006; Quarstein, McAfee, & Glassman, 1992), and will be more likely to commit themselves to the overall mission of the organization (Hoath, Schneider, & Starr, 1998; Mire, 2005).

Since the Hawthorne studies, there have been an enormous number of studies that explain the nature, causes, correlates, and consequences of job satisfaction in both the private and public sector. Locke (1976), for example, reports that an estimated 3,350 articles were written on job satisfaction between 1957 and 1976. Since then, another couple thousand studies have been published (Zhao, Thurman, & He, 1999). However, despite the fact that a tremendous amount of

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information on job satisfaction is currently available, research on job satisfaction among police officers is relatively newer than similar research in other fields (Zhao et al., 1999).

Since the late 1970s, police scholars have empirically examined factors influencing police officers' job satisfaction.¹ The approaches used to explain variation in police officers' job satisfaction have been classified into three broad perspectives or levels of focus: individual, work-related, and organizational. The individual approach explains variation in job satisfaction by examining the influence of officer characteristics such as age, gender, race (and/or ethnicity), level of education, rank, and length of service (i.e., years in rank or in service) on job satisfaction (Boke & Nalla, 2009; Brunetto, Farr-Wharton, Ramsay, & Shacklock, 2010; Buker, 2010; Buker & Dolu, 2010; Buzawa, 1984; Chan & Doran, 2009; Carlan, 2007; Coaston-Shelton, 2009; Dantzker & Kubin, 1998; Davey, Obst, & Sheehan, 2001; De Guzman & De Guzman, 2010; Dowler, 2005; Ercikti, 2008; Frost, 2006; Halsted et. al, 2000; Hwang, 2008; Krimmel & Gormley, 2003; Lim & Teo, 1998; Miller, Mire, & Kim, 2010; Moon, Huh, & Kim, 2009; Nalla, Rydberg, & Mesko, 2011; Nalla, Madan, & Mesko, 2009; Noblet & Rodwell, 2008; Reiner & Zhao, 1999; Seltzer, Alone, & Howard, 1996; Trojanowicz & Banas, 1985; White, Cooper, Saunders, & Raganella, 2010; Winfree & Taylor, 2004; Zhao et al., 1999). According to this approach, officer characteristics and experiences in service are posited to affect job satisfaction. Zhao and his associates (1999), for example, examined the effects of demographic characteristics and job dimensions on job satisfaction using a sample of 199 police officers from the Spokane (Washington) police department and found that years of service and rank were negatively related

¹ To date, there are approximately 53 empirical studies published in the U.S. and other countries that examine police officers' satisfaction (these studies will be discussed in depth in Chapter III; also see Table 3.1). These published articles treat job satisfaction as a dependent variable and their samples are limited to police officers and other type of law enforcement agents, including deputies, constables, U.S. Air Force security police personnel, and school resource officers.

to officers' satisfaction with work. That is, officers with higher rank than "patrol officer" were more likely to be satisfied with their work, while police officers who spent more time in service reported a lower level of satisfaction with their work than inexperienced officers. These individual factors, however, have limited explanatory power for job satisfaction (R^2 for satisfaction with work=.06).

In addition to individual factors, some research went further to incorporate work-related factors² into the analysis to explain job satisfaction among police officers. According to this perspective, the job environment itself and factors associated with the job are important influences on job satisfaction (e.g., Hackman & Oldham, 1976). This includes how employees are treated, the nature of their job tasks, and their relationships with coworkers and supervisors in the workplace (Spector, 1997, p. 30). More specifically, job dimensions/characteristics (Buker & Dolu, 2010; Miller et al., 2010; Mire, 2005; Reiner & Zhao, 1999; Zhao et al., 1999), superviors' or coworkers' support (Bennett, 1997; Brough & Frame, 2004; Brunetto & Farr-Wharton, 2002; Carlan, 2007; Fass, Bishop, & Glissmeyer, 2006; Krimmel & Gormley, 2003; Nall et al., 2011; Park, 2005; Seltzer, Alone, & Howard, 1996), work-family conflict (Brunetto et al., 2010; Howard et al., 2004), work or career orientation (Halsted et al., 2000; Hoath et al., 1998), type of patrol (Trojanowicz & Banas, 1985), assignment (Chan & Doran, 2009; Davey et al., 2001; Hwang, 2008; Pelfrey, 2007; Reiner & Zhao, 1999; Slate et al., 2007; Seltzer et al., 1996), and individual workload (Park, 2005) are some work-related variables that have been

² It is noted that work-related factors can be defined as environmental antecedents of job satisfaction including work/job, workplace, and work environment. Especially, these factors are heavily influenced by job characteristics (Spector, 1996). On the other hand, organizational factors include organizational policy, training, structures, and other factors related to the organization. In the current study, work-related variables are measured at the individual officer level while organizational factors are measured based on data collected across 31 police stations.

studied. In their recent study in Turkey, Buker and Dolu (2010) found that officers experiencing more meaningfulness in their work, perceiving more responsibility for the outcomes of their work, and receiving more positive feedback were more satisfied with the work itself (also see Zhao et al., 1999; Reiner & Zhao, 1999).

A third approach involves the role of the organization in job satisfaction. This approach explains variation in job satisfaction across organizations, or within them, by examining characteristics of the police organization such as size of the department (Buker & Dolu, 2010; Dantzker, 1997), organizational workload (Buker & Dolu, 2010), department location (Hwang, 2008; Kim, 2001; Winfree & Taylor, 2004; Winfree, Guiterman, & Mays, 1997), and department hierarchy or bureaucracy index (Buker & Dolu, 2010; Hwang, 2008). Although the author employed a bivariate analysis (i.e., One-Way ANOVA), Dantzker (1997) observed significant differences in job satisfaction across different-sized police departments; police officers from agencies with fewer than 100 sworn personnel were the most satisfied, while officers in agencies employing 101 to 500 were the least satisfied.

While the aforementioned studies increased our understanding about job satisfaction among police officers, several limitations are apparent. The most important shortcoming of prior research is that none of these approaches or explanations takes neighborhood³ contexts into

³ Although the definition of "neighborhood" has varied across numerous studies, in general, a neighborhood can be defined as "a small physical area embedded within a larger area in which people inhabit dwellings" (Bursik and Grasmick, 1993, p.6). In terms of characteristics of neighborhoods, Bursik and Grasmick (1993) also argue that "there is a collective life that emerges from the social networks that have arisen among the residents and the sets of institutional arrangement that overlap these networks" (p. 6). That is, residents of the neighborhood usually perceive themselves to have a common interest in that area and similar lives. The term "community" also has been used interchangeably with neighborhood. Community generally refers to a social group of any size whose members reside in a specific locality, under a shared government, and with a common cultural or historical heritage (Ojeda-

account in considering what factors influence police officers' job satisfaction. With the exception of a few studies (Bennett, 1997; Buker, 2010; Buker & Dolu, 2010), the influence of neighborhood factors on job satisfaction has not been fully explored. This lack of research is quite surprising because the characteristics of police work and police organizational environments have long been cited as significant predictors of the values and attitudes of police officers (Crank, 1998; Morash, Harr, & Kwak, 2006; Skolnick, 1975; Sobol, 2009). In addition, police scholars have recently examined the effects of neighborhood characteristics on other types of police behavior, such as use of force (Heraux, 2006; Lee, Jang, Yun, Lim, & Tushaus, 2010; Smith, 1986; Terrill & Reisig, 2003), officer disrespect toward the public (Mastrofski, Reisig, & McCluskey, 2002), traffic citations (Ingram, 2007), decisions to make an arrest (Riksheim & Chermak, 1993; Smith, 1986), and officer misconduct (Kane, 2002). These studies confirmed that an area to which a police officer is assigned may not be a simple geographic segment. Rather, they speculate that the neighborhood and its characteristics (e.g., level of deviance or crime) may have a profound influence on the organization of police officers' daily routine, the officers' behavior and attitudes.

Moreover, few studies examining the impact of neighborhood contexts on job satisfaction have theoretical foundation that explains why police officers feel differently about their work

Kimbrough, Lee, & Shek, 2009). That is, a community is a social unit larger than a household whose members share common values and some degree of social cohesion. The simplest way to distinguish between the two is to use the former to refer exclusively to a specific geography and the latter as a social interaction on matters concerning a common interest (i.e., a community may or may not be place-based) (Ojeda-Kimbrough et al., 2009). Moreover, since the primary survey instrument only includes information regarding demographic characteristics of individual officers and the areas or the police stations the officer was assigned and worked at the time of survey, it is impossible to capture social interactions among the residents. Accordingly, the term neighborhood will be used to represent geographic boundaries throughout the current study. Chapter 4 will focus more on the methodology of how neighborhoods were defined in this study.

and workplace across neighborhoods. These studies also fail to incorporate some important, theoretically relevant neighborhood factors, such as concentrated disadvantage, immigrant concentration, and residential instability, into their analysis (see Kane, 2002; Ingram, 2007; Terrill & Reisig, 2003). Buker and Dolu (2010), for example, only examined the effect of level of deviance (e.g., crime rate) on individual officers' job satisfaction (also see Bennett, 1997; Buker, 2010).

Most of the previous research either examined the influences of individual-level variables exclusively or used neighborhood contextual variables in individual-level analyses, with the exception of one study (i.e., Buker & Dolu, 2010). This conventional approach has two major problems. First of all, these studies could have violated the assumption of independence for regression analysis because police officers who are naturally nested in the same neighborhood are often correlated with each other in certain ways (Raudenbush & Bryk, 2002). Second, these studies could not assess cross-level interactive effects of individual-level factors and organizational or neighborhood characteristics on job satisfaction. They also fail to estimate the independent effects of neighborhood characteristics on job satisfaction with controlling individual-level variables (for more details, see Chapter IV).

Finally, a majority of prior studies on job satisfaction are limited to police officers in the U.S. and other European countries. Comparative research has been increasing over the last decades but much of that research has focused on the individual, work-related, and organizational factors that influence job satisfaction (e.g., Hwang, 2008; Moon et al., 2009; Noblet & Rodwell, 2008). That is, studies on job satisfaction in other countries have largely neglected the impact of neighborhood contexts on job satisfaction among police officers. South Korea is no exception, and research examining neighborhood characteristics that influence job

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satisfaction is not extensive. In fact, virtually no empirical studies have been conducted to examine the impact of neighborhood contexts on job satisfaction among South Korean police officers.

Purpose of Study

According to prior research examining the impact of neighborhood contexts on police behavior (e.g., see Kane, 2002), it is reasonable to assume that neighborhood characteristics (e.g., residential stability) may play a role in predicting the job satisfaction of police officers. However, there is still no clear understanding of the neighborhood contexts that influence levels of job satisfaction among police officers. Thus, the primary purpose of this study is to investigate the effects of neighborhood characteristics on job satisfaction using a sample of South Korean police officers. Especially, this study attempts to answer the following research questions:

- 1) To what extent do neighborhood characteristics affect police officers' job satisfaction?
- 2) How do organizational factors affect police officers' level of job satisfaction?
- 3) What are the relationships between individual characteristics and job satisfaction among police officers?
- 4) After controlling for the net of individual characteristics, do neighborhood or organizational characteristics still remain strong or significant predictors?

Furthermore, the current study seeks to fill the aforementioned theoretical and methodological gaps in prior research. First, based on social disorganization theory and

Klinger's ecological theory of police behavior, this study incorporates theoretically relevant neighborhood-level variables (e.g., concentrated disadvantage, level of deviance) into the analysis to enhance our understanding of the effects of neighborhood contexts on job satisfaction. Second, the current study also employs a multilevel analysis (i.e., Hierarchical Linear Modeling; HLM) to examine the impacts of neighborhood contexts on job satisfaction and test cross level effects of both individual characteristics and neighborhood factors, or both individual factors and organizational variables on job satisfaction simultaneously. Finally, this research attempts to examine the external validity of existing information regarding the roles of individual, organizational and neighborhood characteristics on job satisfaction among Korean police officers.

Importance of Study

Understanding the nature and extent of police job satisfaction is extremely important for a variety of reasons. First, under the philosophy of community policing, forming a partnership with the community (i.e., citizen involvement) is considered a vital element to the success of police missions (Cao, 2001; Skogan, 2006; Zhao, Lovrich, & Thurman, 1999). That is, effective community policing requires input from the populace regarding the needs and problems of the community. Thus, job satisfaction among police officers can be very influential because police officers with lower job satisfaction levels may harm the relations between the community members and the police while they are performing their daily work (Hoath et al., 1998; Zhao et al., 1999).

In addition to the deleterious effects on police-community relations, lower levels of job satisfaction among police officers can be costly for police organizations in terms of their limited resources and budgets. In other words, police officers who dislike their jobs will try to find

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alternative employment and eventually will quit the job. Studies have found that there is an inverse relationship between job satisfaction and turnover (see Brough & Frame, 2004). As a result of high turnover, police departments have to spend their limited budgets to hire and train new officers. This ultimately endangers the overall effectiveness of police organizations (Zhao et al., 1999). Moreover, a police organization has a moral obligation to demonstrate concern for its employees and promote positive work-related attitudes among them (Hoath et al., 1998, p. 338). Thus, it is important to understand the nature and extent of police job satisfaction. Based on this empirical research, police administrators can develop training protocols that can be tailored to promote officers' job satisfaction.

Dissertation Overview

This dissertation is organized as follows. Chapter One outlines the limitations of existing research on job satisfaction, especially among police officers, and the rationale for and importance of this study. Chapter Two focuses on a review of the existing theoretical frameworks that explain the influences of neighborhood contexts on job satisfaction along with traditional organizational theories of job satisfaction. Chapter Three discusses the empirical evidence linking individual, organizational, and neighborhood characteristics to police officers' levels of job satisfaction in previous studies. Following the literature review, the methodology of the present study is outlined in Chapter Four, including the primary hypotheses, independent and dependent variables, and analytic strategy. The quantitative findings are presented in Chapter Five. Finally, Chapter Six provides a discussion regarding the empirical findings. The conclusions of the present study and their implications for policy and practice are also presented in Chapter Six.

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CHAPTER II. THEORETICAL FRAMEWORKS

The purpose of the chapter is to provide a comprehensive review of definitions and theories of job satisfaction. In particular, the first part of this chapter seeks to define job satisfaction. The second part of this chapter briefly reviews job satisfaction theories, which mainly stem from organizational psychology (e.g., Herzberg, 1968). Finally, ecological theories of crime (i.e., social disorganization theory) and police behaviors (i.e., Klinger's theory) are utilized to explain how neighborhood contexts are expected to influence job satisfaction among police officers.

Definitions of Job Satisfaction

Although many scholars have studied and defined job satisfaction, a universal definition of job satisfaction has not been agreed upon. Locke (1976), for example, defined job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). Similarly, Traut and his associates (2000) defined job satisfaction as a psychological contract that reflects the match between employee expectations for the job and what is received in return for complying with these expectations. According to Hulin and Judge (2003), job satisfaction is a set of psychological responses to a person's job with the responses falling along a continuum of positive to negative that are indicated by verbal, emotional, or behavioral responses. Despite the many different definitions of satisfaction (see Table 2.1), it appears that there is a general agreement that job satisfaction is a general or global emotional reaction that individuals hold about their jobs and the different aspects of their jobs (see Spector, 1997).

	Definitions of Job Satisfaction
Herzberg et al. (1957)	A multidimensional attitude with many facets
Smith, Kendall, &Hulin (1969)	An employee's emotional feeling about work, pay, promotional opportunities, supervisor, and co-workers
Locke (1976)	A pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences
Spector (1997)	How people feel about their jobs and different aspects of their jobs
Ford & Honnor (2000)	A person's reaction to the dimensions of his or her job as well as overall job experience
Traut, Larson, & Feimer (2000)	A psychological contract that reflects the match between employee expectations for the job and what is received in return for complying with these expectations
Hulin & Judge (2003)	A set of psychological responses to a person's job with the responses falling along a continuum of positive to negative that are indicated by verbal, emotional, or behavioral responses
Wright & Davis (2003)	An evaluation of what employees want from their job and what they feel they really receive

Table 2.1 Summary of Definitions of Job Satisfaction

Job Satisfaction Theories

Job satisfaction theories are generally grouped into three categories: content theories, situational theories, and process theories (Thompson, McNamara, & Hoyle, 1997). Content theories, which are heavily influenced by Maslow's hierarchy of needs (1954), attempt to explain job satisfaction by focusing on the needs and values that must be fulfilled. Herzberg's two-factor theory and Hackman and Oldham's job characteristics model are prime examples of content theories. Also, these two theories have been the most cited theoretical frameworks in the

study of job satisfaction in police literature (see following section for more detailed information; also see Miller et al., 2010; Noblet & Rodwell, 2008).

Situational theories suggest that job satisfaction is influenced by the interaction between the job, the organization, and the individual. Hoy and Miskel (1996), for example, describe these three variables as follows: 1) characteristics of the job tasks (i.e., autonomy, pay and other benefits, routinization, significance, challenge, and variety); 2) characteristics of the work organization (i.e., centralization, professionalism, supervision, feedback, and culture); and 3) characteristics of the employee or individual (i.e., age, gender, education, motivation, ability, predisposition to be happy) (p. 254). Finally, process theories focus on the interactions between factors (e.g., expectancies, values, and needs) and their influences on job satisfaction (Locke, 1976). That is, process theories attempt to explain job satisfaction by looking at expectancies and values. For example, Gruneberg (1979) argues that "some individuals have a greater need for achievement than others and where a job gives no opportunity for achievement, such individuals are likely to be more frustrated than those whose need is less" (p. 19). Overall, if employees perceive the outcome/input ratio is unequal to that of their coworkers, and employees are unable to restore equity, then job dissatisfaction may be created (Adams, 1963).

This study mainly uses Herzberg's motivation-hygiene theory and situational theories of job satisfaction as a framework for understanding the impacts of individual, work-related, and organizational level factors on job satisfaction. However, it is also important to understand one of the most influential job satisfaction theories—Hackman and Oldham's job characteristics model—in order to place situational theories in context.

Motivator-Hygiene Theory

Herzberg's two-factor theory of motivation (also known as motivator-hygiene theory) developed from Maslow's hierarchy of human needs. According to Maslow (1954), individuals must first satisfy their physiological need for food. Once satisfied, individuals concern themselves with safety, belongingness and love, self-esteem, and self-actualization. Based on Maslow's theory of a needs hierarchy, Herzberg (1966) developed the two-factor theory. In 1959, Herzberg, Mausner, and Snyderman interviewed 203 accountants and engineers and asked them to describe specific instances when they felt exceptionally good or extremely bad about their jobs. After analyzing cases, the authors discovered that the good critical incidents were dominated by references to intrinsic aspects of the job (i.e., motivators), while the bad incidents were influenced by reference to extrinsic factors (i.e., hygiene).

Hygiene factors include aspects that surround the doing of the job, not the job itself, and serve as sources of dissatisfaction. However, the absence of hygiene factors does not cause or increase dissatisfaction. Instead, dissatisfaction mainly comes from the unfavorable assessment of such job-related factors as working conditions, supervision, organizational policy and administration, interpersonal relations with peers, supervisors and subordinates, status, job security, salary, and personal life (Herzberg, 1966). On the other hand, motivators (intrinsic factors) are those aspects of the job that make people want to perform and provide people with satisfaction, including achievement, recognition for achievement, the work itself, responsibility, advancement, and possibility for growth (Herzberg, 1966).

Job Characteristic Model

The job characteristic model (Hackman & Oldham, 1976) proposes that job dimensions prompt psychological states that in turn lead to beneficial outcomes (i.e., satisfaction). According to Hackman and Oldham (1976), there are five core task characteristics (i.e., task identity, task significance, variety, autonomy, and feedback)⁴ that are central to a job that is highly motivating and satisfying. These job characteristics work together to influence underlying psychological states that bear a relationship to job satisfaction: (1) the meaningfulness of the work, (2) the level of responsibility over work outcomes, and (3) the extent to which employees have knowledge of their work results (Hackman & Oldham, 1976).



Figure 2.1 Hackman and Oldham's Job Characteristics Model (adapted from Spector, 1997, p. 32)

⁴ It should be noted that the current study does not include these five job characteristics in the analysis due to the unavailability of the variables in the primary dataset (see Chapter IV and Appendix A for more detailed information on the data).

This model proposes that an employee's satisfaction with a job depends on the work itself and that the origin of satisfaction comes from within the individual and the job (Hulin & Judge, 2003). According to Hackman and Oldham (1976), employees will express a higher level of job satisfaction and motivation as well as high quality work performance when they learn that they have successfully completed a task that they truly care about. However, at the same time, when an employee does not perform well, he or she will not experience a feeling of internal reinforcement (see Figure 2.1).

Situational Theories

Situational theorists posit that job satisfaction is a result of the interaction between the characteristics of the job (i.e., situational characteristics), including factors such as remuneration and advancement opportunities (Quarstein, McAfee, & Glassman, 1992). Situational occurrences are those issues that are more difficult to learn about in advance, as well as those factors an employee often may not consider prior to accepting a job, such as whether a particular supervisor will recognize employee efforts and failures to repair equipment when assessing that employee's performance. According to Quarstein et al. (1992), overall job satisfaction can be predicted from a combination of both situational characteristics and situational occurrences, rather than from either factor alone (p. 869). For example, Glisson and Durick (1988) examined the impact of organizational (e.g., centralization, professionalism, supervisors, feedback, and culture), worker (e.g., age, gender, and education), and job (e.g., autonomy, pay, significance, challenge, and variety) characteristics on work satisfaction and commitment. They found that job characteristics were strong predictors of satisfaction and that lesser, but still important, roles were played by organizational and worker characteristics.

After reviewing the aforementioned theories, it is hypothesized that individual (e.g., age and gender), work-related (e.g., assignment) and organizational (e.g., workload) characteristics are determinants of job satisfaction among police officers. Empirical findings for each key variable in the current research are presented in Chapter III.

Neighborhood-Level Theories

Ecological theories of crime and police behavior are used as a theoretical foundation to explain the influences of neighborhood contexts on job satisfaction among police officers. The following section provides a more detailed discussion of each theory.

Ecological Theory of Crime

The social ecology of crime model (i.e., social disorganization theory) was first developed in the studies of urban crime and delinquency by Shaw and McKay (1942). Since then, the theory has most often been applied to urban crime and deviance, although the concept of social disorganization has also been applied to the conditions of a family, a whole society, or some segment of society (e.g., police organizations). Based on Park and Burgess's (1924) theories of urban ecology (i.e., concentric zones), Shaw and McKay (1942) provided a systematic explanation for the unequal distribution of crime in urban areas. By mapping out the residential location of juvenile court-referred youths over time, they found that crime rates were highest in lower-class neighborhoods concentrated toward the inner-city (i.e., Park and Burgess's "the Zone in Transition" [Zone II]) and decreased outwardly towards higher-class neighborhoods. They also confirmed that crime rates in areas of the city remained relatively stable over time, regardless of the individuals residing there. The findings suggest that something about the area, and not the characteristics of the individuals living there, was responsible for the crime rates. Shaw and McKay (1942) hypothesized that the intersection of area characteristics (e.g., poverty, population heterogeneity, and transiency) disproportionately present in lower-class areas of the city cause social disorganization. Socially disorganized neighborhoods, in turn, are unable to control their residents and compete against criminal elements in the community.

Shaw and McKay's original model has been advanced by Bursik and Grasmick (1993). According to Bursik and Grasmick (1993), the original framework of social disorganization ignored "the dynamics that shape the regulatory processes of contemporary urban neighborhoods that must compete with other local communities for scarce (and often shrinking) public and private resources" (p. x). Specifically, Bursik and Grasmick (1993) seek to expand social disorganization theory into the systematic model of neighborhood organization, which emphasizes how neighborhood life is shaped by the structure of formal and informal networks of association. Bursik and Grasmick (1993) identified three sources of social control. Private control is based on kinship and intimate friendship networks (e.g., parents). Parochial control is based upon secondary group membership (e.g., schools and churches). Finally, public control is established through linkages to groups external to neighborhoods. This level includes the relationship between the neighborhood and the local police department, which is a very important source of social control. According to the systematic model, the ability of a neighborhood to exercise each of these forms of social control is a product of the formal and informal social networks among neighborhood residents (Bursik & Grasmick, 1993, p. 39). The traditional variables used in social disorganization theory—economic deprivation, population heterogeneity, and population instability-are hypothesized to affect levels of crime and

delinquency indirectly by influencing the quantity and quality of relational networks (Bursik & Grasmick, 1993, p. 34).

A major contribution of Bursik & Grasmick's (1993) seminal work was "its suggestion that variations in social ecological conditions may explain outcomes beyond crime and delinquency" (Kane, 2002, p. 869). Based on this idea, during the last three decades, the social disorganization framework has been applied to explain police behaviors such as use of force (Heraux, 2006; Lee et al., 2010; Smith, 1986; Sun, Payne, & Wu, 2008; Terrill & Reisig, 2003), police officer disrespect toward the public (Mastrofski et al., 2002), traffic citations (Ingram, 2007), arrest (Riksheim & Chermak, 1993), and misconduct (Kane, 2002). Kane (2002), for example, found that structural disadvantage (e.g., percentage of persons in poverty), population mobility (e.g., percentage of persons residing at current location less than five years) and increases in percent of Latino population predicted increases in police misconduct. That is, police officers were more likely to misuse and/or abuse their authority and engage in misconduct (e.g., miscellaneous crimes and drug test failures) in socially disadvantaged neighborhoods. These findings suggest that more crime and disorder problems are occurring in these disorganized neighborhoods and, consequently, the probability that police officers will engage in misconduct is increasing accordingly.

In sum, social disorganization may create a context for police job satisfaction. More specifically, because neighborhoods characterized by higher levels of concentrated disadvantage, residential instability and immigrant concentration often experience a high volume of violent crime and disorder problems, police officers assigned to these areas may handle more cases, may frequently experience hostility from citizens (e.g., Anderson, 1999), and may increase police-citizen conflict. As a result, police officers may express lower levels of job satisfaction with

their work. Therefore, the current study begins to integrate and test whether social disorganization indicators (i.e., concentrated disadvantage, ethnic heterogeneity, and residential instability) predict variation in job satisfaction among police officers in a major metropolitan setting.

Klinger's Negotiated Order Theory

Klinger's (1997) theory posits that levels of deviance to which officers are exposed, as well as their cynicism and workload, directly or indirectly relate to the vigor of police action. As shown in Figure 2.2, levels of deviance in the district influence workload and resource constraints for dealing with crime and disorder problems. The district deviance also affects officers' understanding of "normal crime" and victim deservedness, as well as officers' cynicism about the utility of a vigorous police response in order to control deviance (p. 286). Officers operate largely unencumbered by direct outside influence and are able to devise informal workgroup rules to negotiate order, which are a vital precursor to explaining the manner in which police use their formal legal authority in encounters with citizens (Klinger, 1997, p. 286; also see Sobol, 2009, p. 254).



Figure 2.2 Klinger's Causal Model of Police Behavior (adopted from Klinger, 1997, p.298)

Among many testable theoretical propositions deriving from Klinger's theory, the current study focuses on two specific causal relationships: 1) the indirect relationship between the level of district deviance and police cynicism; and 2) the indirect relationship between workload and police cynicism (see the dashed lines in Figure 2.2). First, according to Klinger (1997), district deviance is related indirectly and positively to police cynicism. That is, increasing levels of deviance in patrol districts increase officers' understanding of district deviance and that, in turn, leads to increasing cynicism. To illustrate this point, Klinger (1997) states that:

"Officers patrolling low-crime districts will see fewer of the indicators of deviance and criminal justice 'failure' that cause cynicism about the criminal justice system. As a result, they generally believe that vigorous action in encounters with citizens is an effective way to keep the area relatively free of deviance. In contrast, due to constant exposure to crime, its demographic correlates, and other indicators of criminal justice failure, officers in high-crime districts are quite cynical, believing that crime rates will remain high no matter what they do. In sum, the increase in cynicism also pushes work group rules toward less vigorous action as district deviance increases." (Klinger, 1997, p. 294)

Second, Klinger (1997) argues that as levels of district deviance increase, work group capacity to manage work is reduced. As a result, with higher call averages comes a greater likelihood that districts will have more calls for service than there are patrol units available (p. 292). Thus, with increasing district workload, officers will feel increasing pressure to manage their work in a timely manner and become more cynical about the usefulness of vigorous action. These findings are somewhat related to prior research on police cynicism (Niederhoffer, 1969; Lester, 1983; Travis & Vukovich, 1990). More specifically, since Niederhoffer's (1969) seminal work, police cynicism has been studied, and a number of studies have found that there is an inverse relationship between cynicism and job satisfaction among police officers (Johnson, 2007; Travis & Vukovich, 1990): more cynical officers might not enjoy their jobs as much as less cynical officers. Thus, it is reasonable to hypothesize that: 1) with increasing levels of district deviance, officers are more likely to report lower levels of job satisfaction; and 2) officers working with a higher workload will express lower levels of job satisfaction.

Chapter Summary

This chapter has provided a comprehensive review of definitions and theories of job satisfaction. More specifically, based on several definitions of job satisfaction from prior

research, job satisfaction can be defined as employees' emotional reactions to their jobs and to different aspects of their jobs. There are three general theories of job satisfaction. First, content theories suggest that job satisfaction can be explained by focusing on the needs and values that must be fulfilled by a job. For example, according to Herzberg's two-factor theory (1966), once the hygiene factors (de-motivators) are addressed, the motivators promote job satisfaction and encourage production. Second, situational theories argue that job satisfaction is influenced by the interaction between the job, the organization, and the individual. Finally, process theories focus on the interactions between factors (e.g., expectancies, values, and needs) and their influences on job satisfaction.

Although these individual and organizational theories of job satisfaction have provided a theoretical framework to study job satisfaction in police literature, the theories generally fail to explain the effects of neighborhood contexts on police job satisfaction. Thus, the current study attempts to fill this theoretical gap by incorporating ecological theories of crime and police behaviors. That is, because neighborhoods characterized by a higher level of concentrated disadvantage, residential instability, and immigrant concentration often experience a high volume of violent crimes and/or disorder problems, police officers assigned to these areas may handle more cases and may frequently encounter unpleasant situations in their interactions with citizens. As a result, police officers may express a lower level of satisfaction with their jobs. Moreover, Klinger's negotiated order theory (1997) has also contributed a useful theoretical implication to police job satisfaction literature. With increasing district workload, officers will feel increasing pressure to manage their work in a timely manner and become more cynical about their jobs, which may lead to lower levels of job satisfaction among police officers.

Figure 2.3 displays the conceptual model that will be evaluated. This model also outlines the theoretical relationships among primary exogenous and endogenous variables. More specifically, it is hypothesized that individual-level variables, including officers' demographic characteristics (e.g., gender, age, rank, and length of service) and work-related factors (assignment and type of work), are directly associated with the level of job satisfaction among police officers. In addition, these individual-level variables may mediate the relationships between organizational or neighborhood-level factors and officers' level of job satisfaction.



Figure 2.3 Conceptual Model

Finally, organizational characteristics, such as department size, number of divisions and workload, and neighborhood characteristics, such as economic disadvantage, residential instability, immigrant concentration, and crime rates, directly influence officers' job satisfaction. That is, it is expected that police officers who work in police departments with a higher workload volume, more complicated structures, and more employees are less satisfied with their jobs than those officers in departments with a lower workload, simpler departmental structures, and fewer police officers. In the same vein, it is also hypothesized that officers assigned to socially disadvantaged neighborhoods are less likely to be satisfied with their jobs than those in more socially advantaged neighborhoods.
CHAPTER III. LITERATURE REVIEW

This chapter presents a discussion of the empirical status of police job satisfaction literature. A comprehensive review of extant research is crucial in order to identify theoretically and empirically relevant factors that influence the level of officers' job satisfaction. Through an extensive literature search, 53 studies published between 1972 and 2011 were identified. Each of these studies directly examined the factors influencing job satisfaction among police officers. In particular, these studies treated job satisfaction as a primary dependent variable in their analysis, and the samples only included police officers, deputies and constables. In the following section, the most commonly tested independent variables are discussed in terms of their relationship to job satisfaction. Before discussing prior empirical research on job satisfaction, it is necessary to consider briefly the structure and operation of the Korean National Police Agency.

Overview of Korean National Police Agency

Since the central headquarters of the Korean National Police Agency (KNPA) controls the country's entire police force, the agency is quite centralized and hierarchical.⁵ The primary responsibility of the KNPA is to establish and maintain public safety throughout the nation. There are 16 regional headquarters in metropolitan cities and provinces (i.e., the equivalent of state police in the United States), 239 police stations, and 813 district sub-police stations (i.e.,

⁵ According to Bayley's classifications of police force based on dispersal of command and number of forces, South Korea has a centralized single or national police system (Bayley, 1985).

police beats) across the nation, with approximately 100,000 sworn officers, 35,000 conscripted police officers⁶, and 5,000 civilian employees (Korea National Police Agency, 2011).

The first modern police agency in South Korea was established by the Japanese colonial government to keep watch over the Korean people and suppress resistance against the colonial system. In 1945, the South Korean government acquired independence from Japan, but failed to reform the police system. That is, the South Korean police force inherited the organization set up by the Japanese government, and the majority of its police officers had served the Japanese government during the colonial era (Roh, Kwak, & Kim, 2011, p. 14). After the Korean War (1950-1953), the police became a degraded apparatus serving the military government, which had to rely heavily upon the police force to maintain its governance due to its lack of legitimacy (Moon, 2004; Roh & Choo, 2007). Thus politicized, the Korean police were criticized by their people for suppressing the demand for democratization and violating civil rights. Furthermore, the citizen-police relationship was aggravated by several incidences involving the wrongful death of protesters during crime investigations and violent confrontations (Roh et al., 2011, p. 15).

In a recent effort to counter the public image of the police as unkind, untrustworthy, and unfair, the KNPA has worked to launch "Operation Grand Reform 100 Days" and implement community-oriented policing. Since its inception of the Grand Reform in 1999, the primary emphasis has been on washing off the public's long-held negative image of the police and developing a positive relationship between police and citizens. Ironically, a reform effort to

⁶ Conscripted policemen are auxiliary police officers whose main responsibility to assist sworn police officers in lieu of conscripted military service for 21 months. In South Korea, every male who is 20 to 30 years of age must fulfill a conscript service obligation from 21 months (Army) to 24 months (Air Force) (Korea National Police Agency, 2011).

improve police interactions with citizens is a reason that police may feel stress or be dissatisfied with their job, since it relates to the recognition of the lack of citizens' respect for the police. Perhaps because police were then expected to have increased positive interactions with the public, or as a result of these increased interactions, one result of shifting to community-oriented policing has been increased stress or dissatisfaction among police (Kim, 2001; Kim, 1998).

Finally, since the South Korean police force was initially established by the U.S. military government in 1945, Korean police departments are somewhat similar to U.S. police agencies in terms of organizational structures, policies, and philosophy. But, there are some important differences. For example, unlike the U.S. police system, to be a supervising officer, South Korean police personnel must graduate from the Korea National Police University or pass a high-level, national civil service exam. Thus, individuals who begin their careers as patrol officers are rarely promoted to supervisory positions (Park, 2002). As a result, a perceived lack of opportunity for promotion could be a strong predictor of stress or a hygiene factor that is related to job satisfaction among police officers (Kim, Ku, & Yoon, 2002; Park, 2002).

Empirical Findings

Table 3.1 (see Appendix A) lists all of the explanatory variables, including the 53 identified studies examining job satisfaction among police personnel. All of these variables can be grouped into three broad categories: individual-, organizational-, and neighborhood-level factors. Individual-level factors include officer demographic characteristics, such as age, gender, rank, and length of service, as well as work-related factors (e.g., type of work and job assignment). Organizational-level variables involve the factors that are directly related to organization structure, policies, culture and so forth. In particular, based on Klinger's (1997)

theory and other relevant theories, the current study employs three organizational-level factors: workload, divisions (i.e., number of special units and divisions within each police station), and department size. Finally, with regard to neighborhood-level contexts, three social disorganization indicators (i.e., concentrated disadvantage, residential instability, and ethnic heterogeneity), as well as violent crime rates, are included in order to examine the impacts of neighborhood contexts on job satisfaction among police officers. The findings presented in Table 3.1 are discussed in greater detail in the subsequent sections.

Individual-Level Factors

Individual officers' characteristics reflect the inherent uniqueness of the individual self that each police officer brings to his or her daily work. The most commonly considered officerlevel variables in police job satisfaction are mainly the demographic characteristics of individual officers, such as age, gender, education, and race.⁷ Officers' rank, length of service, type of work, and assignment also have been found to be significant predictors of job satisfaction among police officers (Zhao et al., 1999).

Gender

Gender is one individual-level factor that has received a considerable amount of research attention compared to other officer characteristics. However, the relationship between officer gender and job satisfaction has produced inconsistent findings. A few studies suggested that

⁷ The current study does not include officers' education and race in the analytical models mainly due to the unavailability of variables in the original dataset. Moreover, in the context of the Korean police, race is not a major predictor to consider because all police officers who participated in the survey were Asian and of Korean heritage.

male officers express a higher level of job satisfaction compared to female officers (Buzawa, 1984; Winfree et al., 1997). For instance, one of Buzawa's (1984) analytical models suggested that female officers in Oakland reported slightly lower levels of job statisfaction than their male couterparts. Notably, the author pointed out that only two percent of the Oakland police department's officers at the time of the survey were female, which may have led to emotional isolation from their male coworkers. Perhaps as a result, female officers expressed lower level of satisfaction than male officers. More recently, Winfree and his associates (1997) also found that male officers reported higher levels of support for their police organization (a proxy measure for job and organizational satistfaction) than did female officers. In contrast, other studies have produced opposite results with regard to the effect of officer gender on job satisfaction (Buzawa, 1984; Dantzker & Kubin, 1998; Noblet & Rodwell, 2008). For example, using a sample of 1,104 police officers in the Baltimore police department, Dowler (2005) found that male officers were more likely to seek employment outside the police department than their female counterparts. In this research, he used a proxy measure for job dissatisfation (i.e., looking for a new job outside of the police department). Similarly, Noblet and Rodwell (2008) confirmed that Australian state-based male police officers expressed lower levels of intrinsic and extrinsic job satisfaction compared to female officers.

Except for these findings, an overwhelming majority of studies find that officer gender does not significantly influence officers' job satisfaction. Bennett (1997), for example, examined job satisfaction among police officers across three developing nations. His analysis indicated that officer gender did not affect job satisfaction. His findings that officer gender is unrelated to job satisfaction have been supported by a substantial number of studies (Bennett, 1997; Boke & Nalla, 2009; Brough & Frame, 2004; Brunetto et al., 2010; Buker, 2010; Buker & Dolu, 2010; Carlan, 2007; Chan & Doran, 2009; Davey et al., 2001; De Guzman & De Guzman, 2010; Ercikti, 2008; Frost, 2006; Halsted et al., 2000; Lim & Teo, 1998; Miller et al., 2010; Mire, 2005; Moon et al., 2009; Nalla et al., 2009; Reiner & Zhao, 1999; Seltzer et al., 1996; Trojanowicz & Banas, 1985; White et al., 2010; Zhao et al., 1999).

In recent decades, South Korean women have entered the workforce in large numbers, and the policing and law enforcement industry is one of the most recent in which they have begun to work. However, less than 60 percent of South Korea's working-age women participate in the workforce, a relatively low rate of participation compared to other OECD (Organization for Economic Co-operation and Development) countries, which share a commitment to democracy and a market economy (OECD, 2011).⁸ Even more extreme is the low proportion of South Korean women who work as police officers. As of 2011, female police officers accounted for approximately 6.8 percent of the Korean police force, and slightly more than 85 percent of female officers are lower ranking officers, such as patrol officers, senior patrol officers, and assistant inspectors (KNPA, 2011). Despite a growing proportion of women in the South Korean workforce and increasing variation in beliefs about women's roles and responsibilities, the traditional view that a woman's primary responsibility is to be a wife and mother, and that men will be the primary participants in the work force, persists (Hong, 2006; Min, 1995; Park & Liao, 2000, p. 572). For example, using a sample of Korean police officers, Hong (2006) found that about half of the male officers have a negative perception of their female counterparts. Thus, the dominant perception that women should limit their work to the household, or at least to jobs that mirror typical responsibilities in the household, could be a hygiene factor that is related to levels

⁸ According to OECD family database, female employment rates for Sweden, the United Kingdom, Iceland, Australia, and Canada range from 82.5% to 69.3%. Compared with Japan (62.2%), the female employment rate of South Korea is lower, at 57.8% (OECD, 2011).

of job satisfaction among female police officers. This leads to the following assertion for the current research:

Hypothesis 1 (H₁): Male officers are more satisfied with their job and work than females.

Age

Many studies have excluded either age or length of service in their analysis since officers' age and years of service are highly correlated with one another (i.e., multicollinearity problem⁹). Despite this, there are a substantial number of empirical studies examining the influences of age on officers' level of job satisfaction. However, most of the studies on this specific relationship have produced either no significant findings (Buker, 2010; Buker & Dolu, 2010; Coaston-Shelton, 2009; Davey et al., 200; Ercikti, 2008; Frost, 2006; Halsted et al., 2000; Lee 2002 ; Noblet & Rodwell, 2008; Park, J. 2005; Seltzer et al., 1996; Trojanowicz & Banas, 1985) or inconsistent findings.

A few studies have indicated that older police officers are more satisfied with their jobs than younger police officers (Carlan, 2007; Dantzker & Kubin, 1998; Dowler, 2005; Hoath et al., 1998; Krimmel & Gormley, 2003; Reiner & Zhao, 1999). For example, Reinder and Zhao (1999) found that officer age was positively associated with job satisfaction. That is, older security officers who work in the United State Air Force (USAF) expressed a higher level of job satisfaction than younger security officers. Consistent with Reinder and Zhao's study (1999),

⁷ Multicollinearity refers to the existence of more than one exact linear relationship, and collinearity refers to the existence of a single linear relationship. But this distinction is rarely maintained in practice, and multicollinearity refers to both cases (Gujarati, 2003).

Krimmel and Gormley (2003) also reported that officers felt more satisfied with their jobs as their ages increased; these findings were supported by Carlan (2007) as well. Specifically, using a sample of 1,114 police officers from 21 municipal police departments in the state of Alabama, Carlan (2007) found that officers who were older than 53 were the most satisfied (mean = 3.94), followed by those officers who were less than 37 years old (mean=3.84). Officers who were 36 to 52 years of age were the least satisfied with their jobs (mean=3.56). Although this univariate result from a one-way analysis of variance (ANOVA) may suggest a curvilinear relationship between officer age and job satisfaction, the results from a multivariate regression analysis confirmed that there was a significant linear relationship between both variables (b coefficient=.13): police officers feel more satisfaction with their jobs as they get older.

However, a few recent studies have produced divergent results, suggesting older police officers were less satisfied with their jobs than younger officers (Moon et al., 2009; Nalla et al.,2009). For example, Moon and his associates (2009) suggested that Korean officers who are more than 50 years of age expressed a lower level of job satisfaction than younger officers. Interestingly, the authors argued that officers in their 50s may become more cynical about their jobs and lose their trust in the police organization. As a result, they reported a lower level of job satisfaction as compared to younger police officers. Similarly, Nalla et al. (2009) also found that a police officer's age is negatively associated with job satisfaction: the older the police officers, the less satisfied they are with their jobs as compared to younger officers. This is summarized by the following nondirectional hypothesis¹⁰:

¹⁰ A prediction is made, but the exact form of differences (e.g., higher or lower) is not specified because the prior research on this topic has provided mixed results. Thus, it is difficult to predict a direction from past literature.

Hypothesis 2 (H₂): There is a relationship between police officer age and job satisfaction.

Rank

Officer rank has received a considerable amount of research attention as compared to other officer characteristics. Similar to other officer-level factors, the empirical evidence regarding the effect of officer rank on job satisfaction is mixed. A few studies have suggested that police officers with a higher rank are more likely to be satisfied with their jobs than officers with a lower rank (Bennett, 1997; Buker & Dolu, 2010; Boke & Nalla, 2009; Dantzker & Kubin, 1998; Hoath et al., 1998; Sheley & Nock, 1979). For example, a result from the bivariate analysis by Hoath et al. (1998) revealed that officer rank was positively correlated with overall job satisfaction. That is, higher ranked officers were more likely to express higher levels of job satisfaction than their counterparts, although the relationship was not very strong (r=.33). This finding is also supported by a recent study by Boke and Nalla (2009). Using a sample of Cleveland police officers, the authors found that supervisors were more likely to be satisfied with their jobs than line officers. These findings are consistent with prior research conducted in South Korea. More specifically, Lee (2006) conducted a survey among police officers in the Seoul metropolitan police agency and found that higher ranked officers reported a higher level of satisfaction with their jobs as compared to lower ranked officers: inspectors or higher ranked officers reported the highest levels of job satisfaction (mean=3.58), while patrol officers (i.e., police officers) had the lowest score of job satisfaction (mean=3.14). This particular finding does make sense in the Korean context. That is, since South Korea has a centralized police force, in which the KNPA headquarter controls all of the country's police organizations, only six percent of higher ranked police officers (i.e., senior inspectors or higher) are responsible for the

entire Korean police force (KNPA, 2011). Thus, these officials in the KNPA generally have more autonomy, power, and privilege than their lower ranked counterparts, which may lead to an increase in level of job satisfaction among them (Hwang & Kwon, 2005). Similarly, Halsted et al. (2000) found that officers of a higher rank express higher levels of satisfaction with pay and benefits and with opportunities for personal growth and development than do deputies.

However, Zhao and his associates (1999) reported that there was a negative relationship between officer rank and job satisfaction. That is, police officers were more likely to be satisfied with their work than those ranked as sergeants and above. Nonetheless, the authors indicated that the effects of officer rank with other individual-level factors had a limited explanatory power for job satisfaction among police officers in the Spokane police department. More recently, Hwang (2008) found that although the levels of job satisfaction for lieutenants and higher ranked officers did not differ significantly from those of patrolmen, patrolmen were more likely to be satisfied with their jobs than senior patrolmen and sergeants. Apart from these findings, an overwhelming majority of studies have found that officer rank does not significantly influence job satisfaction (Aremu & Adeyoju, 2003; Brough & Frame, 2004; Buker, 2010; Carlan, 2007; Davey et al., 2001; De Guzman & De Guzman, 2010; Dowler, 2005; Ercikti, 2008; Seltzer et al., 1996; Winfree et al., 1997). This leads to the following assertion for the current research:

Hypothesis 3 (H₃): Police officer rank is positively associated with job satisfaction.

Length of Service

The relationship between officer experience and job satisfaction has also produced inconsistent findings. Despite the fact that most studies have failed to demonstrate a statistically

significant effect of length of service on police job satisfaction (Bennett, 1997; Brough & Frame, 2004 ; Boke & Nalla, 2009; Buker, 2010; Buker & Dolu, 2010; Carlan, 2007; Coaston-Shelton, 2009; Davey et al., 2001; Frost, 2006; Krimmel & Gormley, 2003 Lee 2002; Nalla et al., 2009; Seltzer et al., 1996; Trojanowicz & Banas, 1985; Winfree et al., 1997), several others have reported that this factor has a significant influence on job statisfaction. More specificially, a few studies have suggested that officers with longer tenure in a police organization express higher levels of job satisfaction than their less experienced counterparts. For example, Noblet and Rodwell (2008) reported that police officers with more than 25 years in service had a higher level of job satisfaction compared to those officers with five to nine years of experience in the department. Interestingly, the authors indicated that those officers with less than four years, 10-14 years, 15-19 years, and 20-24 years in police service were not significantly different from the reference group (i.e., more than 25 years in service). This finding may suggest a curvelinear or nonlinear relationship (e.g., "U" shaped) between officer experience and job satisfaction (Lim & Teo, 1998; Miller et al., 2010). According to Lim and Teo (1998), Singapore police officers with three to six years in service reported the lowest score of job satisfaction as compared to two other officer groups (i.e., less than 3 years vs. more than 6 years in service). Similarly, Miller and her associates (2010) reported that the lowest levels of job satisfaction were reported by those officers with approximately 10 to 15 years of service. Beyond 15 years of service, reported levels of job satisfaction began to increase.

Most studies have produced divergent results, suggesting that officers with longer tenure in a police organization express lower levels of job satisfaction than their less experienced counterparts (Buzawa, 1984; Dantzker & Kubin, 1998; Ercikti, 2008; Halsted et al., 2000; Hoath et al., 1998; Hwang, 2008; Miller et al., 2010; Mire, 2005; Sheley & Nock, 1979; Zhao et al.,

1999). That is, experienced officers generally are less likely to be satisfied with their jobs than newer officers. An earlier study conducted by Buzawa (1984) found that officers with more years in the service were less likely to be satisfied with their jobs than less experienced officers. This finding has received some support from contemporary studies examining the effect of length of service on job satisfaction. Dantzker and Kubin (1998), for example, analyzed a sample of 4,717 police officers from 14 municipal police agencies in seven states and found that officers felt less satisfied with their jobs as their time in the police department increased. More recently, Mire (2005) found that newer officers reported the highest levels of job satisfaction, whereas officers with more years of experience expressed lower job satisfaction levels. Similarly, using a sample of 1,104 police officers in the Baltimore city police department, Dowler (2005) found that more experienced officers were more likely to be looking for other outside employment, which is a proxy variable for overall job dissatisfaction. In other words, officers with more years of service felt less satisfied with their jobs. This, in turn, encourages police officers to look for another job outside of the police department. Finally, Hwang (2008) also found that Korean officers who served for more than 13 years had significantly lower levels of job satisfaction than those with less than seven years' experience. This is summarized by the following hypothesis:

Hypothesis 4 (H_4) : Police officers with longer tenure are less likely to be satisfied with their job than less experienced officers.

Job Assignment¹¹

An individual-level factor that has received little attention is officers' job assignment. The empirical evidence produced by the few studies that have examined this factor is mixed. Some studies find that an officer's assignment does not influence the likelihood that he or she will be satisfied with his or her job (Davey et al., 2001), while others have found a significant effect of job assignment on job satisfaction (Chan & Doran, 2009; Hoath et al., 1998; Pelfrey, 2007; Reiner & Zhao, 1999; Slate et al., 2007; Seltzer et al., 1996). For example, Hoath et al. (1998) found that officers in patrol units reported significantly lower levels of satisfaction with their jobs than officers in both investigation and administration units. One year later, Reiner and Zhao (1999) estimated six different models using a hierarchical multivariate regression analysis to assess the impact that an officer's job assignment had on job satisfaction. In two models, they found that law enforcement specialists were more likely to be satisfied with their work and coworkers than were security specialists. However, once job dimension variables entered the model, the job assignment variable became an insignificant predictor of job satisfaction, which implies that the work assignment itself is not an important determinant of job satisfaction. Rather, the perceptions of these specialists with respect to the characteristics of an enriched work environment is more important in explaining overall job satisfaction (p.16). More recently, Slate et al. (2007) analyzed a sample of 128 sworn law enforcement officers from six rural police agencies in the state of South Carolina and found that sworn officers not assigned to routine

¹¹ It should be noted that, while "job assignment" can be defined as which functions of the police organization its officers will perform in their daily work, "type of work" is defined as the specific duties of the police officers. For example, an officer can be assigned to the division of criminal investigation and work in the field as a detective or work in the office performing administrative duties. Thus, in the current study, both job assignment and type of work are separately included in further analyses.

patrol units were significantly more likely to be satisfied with their jobs than those in uniform routine patrol units. Finally, Chan and Doran (2009) reported that officers on general assignments (mainly patrol) were less likely to be satisfied with their career as police officers than were officers on other assignments (i.e., investigation, highway patrol, and others).

While the majority of studies have found that an officer's assignment does influence his or her level of job satisfaction, a few studies reported that job assignment had no effect on job satisfaction among police officers. For example, Davey et al. (2001) indicated that job assignment had no significant impact on job satisfaction among Australian state police officers. The results of these studies point to the following assertion:

Hypothesis 5 (H₅): Police officers with non-patrol duties are more likely to express a higher level of job satisfaction than their counterparts with patrol duties.

Type of Work

Another individual-level factor that has received relatively little attention is the type of work officers perform on a daily basis. This is likely due to the fact that this particular variable is highly correlated with job or work assignment, which may lead to a multicollinearity problem among independent variables. In addition, in many studies, the researchers only asked about either an officer's duty or an officer's assignment in their survey questionnaire (Chan & Doran, 2009; Hoath et al., 1998; Hwang, 2008; Pelfrey, 2007; Reiner & Zhao, 1999; Slate et al., 2007; Seltzer et al., 1996). However, the current study includes both of these variables in further analyses since in the Korean context (a strictly hierarchical structure), type of work (inside [desk] duties vs. outside [patrol] duties) is a significant factor that determines an officer's salary, promotion opportunities, and performance rating (Kim & Ji, 2007).

Despite these problems, some police scholars have studied the effect of work type on job satisfaction. For example, Trojanowicz and Banas (1985) found that the Flint (Michigan) foot patrol officers clearly sustained a higher level of satisfaction in their work and exhibited less evidence of dissatisfaction than did motor officers. Moreover, Seltzer et al. (1996) reported that police officers were more satisfied with their jobs if they worked undercover, since undercover officers find their work more interesting. Similarly, Hwang (2008) reported that Korean officers who were engaged in enforcement-oriented outside duty had higher levels of job satisfaction than those who were engaged in non-enforcement-related desk duty. However, a recent report by KNPA indicated that officers who worked inside had a higher level of job satisfaction than those who worked outside (KNPA, 2011). Similarly, Davey et al. (2001) discovered that officers with an active policing role on the streets (i.e., operational duties) reported lower levels of job satisfaction as compared to officers with non-operational duties. Yet, the relationship between these two variables was not statistically significant; this was also supported by Moon et al. (2009). That is, Moon and his associates (2009) found that levels of job satisfaction for officers who worked outside did not significantly differ from those who worked inside. This leads to the following hypothesis for the current study:

Hypothesis 6 (H_6): Police officers who work outside (participate in more operational duties) feel more satisfied with their jobs than those officers who work inside (mainly administrative duties).

Organizational-Level Factors

After reviewing prior research, it became apparent that individual-level factors have a limited explanatory power for job satisfaction. Rather, other work-related factors such as job characteristics, organizational culture, workload, and policies were found to be more significant predictors of job satisfaction among police officers. For example, Zhao et al. (1997) reported that individual-level factors (e.g., ethnicity, gender, education, years of service and rank) only explained six percent of the variance in job satisfaction, whereas five work environment variables accounted for more than 40 percent of the variance in job satisfaction. This finding suggests that organizational-level factors contribute most to the variation in officers' job satisfaction. Since then, there have been studies conducted to examine how organizational-level variables influence job satisfaction among police officers (Buker & Dolu, 2010; Dantzker, 1997; Hwang, 2008; Krimmel & Gormley, 2003; Lee, 2002; Park, 2005). In the current study, organizational-level variables involve the factors that are directly related to an organization's structure, policies, and culture. That is, based on Klinger's (1997) theory and other relevant organizational theories, the current study employs three organizational-level factors to examine the impact of each of these variables on job satisfaction. These three organizational-level factors include workload (number of calls for service per 100 officers), divisions (number of special units and divisions within each police station), and department size (number of police officers in the department).

Workload

Despite the fact that this variable is a theoretically driven factor in Klinger's theory (1997) that district workload is indirectly related to police cynicism, which may negatively influence job

satisfaction, there have been relatively few studies examining the impact of workload on job satisfaction (Buker & Dolu, 2010; Park, 2005). For example, Park (2005) analyzed a sample of 456 police officers in the Seoul metropolitan and Kyounggi provincial police agencies and found that workload for individual police officers was negatively associated with levels of job satisfaction. That is, Korean police officers with a heavy workload reported a lower level of job satisfaction as compared to their counterparts with a lighter workload. In contrast, using survey data collected in Turkey, Buker and Dolu (2010) examined the effect of workload on job satisfaction and found a contradictory effect of workload on job satisfaction. More specifically, the results from hierarchical linear models (HLM) suggested that the number of crimes per officer (i.e., workload) in a jurisdiction was positively related to satisfaction with that officer's supervisor. That is, police officers were more likely to express higher levels of satisfaction with their supervisor as the average workload for each police officer in a district increased. However, it should be noted that the magnitude of coefficient for workload was relatively small (b=.005), even though it was statistically significant. They also found that the effects of workload on satisfaction with the work itself and with coworkers were not statistically significant: police officers' workload had no impact on officers' satisfaction with their work and coworkers. This is summarized by the following hypothesis:

Hypothesis 7 (H₇): Police officers with a heavy workload are less satisfied with their job than those with a lighter workload.

Division / Hierarchy¹²

Another organizational-level factor that has received little attention is department division or hierarchy. The few studies examining the impact of departmental division or hierarchy on job satisfaction have also produced a mixed result. For example, Lee (2002) examined the effect of department hierarchy on job satisfaction among South Korean police officers (i.e., supervisory officers) and found that there was no significant difference in levels of satisfaction relative to their educational training across three different types of divisions or within the department hierarchy (central/regional headquarters, police stations, and police substations). However, one of Hwang's (2008) analytical models suggested that police officers from police stations or police agencies (central or regional headquarters) were more satisfied with their jobs than those who worked in police sub-stations. Hwang (2008) explained this finding in terms of the centralized police structure of the KNPA. In other words, since police sub-stations are at the bottom of the hierarchy of the KNPA, officers in the lower parts of the hierarchy perceive their lower status in the KNPA, which in turn may lead to lower levels of job satisfaction (Hwang, 2008, p.710). More recently, Buker and Dolu (2010) found that a macrolevel organizational process had a significant impact on job satisfaction among Turkish police officers. In particular, in this study, the authors employed a bureaucracy index to measure the level of bureaucracy within the department. The results from hierarchical linear models suggested that a greater bureaucratic index was negatively associated with satisfaction with work,

¹² Since the current study only examines job satisfaction among police officers from 31 police stations in the city of Seoul, there is no significant variation in terms of organizational structures (department hierarchy) and responsibilities. Thus, the current study uses number of divisions within the department as a proxy variable to represent the complexity of the police department. For example, the Seoul Songpa police station has 31 divisions (including police boxes, substations), whereas the Bangbae police station consists of 13 divisions.

coworkers, and supervisors. That is, police officers perceiving more bureaucracy in their departments were significantly less satisfied with their work, coworkers, and supervisors. This leads to the following assertion for the current research:

Hypothesis 8 (H_8): Police officers in more complex departments are less likely to be satisfied with their jobs than those in simpler departments.

Department Size

Although the effect of organizational size on job satisfaction has been well-documented in other disciplines (e.g., organizational and industrial psychology), this particular relationship has been neglected in policing literature. According to organizational theories, the increased size of an organization increases divisions of labor and status differentiation, with both leading to a lower level of employee satisfaction (Talacchi, 1960, p.401). That is, increased divisions of labor narrow the scope of an individual's work and the functional responsibilities of the job, thus depriving the worker of such nonmaterial rewards as pride in workmanship. As a result, the levels of job satisfaction among employees may decrease accordingly. In addition, in large organizations, a hierarchy of formal status relationships arises that has no necessary connection with the various networks of informal group relationships. The informal group relationships may become distorted and the communication gap between the upper and lower strata may increase, which in turn may lead to an increased potential for interpersonal conflict and, eventually, decreased levels of satisfaction among employees (Talacchi, 1960, p.402). Using a sample of 93 industrial organizations, Talacchi (1960) found that the size of an organization was inversely associated with the general level of employee satisfaction: the larger the organization, the lower the employee satisfaction.

In policing literature, Dantzker (1997) examined the effect of department size on job satisfaction. More specifically, the author created a categorical variable for department size (i.e., fewer than 100 officers, 101-500 officers, and more than 500 officers) to assess how department size influences individual officers' level of satisfaction with administration, extras, equipment, and their jobs. Although he employed a bivariate analysis, the results from the analyses were quite interesting. That is, officers in police agencies with fewer than 100 sworn officers (the first group) were the most satisfied with general administration (e.g., pay, in-service training, supervisor availability, inter-department transfer), while officers in agencies employing 101 to 500 officers (the second group) were the least satisfied. With regard to satisfaction with extras and benefits (e.g., insurance, overtime compensation), the first group was the most satisfied with their extras and Group 2 was the least satisfied. Group 3 (more than 500 officers) had a higher level of satisfaction with these extra benefits than Group 2 (mean=2.78 and 2.61, respectively). Moreover, regarding satisfaction with equipment, the first group was the most satisfied and the third group was the least satisfied. Finally, for overall job satisfaction, officers from the agencies employing fewer than 100 sworn officers were more likely to be satisfied with their jobs than those in the other two groups. That is, officers who work in a smaller department are more satisfied with their jobs than those in a larger department. However, Krimmel and Gormley(2003) found that total number of police officers (i.e., department size) was not a statistically significant predictor of levels of job satisfaction among female officers. The results of these studies point to the following hypothesis:

Hypothesis 9 (H₉): Department size is negatively related to an individual officer's level of job satisfaction.

Neighborhood-Level Factors

Neighborhood-level characteristics are factors associated with the community. That is, these neighborhood-level factors are inherent to the characteristics of the neighborhoods in which police officers are assigned and perform their duties on a daily basis, but do not relate to individual officers or other features surrounding the police department (i.e., organizational-level factors). During the last three decades, several studies have employed neighborhood-level factors in their analysis to explain police behaviors and attitudes (Heraux, 2006; Ingram, 2007; Lee et al., 2010; Mastrofski et al., 2002; Riksheim & Chermak, 1993; Smith, 1986; Sobol, 2009; Sun et al., 2008; Terrill & Reisig, 2003). More specifically, many of these studies suggested that neighborhood-level factors potentially influence an officer's decision-making and attitude. Mastrofski and his associates (2002), for example, found that police officers were significantly more likely to behave disrespectfully in neighborhoods characterized by higher levels of disadvantage. Thus, the current study incorporates theoretically and empirically relevant neighborhood-level variables into the analysis to enhance our understanding of the impact of neighborhood contexts on job satisfaction. In particular, violent crime rate, residential instability, economic disadvantage, and immigrant concentration are included in a multilevel analysis.¹³

Crime Rate

It seems rather intuitive that police officers assigned to dangerous neighborhoods would be less satisfied with their jobs due to the inherent danger that might be posed to the officer.

¹³ It should be noted that since social disorganization indicators are theoretically and empirically important predictors of violent crime rates in the U.S. context (see Sampson et al., 1997), there may be a serious multicollinearity among those variables. In order to avoid such a problem, the current study will conduct several multicollinearity tests (for the results from these tests, please see Chapter 5).

However, few studies actually assess the impact of crime rates on job satisfaction and the empirical evidence regarding its effect is mixed. Several studies have reported that crime rate was negatively associated with job satisfaction. For example, Kim (2001) examined overall job satisfaction among 373 patrol officers in South Korea and found that officers' perception of crime in a district was not significantly associated with levels of job satisfaction. More recently, Buker and Dolu (2010) found that crime rate in a jurisdiction was negatively related to satisfaction with coworkers. That is, as crime rate in a district increased, officers' level of satisfaction with their coworkers consequently decreased. Lastly, although Sobol's (2009) study did not directly test the impact of violent crimes on job satisfaction, his finding is worthy of further discussion. More specifically, consistent with Klinger's theory (1997), the author found that district crime levels significantly influenced levels of police cynicism: officers assigned to higher crime districts were more cynical about those districts' residents. Furthermore, since a number of studies found that there is an inverse relationship between cynicism and job satisfaction among police officers (see Johnson, 2007), it is reasonable to hypothesize that with increasing levels of district violent crime, officers are less satisfied with their jobs.

However, a few studies have reported null findings for the effect of crime rates on job satisfaction. Specifically, Bennett (1997) found that officers' perceptions of the magnitude and violence of crime they encounter showed no significant impact on their job satisfaction. This finding has been reported in another study conducted in Turkey (Buker, 2010). This is summarized by the following research hypothesis:

Hypothesis 10 (H_{10}): District crime rates are inversely related to officers' job satisfaction.

Social Disorganization Indicators

Although there are a few studies examining the impact of neighborhood-level factors on job satisfaction, social disorganization indicators (i.e., residential instability, economic disadvantage, and immigrant concentration) have rarely been used to estimate this particular relationship. This is quite surprising because there are a considerable number of studies on other types of police behaviors such as use of force (Heraux, 2006; Lee et al., 2010; Smith, 1986; Sun et al., 2008; Terrill & Reisig, 2003), arrest (Riksheim & Chermak, 1993), traffic citations (Ingram, 2007), and misconduct (Kane, 2002). For example, Kane (2002) found that police officers were more likely to misuse and/or abuse their authority and engage in misconduct behaviors in socially disadvantaged neighborhoods. More recently, Terrill and Reisig (2003) estimated the effect of a neighborhood's level of disadvantage on an officer's decision to use force and found that officers were more likely to use force in areas characterized by higher levels of disadvantage. Similarly, Ingram (2007) reported that officers issued more citations in encounters occurring in neighborhoods with a lower economic status and a higher percentage of black and Hispanic residents. However, Sun and Payne (2004) discovered that a neighborhood's level of disadvantage did not influence whether an officer resorted to coercive means to settle a dispute between citizens. They also indicated that force was more likely to occur in predominately white areas. Similarly, Lawton (2007) found that officers were no more or less likely to use force in neighborhoods with higher levels of heterogeneity than those characterized as more homogenous.

These findings suggest that more crime and disorder problems occur in these disorganized neighborhoods and, consequently, the probability that police officers will need to engage in responsive actions is greater. This may influence individual police officers' job satisfaction. In other words, since neighborhoods with higher levels of concentrated disadvantage, residential instability and immigrant concentration frequently experience a high volume of crime and deviance, the police officers assigned to these disorganized neighborhoods may handle more cases and may often experience hostility or complaints from citizens. As a result, police officers may be less satisfied with their work than those assigned to less disadvantaged neighborhoods. This leads to the following hypothesis:

Hypothesis 11 (H ₁₁):	Police officers assigned to disadvantaged neighborhoods
	(characterized by higher levels of residential instability, economic
	disadvantage, and immigrant concentration) are less satisfied with
	their job than those who work in better neighborhoods.

- H_{11-1} : Residential instability is negatively related to job satisfaction.
- H_{11-2} : Economic disadvantage has an inverse impact on job satisfaction.
- H_{11-3} : Immigrant concentration is negatively associated with job satisfaction.

Table 3.2 summarizes research hypotheses and expected relationships between

individual-, organizational-, and neighborhood-level variables and officers' job satisfaction.

	Unit of Analysis	Variables 1		Expected Relationship with DVs	
H_{1}	Individual Level	Gender	+	Male > Female officers	
${\rm H}_2$	Individual Level	Age	+/-	Older ≠ Younger	
H ₃	Individual Level	Rank	+	Managers > Patrol officers	
H ₄	Individual Level	Length of service	_	Experienced < Inexperienced officers	
H_5	Individual Level	Assignment	+	Non patrol > Patrol officers	
Н ₆	Individual Level	Type of work	+	Outside > Inside working officers	
H_{7}	Organizational Level	Workload	_	Higher < Lower workload	
H_8	Organizational Level	Divisions	_	More divisions < Less divisions	
H9	Organizational Level	Department size	_	Bigger < Smaller departments	
H ₁₀	Neighborhood Level	Crime Rate	_	Higher < Lower crime rate neighborhoods	
H ₁₁₋₁	Neighborhood Level	Residential instability	_	Higher < Lower levels of residential instability neighborhoods	
H ₁₁₋₂	Neighborhood Level	Economic disadvantage	_	Rich < Poor neighborhoods	
H ₁₁₋₃	Neighborhood Level	Immigrant concentration	_	Higher < Lower levels of immigrant concentrated neighborhoods	

 Table 3.2 Summary of Research Hypotheses

Shortcomings of Prior Research

This review has hinted at several shortcomings of prior research focusing on police job satisfaction. First, none of the prior empirical research takes into account neighborhood contexts that influence police officers' job satisfaction. With the exception of a few studies (Bennett, 1997; Buker, 2010; Buker & Dolu, 2010), the influence of neighborhood factors on job satisfaction has not been fully explored. This lack of research is quite surprising because the characteristics of police work and work environment have long been cited as significant predictors of the values and attitudes of the police (Crank, 1998; Morash et al., 2006; Skolnick, 1975; Sobol, 2009). Second, a few studies that examined the impact of neighborhood contexts on job satisfaction are lacking a theoretical foundation that explains why police officers feel differently about their work and workplace across neighborhoods. These studies also fail to incorporate some important theoretically relevant neighborhood factors, such as concentrated disadvantage, immigrant concentration, and residential instability into their analysis (see Kane, 2002; Ingram, 2007; Terrill & Reisig, 2003). Another drawback of extant research is the fact that most of the previous research either examined the influences of individual-level variables exclusively or used neighborhood contextual variables in individual-level analyses, with the exception of one study (i.e., Buker & Dolu, 2010). This conventional approach has two major problems: 1) violation of the assumption of independence for regression analysis and 2) inability to assess independent effects of neighborhood-level factors on job satisfaction while controlling for individual-level factors.

Finally, a majority of prior studies on job satisfaction are limited to police officers in the U.S. and other European countries. Although comparative research has been increasing over the last few decades, most research has focused on the individual, work-related, and organizational factors influencing job satisfaction. That is, studies on job satisfaction in other countries have largely neglected the impacts of neighborhood contexts on job satisfaction among police officers. South Korea is no exception, and research examining neighborhood characteristics that influence job satisfaction is not extensive. In fact, virtually no empirical studies have been conducted to

examine the impact of neighborhood contexts on job satisfaction among South Korean police officers.

Chapter Summary

This chapter has offered a brief overview of the Korean police force, especially how its history, structure, organization, and policies have a significant impact on individual police officers' job satisfaction. The chapter has also provided a comprehensive review of the empirical status of job satisfaction research among police officers. This review has identified several interesting facts regarding the study of police job satisfaction. First, most individual-level factors have provided inconsistent findings across studies. That is, most of the explanatory factors produced mix results from one study to the next, and sometimes within a single study. More importantly, these individual factors have limited explanatory power for job satisfaction. Second, although studies examining the effects of organizational-level factors on job satisfaction have yielded mixed results, these variables offered a good explanation of the variance in job satisfaction (see Zhao et al., 1999). Lastly, few studies incorporate neighborhood-level factors in their analyses. Given the influence of this factor on other police behaviors and attitudes, it is surprising to find so few studies considering the neighborhood-level factors' influence on job satisfaction, most of which focus on crime rates in neighborhoods.

Given these limitations, this research will examine the effects of neighborhood characteristics on job satisfaction among South Korean police officers. In particular, the current study attempts to answer the following research questions:

1) To what extent do neighborhood characteristics affect police officers' job satisfaction?

- 2) How do organizational factors affect police officers' level of job satisfaction?
- *3)* What are the relationships between individual characteristics and job satisfaction among police officers?
- 4) After controlling for the net of individual characteristics, do neighborhood or organizational characteristics still remain strong or significant predictors?

CHAPTER IV. METHODS

This chapter describes the data and methodology used to examine the effects of neighborhood contexts on job satisfaction among police officers. More specifically, secondary data collected in the city of Seoul, South Korea, were used to assess this particular relationship. The chapter also presents the data collection procedures used to collect all necessary individual, organizational, and neighborhood information. The subsequent sections provide a discussion regarding the operational definitions and measurements of independent and dependent variables used in the analysis. Finally, the analytical techniques used to assess the impact of the predictors on job satisfaction are discussed.

Research Site: Seoul, South Korea

Seoul is the capital city of South Korea, with a population of approximately 10 million people. It is the largest metropolis in South Korea; one-fourth of the Korean population lives in the Seoul Special City. As of 2009, approximately 51 percent of the city population was female, and almost 80 percent of the population was 20 years old or older. Moreover, 37 percent of the adult population held a college degree or post-baccalaureate degree. Among the five million economically active residents, only about five percent are unemployed, a figure that includes both full- and part-time workers. The average monthly household income was approximately US\$ 2,500. Finally, more than half of the population was married (54%), and there were some 250,000 foreigners residing in the city (2.4%), with the largest concentration of foreigners found in the Yongsan district (GU) and its surrounding areas (Seoul metropolitan government, 2011).

As shown in Figure 1, Seoul is divided into 25 districts (i.e., GUs). The physical size of each district varies from 10 to 47 km² and there is a considerable variation in terms of each district's population, ranging from less than 140,000 to as many as 630,000. The government of each district has been functioning as a self-governing administrative unit since July, 1995. Each district is divided into "Dong" and the Dongs are further sub-divided into "Tong". There are 522 administrative Dongs and approximately 14,000 Tongs in the city of Seoul (Seoul metropolitan government, 2011).



Figure 4.1 Research Site: Seoul, South Korea

The primary police force for the city of Seoul is the Seoul Metropolitan Police Agency (SMPA), which is one of 16 provincial police organizations in the country. Under the control of the SMPA, there are 31 police stations that provide formal social control and service for Seoul citizens across 25 districts. As illustrated in Figure 2, most of the administrative boundaries (districts) coincide with police jurisdictions, with the exception of six districts. Since these six districts generally have a higher population density and consequently, a higher police workload, two police stations provide traditional police service for citizens in each district (see the shaded districts in Figure 4.2) (KNPA, 2011).



Figure 4.2 Police Jurisdictions in Seoul (N=31)

Data

There are three datasets for the current study, which were obtained from the Korea National Police Agency, Korean Census Bureau, and Seoul Development Institute: the self-reported police officer survey data (i.e., job satisfaction survey)(2006); Seoul police stations' official crime data (2005); and Korean census data (2000).

Job Satisfaction Survey

The data used in this study originated from a survey that was administered in 2006 by the Research R&A Corporation on behalf of the Korean National Police Agency (KNPA) in the city of Seoul in an attempt to examine police officers' job satisfaction with work environment and workplace conditions.¹⁴

¹⁴ It is possible that officers who spend more years in a high crime district and transfer to a low crime district (or vice versa) may feel differently than officers who only work in the same district for their tenure. Unfortunately, the survey was conducted once by the research company (i.e., a cross sectional survey) and there was no measure of the district exposure variable. Thus, the current study cannot capture these temporal aspects or changes of job satisfaction among the officers. However, according to the Korean Policeman's Duties Execution Act (2011), police officers cannot be transferred to another district or duty within 1 year (2 years for internal affairs officers) in order to maintain organizational effectiveness and improve the officers' efficiency. The act does not specify how often officers have to be transferred to another police district or station and assigned to other duties. In practice, a promotion is the most common procedure used to assign or transfer officers (Lim, 2006). However, a promotion takes several years of service for officers. For example, a promotion from police officer to senior police officer rank takes more than 6 years (a senior police officer's promotion to assistant inspector = 7 years or more). When officers are promoted, they are usually asked to work in another division within the same police station, which means that officers are not transferred from one station to another every time they are promoted (i.e., transfer is common within districts, but rare across them). Thus, it can be assumed that Korean police officers usually work in the same district or police station for a longer period of time.

Abb.	Districts (GUs)	Police Stations	Frequency	Percent
GN	Gangnam	Gangnam & Suseo	71 (40+31)	7.0
GD	Gangdong	Gangdong	37	3.6
GB	Gangbuk	Gangbuk	34	3.3
GS	Gangseo	Gangseo	35	3.4
GK	Gwanak	Gwanak	34	3.3
GG	Gwangjin	Gwangjin	43	4.2
GR	Guro	Guro	34	3.3
GC	Geumcheon	Geumcheon	40	3.9
NW	Nowon	Nowon	30	2.9
DB	Dobong	Dobong	31	3.0
DD	Dongdaemun	Dongdaemun	42	4.1
DJ	Dongjak	Dongjak	37	3.6
MP	Маро	Маро	38	3.7
SD	Seodaemun	Seodaemun	31	3.0
SC	Seocho	Seocho & Bangbae	59 (32+27)	5.8
SO	Seongdong	Seongdong	34	3.3
SB	Seongbuk	Seongbuk & Jongam	56 (27+29)	5.5
SP	Songpa	Songpa	36	3.5
YC	Yangcheon	Yangcheon	37	3.6
YD	Yeongdeungpo	Yeongdeungpo	32	3.1
YS	Yongsan	Yongsan	37	3.6
EP	Eunpyeong	Eunpyeong & Seobu	57 (24+33)	5.6
JN	Jongno	Jongno & Hehwa	56 (27+29)	5.5
JU	Jung	Jungbu & Namdaemun	42 (21+21)	4.1
JA	Jungnang	Jungnang	38	3.7
Total:	25	31	1,021	100

Table 4.1 Sample Selection

Note: Abb.= Abbreviation

Using a stratified sampling method, 1,021 police officers were randomly selected and completed the survey. The researchers divided police officers from the 31 police stations in Seoul into homogeneous subgroups (i.e., stratums), based on rank, duties, and divisions, before random sampling. Subsequently, they randomly selected a certain number of police officers

from each police station and sent the survey questionnaire via the Korean postal service. Once the officers completed the survey, they returned it to either the designated officer or the human resource office in each station. This particular procedure allowed the researchers to improve the representativeness of the sample by reducing sampling error (Maxfield & Babbie, 2011).

However, it should be noted that the researchers did not specify the response rate in their final report. The only available information on the final report is the number of officers who completed and returned the survey to the research company in each police station (see Table 4.1). Unlike U.S. police surveys, some previous studies of police officers' attitudes in South Korea have produced a higher response rate (Lee, 2002; Morash et al., 2008). For example, Morash et al. (2008) reported that there was an unusually high response rate for their study as compared to other U.S. police surveys. Morash and her associates distributed a total of 700 surveys to police officers in the Chungbuk Provincial Police Agency (CBPA), which served as one of Korea's fourteen provinces in 2006. Among the 700 distributed surveys, 676 surveys were returned, a response rate of approximately 97 percent.

Official Statistics of SMPA

In addition to the survey data, official data for crime rates and other organizational statistics (e.g., the number of police officers, the number of sub-divisions and special units within a police station, and information about the number of calls for service) were obtained from the SMPA, as well as the KNPA. In 2004, the KNPA introduced a new place-based crime recording system in which crimes were recorded based on the location of their occurrence (Hwang, 2006). These new placed-based crime statistics are more accurate than those in the previous system, in which crime data were collected through police stations that handled crimes regardless of where

they occurred (Hwang, 2006, p. 111). For the current study, violent crime rates (2005) are used to represent levels of violence across the 25 districts (GUs). Lastly, official statistics of the SMPA are also used to measure organizational-level factors such as workload, department divisions, and department size, which are considered to negatively relate to individual officers' job satisfaction.

Korean Census Data

In order to measure neighborhood-level factors, Korean census data (2000) were obtained from Statistics Korea (formerly known as Korean Statistical Office). The Korean census is a statistical survey intended to determine the demographics of the entire population, as well as the number, structure, distribution, and characteristics of households and housing in South Korea (Statistics Korea, 2011). Although the census data provide rich information on population and households, the current study only includes specific populations (e.g., day-time population index, percent of foreigners, and population movement) and economic statistics of each district (e.g., percent of rented houses, percent of the population living below the poverty line, rate of auto vehicle ownership, college-degree rate, mobile-device ownership rate, and personal computer ownership rate), which have been obtained from the 2000 Korean census.

Operationalization of Neighborhoods

Although the definition of neighborhood has varied across numerous studies, in general, a neighborhood can be defined as a small physical area embedded within a larger area in which people inhabit dwellings (Bursik & Grasmick, 1993, p.6). Based on an analysis of forty peer-reviewed studies that examined the impact of neighborhood contexts on crime or other outcomes,

Sampson et al. (2002) argued that there was very little consistency across studies in the way neighborhoods were operationalized or theoretically situated. They found that the U.S. Census tracts were the most common measure of neighborhoods (N=19) (e.g., Bellair, 2000; Lanctot & Smith, 2001; Peterson et al., 2000; Sampson & Raudenbush, 1999). Other studies used the following as neighborhoods: neighborhood clusters (Morenoff et al., 2001; Sampson et al., 1997), postal sectors (Steptoe & Feldman, 2001), ZIP codes (Baumer & South, 2001; South & Baumer, 2000), census block groups (Coulton, Korbin, Chan, & Su, 2001; Elliott et al., 1996), and police beats (Terrill & Reisig, 2003). For example, Terrill and Reisig (2003) used police beats to reflect existing neighborhoods in Indianapolis, Indiana, and St. Petersburg, Florida, and found that police officers were more likely to use higher levels of force when suspects were encountered in disadvantaged neighborhoods.

Given the variation in neighborhood definitions, Sampson et al. (2002) indicated that "administratively defined units such as census tracts and block groups are reasonably consistent with the notion of overlapping and nested ecological structures" (p. 445). Based on this idea, the current study uses a district (GU) as a proxy measure of a neighborhood unit for the following reasons. First, with regard to administrative divisions, South Korea is divided into 8 provinces (DO), 1 special autonomous province (JeJu), 1 special city (Seoul), and 6 metropolitan cities. These are further subdivided into a variety of smaller units including cities (SI), counties (GUN), districts (GU), and towns (EUP). At the municipal level, there are 77 cities and 85 counties in South Korea. In particular, cities with a population of over 500,000 are divided into districts (GU), which are equivalent to the districts in Western countries (e.g., boroughs in the city of London). More specifically, the city of Seoul is divided into 25 GUs, which are further
subdivided into 522 Dongs. The physical size of each GU in Seoul ranges from 6 to 30 square miles. Compared to the U.S. census structure, the average physical size of a GU is somewhat larger than the census tracts¹⁵, but rather smaller than counties (i.e., similar to ZIP code areas in the U.S.). In terms of size and setting, Dongs (sub-units of a district or GU) provide the geographic unit closest in conception to a neighborhood in the U.S. context (i.e., U.S. census tracts). Admittedly, larger geographic units such as districts are probably inferior to census tracts (i.e., Dongs) as a geographic approximation of neighborhoods, but prior studies suggest that they are not without value (Baumer & South, 2001, p.543). For example, Brooks-Gunn and his associates (1993) confirmed that there are stronger effects of neighborhood affluence on school drop-out rates when using ZIP code areas rather than the more commonly used census tracts (also see Billy, Brewster, & Grady, 1994). District areas (GUs) also have one distinct advantage over sub-district units such as Dongs: unlike Dong-level data, which generally provide limited information¹⁶, districts include most economic and demographic statistics, since the smallest units of Korean census data are districts and most of the census information is surveyed based on GUs (districts), not Dongs.

Moreover, although there are several Dongs within a district (GU), the general characteristics of Dongs are similar to each other, which means that each district has several homogeneous sub-groups (i.e., Dongs) rather than heterogeneous groups. According to the Local Government Act (2011), a GU is a self-governing administrative unit headed by a mayor

¹⁵ The Census Bureau requests that the average population of all census tracts in a county be approximately 4,000 people with approximately 1,500 housing units (U.S. Department of Commerce, 2011).

¹⁶ It should be noted that number of household, population and gender ratio are the only official statistics available at the Dong level.

elected by its residents. Since the mayor of a GU has a responsibility to govern Dongs within the GU, all Dongs are more likely to share common characteristics. For example, Seocho GU is an average-sized district in the city of Seoul, with a population of approximately 400,000, and which is further divided into 18 administrative Dongs. The results from one-way ANOVA analyses confirmed that there are no significant differences or variations across these 18 Dongs in terms of their demographic characteristics, including average size of household, gender ratio, and percent of the population 65 years old and over. The average size of households for each Dong ranges from 2.25 to 3.02 persons per household with a mean of 2.64. The gender ratio for each dong also varies, from 49.30% to 52.92%, which means that slightly more than half of the population is female. Finally, approximately less than 10% of the population is 65 years old and over across the 18 Dongs.

Another reason to use districts as units of analysis for the current study is that many studies examining neighborhood characteristics' effects on crime and other human behaviors in Korea have operationalized a district as a neighborhood unit (Cheong & Kwak, 2008; Hwang, 2006). For example, Cheong and Kwak (2008) examined the impact of district-level variables (considered as neighborhood characteristics) on crime rate and found that some district-level factors such as ethnic heterogeneity (percent of foreigners in the district population) were positively associated with levels of crime across districts: districts with a higher proportion of foreigners were more likely to experience crimes than those with fewer foreigners.

Measurement

Dependent Variables: Job Satisfaction

As discussed in the previous chapter, job satisfaction can be easily defined as an employee's emotional reaction to his or her job and its different aspects. However, operational definitions of job satisfaction have been developed in many different ways. For example, Smith et al. (1969) developed 72 items (JDI: Job Descriptive Index) to assess five facets of job satisfaction, namely, the work, pay, promotions, supervision, and coworkers. Similarly, Spector (1985) created 36 items based on nine job facets, including pay, promotion, supervision, benefits, contingent rewards, operating procedures, coworkers, nature of work, and communication. Moreover, Hackman and Oldham (1974) developed the job diagnostic survey (JDS), which measures both overall (a single composite measure) and specific facets of job satisfaction (e.g., security, compensation, coworkers, and supervision). After reviewing 53 prior studies on job satisfaction among police officers, it is apparent that the majority of studies examining officers' levels of job satisfaction have used both overall and specific facets of job satisfaction measures. For example, Zhao et al. (1999) used three scales of job satisfaction to measure an officer's satisfaction with his or her work, supervisor, and coworkers (also see Buker & Dolu, 2010; Chan & Doran, 2009; Howard et al., 2004; Halsted et al., 2000).

Consistent with prior research, the current study includes two types of dependent variables that are used to investigate the effects of neighborhood contexts on job satisfaction for police officers in South Korea.¹⁷ The first dependent variable is a measure of overall job

¹⁷ An important matter of concern for this current study is to accurately match the survey responses to the surveyed officers within their area of assignment. Thus, in the current study, individual police officers and their responses are matched with the 25 districts and 31 police stations to which they were assigned, using the police station ID number in the original dataset.

satisfaction (i.e., global measure). In the survey, the researchers asked police officers to indicate their level of job satisfaction by using a single question, *"How satisfied are you with your job?"* The responses were coded into a seven-point Likert scale (1=very dissatisfied, 2=moderately dissatisfied, 3=slightly dissatisfied, 4=neutral, 5=slightly satisfied, 6=moderately satisfied, and 7=very satisfied). The second dependent variable is created based on specific facets of job satisfaction. The facets measured on the survey include work/equipment (Dantzker & Kubin, 1998; Dantzker, 1997; Zhao et al., 1997), personnel management (Chan & Doran, 2009; Howard et al., 2004), salary/benefits (Hsich & Hsich, 2010; Howard et al., 2004) and supervisors/coworkers (Brunetto et al., 2003; Buker & Dolu, 2010; Reiner & Zhao, 1999) (see below Table 4.2).

Variables	Measurement
Overall Job Satisfaction (Global)	7 Point-Likert scale (1=Very Dissatisfied to 7=Very Satisfied)
Facets of Job Satisfaction Satisfaction with Work/Equipment Satisfaction with Personnel Management Satisfaction with Salary/Benefits Satisfaction with Supervisors/Coworkers	Bartlett factor score (5 Items) Bartlett factor score (3 Items) Bartlett factor score (3 Items) Bartlett factor score (3 Items)

In order to ensure the validity and reliability of the scales, several statistical analyses are used. First of all, to create the latent structure of items (i.e., scales) and validate the scales, an exploratory factor analysis (EFA) based on maximum likelihood (ML) extraction with a direct oblimin (oblique) rotation is conducted. Fabrigar et al. (1999) argue that a factor analysis based on ML extraction with an oblique rotation method produces a much better simple structure, more interpretable results, and more theoretically plausible representations of the data than a principal components analysis with a varimax rotation, the method traditionally used for creating scales in criminal justice publications. In particular, since the original survey questionnaire measured several facets of job satisfaction (e.g., work environment, personnel management, salary & benefit package, communication, training and overall satisfaction: also see Appendix D), several EFA are employed according to those specific facets of job satisfaction. Second, to access internal consistency, reliability coefficients (Cronbach's alpha) are calculated. Finally, factor scores (Bartlett scores) are used to represent each scale, and thus each scale has a mean score of 0 and a standard deviation of 1 (or close to 0).

Table 4.3 illustrates the results from several factor analyses. First, satisfaction with work and equipment captured 67.57 percent of the variance in the five items. The factor loadings for all indicators were statistically significant at 0.01 levels and had moderate to high factor loadings ranging from 0.65 to 0.87. Also, the reliability coefficient of the scale was .88. Second, satisfaction with personnel administration and with salary and benefits explained approximately 82 percent and 80 percent of the variance in the three items, respectively. The factor loadings and reliability coefficients of both scales were statistically significant and had an acceptable range.

Survey Items	Factor Loading	% of Variance	Cronbach's α
Satisfaction with Work and Equipment			
(e.g., Dantzker, 1997; Zhao et al., 1997)			
Q1. Satisfaction with Shift work	.65	67.57	.88
Q3. Satisfaction with Uniform	.80		
Q4. Satisfaction with Equipment	.87		
Q5. Satisfaction with Personal Weapons	.75		
Q6. Satisfaction with Patrol Vehicles/Motorcycles	.78		
Satisfaction with Personnel Management			
(e.g., Chan & Doran, 2009)			
Q8. Satisfaction with Promotion	.86	81.72	.89
Q10. Satisfaction with Incentive	.88		
Q11. Satisfaction with Assignment	.82		
Satisfaction with Salary and Benefits			
(e.g., Howard et al., 2004)			
Q13. Satisfaction with Salary	.82	79.54	.87
Q15. Satisfaction with Overtime Pay	.80		
Q16. Satisfaction with Benefits	.87		
Satisfaction with Supervisors and Coworkers			
(e.g., Buker & Dolu, 2010)			
Q18. Satisfaction with Supervisor	.93	76.22	.84
010 Satisfaction with Supervisor Performance	02		
Q17. Satisfaction with Coworkers & Other	.92 57		
Agencies Communication	.37		

Table 4.3 Measurements of Multiple Facets of Job Satisfaction

Note: Maximum Likelihood factor analysis of extraction method and oblique rotated factor pattern with Kaiser Normalization.

Finally, satisfaction with supervisors and coworkers captured about 77 percent of variance in the three survey items. The factor loadings for the items ranged between .57 and .93, which were also statistically significant. Lastly, the result from the reliability test indicated that this scale has an acceptable reliability (α =.84).

Individual-Level Variables

According to situational theories (e.g., Quarstein et al., 1992), job satisfaction may be influenced by the interaction between the job, the organization, and the individual. In particular, the current study mainly focuses on individual-level characteristics that reflect the inherent uniqueness of a given police officer involved in daily police work, such as officer gender, age, rank, length of service, type of work, and assignment.

Variables	Description	Measurement
Gender	Officer gender	0=Female 1=Male
Age	Officer age	0=20-29 years old 1=30-39 years old 2=40-49 years old 3=50 or more years old
Rank	Officer rank	0=Patrol officer 1=Middle manager/Supervisor
Length of Service	Number of years in service	0=Less than 5 years 1=5-9 years 2=10-19 years 3=20 or more years
Assignment	Job assignment	0=Patrol 1=Non-patrol
Work Type	Type of work	0=Work inside (Office work) 1=Work outside (Enforcement type)

 Table 4.4 Description of Individual-Level Variables

Regarding officer demographic characteristics, officer gender is used to distinguish levels of job satisfaction between male and female officers (0=Female and 1=Male). The age of officers is measured by a categorical variable: 0=20-29 years old, 1=30-39 years old, 2=40-49

years old, and 3=50 years or older (see Nalla & Kang, 2011). Race and ethnicity, which were relatively important variables in U.S. research, are not included as independent variables because all police officers are Asian and of Korean heritage.

With regard to officer rank, in the survey, the researchers used a categorical variable with six different ranks, ranging from police officer to superintendent or higher ranked officials. Due to the fact that most respondents were police officers, senior police officers, and assistant inspectors (79.25%), who perform tasks that bring them into the most contact with the public (mainly patrol works), officer rank is collapsed into a dichotomous variable (0=patrol officer and 1=middle manager/supervisor) (see Boke & Nalla, 2009). Middle manager or supervisor comprises inspector, senior inspector, and superintendent or higher ranking officers. Similarly, job assignment is coded 0=patrol and 1=non-patrol (see Slate et al., 2007). Non-patrol assignments include criminal investigation, traffic, public relations, internal affairs, human resources, and intelligence.

Measure of type of work is adapted from Hwang (2008). Type of work is also measured as a binary variable: 0=work inside and 1=work outside. As Hwang (2008) noted, officers who engage in office work (i.e., work inside) generally perform non-enforcement type administrative tasks, while outside duties usually involve law enforcement. The final individual-level officer characteristic, length of service, was measured as a categorical variable (0=less than 5 years, 1=5-9 years, 2=10-19 years, and 3=20 or more years) (see Nalla & Kang, 2011).

Organizational-Level Variables

Table 4.5 lists the organizational-level variables used to explain job satisfaction in this study, their definitions, and how they are measured. More specifically, based on Klinger's theory

(1997), which posits that police officers' behavior (i.e., vigor of police action) is directly and indirectly associated with levels of deviance, workload, and cynicism, the current study includes workload, department divisions, and department size to measure the organizational characteristics of police departments and their effects on job satisfaction.

First of all, workload can be defined as the volume of work the officers must perform if they are being reasonably responsible. Handling dispatched calls and checking out suspicious people or situations are all part of the police work environment (see Sobol, 2007 for more detailed information). Based on this definition, workload was calculated by summing all calls for service, dividing the sum by the number of police officers in the police station, and multiplying the result by 100: number of calls for service per 100 police officers. This particular variable represents the amount of work in each police station.

Variables	Description	Measurement
Workload	Amount of work	Number of calls for service per 100 police officers
Divisions	Special units and divisions	Number of divisions in the department
Dept. Size	Size of police station	Number of full-time sworn officers

Table 4.5 Description of Organizational-Level Variables

Second, police departments in South Korea are categorized into three groups, depending on their sizes and jurisdictions (Cheong & Kwak, 2008). That is, Tier1 departments have more than 400 police officers, in general, and are located in midsized or large metropolitan cities. Tier2 departments have 200-300 police officers and are usually located in mid- to small sized cities. Finally, Tier3 departments cover the remaining areas with fewer than 200 police officers. Since the current study only examines job satisfaction of police officers from 31 Tier1 police stations in Seoul, there is no significant variation in terms of organizational hierarchy (also see Hwang, 2008). Thus, department division was measured by counting the number of subdivisions or sub-units within each police station as a proxy measure of department complexity. For example, the department divisions score for the Gangnam police station is 15, since the police station consists of internal affairs, human resources, public safety, criminal investigation, criminal affairs, intelligence, public security, traffic divisions, and seven police substations. Finally, department size was measured as the number of police officers in each police station, which was measured at the interval level (Dantzer, 1997).

Neighborhood-Level Variables

Neighborhood-level factors are inherent to the characteristics of the neighborhoods to which police officers are assigned and where they perform their duties on a daily basis. During the past three decades, several studies have confirmed that neighborhood-level factors potentially influence an officer's decision-making and attitude (Heraux, 2006; Ingram, 2007; Lee et al., 2010; Mastrofski et al., 2002; Sobol, 2009; Terrill & Reisig, 2003). The current study incorporates Klinger's negotiated order and social disorganization theory to examine the effects of neighborhood contexts on individual officers' level of job satisfaction. Based on Klinger's theory (1997), it is argued that police officers assigned to neighborhoods with a higher level of deviance would be less satisfied with their job due to the inherent danger that might be posed to the officer. With increasing district problems such as crimes, officers also feel increasing pressure to manage their work in a timely manner and become cynical about their job (also see Buker & Dolu, 2010; Sobol, 2009). To measure the level of deviance in each neighborhood, the

current study uses violent crime rates. Using the crime data from the KNPA, the violent crime rate was calculated to represent levels of violence in each neighborhood (number of violent crimes per 100,000 population).

In order to measure neighborhood-level variables (i.e., social disorganization indicators), nine items¹⁸ were obtained from the Korean census data¹⁹. The items to measure neighborhood characteristics have been presented and discussed in other articles (Cheong & Kwak, 2008; Hwang, 2006; Lee, 2007). For example, consistent with Sampson et al. (1997), Hwang (2006) used a weighted factor regression score to represent the concept of economic disadvantage. This particular factor included two census items: the percentage of the population living in poverty and the percentage of rented houses. However, it should be noted that the percentage of rented houses is considered an empirically relevant factor in the U.S. context, but not in Korea. That is, in the Korean context, the percentage of rental houses does not necessarily represent economic status in each district. For example, the percentage of rented houses for Gangnam GU is relatively high at 58 percent, while the average household income is approximately US\$3,000, which is slightly higher than the city average (\$2,500). In contrast, less than 50 percent of Dobong GU's population lives in rented houses (44 percent), but the average household income is US\$2,400 (Seoul metropolitan government, 2011).

¹⁸ The nine items include the percentage of the population living in poverty conditions, auto vehicle ownership (%), percentage of rented houses, college-degree rate (%), mobile-device ownership (%), personal computer ownership (%), percentage of foreigners among the total resident population, population movement, and day-time population index.

¹⁹ Economic indicators such as unemployment rates and tax revenues are not available in the Korean census data. In particular, some of the important economic indicators are usually calculated across cities, not districts (GUs), in Korea.

Variables	bles Factor Des Loading Va			
Concentrated Disadvantage (e.g., Cheong & Kwak, 2008)				
Percent living in poverty	.82	74.29	.91	
Auto vehicle ownership (%)	.85			
College-degree rate (%)	.97			
Mobile-device ownership rate (%)	.92			
Personal computer ownership rate (%)	.90			
Residential Instability (e.g., Hwang, 2006)				
Population movement	.73	63.52	.61	
Day-time population index	.73			

Table 4.6 Measurements of Neighborhood-Level Variables

Note: Maximum Likelihood factor analysis of extraction method and oblique rotated factor pattern with Kaiser Normalization.

Since the factor structure might differ between countries, factor analyses were conducted for the Korean census data to test construct validity of these census items. As shown in Table 4.6, the first factor analysis yielded one factor solution and captured approximately 74 percent of the variance in the five items regarding economic status. The factor loadings for all indicators were statistically significant and had moderate to high factor loadings ranging from 0.82 to 0.97. Finally, the Cronbach's alpha coefficient of the concentrated disadvantage factor has an acceptable level of reliability (α =.91).

Similar to Cheong and Kwak (2008), residential stability is measured by two items (i.e., daytime population index and population movement) from the Korean census dataset (also see Hwang, 2006; Kane, 2002). A latent variable of residential instability captured about 63 percent of the variance in the two items regarding population movement. The factor loadings and the

reliability coefficients suggest that this scale is a valid and reliable measure for the concept of residential instability (α =.61). Finally, immigrant concentration was measured by a single item: percent of foreigners in the district. However, it should be noted that in the Korean context, percent of foreigners in the district is relatively small compared to the U.S. context and literature. For example, although the population of Chicago is about one-fourth of Seoul's population, the average percent of foreign-born population in Chicago districts is approximately 21 percent, whereas the average percent of foreigners in Seoul districts is roughly 1 percent, with a range from .18% to 3.76%. This is summarized by the following table:

Variables	Description	Measurement
C. Disadvantage	Concentrated disadvantage	Bartlett factor score (5 Items)
R. Instability	Residential instability	Bartlett factor score (2 Items)
Immigrant C.	Immigrant concentration Ethnic heterogeneity	Percent of foreigners in the district
Crime Rate	Violent crime rates	Number of violent crimes per 100,000 population

Table 4.7 Description of Neighborhood-Level Variables

Analytical Strategy

Several statistical techniques will be employed to examine the effects of neighborhood contexts on job satisfaction among Korean police officers. First, independent sample t-tests and ANOVA will be conducted to examine a bivariate relationship between the independent and dependent variables. Second, before conducting a multivariate analysis, multicollinearity diagnostics will be employed to detect any potential collinearity problems among independent variables. More specifically, initially, the correlation matrix will be examined to detect multicollinearity problems. However, a high correlation is not a necessary condition for the existence of multicollinearity, since there can be multicollinearity even if the zero order correlations are comparatively low (Gujarati, 2003). To overcome this problem, the variance inflation factor (VIF) and tolerance will be calculated. In addition, a condition number test will be employed to diagnose any collinearity problems among the primary independent variables (Besley, Kuh, & Welsch, 1981). Lastly, for a multivariate analysis, ordinary least squares (OLS) regression analyses will be utilized to estimate the effects of the independent variables on the level of job satisfaction among South Korean police officers.

The primary data for this study were collected through a stratified sampling method with specific quotes (e.g., based on rank, assignment). In general, a stratified sampling method produces a nested (hierarchical) dataset, in which individual officers are nested within the study sites (i.e., organization or neighborhood). In this case, sample units might produce correlated observations, which violate the assumption of independently sampled cases. The traditional method of dealing with the nested data is to aggregate the data to a higher level (e.g., officers' responses are aggregated to the city level and those cities are used as a unit of analysis). Yet, since fewer units of analysis at a higher level replace many units at the lower level, the statistical power will be reduced. It may also lead to biased coefficients due to model misspecification. To analyze these nested data, this study will employ hierarchical linear models (HLM) for continuous outcome measures.

In recent years, hierarchical linear models have been widely used to take into account the hierarchical nature of data in the criminal justice field (e.g., Sampson et al., 1998). In this study, two-level hierarchical linear models will be estimated to examine the effects of neighborhood-level factors on the study outcomes. At level 1, the units will be individual police officers

represented as a function of a set of individual characteristics. At level 2, the units will be districts (GUs) or police stations. Thus, the level 1 and level 2 equations could be written as follows (Raudenbush & Bryk, 2002):

Level1:
$$Y_{ij} = \beta_{0i} + \beta_1 j X_{1ij} + \beta_2 j X_{2ij} + \dots + \beta_{Qj} X_{Qij} + r_{ij}$$

where Y_{ij} represents the outcome for individual *i* in district or police station *j*. This outcome also represents as a function of individual outcomes, X_{Qij} , and model error r_{ij} .

Level2:
$$\beta_{qj} = \gamma_{q0} + \gamma_{q1}W_{1j} + \gamma_{q2}W_{2j} + \dots + \gamma_{qSq}W_{Sqj} + U_{qj}$$

where a unique set of predictors, W_1 , W_2 , ..., W_{Sq} may be specified for each β_q .

In addition to HLM analysis, missing data and non-response analyses will be conducted to ensure the quality of analysis. Missing value (data) is important because improper handling of missing values will produce biased coefficients (Schafer, 1999).

Chapter Summary

The purpose of this study is to assess how neighborhood contexts influence an individual officer's level of job satisfaction. This chapter provided a discussion of the three sources of data and the methodology used to examine job satisfaction. In addition, the data collection procedures and measurements of study variables were also described. Finally, the chapter also

described the analytical strategies that will be employed to assess the impact of neighborhoodlevel factors on job satisfaction.

CHAPTER V. FINDINGS

This chapter reports on the findings from analytical techniques used to estimate the effects of individual-, organizational-, and neighborhood-level factors on individual officers' level of job satisfaction. First of all, descriptive statistics in individual, organizational and neighborhood levels are presented. In particular, measures of central tendency, dispersion, frequency, and percentage are used to provide a descriptive summary of each of the variables. Second, due to the fact that the primary independent variables are either dichotomous or categorical in nature, independent sample t-tests and one-way ANOVA are conducted to test mean differences in overall job satisfaction and multiple facets of satisfaction among South Korean police officers. Next, to detect any possible collinearity problems among independent variables, correlation analysis, variance inflation factors (VIF), tolerance, and a condition number test are used.

For the multivariate analysis, initially Ordinary Least Squares (OLS) regression analyses are conducted to investigate the effects of independent variables on job satisfaction. In addition to OLS regression analyses, multilevel regression analyses (i.e., hierarchical linear models [HLM]) are employed. One-way ANOVA with random effect models are used to determine the degree of within- and between-group variations in job satisfaction across police stations and neighborhoods (GUs or districts). Random-Coefficient and regression with means-as-outcomes models are also estimated to test the effects of individual-level variables and organizational-level (or neighborhood-level) factors on job satisfaction, respectively. Lastly, intercepts-as-outcomes models are calculated to examine the effects of both level 1 and level 2 predictors on job satisfaction simultaneously.

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Descriptive Statistics

Descriptive statistics are presented in Table 5.1. Of the total 1,021 South Korean police officers analyzed in the current study²⁰, almost 90 percent of the officers were males (88.83%). The vast majority of the police officers were middle-aged or older: approximately 12 percent of the officers were under 30 years old; roughly 46 percent of the officers were between 30 and 39 years old; 29 percent of the police officers were 40 to 49 years old. Only 13 percent of the officers were 50 years or older.

As noted in Chapter 4, officer rank originally was measured as a categorical variable with six different ranks (police officer, senior police officer, assistant inspector, inspector, senior inspector, and superintendent or higher), then later was collapsed into a dichotomous variable (patrol officers vs. middle managers or supervisors). In terms of its distribution, approximately 79 percent of the respondents were patrol officers and 21 percent were middle managers or supervisors (including inspectors, senior inspectors, and superintendents or higher ranking officers). About 54 percent of the officers had between 5 to 19 years of service experience. Officers with less than 5 years and more than 20 years of experience in service accounted for about 18 percent and 25 percent, respectively. With regard to officers' assignments, the police officers assigned to non-patrol duties (e.g., criminal investigation, traffic, and human resources) made up roughly 56 percent compared to 44 percent for patrol assignment.

²⁰ Missing value (data) is important because the improper handling of missing values will produce biased coefficients (Schafer, 1999). Thus, missing data analysis was conducted here to ensure the quality of analysis. The results confirmed that the missing observations in this study's data occur completely at random (MCAR). Thus, the current study simply employed a listwise deletion of cases so that the number of cases included in the analysis was not equal to the total number of cases in the study for some of the variables (e.g., rank, work type).

Variables	Ν	%	Mean	SD	Min	Max
Dependent Variables						
Overall Satisfaction	1,021		3.63	1.39	1.00	7.00
VDS/MDS/SDS ^a	491	48.09				
Neutral	295	28.89				
SS/MS/VS ^a	235	23.01				
satisfaction with Work/Equipment	1,021		0	1.06	-2.46	2.60
* Satisfaction with Personnel Management	1,021		0	1.06	-2.26	2.51
Satisfaction with Salary/Benefit	1,021		0	1.06	-1.66	3.01
* Satisfaction with Supervisors/Coworkers	1,021		0	1.03	-2.21	2.33
Independent Variables						
Individual Level – Level 1 (N=1,021)						
Gender						
0 = Female	114	11.17				
1 = Male	907	88.83				
Age $0 = 20, 20$ we are ald	126	12.24				
0 - 20 - 29 years old $1 - 30 - 30$ years old	120	12.34				
1 = 30-39 years old 2 = 40-49 years old	208	43.43 20.10				
3 = 50 or more years old	133	13.03				
Rank	155	15.05				
0 = Patrol Officers	795	78.16				
1 = Middle Manager/Supervisor	220	21.55				
Length of Service						
0 = Less than 5 years	184	18.02				
1 = 5 - 9 years	208	20.37				
2 = 10 - 19 years	343	33.60				
3 = 20 or more years	259	25.37				
Assignment						
0 = Patrol	453	44.37				
1 = Non-Patrol	568	55.63				
Work Type						
0 = Work Inside	442	43.29				
1 = Work Outside	574	56.22				

Table 5.1 Descriptive Statistics: Individual-Level Variables

* Bartlett Factor Score; ^a VDS=Very Dissatisfied, MDS=Moderately Dissatisfied, SDS=Slightly Dissatisfied, N=Neutral, SS=Slightly Satisfied, MS=Moderately Satisfied, and VS=Very Satisfied.

Finally, about 43 percent of the respondents reported that they were engaged in office work (inside work; mainly non-law-enforcement administrative tasks), while 56 percent of the police surveyed were involved in outside work.

In terms of dependent variables, the descriptive statistics indicated that the mean score of overall job satisfaction among the police officers was 3.63. Recall that this dependent variable was coded into a 7-point Likert scale that ranged from 1 (very dissatisfied) to 7 (very satisfied). Based on the distributions reported in Table 5.1, slightly less than 50 percent of the police officers (i.e., 48.09 %) were dissatisfied with their jobs compared to only 23 percent of the officers who were satisfied with their jobs. In addition to overall job satisfaction, the current study also includes multiple facets of satisfaction in order to capture specific aspects of job satisfaction among the police officers. Four facets of satisfaction were created based on factor analyses (see Chapter 4 for more detailed information): satisfaction with work and equipment; satisfaction with personnel management; satisfaction with salary and benefits; and satisfaction with supervisors and coworkers. To represent the latent structure of each facet of job satisfaction, Bartlett factor scores were used. One advantage of using Bartlett factor scores is that the scores are produced by maximum likelihood (ML) estimation—a statistical procedure which produces estimates that are most likely to represent the "true" factor scores (i.e., higher construct validity). This procedure allows a researcher to create high validity estimates between the factor scores and factors and to produce unbiased estimates (Distefano, Zhu, & Mindrila, 2009). Since a Bartlett score is a standardized measure or score, each item has a mean score of 0 and a standard deviation of 1 (or close to 1). For example, the mean score and the standard deviation for satisfaction with work and equipment were 0 and 1.06, respectively. This particular facet of

satisfaction ranged from -2.46 to 2.60, with a higher score indicating a higher level of satisfaction with work and equipment.

Variables	Mean	SD	Min	Max
Independent variables				
Organizational Level – Level 2 (N=31)				
Workload (per 100 officers)	9,272.80	1,950.00	5,961.03	15,363.62
Divisions	22.10	4.51	13.00	30.00
Department Size	638.58	133.03	380	906
Neighborhood Level – Level 2 (N=25)				
Violent Crime Rate (per 100,000 population)	40.93	19.27	11.52	87.63
Concentrated Disadvantage [*]	0	1.00	-1.29	2.82
Residential Instability	0	1.00	-1.55	2.21
Immigrant Concentration (%)	.77	.81	.18	3.76

1 3 7 . 11 1 * 7 * 1 1

Bartlett Factor Score

Table 5.2 provides the sample descriptive statistics for 31 police stations (organizations) and 25 neighborhoods (districts or GUs) in the city of Seoul. On average, each police station received about 9,300 calls for service per 100 police officers in 2006, which is a proxy measure of workload for each police department. The greatest workload for a police station was about 15,400, compared to a minimum of roughly 6,000 calls for service. Within each police station, there were about 22 subdivisions (a proxy variable for organizational complexity) on average, with a range of 13 to 30 divisions per station. Lastly, the mean score for department size was approximately 640 police officers per police station, within a range of 380 to 906.

With respect to neighborhood characteristics, the violent crime rates (per 100,000 population) in the 25 neighborhoods (districts) ranged from 11.52 to 87.63, with an average of 41. Like the facets of job satisfaction, two social disorganization indicators (i.e., concentrated disadvantage and residential instability) were also created based on factor analyses, and their latent structures were represented using Bartlett factor scores. Thus, the mean and standard deviation scores for concentrated disadvantage and residential instability were 0 and 1, respectively. Finally, neighborhoods had less than 1 percent population of foreigners (a proxy measure of immigrant concentration) on average, with a range of .18 to 3.76 percent.

Bivariate Analysis

In the current study, independent samples t-tests and one-way ANOVA were conducted to examine a bivariate relationship among the variables. The results of the bivariate analysis are discussed in the following section.

Independent Samples T-tests and One-Way ANOVA Results

The results from bivariate analyses based on independent samples T-tests and one-way ANOVA indicated that female officers reported a significantly higher level of overall job satisfaction (M=3.92) than male officers (M= 3.60). Regarding multiple facets of satisfaction, consistent with overall job satisfaction, female officers were more satisfied with personnel management, salary, benefits, supervisors and coworkers. These initial results suggest that the officers' gender does affect levels of job satisfaction. However, officers' age was not found to be a significant variable for overall job satisfaction nor for facets of satisfaction. That is, there were no statistically significant differences between group means as determined by one-way

ANOVA (e.g., F (3, 1017) for overall job satisfaction = .63, p=.59). Consistent with age, length of service was not associated with levels of job satisfaction nor with four other facets of satisfaction among Korean police officers (e.g., F (3, 1010) for overall job satisfaction = .58, p=.63).

With regard to officers' rank, as expected, officers with higher ranks (i.e., middle managers or supervisors) reported significantly higher levels of overall job satisfaction and satisfaction with work and equipment, personnel management and supervisors/coworkers. For instance, there was a statistically significant difference in the average score of overall job satisfaction for middle managers (M=3.89) and patrol officers (M=3.56); t(1013) = -3.094, p<.01. Regarding assignment, officers assigned to a non-patrol unit such as traffic, human resources, and criminal investigation had a higher level of job satisfaction (M=3.80) and satisfaction with work and equipment (M=.10), salary and benefits (M=.13), and supervisors and coworkers (M=.08) than did officers assigned to responsibilities involving law enforcement or patrol duties (M=3.43, -.12, -.17, and -.10, respectively). Similarly, police officers who worked outside reported a lower level of job satisfaction than officers who were involved in inside work, mainly non-law-enforcement administrative tasks. For example, there were statistically significant differences between the means of overall job satisfaction and satisfaction with work and equipment for officers working outside and those working inside (i.e., mean difference for overall job satisfaction = .42, t(1014) = 4.81, p<.01; mean difference for satisfaction with work and equipment = .26, t(1012) = 3.50, p<.01).

¥7	Satisfaction (Mean Scores)							
v ariables	Overall	Work ^a	PM ^a	Salary ^a	Supervisor ^a			
Gender								
0 = Female	3.92	.12	.19	.35	.27			
1 = Male	3.60	02	02	04	03			
T-test	2.37**	1.21	2.04*	3.70*	* 2.95			
Age								
0 = 20-29 years old	3.70	12	02	.09	.08			
1 = 30-39 years old	3.58	02	01	00	.00			
2 = 40-49 years old	3.70	.06	01	.01	02			
3 = 50 or more years old	3.58	.07	.07	10	04			
F	.63	.96	.23	.68	.37			
Rank								
0 = Patrol Officers	3.56	06	06	02	03			
1 = Middle Manager/Supervisor	3.89	.21	.21	.11	.13			
T-test	-3.09**	-3.10**	-3.27**	-1.62	-2.09*			
Length of Service								
0 = Less than 5 years	3.70	09	.05	.08	.10			
1 = 5 - 9 years	3.58	.02	.06	.08	02			
2 = 10 - 19 years	3.71	04	10	07	03			
3 = 20 or more years	3.64	.14	.10	.01	.01			
F	.58	1.93	2.14	1.14	.73			
Assignment								
0 = Patrol	3.43	12	07	17	10			
1 = Non-Patrol	3.80	.10	.05	.13	.08			
T-test	-4.26**	-3.20***	-1.82	-4.55*	* -2.88			
Work Type								
0 = Work Inside	3.87	.16	.14	.20	.16			
1 = Work Outside	3.45	10	11	15	12			
T-test	4.81**	3.50**	3.75**	5.33*	* 4.22**			

Table 5.3 The Results from T-test and One-Way ANOVA: Individual-Level Variables

4.815.505.755.554.22* P <.01, * P < .05; * Work=Work & Equipment, PM=Personnel Management, Salary=Salary & Benefits, Supervisor=Supervisor & Coworker</td>

Correlation Analysis Results

Before multivariate analyses, it is necessary to present the bivariate relationships among the independent variables, as well as the bivariate relationships between the independent variables and the dependent variables. There are two main reasons for presenting the zero-order correlations: (1) to examine bivariate relationships between any two variables included in the model; and (2) to inspect the relationships among the independent variables for multicollinearity.

	(1)	(2)	(3)	(4)	(5)	(6)	(7) (8)) (9)	(10)) (11)	(12)
(1) Sat	1											
(2) SW	.74**	1										
(3) SP	.76**	.71**	1									
(4) SS	.82**	.75**	.72**	1								
(5) SC	.72**	.61**	.73**	.66**	1							
(6) WL	.06*	.00	.05	.05	.03		1					
(7) DIV	02	07*	01	06	02		.22**	1				
(8) Size	.03	03	.14	01	.01		.45	.92**	1			
(9) VC	.11	.11	.08*	.14**	.10**	*	.01	40**	44	1		
(10) CD	04	04	05	03	06		.21**	18**	05	.20**	1	
(11) RI	02	01	04	02	03		.09**	00	** .11	.17**	.50**	1
(12) IC	07*	05	05	05	05	-	.24**	- .17 ^{**}	22***	.46**	.14**	.38 1

Table 5.4 Correlation Matrix for Continuous Variables: Individual Level (N=1,201)

** P <.01, * P < .05

Note: (1) Sat = Overall Job Satisfaction, (2) SW = Satisfaction with Work/Equipment, (3) SP = Satisfaction with Personnel Management, (4) SS = Satisfaction with Salary/Benefits, (5) SC = Satisfaction with Supervisor/Coworkers, (6) WL = Workload, (7) DIV = Divisions, (8) Size = Department Size, (9) VC = Violent Crime Rate, (10) CD = Concentrated Disadvantage, (11) RI = Residential Instability, and (12) IC = Immigrant Concentration

Table 5.4 displays bivariate correlation coefficients between job satisfaction (overall and multiple facets of job satisfaction) and individual-level variables. Workload, divisions, and department size were measured at the organizational level (N=31). Similarly, violent crime rate, concentrated disadvantage, residential instability, and immigrant concentration were measured at the district level (N=25). However, for this correlation analysis, these macro-level variables were disaggregated into individual level: assigned organizational or neighborhood characteristics to all police officers (i.e., to bring the higher-level variables down to the officer level). Finally, separate correlation analyses were also conducted at the organization and neighborhood level to examine the effects of organizational or neighborhood variables on the average job satisfaction among police officers.

With regard to multicollinearity, collinearity could be a problem for determining a separate association between an independent variable and a dependent variable. That is, collinearity makes it more difficult to produce reliable estimates of the effects of the independent variables on the dependent variables (Roncek, 2003). A correlation coefficient equal to or greater than .70 between two of the independent variables is an informal indication of multicollinearity (Roncek, 2003). By examining individual correlation coefficients, there was not an obvious multicollinearity problem among the independent variables except two variables. That is, division and department size had a strong positive relationship (r=.92): as the number of police officers (a proxy measure for department size) increases, the number of divisions within a police station also increases. However, a high correlation is not a necessary condition for the existence of multicollinearity since there can be multicollinearity even if zero order correlations are comparatively low (Gujarati, 2003). Thus, additional analyses are conducted to detect any

potential multicollinearity problems and the results are discussed in the "Multicollinearity Diagnostics" section below.

An examination of the correlation coefficients reveals several significant relationships among the independent variables. All four multiple facets of satisfaction were highly correlated with overall job satisfaction (the Pearson product-moment correlation coefficients ranged from .61 to .82). That is, officers who reported higher levels of overall job satisfaction also had higher levels of satisfaction with work and equipment (r=.74), salary and benefits (r=.76), personnel management (r=.82), and supervisors and coworkers (r=.72). In addition, workload was positively associated with divisions (r=.22) and department size (r=.45), suggesting that as workload increases, the number of divisions and department size increase as well. Workload was also positively related to concentrated disadvantage (r=.21) and residential instability (r=.09), while it was negatively associated with immigrant concentration (r=-.21). As noted earlier, there was a strong positive relationship between department size and division (r=.92). Interestingly, division was negatively related to violent crime rate, concentrated disadvantage, and immigrant concentration (r=-.40, -.18, and -17, respectively). That is, there were fewer divisions in police stations located in areas with higher levels of violent crime, concentrated disadvantage, and immigrant concentration. Inconsistent with the expectation, department size was also negatively associated with violent crime rate (r=-.44): smaller departments had a higher violent crime rate. Regarding bivariate relationships among neighborhood-level variables, there were moderate to weak positive relationships between social disorganization indicators and violent crime rates, consistent with prior research on neighborhood and crime (i.e., the social disorganization theory). That is, as levels of concentrated disadvantage, residential instability, and immigrant

concentration increased, the number of violent crimes (per 100,000) increased (r=.20, .17, and .46, respectively).

While significant relationships existed among a number of independent variables, there were also several independent variables related to job satisfaction. Although the magnitude of the correlation coefficients was relatively small, there was a positive association between workload and overall job satisfaction (r=.06). Surprisingly, the violent crime rate was positively related to overall job satisfaction (r=.11) and other facets of satisfaction (ranged from r=.08 to r=.14), results that were not consistent with the research hypothesis. Finally, as expected, immigrant concentration was negatively associated with overall job satisfaction (r=.07).

In addition to the bivariate correlation between job satisfaction and individual-level variables, separate correlation analyses were conducted at the organization and neighborhood level to examine the effects of organizational or neighborhood variables on average job satisfaction among police officers (not shown). The results indicated that there was no sign of multicollinearity among the level 2 variables. There were also no significant relationships between organizational- or neighborhood-level variables and job satisfaction. In contrast to the individual-level correlation analysis, workload was positively associated with department size: as workload increased, department size increased as well (r=.45). Finally, there were moderate positive associations among violent crime rates, immigrant concentration, residential instability, and concentrated disadvantage (r (RI, CD) = .43, r (VC, IC) = .45). Overall, the results of the bivariate correlations suggested that some of the independent variables and job satisfaction are inter-correlated, indicating the need for further multivariate analyses. By conducting such, it is possible to determine the degree to which each variable influences job satisfaction among police officers.

One-Way ANOVA Results: Organizational and Neighborhood Level

Table 5.5 summarized the results of a one-way ANOVA analysis, which was conducted to determine whether officers' level of job satisfaction (i.e., the average overall job satisfaction scores) varies across 25 districts (i.e., neighborhoods) in Seoul. Significant differences in overall job satisfaction were observed between districts (F (24, 996)=16.74, p < .01).

The Bonferroni multiple comparison test was also used because it allows for comparisons between groups consisting of an unequal number of cases, and it also allows one to determine which of the districts significantly differ from one another (Mason, Gunst, & Hess, 2003). The results from the Bonferroni test indicated that Guemcheon, Yangcheon, and Jungnang districts were significantly different from other districts.

Districts (GUs)	Mean	F	Police Stations	Mean	F
Gangnam	3.92	16 74	Gangnam	3.90	14 81
		10.71	Suseo	3.94	11.01
Gangdong	3.32		Gangdong	3.32	
Gangbuk	2.62		Gangbuk	2.62	
Gangseo	3.09		Gangseo	3.09	
Gwanak	3.44		Gwanak	3.44	
Gwangjin	3.40		Gwangjin	3.40	
Guro	3.38		Guro	3.38	
Geumcheon	5.55		Geumcheon	5.55	
Nowon	3.50		Nowon	3.50	
Dobong	3.23		Dobong	3.23	
Dongdaemun	3.38		Dongdaemun	3.38	
Dongjak	3.32		Dongjak	3.32	
Маро	3.24		Mapo	3.24	
Seodaemun	3.42		Seodaemun	3.42	
Seocho	3.34		Seocho	3.41	
			Bangbae	3.26	
Seongdong	3.38		Seongdong	3.38	
Seongbuk	2.98		Seongbuk	3.19	
			Jongam	2.79	
Songpa	3.56		Songpa	3.56	
Yangcheon	6.22		Yangcheon	6.22	
Yeongdeungpo	3.59		Yeongdeungpo	3.59	
Yongsan	2.95		Yongsan	2.95	
Eunpyeong	3.75		Eunpyeong	4.29	
			Seobu	3.36	
Jongno	3.68		Jongno	4.33	
			Hehwa	3.07	
Jung	3.57		Jungbu	3.33	
			Namdaemun	3.81	
Jungnang	4.74		Jungnang	4.74	
Total	3.63			3.63	

Table 5.5 The Results from One-Way ANOVA: Overall Job Satisfaction

** P <.01, * P < .05



Figure 5.1 Overall Job Satisfaction across 25 Districts (GUs)

Figure 5.1 also illustrates the distribution of overall job satisfaction across 25 districts in the city of Seoul. Supporting the results from ANOVA and Bonferroni tests, the map demonstrates that three border districts or neighborhoods—Yangchun (M=6.22), Geumcheon (M=5.55), and Jongnang (M=4.74)—had a higher level of overall job satisfaction among police officers. The districts with a higher level of job satisfaction are depicted in a darker color. In contrast, the lowest mean of job satisfaction is depicted in a light yellow color and indicates that officers who worked in the Gangbuk district were least satisfied with their jobs (M=2.62).

Additional one-way ANOVA analysis was employed to determine whether the average overall job satisfaction scores vary across 31 police stations (see Table 5.5). Consistent with district level ANOVA analysis, the results from one-way ANOVA analysis indicated significant differences among police stations for overall job satisfaction (F (30, 990)=14.81, p < .01). Officers who were assigned to work in the Guemcheon, Yangcheon, and Jungnang police stations reported a higher level of overall job satisfaction than officers in other police stations.

Finally, Tables 5.6 and 5.7 summarize the results of a series of one-way ANOVA analyses which estimated variations among districts or police stations in terms of multiple facets of satisfaction. Overall, the results of ANOVA analysis indicated that there were significant variations among districts or neighborhoods for multiple facets of satisfaction among police officers. Consistent with overall job satisfaction, three districts were significantly different from other districts. For example, the average score of satisfaction with personnel management in the Yangcheon district was 2.00 compared to -.60 for the Gangbuk district. That is, officers who worked in the Yangcheon district were statistically more satisfied with personnel management than the officers in the Gangbuk districts.

	Satisfaction with					
Districts (GUS)	Work ^a	Personnel ^a	Salary ^a	Supervisor ^a		
Gangnam	.27	.17	.21	.08		
Gangdong	37	46	35	34		
Gangbuk	60	69	77	93		
Gangseo	43	39	53	30		
Gwanak	33	30	29	12		
Gwangjin	01	23	21	25		
Guro	13	01	44	11		
Geumcheon	1.11	1.17	1.74	1.19		
Nowon	33	10	20	.01		
Dobong	26	31	22	23		
Dongdaemun	55	13	29	.03		
Dongjak	25	12	23	26		
Маро	28	18	24	26		
Seodaemun	16	32	37	27		
Seocho	34	26	16	26		
Seongdong	18	23	10	28		
Seongbuk	26	40	33	29		
Songpa	09	19	.04	08		
Yangcheon	2.00	2.15	2.14	1.81		
Yeongdeungpo	22	12	14	19		
Yongsan	53	18	39	33		
Eunpyeong	.20	.22	.14	.29		
Jongno	.18	10	04	.17		
Jung	.24	08	03	06		
Jungnang	.96	.89	.66	.67		
F	14.82**	16.21**	20.77**	13.54		

Table 5.6 The Results from One-Way ANOVA: Multiple Facets of Satisfaction

** P < .01, P < .05; ^a Work=Work & Equipment, Personnel=Personnel Management, Salary=Salary & Benefits, Supervisor=Supervisor & Coworker

Police Stations (N=31)	Satisfaction with					
	Work ^a	Personnel ^a	Salary ^a	Supervisor		
Gangnam	.24	.22	.18	27		
Suseo	31	.10	.25	.56		
Gangdong	37	46	35	34		
Gangbuk	60	69	77	93		
Gangseo	43	39	53	30		
Gwanak	33	30	29	12		
Gwangjin	01	23	21	25		
Guro	13	01	44	11		
Geumcheon	1.11	1.17	1.74	1.19		
Nowon	33	10	20	.01		
Dobong	26	31	22	23		
Dongdaemun	55	13	29	.03		
Dongjak	25	12	23	26		
Маро	28	18	24	26		
Seodaemun	16	32	37	27		
Seocho	31	17	12	30		
Bangbae	39	37	21	22		
Seongdong	18	23	10	28		
Seongbuk	07	30	18	08		
Jongam	44	49	48	48		
Songpa	09	19	.04	08		
Yangcheon	2.00	2.15	2.14	1.81		
Yeongdeungpo	22	12	14	19		
Yongsan	53	18	39	33		
Eunpyeong	.68	.78	.57	.69		
Seobu	05	19	17	00		
Jongno	.60	.28	.35	.56		
Hehwa	23	44	39	19		
Jungbu	.18	11	08	27		
Namdaemun	.30	05	.02	.16		
Jungnang	.96	.89	.66	.67		
F	12.69**	14.13**	17.62**	11.94		

Table 5.7 The Results from One-Way ANOVA: Multiple Facets of Satisfaction

** P < .01, * P < .05; * Work=Work & Equipment, Personnel=Personnel Management, Salary=Salary & Benefits, Supervisor=Supervisor & Coworker

Multicollinearity Diagnostics

An important assumption of multivariate analysis is that there should be no perfect collinearity between independent variables, since a perfect collinearity makes it impossible to calculate parameter estimates and tends to produce very large standard errors and unreliable or unusual regression coefficients (See Allen, 1997). When high multicollinearity is present among independent variables, confidence intervals for coefficients tend to be very wide and t statistics tend to be very small. Thus, it is difficult to reject the null hypothesis (b coefficient=0) when multicollinearity is present.

As noted earlier, bivariate correlations between the independent variables are a popular method of detecting multicollinearity problems. However, it is possible that one independent variable may be a linear combination of several independent variables and not be highly correlated with any one of them (Gujarati, 2003). That is, there can be multicollinearity even though Pearson's correlation coefficients are comparatively low. Thus, examining the tolerance and variance inflation factor (VIF) is probably superior to examining bivariate correlations. In order to calculate VIF and tolerance statistics, each independent variable was regressed on all of the independent variables to determine the problem. Finally, a condition number test was also employed to diagnose any collinearity problem among the primary independent variables (Besley et al., 1981).

	VIF	Tolerance	Condition Number Test	
Variables			Condition Index	Variance Proportions
Individual-Level				
Gender	1.09	.92		
Rank	1.36	.74		
Age	3.20	.31	20.88	.89
Length of Service	3.16	.32		.85 ^a
Assignment	1.30	.78		
Work Type	1.29	.78		
Organizational-Level				
Workload	2.39	.42		
Divisions	11.72	.09	84.52	.96
Department Size	15.97	.06		.98 ^b
Neighborhood-Level				
Violent Crime Rate	1.86	.54		
Concentrated Disadvantage*	1.48	.68		
Residential Instability*	1.75	.57		
Immigrant Concentration	1.62	.62		

Table 5.8 The Results from Multicollinearity Diagnostics

^{*}Bartlett Factor Score; ^aCorrelation coefficient (Age, Length of Service) = .92 (P <.01), ^bCorrelation coefficient (Divisions, Department Size) = .82 (P <.01)

Table 5.8 displays the results from a series of multicollinearity diagnostics. First of all, with regard to VIF and tolerance statistics, some of the independent variables were found to be problematic. That is, for individual-level variables, VIF and tolerance statistics for age and length of service were closed to the cutoff point (VIF=4 or higher). Although a common rule of thumb is that VIFs of 10 or higher (i.e., tolerances of .10 or less), the current study used more conservative cutoff point of VIFs of 4 or higher and tolerances of .25 or less (Roncek, 2003). The VIF statistics for age and length of service were 3.20 and 3.16, respectively. The tolerances
were also close to .25, which is an indication of possible multicollinearity problems between two variables. These findings were also confirmed in the condition number test: the condition index was greater than 15 (a concern) and close to 30 (a severe problem), and variance proportions were higher than .50 (Besley et al., 1981). This finding is somewhat consistent with other prior research on police research. As noted in Chapter 3, since officers' age and years of service are highly correlated with one another, many studies have excluded either age or length of service in their analysis (De Guzman & De Guzman, 2010; Hwang, 2008; Miller et al., 2010; Mire, 2005). Accordingly, the current study only included the length of service variable for further analyses in order to produce more reliable estimates for other individual-level variables.

Similarly, there was a possible multicollinearity problem between divisions and department size. In particular, VIF statistics for both of the variables were greater than the cutoff points (i.e., VIF > 4) and tolerances were less than .25 cutoff points, which indicated a moderate to severe multicollinearity problem between these two variables. The results from the condition number test also confirm that there was a very serious concern about multicollinearity (condition index > 84, variance proportion > .96). Since the increased size of an organization increases divisions of labor and status differentiation (Talacchi, 1960), it is expected that department size and the number of divisions are highly correlated to each other. Thus, further analyses (especially multilevel analyses using organizations as a level 2 unit) only included department size (i.e., number of police officers).

Multivariate Analysis

Multivariate analysis examined whether the significant relationships observed in the bivariate analyses persist when the relationships between the independent variables and

dependent variables are considered simultaneously. A multivariate analysis makes it possible: (1) to estimate their separate and combined effects on job satisfaction; (2) to determine more accurately parameter estimates (by taking the hierarchical structure of the dataset into account; especially for multilevel analyses); and (3) to control or rule out possible spurious effects. For the current study, traditional OLS regression and HLM regression analyses are appropriate in situations where the dependent variables are measured as an interval or continuous variable (i.e., 7-point Likert scale and Bartlett factor scores).

Ordinary Least Square (OLS) Regression Results

Table 5.9 includes results from OLS regression analyses. In model 1 (the first column), there were three statistically significant predictors of overall job satisfaction: rank (b=.29), assignment (b=.24), and work type (b=-.30). That is, higher ranking officers, officers who were assigned to non-patrol duties, and officers who worked inside reported a higher level of overall job satisfaction compared to lower ranking officers (i.e., police officers), officers in the patrol unit, and officers who worked outside. These individual predictors explained approximately 3 percent of the variance in overall job satisfaction. After adding the organizational variables in model 2, three individual variables remained statistically significant. However, none of the organizational-level variables were a significant predictor of overall job satisfaction. The additional variance explained by the organizational level variables was about 1 percent, and the increase was not statistically significant at the .05 level (F = 2.10, df=2, 998, p > .05). The final model tested the statistical effects of neighborhood-level variables with overall job satisfaction after the introduction of all other independent variables.

Variables	Overall Job Satisfaction													
	b	SE	β	b	SE	β	b	SE	β					
Individual-Level Variables														
Gender (1=Male)	26	.15	06	27	.15	06	26	.14	06					
Rank (1=Middle manager)	.29*	.13	.08	.31	.13	.09	.34**	.13	.10					
Length of Service ^a														
1 = 5 - 9 years	26	.14	07	24	.14	07	22	.14	06					
2 = 10 - 19 years	20	.13	07	19	.13	07	18	.13	06					
3 = 20 or more years	17	.15	05	15	.15	05	14	.15	04					
Assignment (1=Non patrol)	.24	.10	.09	.23	.10	.08	.21	.10	.08					
Work Type (1=Work outside)	30**	.10	11	31*	.10	11	32***	.10	11					
Organizational-Level Variables				00	00	07	00	00	00					
Department Size				.00	.00	.07	.00	.00	.10					
Neighborhood-Level Variables							**							
Violent Crime Rate							.02	.00	.23					
Concentrated Disadvantage							10*	.05	08					
Residential Instability							.00	.06	.00					
Immigrant Concentration							28**	.07	15					
Adjusted R ²		.03			.04			.07						
df	7	7, 1003		(9, 1001		1	3, 997	7					
F	:	5.55**			5.58**		-	7.17 ^{**}						

Table 5.9 The Results from Ordinary Least Square Regression: Overall Job Satisfaction

** P < .01, * P < .05; * Less than 5 years in service is the reference category

As shown in Table 5.9, the violent crime rate was a statistically significant predictor of overall job satisfaction (b=.02), consistent with the results from the correlation analysis, but again this finding was unexpected, that is, the reverse of the study hypothesis. Consistent with expectations, concentrated disadvantage and immigrant concentration negatively predicted

overall job satisfaction (b=-.10 and b=-.28, respectively): officers who worked in neighborhoods characterized by a higher level of concentrated disadvantage and immigrant concentration expressed a lower level of overall job satisfaction. The additional variance explained by adding the neighborhood-level variables was approximately 3 percent, and it was statistically significant at the .05 level (F=9.41, df=4, 994, p<.01).

Based on the standardized coefficients (beta weights), the strongest predictor of job satisfaction was officer rank (β =.34, p <.01). That is, officers with higher ranks were more satisfied with their jobs than lower ranking officers. The second strongest predictor of overall job satisfaction was work type (β =-.32, p <.01): officers were more satisfied with their jobs when they worked inside rather than outside. As predicted, immigrant concentration and concentrated disadvantage were significant predictors of job satisfaction (β =-.28, p <.01; β =-.10, p <.05, respectively); a high level of immigrant concentration and concentrated disadvantage were related to a lower level of job satisfaction. Unexpectedly, the violent crime rate was weakly and positively related to overall job satisfaction (β = .02, p <.01). These findings were also found in the results from a series of OLS regression analyses on multiple facets of satisfaction (see Appendix B).

Although there were some significant predictors throughout the three different OLS analyses, caution is needed in interpreting these results for the following reasons. First, because of the hierarchical structure of datasets like the ones used in the current study (i.e., officers are nested in either a police station or a district), individual observations are not fully independent, which is a violation of a primary assumption of the OLS regression analysis (Raudenbush & Bryk, 2002). As a result, it is possible that the OLS regression analysis produced standard errors that are too small, which leads to a higher probability of a null hypothesis rejection (see Table 5.9; e.g., standard error for organizational- and neighborhood-level variables were 0 or close to 0). Second, to estimate OLS regression analyses, the current study disaggregated organizational- and neighborhood-level variables to individual levels. That is, these level 2 characteristics were assigned to all individual police officers. However, the problem with this approach again is nonindependence of observation, as all individual officers within the same police station or neighborhood (or district) assume identical scores on level 2 variables. Lastly, a traditional OLS regression analysis is not able to disentangle individual and group effects on the dependent variables. Because of these limitations, a multilevel analysis (hierarchical linear models [HLM]) becomes necessary (Raudenbush & Bryk, 2002). The following section examines the primary results from HLM analyses.

Hierarchical Linear Models (HLM) Results: Organizational-Level Analysis

HLM analyses were used to statistically analyze a data structure where police officers were nested within either police stations or neighborhoods (i.e., GUs or districts). Of specific interest was the relationship between officers' level of job satisfaction and both individual characteristics and organizational (or neighborhood) characteristics. The current study conducted four different sub-models including a one-way ANOVA model with random effect, a random-coefficients regression model, a regression model with means-as-outcomes, and an intercepts-and-slopes-as-outcomes model. In particular, one-way ANOVA with random effect models are used to determine the degree of within- and between-group variations in job satisfaction across police stations and neighborhoods (GUs or districts). Random-coefficient and regression with means-as-outcomes models are also used to estimate the effects of individuallevel variables and organizational-level (or neighborhood-level) factors on job satisfaction, respectively. Finally, intercepts -as-outcomes models are calculated to examine the effects of both level 1 and level 2 predictors on job satisfaction simultaneously.

One-Way ANOVA Model with Random Effect

Table 5.10 illustrates the results from the one-way random effect ANOVA model. As noted earlier, the one-way ANOVA with random effect model (i.e., unconditional model) is the simplest possible HLM, and is intended to estimate between-group variance and within-group variance. Thus, the results from an unconditional model can be used to determine the amount of variation in job satisfaction within and between police stations and provide an estimation of the reliability of the sample mean in any police station (Raudenbush & Bryk, 2002). The model is described below and its results are shown in Table 5.10.

Level 1 Model: Satisfaction_Overall_{ij} =
$$\beta_{0j} + r_{ij}$$

Level 2 Model: $\beta_{0i} = \gamma_{00} + u_{0i}$

In the one-way ANOVA model, the level 1 model represents variation in police officers' level of overall job satisfaction within each police station: where the intercept (β_{0j}) represents the average overall job satisfaction of police station *j*, and the random effect r_{ij} is assumed to be normally distributed with a mean of zero and a variance of σ^2 . Similarly, the level 2 model accounts for variation in overall job satisfaction between police stations where the intercept γ_{00} represents the grand mean of officers' overall job satisfaction across all 31 police stations. The random effect u_{0j} is a random error (Raudenbush & Bryk, 2002).

From Table 5.10, the weighted least squares estimate for the grand-mean job satisfaction (γ_{00}) was 3.58. That is, police officers in the 31 police stations expressed a lower level of overall job satisfaction on average (1=very dissatisfied to 7=very satisfied).

	Fixed Effect			Random	Effect	
Satisfaction	Coefficient	σ ²	τ00	ΙСС (ρ)	λ	χ^2 (df)
Overall ^a	3.58**	1.37	.55	.29	.92	414.41 (30)**
Work/Equipment ^b	.01	.82	.30	.27	.91	380.96 (30)**
Personnel Management ^b	03	.81	.32	.28	.92	407.39 (30)**
Salary/Benefit ^b	04	.74	.35	.32	.93	495.36 (30)**
Supervisor/Coworker ^b	03	.81	.25	.24	.90	330.11 (30)**

Table 5.10 The Results from One-Way Random Effect ANOVA Model

 $^{**}P < .01, ^{*}P < .05$

Note: σ^{2} = Within Police Station Variance, τ_{00} = Between Police Station Variance, ICC=Intraclass Correlation Coefficient, λ = Police Station Level Reliability; ^a 7-Point Likert Scale (1=Very dissatisfied to 7=Very satisfied); ^b Bartlett factor scores

In addition to providing parameter estimates, the one-way ANOVA with random effect model provides information about the presence of level 2 variance and whether there are significant differences between level 2 units. The intraclass correlation (ICC) represents the proportion of variance in overall job satisfaction between police stations and is estimated by the following equation:

ICC (
$$\rho$$
) = $\tau_{00} / (\tau_{00} + \sigma^2)$

Where:

 τ_{00} = the between-level variance component σ^2 = the within-level variance component

As shown in Table 5.10, ICC indicates that about 29% of variance in overall job satisfaction was between police stations, with the remainder attributed to police officer-level variation and random error. Sufficient amount of between-group variations were also found in other types of dependent variables (multiple facets of job satisfaction), which ranged from 24% to 32%. Table 5.10 also displays the police station-level reliability (λ), which is calculated based on the below:

 $\lambda = \tau_{00} / [\tau_{00} + (\sigma^2/n_j)]$ Where:

 τ_{00} = the between-level variance component σ^2 = the within-level variance component n_j = sample size

The reliability for the sample mean of overall job satisfaction was .92, which indicates that the sample mean was a reliable measure of the true level 2 mean for overall job satisfaction. The police station-level reliability for satisfaction with work and equipment, personnel management , salary/benefits, and supervisors and coworkers also ranged from .90 to .93, indicating that the sample means tend to be quite reliable indicators of the true police station means (see Raudenbush & Bryk, 2002 for more detailed information). In sum, the unconditional model revealed sufficient between-group variations of overall job satisfaction and multiple facets

of satisfaction across police stations. Because variance existed at both levels of the data structure, individual- and organizational-level variables were individually added at each level (See Table 5.11).

Random-Coefficient Model

After the one-way ANOVA with random effect model, a random-coefficient model was estimated including only level 1 variables (i.e., individual characteristics). That is, no predictors were involved in the level 2 model. Officers' demographic characteristics and work-related variables were modeled to vary across police stations as a function of a grand mean and a random error (e.g., β_{0j} = intercept for a given police station; β_{1j} = the effect of officer gender on overall job satisfaction; γ_{00} = the average of the police station on overall job satisfaction across the population of the stations; γ_{10} = the average gender-overall job satisfaction regression slope across the police stations; u_{0j} = the unique increment to the intercept associated with police station j). The random coefficient model can be written:

Level 1 Model:

 $\begin{aligned} Satisfaction_Overall_{ij} &= \beta_{0j} + \beta_{1j}*(Gender_{ij}) + \beta_{2j}*(Rank_{ij}) + \\ \beta_{3j}*(Assignment) + \beta_{4j}*(Worktype_{ij}) + \beta_{5j}*(YRS59_{ij}) + \\ \beta_{6j}*(YRS1019_{ij}) + \beta_{7j}*(YRS20MOR_{ij}) + r_{ij} \end{aligned}$

Level 2 Model:

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{2j} = \gamma_{20}$$

$$\beta_{3j} = \gamma_{30}$$

$$\beta_{4j} = \gamma_{40}$$

$$\beta_{5j} = \gamma_{50}$$

$$\beta_{6j} = \gamma_{60}$$

$$\beta_{7j} = \gamma_{70}$$

Regression with Means-as-Outcomes

Regression with means-as-outcomes models were conducted to estimate the means from each of many groups as an outcome to be predicted by group characteristics (Raudenbush & Bryk, 2002). That is, the means of overall job satisfaction (β_{0j} = the level 1 intercept) were explained by organizational characteristics (e.g., γ_{01} = the effect of workload on overall job satisfaction). Thus, organization-level variables including workload and department size were added as a level 2 predictor. The models are expressed as:

Level 1 Model: Satisfaction_Overall_{ij} =
$$\beta_{0j} + r_{ij}$$

Level 2 Model: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(Workload_j) + \gamma_{02}*(Dept.Size_j) + u_{0j}$

Intercepts-as-Outcomes Model

Finally, the intercepts- as-outcomes models (i.e., full model) were estimated to test the effects of all predictors (both level 1 and level 2) on job satisfaction simultaneously. Basically,

the full model is estimated by employing both a means-as-outcomes model and a random coefficient model at once. Thus, the full model estimated the following equations:

Level 1 Model:
Level 1 Model:
Satisfaction_Overall_{ij} =
$$\beta_{0j} + \beta_{1j}*(Gender_{ij}) + \beta_{2j}*(Rank_{ij}) + \beta_{3j}*(Assignment) + \beta_{4j}*(Worktype_{ij}) + \beta_{5j}*(YRS59_{ij}) + \beta_{6j}*(YRS1019_{ij}) + \beta_{7j}*(YRS20MOR_{ij}) + r_{ij}$$

Level 2 Model:
 $\beta_{0j} = \gamma_{00} + \gamma_{01}*(Workload_j) + \gamma_{02}*(Dept.Size_j) + u_{0j}$
 $\beta_{1j} = \gamma_{10}$
 $\beta_{2j} = \gamma_{20}$
 $\beta_{3j} = \gamma_{30}$
 $\beta_{4j} = \gamma_{40}$
 $\beta_{5j} = \gamma_{50}$
 $\beta_{6j} = \gamma_{60}$
 $\beta_{7j} = \gamma_{70}$

Since the primary goal of this particular model is to examine the effect of level 2 variables (e.g., organizational characteristics) on job satisfaction, all level 1 variables remain fixed across models. Also, in order to estimate the effects of organization level variables on job satisfaction while controlling for individual level variables, all level 1 predictors were grand mean centered (Hoffmann & Gavin, 1998; Raudenbush & Bryk, 2002). By grand mean centering the predictor variables, the intercept can be interpreted as the expected job satisfaction for an average police officer rather than for officers who are coded as zero. It is quite useful for dummy variables as well. For a dummy variable (0=male and 1=female), the intercept is defined as the expected outcome for male officers in group *j* and it will be the variance in the male outcome means across police stations. However, if this gender variable is centered around the grand mean, this centered predictor can take on two values (i.e., female = the proportion of male

students in the sample; male = minus the proportion of male students) (Raudenbush & Bryk, 2002, p. 34).

HLM Results: Overall Job Satisfaction

The results from three HLM models are displayed in Table 5.11. The first model listed is the random coefficients model to estimate the effects of individual-level variables on overall job satisfaction within 31 police stations. The intercept represents the mean overall job satisfaction score of police officers, and it was statistically significant ($\gamma_{00} = 3.81$, p < .01). Rank and work type were found to be statistically significant level 1 predictors of overall job satisfaction, which also remained significant after including organizational-level variables in model 3. More specifically, the results revealed that middle manager or supervisors had a higher level of overall job satisfaction than lower ranking officers (H₃). Officers who worked outside reported a lower level of overall job satisfaction compared to officers working inside (i.e., non-law-enforcement administrative tasks). This finding indicated that the hypothesized relationship between work type and job satisfaction was not supported (H_6). Rather, the results confirmed the opposite direction of the initial hypothesis. However, other individual-level variables—gender (H₁), length of service (H₄), and assignment (H₅)—were not significantly associated with overall job satisfaction. Moreover, none of the organizational variables (i.e., workload and department size) in model 2 and model 3 were statistically significant at the .05 alpha level ($H_7 \& H_9$).

As shown in Table 5.11, a proportional reduction in variance (i.e., percent of variance explained) for the individual predictors was .03, indicating that those individual-level variables

altogether accounted for approximately 3 percent of within-police-stations variance (i.e., τ_{00} (Unconditional Model) - τ_{00} (Random-coefficient model))/ τ_{00} (Unconditional Model) = (.56-.54)/.56=.03). Similarly, the explained variance between police stations in this model was also relatively small (R_2^2 =.02). That is, 2 percent of the true between-police-stations variance in overall job satisfaction is explained by individual-level factors.

Variables	Overall Job Satisfaction												
	Coef.	SE	Coef.	SE	Coef.	SE							
Intercept	3.81**	.20	3.08**	.45	3.00**	.44							
Individual-Level (N=1,021)													
Gender (1=Male)	20	.11			21	.11							
Rank (1=Middle manager)	.31**	.11			.31**	.11							
Length of Service ^a													
1 = 5 - 9 years	15	.11			15	.11							
2 = 10 - 19 years	.03	.11			.03	.11							
3 = 20 or more years	03	.13			03	.13							
Assignment (1=Non patrol)	.13	.10			.13	.10							
Work Type (1=Work outside)	27**	.07			27**	.07							
Organizational-Level (N=31)													
Workload			.32	.83	.41	.82							
Department size			.16	.82	.17	.80							
Variance Explained													
Within Police Stations		.03		.00		.03							
Between Police Stations		.02	-	.06	03								

Table 5.11 The Results from Hierarchical Linear Models: Overall Job Satisfaction

** P < .01, * P < .05; ^a Less than 5 years in service is the reference category

Interestingly, the explained variance within and between police stations for the second model (i.e., means-as-outcome model) were .00 and -.06, respectively. Usually, in traditional OLS models, the addition of variables to the analytical model increases explained variance (R^2) or prediction of the dependent variable. However, negative variance is not uncommon in multilevel models (e.g., Hwang, 2006). Negative variance can occur when we use a variable that has almost no or little variation at one of the levels (Roberts & Monaco, 2006, p.6). That is, if a group-level predictor is added, then we would expect that it would reduce only the between-groups variance, not the within-groups variance, ultimately increasing the estimate for the population variance (σ^2). Therefore, it is resulting in a negative explained variance between groups. Moreover, as Snijders and Bosker (1999) noted, caution is needed for directly interpreting the explained variance between groups in some unbalanced design situations like the current study.

HLM Results: Multiple Facets of Satisfaction

Table 5.12 displays the results of three HLM models of multiple facets of satisfaction. In addition to overall job satisfaction, the current study also employed specific types of satisfaction (e.g., satisfaction with salary and benefits) to capture different aspects of job satisfaction among police officers. In terms of individual-level variables, several predictors were significant. Middle managers or supervisors reported a significantly higher level of satisfaction with personnel management than did lower ranking officers (coefficient=.20, p<.01; H₃). Consistent with the results of overall job satisfaction, work type was negatively and statistically associated with multiple facets of satisfaction (i.e., satisfaction with work/equipment, personnel

management, salary/benefits, and supervisors/coworkers; H_6), and gender had significant negative effects on satisfaction with salary and benefits, as well as on satisfaction with supervisors and coworkers. Female officers were more satisfied with salary, benefits, supervisors and coworkers than male officers (H_1).

The coefficients relating length of service and assignment were positive and statistically significant, $\gamma_{80} = .22$ and $\gamma_{30} = .12$, respectively, at the .05 alpha level. That is, officers who had 20 or more years of experience were more satisfied with work and equipment than officers with less than 5 years of service (H₄). However, this finding was the reverse of the research hypothesis. Regarding assignment (patrol vs. non-patrol), police officers who were assigned to patrol duties reported a higher level of satisfaction with salary and benefits than those working in the non-patrol units (H₅), controlling for individual level variables. The individual level variables accounted for approximately 3 and 2 percent of the within- and between-police-station unit variance in multiple facets of satisfaction. Finally, the results confirmed that none of the organizational-level variables (i.e., workload and department size) had statistically significant effects on multiple facets of satisfaction. Moreover, these organizational variables did not make a significant contribution to the explained variance within and between police stations.

Variables	Sa	tisfacti	on with V	Work/H	Equipme	Satisfaction with Personnel Management						
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Intercept	.06	.16	.16	.38	.07	.36	.18	.16	46	.36	55	.34
Individual-Level (N=1,021)												
Gender (1=Male)	08	.10			08	.10	11	.09			11	.09
Rank (1=Middle Manager)	.11	.07			.11	.07	.20**	.07			.20**	.07
Length of Service ^a												
1 = 5 - 9 years	.05	.09			.05	.09	00	.09			00	.09
2 = 10 - 19 years	.12	.07			.12	.07	04	.08			04	.08
3 = 20 or more years	.22*	.09			.22	.09	.03	.08			.03	.08
Assignment (1=Non Patrol)	.04	.08			.04	.08	03	.07			03	.07
Work Type (1=Work Outside)	23**	.09			23**	.09	23**	.06			23**	.06
Organizational-Level (N=31)												
Workload			.00	.62	.06	.56			.24	.63	.29	.52
Department Size			13	.61	10	.60			.19	.60	.18	.60
Variance Explained												
Within Police Stations	.()3		00	.()2	.02	2	.(00	.0)2
Between Police Stations	.()2	(07	()6	.0	1	()6	()4

Table 5.12 The Results from Hierarchical Linear Models: Multiple Facets of Satisfaction

** P < .01, * P < .05; ^a Less than 5 years in service is the reference category

Table 5.12 (Cont'd)

Variables		Satisfa	ction wit	h Salar	y/Benefit		Satisfaction with Supervisors/Coworkers						
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	
Intercept	.23	.17	16	.31	23	.29	.31*	.14	25	.56	31	.29	
Individual-Level (N=1,021)													
Gender (1=Male)	24	.10			24*	.10	21*	.08			21*	.08	
Rank (1=Middle Manager)	.14	.08			.14	.08	.15	.08			.15	.08	
Length of Service ^a													
1 = 5 - 9 years	00	.08			00	.08	11	.07			11	.07	
2 = 10 - 19 years	02	.06			02	.06	04	.07			04	.07	
3 = 20 or more years	04	.07			04	.07	09	.07			09	.07	
Assignment (1=Non Patrol)	.12	.06			.12*	.06	.03	.06			.03	.06	
Work Type (1=Work Outside)	21 ^{**}	.07			21**	.07	23**	.07			23**	.07	
Organizational-Level (N=31)													
Workload			.35	.66	.41	.65			.02	.57	.06	.56	
Department Size			21	.68	24	.67			.16	.56	16	.55	
Variance Explained													
Within Police Stations).)3		00		03	.0	2	.(00	.()2	
Between Police Stations	.(.03 .03		06		03		.02		07		04	

** P < .01, * P < .05; ^a Less than 5 years in service is the reference category

Hierarchical Linear Models (HLM) Results: Neighborhood-Level Analysis One-Way ANOVA Model with Random Effect

Table 5.13 shows the results from the one-way random effect ANOVA model. In the one-way ANOVA model, the level 1 model represents variation in police officers' level of overall job satisfaction within each neighborhood (GU or district), where the intercept (β_{0j}) represents the average overall job satisfaction of neighborhood *j*, and the random effect r_{ij} . Similarly, the level 2 model accounts for variation in overall job satisfaction between neighborhoods, where the intercept γ_{00} represents the grand mean of officers' overall job satisfaction across all 25 neighborhoods in the city of Seoul. As shown in Table 5.13, the coefficient for the grand-mean job satisfaction (γ_{00}) was 3.62, indicating the police officers in the 25 neighborhoods reported a lower level of overall job satisfaction on average.

	Fixed Effect					
Satisfaction	Coefficient	σ2	τ00	ΙСС (ρ)	λ	χ^2 (df)
Overall ^a	3.62**	1.40	.58	.30	.94	406.64 (24)**
Work/Equipment ^b	01	.83	.33	.28	.93	355.75 (24)**
Personnel Management ^b	01	.83	.33	.28	.94	389.09 (24)**
Salary/Benefit ^b	01	.77	.40	.34	.95	498.82 (24)**
Supervisor/Coworker ^b	01	.83	.27	.25	.93	325.00 (24)**

Table 5.13 The Results from One-Way Random Effect ANOVA Model

P <.01, P <.05

Note: σ^2 = Within Neighborhood Variance, τ_{00} = Between Neighborhood Variance, ICC=Intraclass Correlation Coefficient, λ = Neighborhood-Level Reliability; ^a 7-Point Likert Scale (1=Very dissatisfied to 7=Very satisfied); ^b Bartlett factor scores In one-way ANOVA models, the intraclass correlation (ICC) coefficients indicated that roughly 30% of variance in overall job satisfaction was between neighborhoods, and the remainder was attributed to police officer-level variation and random error. A sufficient degree of between-group variations was also found in multiple facets of job satisfaction, which ranged from 25% to 34%. The reliability (λ) for the sample mean of overall job satisfaction was .94, which indicates that the sample mean was a reliable measure of the true level 2 mean for overall job satisfaction. The neighborhood-level reliability for satisfaction with work and equipment, personnel management, salary/benefits, and supervisors and coworkers also ranged from .90 to .93, indicating that the sample means tend to be quite reliable indicators of the true neighborhood means. Overall, the one-way ANOVA with random effect model revealed sufficient between-group variations of overall job satisfaction and multiple facets of satisfaction across 25 neighborhoods.

Random-Coefficient, Means-as-Outcomes, and Intercepts-as-Outcomes Models

After the one-way ANOVA with random effect model, a random-coefficient model was estimated, including only level 1 variables. Officers' demographic characteristics and workrelated variables were modeled to vary across neighborhoods as a function of a grand mean and a random error (e.g., β_{0j} = intercept for a given neighborhood; β_{1j} = the effect of officer gender on overall job satisfaction; γ_{00} = the average of the neighborhood on overall job satisfaction across the population of the neighborhoods; γ_{10} = the average gender-overall job satisfaction regression slope across the neighborhoods; u_{0j} = the unique increment to the intercept associated with neighborhood j). The random coefficient model can be written the same as the equation for the random-coefficient model from the organizational-level analysis (see page 102).

Regression with means-as-outcomes models were conducted to estimate the means from each of the many neighborhoods as an outcome to be predicted by neighborhood characteristics (i.e., violent crime rate, concentrated disadvantage, residential instability, and immigrant concentration). That is, the means of overall job satisfaction (β_{0j} = the level 1 intercept) were explained by neighborhood characteristics (e.g., γ_{01} = the effect of violent crime rate on overall job satisfaction). Thus, neighborhood-level (GU or district) variables were added as a level 2 predictor variable. The models are expressed as:

Level 1 Model: Satisfaction_Overall_{ij} =
$$\beta_{0j} + r_{ij}$$

Level 2 Model: $\beta_{0j} = \gamma_{00} + \gamma_{01} * (VC_j) + \gamma_{02} * (CD_j) + \gamma_{03} * (IC_j) + \gamma_{04} * (RI_j) + u_{0j}$

Finally, the intercepts- as-outcomes models (i.e., full model) were estimated to test the effects of all individual- and neighborhood-level variables on job satisfaction simultaneously. The full model estimated the following equations:

Level 1 Model: Satisfaction_Overall_{ij} = $\beta_{0j} + \beta_{1j}^*(Gender_{ij}) + \beta_{2j}^*(Rank_{ij})$ + $\beta_{3j}^*(Assignment_{ij}) + \beta_{4j}^*(Worktype_{ij}) + \beta_{5j}^*(YRS59_{ij}) + \beta_{6j}^*(YRS1019_{ij}) + \beta_{7j}^*(YRS20MOR_{ij}) + r_{ij}$

Level 2 Model:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} * (VC_j) + \gamma_{02} * (CD_j) + \gamma_{03} * (IC_j) + \gamma_{04} * (RI_j) + u_{0j}$$

 $\beta_{1j} = \gamma_{10}$
 $\beta_{2j} = \gamma_{20}$
 $\beta_{3j} = \gamma_{30}$
 $\beta_{4j} = \gamma_{40}$
 $\beta_{5j} = \gamma_{50}$
 $\beta_{6j} = \gamma_{60}$
 $\beta_{7j} = \gamma_{70}$

HLM Results: Overall Job Satisfaction

Table 5.14 displays the results from three HLM models. The first model is the random coefficients model that estimated the effects of individual-level variables on overall job satisfaction within 25 neighborhoods. The intercept represents the mean overall job satisfaction score of police officers, and it was statistically significant ($\gamma_{00} = 3.91$, p < .01).

The officers' gender emerged as a significant predictor of overall job satisfaction. Specifically, male officers were less satisfied with their jobs than females (H₁). Also, consistent with the results from the organizational-level analysis, rank and work type were also statistically significant predictors of overall job satisfaction. That is, middle managers (or supervisors) reported a higher level of overall job satisfaction than patrol officers (H₃). Officers who worked outside were less satisfied with their jobs than their indoor counterparts (H₆). But, once again, the direction of this particular relationship was not consistent with the study hypothesis (i.e., H₆: *police officers who work outside feel more satisfied with their jobs than those officers who work* *inside*). Finally, length of service (H₄) and assignment (H₅) were not significantly associated with overall job satisfaction.

Variables	Overall Job Satisfaction													
variables	Coef.	SE	Coef.	SE	Coef.	SE								
Intercept	3.91**	.18	3.28**	.04	3.30**	.42								
Individual-Level (N=1,021)														
Gender (1=Male)	23*	.10			23*	.10								
Rank (1=Middle Manager)	.26*	.12			.26*	.12								
Length of Service ^a														
1 = 5 - 9 years	16	.09			16	.09								
2 = 10 - 19 years	.01	.08			.01	.08								
3 = 20 or more years	.03	.13			.03	.13								
Assignment (1=Non Patrol)	.14	.08			.14	.08								
Work Type (1=Work Outside)	33	.06			33	.06								
Neighborhood-Level (N=25)														
Violent Crime Rate			.01	.01	.01	.01								
Concentrated Disadvantage			08	.12	10	.11								
Residential Instability			.05	.09	.04	.09								
Immigrant Concentration			29**	.10	30**	.10								
Variance Explained														
Within Neighborhoods		.04		.00		04								
Between Neighborhoods		.03		.07		.03								

Table 5.14 The Results from Hierarchical Linear Models: Overall Job Satisfaction

** P < .01, * P < .05; ^aLess than 5 years in service is the reference category

At the neighborhood level, immigrant concentration (measured by the percent of foreigners) had a statistically significant effect on individual officers' overall job satisfaction (coefficient=-.29, p<.01) (H₁₁₋₃): officers who worked in neighborhoods characterized by a

higher level of immigrant concentration were less likely to be satisfied with their jobs than the officers in other neighborhoods. This finding has still remained statistically significant in the full model after controlling for the individual-level variables (coefficient=-.30, p<.01). However, other neighborhood-level variables (i.e., violent crime rate, concentrated disadvantage, and residential instability) in model 2 and model 3 had no effects on overall job satisfaction (H₁₀ &

H_{11-1 & 2}).

Rank	Districts (GUs)	JS	VC	CD	RI	IC
	Grand Mean	3 63	40.93	0	0	77
	Grund Medul	5.05	10.95	Ŭ	0	- / /
1	Yangchun	6.22	24.32	.17	13	.33
2	Geumcheon	5.55	86.78	-1.29	59	.87
3	Jungnang	4.74	39.27	-1.29	-1.00	.18
4	Gangnam	3.92	73.13	2.63	1.91	.98
5	Eunpyeong	3.75	36.07	31	88	.30
:	:	:	:	:	:	:
25	Gangbuk	2.62	32.04	-1.14	.99	.23

Table 5.15 Mean Comparisons: Job Satisfaction and District Characteristics

Note: JS=Overall Job Satisfaction, VC=Violent Crime Rates, CD=Concentrated Disadvantage, RI=Residential Instability, IC=Immigrant Concentration

Table 5.15 illustrates the results from simple mean comparisons among neighborhoodlevel variables and overall job satisfaction. The results indicated that there were no clear patterns among the variables (also see the results from the bivariate analyses). For example, officers who worked in Yangchun GU reported the highest level of overall job satisfaction, while the violent crime rates for the district were lower than the average violent crime rates for the entire city. Thus, it can be argued that violent crime rates had no impact on officers' levels of overall job satisfaction. In addition, perhaps most interesting is the fact that violent crime rates became a non-significant predictor of overall job satisfaction in the HLM models. In the OLS regression models and bivariate analyses, violent crime rates were positively associated with officers' levels of overall job satisfaction. This suggested that HLM is a more appropriate statistical technique to analyze a hierarchical structure of datasets like the ones used in the current study.

Finally, a proportional reduction in variance (i.e., percent of variance explained) for the individual predictors was .04, indicating that those individual-level variables altogether accounted for approximately 4 percent of the within-neighborhoods variance. Similarly, the explained variance between neighborhoods in this model was also relatively small (R_2^2 =.03). That is, 3 percent of the true between-neighborhoods variance in overall job satisfaction is explained by individual-level factors. Furthermore, in models 2 and 3, virtually no variance within and between neighborhoods was explained by neighborhood-level variables (i.e., the explained variances were either 0 or a negative value).

HLM Results: Multiple Facets of Satisfaction

Table 5.16 shows the results of three HLM models of multiple facets of satisfaction. With respect to individual-level variables, several predictors were statistically significant at the .05 alpha level. In comparing male officers to female, female officers were more satisfied with personnel management, salary, benefits, supervisors, and coworkers than their male counterparts (H₁). Officers with a higher ranking (i.e., middle managers or supervisors) expressed a significantly higher level of satisfaction with personnel management than did patrol officers (H₃). Regarding officers' experience, officers who spent more time (more than 10 years) serving in the police force were more likely to be satisfied with work and equipment than were inexperienced officers (i.e., less than 5 years in the service), a finding that was the reverse of the research hypothesis. Consistent with the results of overall job satisfaction, work type was negatively and statistically associated with all four facets of satisfaction (i.e., satisfaction with work/equipment, personnel management, salary/benefits, and supervisors/coworkers; H₆). For example, officers who worked outside were less satisfied with personnel management than officers who worked inside (coefficient=-.23, p < .01). Regarding assignment, police officers who were assigned to non-patrol duties reported a higher level of satisfaction with salary and benefits than those who worked in patrol units (H₅), when controlling for individual-level variables.

At the neighborhood level, the only significant and consistent predictor across all multiple facets of satisfaction (except satisfaction with personnel management) was immigrant concentration (H₁₁₋₃): the coefficients ranged from -.19 to -.26. That is, officers who worked in neighborhoods with a greater foreign population reported a lower level of satisfaction with work, equipment, salary, benefits, supervisors, and coworkers (coefficients=-19, -21, and -18, respectively). This finding remained statistically significant in the full model after controlling for the individual-level variables. However, other neighborhood-level variables in model 2 and model 3 had no effects on overall job satisfaction (H₁₀ & H₁₁₋₁ & 2). The individual-level variables accounted for approximately 2 percent of the within-neighborhood unit variance in multiple facets of satisfaction. Finally, the results also confirmed that neighborhood-level variables did not significantly contribute to the explained variance within and between neighborhoods.

Variables	Sa	tisfacti	on with V	Work/I	Equipmer	Satisfaction with Personnel Management						
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Intercept	.07	.17	30	.29	28	.29	.22	.15	22	.30	21	.32
Individual-Level (N=1,021)												
Gender (1=Male)	12	.07			12	.07	14	.07			14*	.07
Rank (1=Middle Manager)	.11	.07			.11	.07	.21**	.07			.21**	.07
Length of Service ^a												
1 = 5 - 9 years	.05	.08			.05	.08	.01	.07			.01	.07
2 = 10 - 19 years	.12*	.06			.12*	.06	03	.07			03	.07
3 = 20 or more years	.23**	.09			.23**	.09	.07	.08			.07	.08
Assignment (1=Non-Patrol)	.06	.07			.06	.07	03	.06			03	.06
Work Type (1=Work Outside)	23**	.07			23**	.07	25***	.05			25**	.05
Neighborhood-Level (N=25)												
Violent Crime Rate			.01	.01	.01	.01			.01	.01	.01	.32
Concentrated Disadvantage			08	.08	09	.08			06	.08	07	.08
Residential Instability			.04	.07	.03	.07			.01	.06	.01	.06
Immigrant Concentration			- .19 [*]	.07	- .19 [*]	.08			14	.07	15	.08
Variance Explained												
Within Neighborhoods	.0)2	.(00	.0)2	.0)2	.(00	.()2
Between Neighborhoods	.0	00	(07	0)7	.()2		13	1	0

Table 5.16 The Results from Hierarchical Linear Models: Multiple Facets of Satisfaction

** P < .01, * P < .05; ^a Less than 5 years in service is the reference category

Table	5.16	(Cont'd)
1 4010	J.10	(COIII u)

Variables		Satisfa	ction wit	h Salar	y/Benefit		Satisfactio	n with Suj	perviso	rs/Cowor	·kers
	Coef.	SE	Coef.	SE	Coef.	SE	Coef. SE	Coef.	SE	Coef.	SE
Intercept	.33	.16	36	.37	34	.36	.31 .14	26	.28	24	.28
Individual-Level (N=1,021)											
Gender (1=Male)	30**	.06			30**	.06	23 ** .07			23**	.07
Rank (1=Middle Manager)	.12	.09			.12	.09	.13 .08			.13	.08
Length of Service ^a											
1 = 5 - 9 years	03	.07			03	.07	13 .07			13*	.07
2 = 10 - 19 years	03	.04			03	.04	02 .06			02	.06
3 = 20 or more years	.01	.09			.01	.09	05 .07			05	.07
Assignment (1=Non-Patrol)	.13	.06			.13*	.06	.04 .06			.04	.06
Work Type (1=Work Outside)	26**	.05			26***	.05	22** .06			22***	.06
Neighborhood-Level (N=25)											
Violent Crime Rate			.01	.01	.01	.01		.01	.01	.01	.01
Concentrated Disadvantage			06	.10	06	.09		08	.07	09	.07
Residential Instability			.03	.07	.02	.07		.04	.06	.03	.06
Immigrant Concentration			21	.09	20*	.09		18	.06	18	.06
Percent of Variance Explained											
Within Neighborhoods	.()4	.(00		04	.02	.(00	.()2
Between Neighborhoods	.()4	(06		02	.03	(08	()3

** P < .01, * P < .05; ^a Less than 5 years in service is the reference category

Chapter Summary

This chapter presented the findings for five different outcome measures using a series of analytical techniques. Specifically, independent sample t-test, one-way ANOVA (with Bonferroni multiple comparison), and correlation analysis were used to assess the bivariate relationship between an independent variable and a dependent variable. For multivariate analysis, traditional OLS regression and several HLM analyses were employed to estimate the effects of neighborhood- or organization-level variables and individual-level variables on overall job satisfaction and multiple facets of satisfaction among South Korean police officers. The results highlight several important points and provide partial support for the research hypotheses described in the current study. More specifically, the results of the HLM revealed that officer rank was positively associated with overall job satisfaction and satisfaction with personnel management, and in the direction hypothesized. In addition, female officers were significantly more satisfied with their jobs, personnel management, salary, benefits, supervisors, and coworkers than male officers. Length of service and assignment were also found to be significantly related to job satisfaction. That is, officers who served longer in the police force were more satisfied with work and equipment than were inexperienced officers. Regarding assignment, police officers who were assigned to non-patrol duties reported a higher level of satisfaction with salary and benefits than those who worked in the patrol units. Interestingly, work type was a consistent and significant predictor of job satisfaction across five different types of outcomes: police officers who worked outside reported a lower level of job satisfaction than officers who worked inside.

With respect to organization- and neighborhood-level predictors, none of the organizational-level variables were significant, which failed to support the study hypotheses.

Among four neighborhood-level variables, only immigrant concentration had a significant effect on overall job satisfaction and three facets of satisfaction (work and equipment, salary and benefits, and supervisors and coworkers). That is, officers who worked in neighborhoods with a greater foreign population reported a lower level of satisfaction with work, equipment, salary, benefits, supervisors, and coworkers. However, the individual-, organizational-, and neighborhood-level variables included in the current study did not significantly contribute to the variance explained within and between police stations or neighborhoods (GUs). Table 5.17 summarized several important findings explained throughout this chapter. The following chapter provides more detailed discussion of the important findings and their policy implications.

H# Variables		Expected	d Bivariate Analysis ^a						HL	M ^b (N	=31)			HL	M ^b (N	=25)	
H#	v ariables	Outcomes	JS	W	Р	S	SC	JS	W	Р	S	SC	JS	W	Р	S	SC
H_1	Gender (Male)	+	_		_	_	_				_	_	_		_	_	_
H_2	Age	+ /							No	t inclu	ided			No	t inclu	ıded	
H ₃	Rank (M. Manager)	+	+	+	+		+	+		+			+		+		
${\rm H}_4$	Length of Service	_							+					+			+
H_5	Assignment (Non Patrol)	+	+	+		+	+				+					+	
Н ₆	Work Type (Outside)	+	_	—	_	_	_	-	_	-	—	_	_	_	_	—	_
H_{7}	Workload	_	+														
H_{8}	Divisions	-							No	t inclu	ided			No	t inclu	ıded	
H9	Department Size	_															
H_{10}	Violent Crime Rate	_	+	+	+	+	+										
H ₁₁₋₁	Residential Instability	_															
H ₁₁₋₂	Economic Disadvantage	_							No	t inclu	ıded						
H ₁₁₋₃	Immigrant Concentration	_	_										_	_		_	_

Table 5.17 Summary of Research Findings

Note: Parenthesis = the reference category; JS=Overall Job Satisfaction, W=Satisfaction with Work/Equipment, P=Satisfaction with Personnel Management, S=Satisfaction with Salary/Benefit, SC=Satisfaction with Supervisor/Coworker ^a Based on T-test, One-Way ANOVA, and correlation analysis; ^b HLM=Hierarchical Linear Models

CHAPTER VI. DISCUSSION AND CONCLUSION

Most prior research shows that the primary determinants of police officers' job satisfaction are individual traits, such as officers' age, gender, rank, and years of service, as well as work environment and workplace conditions. However, relatively few studies have focused on the neighborhood contexts that influence levels of job satisfaction among police officers. This lack of research is quite surprising because characteristics of police work and its surrounding environment have long been cited as significant predictors of the values and attitudes of the police (Crank, 1998; Morash et al., 2006; Skolnick, 1975; Sobol, 2009). Moreover, police scholars have recently examined the effects of neighborhood characteristics on other types of police behavior such as the use of force (Heraux, 2006; Lee et al., 2010; Smith, 1986; Terrill & Reisig, 2003), officer disrespect toward the public (Mastrofski, Reisig, & McCluskey, 2002), traffic citations (Ingram, 2007), the decision to make an arrest (Riksheim & Chermak, 1993; Smith, 1986), and officer misconduct (Kane, 2002). These studies confirmed that an area to which a police officer is assigned may not be a simple geographic segment. Rather, they speculate, the neighborhood and its characteristics may have a profound influence on the organization of police work and the officers' behavior and attitudes.

Therefore, the primary purpose of this study was to investigate the effects of neighborhood characteristics on job satisfaction using a sample of South Korean police officers. Specifically, the current study empirically tested the following research objectives: (1) to examine the effects of neighborhood characteristics on police officers' job satisfaction; (2) to determine if organizational-level variables influence job satisfaction; (3) to assess the relationships between individual characteristics and job satisfaction among police officers; and (4) to estimate the effects of neighborhood-level (or organization-level) variables on job satisfaction while controlling for individual-level variables.

The current study also attempted to fill the theoretical and methodological gaps in prior research on job satisfaction by: (1) incorporating theoretically relevant neighborhood- and organizational-level predictors into the analysis; (2) employing a multilevel analysis to examine the impacts of neighborhood contexts on job satisfaction and test cross level effects of both individual and neighborhood (or organizational) factors on job satisfaction simultaneously; and (3) examining the external validity of existing information regarding the roles of individual, organizational, and neighborhood characteristics on job satisfaction in the South Korean context. The following section provides a summary of the findings and their implications for policy and future research.

Discussion

This section explains several important findings from the HLM analyses. More details about or explanations of specific findings are discussed in terms of neighborhood-, organizational-, and individual-level predictors of job satisfaction.

Neighborhood-Level Effects on Job Satisfaction

Based on the social ecological perspective of crime and police behaviors, it is argued that more crime and disorder problems occur in socially disorganized neighborhoods and, consequently, the probability of police officers engaging in police actions in those neighborhoods is greater. This increased activity may influence individual police officers' job satisfaction, since neighborhoods with higher levels of concentrated disadvantage, residential instability, and immigrant concentration frequently experience a higher volume of crime and deviance. Police officers assigned to these disorganized neighborhoods may handle more cases and may often experience hostility or complaints from citizens. As a result, police officers may be less satisfied with their work than those assigned to less disadvantaged neighborhoods.

The results from the HLM analyses revealed that immigrant concentration was negatively associated with overall job satisfaction and multiple facets of satisfaction among police officers. Consistent with the hypothesis, police officers who worked in neighborhoods with a higher level of immigrant concentration (i.e., percent of foreigners in each neighborhood) were less satisfied with their jobs than the officers assigned to more ethnically homogeneous neighborhoods. Also, the significance and magnitude of the coefficients of this particular neighborhood-level variable were consistent across several different HLM models and four different types of job satisfaction (i.e., overall job satisfaction, satisfaction with work and equipment, satisfaction with salary and benefits, and satisfaction with supervisors and coworkers).

There are two plausible explanations for this particular finding. First, one possible explanation is that a dramatic increase in the number of crimes by foreigners (i.e., foreigner crimes) may negatively influence individual officers' levels of job satisfaction. That is, as of 2009, there were approximately 1 million registered foreigners in South Korea (about 1.26 million, including illegal immigrants). Although only 3% of foreigners were charged with crimes in 2009, the number of crimes committed by foreign nationals in South Korea increased

by 347 % over seven years, from 5,221 crimes in 2002 to 23,344 crimes in 2009 (KNPA, 2009; see Figure 6.1). 21



Figure 6.1 Crimes Committed by Foreign Nationals in South Korea from 2002 to 2009 (KNPA, 2011)

However, the number of officers in the foreign affairs division only increased 28%, from 877 in 2002 to 1,123 in 2009 (KNPA, 2009). In South Korea, when a foreigner commits a crime, patrol officers are typically the first to arrive at the crime scene. After finishing a preliminary investigation, the case is usually transferred to the foreign affairs division in the appropriate police station (for detailed information on criminal procedures for foreigners, see Figure 6.3 in Appendix C). Accordingly, slightly more than 1,100 police officers handle most of the crimes committed by foreign nationals and any related matters, which may lead to frustration among

²¹ In 2009, there were 5,883 violent crimes (i.e., homicides, robberies, rapes, and assaults) that accounted for 20% of the total number of crimes committed by foreign nationals, followed by 19% for white-collar crimes (frauds and embezzlements), and 8% for burglaries (KNPA, 2009).

these officers because of the lack of enough manpower.²² Therefore, foreign affairs officers (or any officers who are assigned to foreign affairs units) are less likely to be satisfied with their jobs than other officers. This finding was also confirmed in the study sample: although there were only 17 foreign affairs officers included in the sample, they expressed a significantly lower level of overall job satisfaction as compared to other officers (mean=3.14).

Another explanation might be a language barrier or poor communication between foreigners and police officers. This is a much more realistic or applicable explanation for all South Korean police officers. South Korea is traditionally a very homogeneous country, with nearly all native residents identifying themselves as Korean and speaking the Korean language (Statistic Korea, 2011). Likewise, the KNPA is overwhelmingly Korean and unilingual.²³ During a routine patrol, a police officer needs to be able to communicate effectively to do his or her job. When police officers cannot communicate with the people they serve, they cannot perform their duties well (Schneider, 1999). However, growing numbers of foreigners are becoming more of a burden for Korean officers, since many foreigners have limited Koreanlanguage proficiency. Consequently, police officers are less satisfied with their jobs if they frequently encounter foreigners.

Moreover, the language barrier may cause a substantial time delay in completing calls for service, traffic stops, and arrest-booking procedures. For example, Culver (2004) found that in the U.S., it took at least twice as much time for an officer to complete a call with a non-English-

²² For example, Youngsan police station has 19 foreign affairs officers for 26,437 foreigners in the district (i.e., 1,391 foreigners per officer).

²³ Since 2008, the KNPA has been hired only 4 foreign-born police officers who were neutralized as a Korean citizen in order to improve foreign language capacity in the agency (Lim, 2010). Thus, it can be assumed that all South Korean police officers are Korean and speak Korean language.

speaking Hispanic than with a person who spoke English because of the language barrier. Finally, to communicate with foreign suspects, police officers may use a translator. However, despite an intense effort to recruit people from different cultures and languages, there were only 154 translators for 18 different languages (mainly either English or Chinese) in 2008 (Lim, 2010). Due to the few translators available in the police stations, police officers are not able to get immediate support from translators when they need it most, which might lead to a lower level of job satisfaction. Overall, due to language barriers and a lack of foreign language capacity among South Korean police officers, officers who work in neighborhoods with a higher proportion of foreigners are less satisfied with their jobs than officers in ethnically homogenous neighborhoods.

Inconsistent with the study hypotheses, violent crime rate, residential instability and concentrated disadvantage were not statistically associated with individual officers' levels of job satisfaction. Officers who worked in neighborhoods with higher levels of violent crime, economic disadvantage, and residential instability reported about the same level of job satisfaction as officers in other neighborhoods. From a social ecological perspective, it is assumed that more crime occurs in socially disorganized neighborhoods and, consequently, officers serving those neighborhoods have a greater probability to engage in police activity. This may influence individual police officers' job satisfaction. However, the current study failed to demonstrate significant relationships among residential instability, concentrated disadvantage,

violent crimes and job satisfaction.²⁴

²⁴ Further analysis also confirmed that there were not statistically significant effects of residential instability and concentrated disadvantage on violent crime rates, which was consistent with a recent study conducted in South Korea. Cheong and Kwak (2008) examined the impact of district-level variables (considered as neighborhood characteristics) on crime rate and found that these social disorganization indicators were not related to crime rates in South Korea. Rather, they found that only ethnic heterogeneity (percent of foreigner living in the district) was
Organizational-Level Effects on Job Satisfaction

Based on Klinger's (1997) theory and other relevant organizational theories, this study employed three organizational-level factors to examine the impact of each of these variables on job satisfaction. Three organizational-level factors include workload (number of calls for service per 100 officers), divisions (number of special units and divisions within each police station), and department size (number of police officers in the department). However, it should be noted that since there was a severe multicollinearity problem between divisions and department size, the HLM analyses only included department size in the models.²⁵ The results from HLM analyses revealed that none of the organizational-level predictors had significant effects on the levels of individual officers' job satisfaction. More specifically, based on Klinger's theory and prior research, it was hypothesized that police officers with a heavy workload are less satisfied with their jobs than those with a lighter workload. Inconsistent with this study hypothesis, the current study found a null relationship between workload and job satisfaction. According to Klinger (1997), district workload is indirectly related to police cynicism, which may negatively influence job satisfaction. Thus, it is possible that the effect of workload on job satisfaction could be mediated by other relevant factors, such as police cynicism, which was not included in the current study.

Department size is also expected to have a negative impact on job satisfaction. That is, the increased size of a department increases divisions of labor and status differentiation, both

positively associated with levels of crime across districts: districts with a higher proportion of foreigners were more likely to experience crimes than those with few foreigners.

²⁵ To determine whether division has any significant effect on job satisfaction, a separate HLM model was estimated with division variable, which replaced department size in the models. The results from the HLM model confirmed that there was no significant relationship between division and job satisfaction.

leading to a lower level of job satisfaction (Talacchi, 1960). However, the current study failed to produce a significant relationship between these two variables. One of the possible explanations is that, unlike the highly differentiated U.S. policing system, South Korea has a centralized, national police force. Since all police agencies in South Korea are part of the KNPA, each police station is more likely to share common organizational characteristics. Police officers also experience and work in very similar circumstances and conditions regardless of department size. Finally, the relationship between department size and satisfaction may not be a linear one (see Dantzker, 1997). For example, Dantzker (1997) found that officers from police agencies with fewer than 100 sworn officers were the most satisfied with general administration, while officers in agencies employing 101 to 500 officers were the least satisfied. Overall, it is possible that these organizational variables may not play an important role in explaining individual officers' levels of job satisfaction in the Korean context.

Individual-Level Effects on Job Satisfaction

At the individual level, the results confirmed that female, experienced and higher ranking officers reported a higher level of job satisfaction compared to male, inexperienced, and lower ranking officers. Interestingly, work type and assignment were also found to be significant predictors of job satisfaction. Regarding officer gender, contrary to the hypothesis, female officers were more satisfied with their jobs than their male counterparts. In addition to overall job satisfaction, female officers expressed a higher level of satisfaction with supervisors, coworkers, and salary and benefits than did male officers. Although this particular finding was not consistent with the study hypothesis, other studies have produced similar results with regard to the effect of officer gender on job satisfaction (Buzawa, 1984; Dantzker & Kubin, 1998;

Noblet & Rodwell, 2008). This finding can be explained by a recently-adopted promotion and recruitment policy in the KNPA. As of 2011, female police officers accounted for approximately 6.8 percent of the Korean police force and slightly more than 85 percent of female officers were lower ranking officers such as patrol officers, senior patrol officers, and assistant inspectors (KNPA, 2011). In order to increase the number of higher ranking female officers as well as female patrol officers, the KNPA has recently implemented a quota-promotion system for female officers and is attempting to hire an additional 600 female officers every year until it actually reaches the 10/90 mark (i.e., 10% female officers in the agency)(Choi, 2005). Also, a quota-promotion system allows female officers to be promoted faster than male officers. Accordingly, it is expected that female officers are more likely to express a higher level of job satisfaction than males.

With respect to officer rank, consistent with prior research, the results from HLM analysis revealed that police officers with a higher rank are more likely to be satisfied with their jobs than officers with a lower rank (Bennett, 1997; Buker & Dolu, 2010; Boke & Nalla, 2009; Dantzker & Kubin, 1998; Hoath et al., 1998; Sheley & Nock, 1979). For example, a recent study by Boke and Nalla (2009) found that supervisors were more likely to be satisfied with their jobs than were line officers. These findings are consistent with prior research conducted in South Korea. Lee (2006) conducted a survey among police officers in the Seoul Metropolitan Agency and found that higher ranked officers reported a higher level of satisfaction with their jobs as compared to lower ranked officers. One possible explanation is that since South Korea has a centralized police force, in which the headquarters of the KNPA control all of the police organizations in the country, only six percent of higher ranked police officers (i.e., senior inspectors or higher) are responsible for the entire Korean police force (KNPA, 2011). Thus, these officials in the KNPA generally have more autonomy, power, and privilege than their lower ranked counterparts, which may account for the higher levels of job satisfaction among them (Hwang & Kwon, 2005).

Length of service was also found to be significantly related to job satisfaction. Contrary to the initial hypothesis, officers who served longer on the police force were more satisfied with work, equipment, supervisors and coworkers than were inexperienced officers (see Noblet & Rodwell, 2008; Miller et al., 2010). Satisfaction of work and equipment, one of the multiple facets of satisfaction included in the current study, was measured by five different items: satisfaction with shift work, uniform, equipment, personal weapons, and patrol vehicles or motorcycles. In general, the KNPA usually relies on seniority-based assignments, so officers with longer tenure in the organization are given priority over rookie officers to choose their shift work, equipment, personal weapons, or patrol vehicle (Park, 2009; also see Paoline, Myers, & Worden, 2000). Consequently, officers with longer tenure reported a higher level of satisfaction with work and equipment than did inexperienced officers.

Consistent with the expectation and prior research, police officers who were assigned to non-patrol duties reported a higher level of satisfaction with salary and benefits than those who worked in patrol units (Hoath et al., 1998; Reiner & Zhao, 1999; Slate et al., 2007; Chan and Doran, 2009). That is, officers working in criminal investigation, traffic, public relations, internal affairs, human resources, and intelligence divisions reported a higher level of satisfaction (especially with salary and benefits) than did patrol officers. This finding is somewhat related to the promotion system in South Korea. Currently, the KNPA evaluates candidates based on three components: a promotional exam (60%), a performance evaluation (25%), and a training evaluation (15%). According to Lee (2008), police officers who work in non-patrol responsibilities had a higher pass rate for the promotion exam (the average pass rate = 20.1%). While the pass rate for patrol officers was approximately 16%, the pass rate for officers in non-patrol units ranged from 29% (intelligence) to 38% (human resources). In other words, officers assigned to non-patrol duties were more likely to pass a promotional exam and be promoted to a higher rank, which leads to a pay raise and increased benefits. As a consequence, officers working non-patrol duties had a higher level of satisfaction with salary and benefits than did patrol officers. Lee (2008) also argued that one reason officers working in non-patrol units have a higher pass rate for a promotional exam is that those officers usually have more free time to study for the exam.

Finally, type of work was found to be a statistically significant predictor of job satisfaction. This particular variable was adopted from Hwang (2008). Using ordinal logistic regression analyses, Hwang (2008) found that Korean officers who were engaged in enforcement-oriented outside duty had higher levels of job satisfaction than did those who were engaged in non-enforcement desk duty (also see Seltzer et al., 1996). However, the current study found that police officers who worked outside reported a lower level of job satisfaction than officers who worked inside, in contradiction of the hypothesis. In addition, work type was a consistent and significant predictor of job satisfaction across five different types of outcomes (overall and four facets of satisfaction). In a Korean context, type of work (inside vs. outside) is considered to be one of the significant factors that determines an officer's salary, promotional opportunities, and performance rating (Kim & Ji, 2007). In general, officers working inside have a higher salary, more promotional opportunities, and better performance rating, which in turn increase their job satisfaction. However, due to a heavy workload, time constraints, and familywork conflict, police officers who are involved in law enforcement-type outside work usually reported a lower level of job satisfaction than those who worked in offices (Baek, 2011). Since police officers who work outside are usually working by themselves away from their colleagues and supervisors and handling more cases within a short period of time, they suffer from lack of communication within a department, support from coworkers or supervisors, and promotional opportunities. Therefore, they are more likely to experience emotional isolation and stress, which in turn may decrease their levels of job satisfaction compared to their counterparts (Baek, 2011; Lee, 2008).

In summary, the results highlight several important points and provide partial support for the research hypotheses described in the current study. That is, with respect to organization- and neighborhood-level predictors, none of the organizational-level variables that failed to support the study hypotheses were significant. Among four neighborhood-level variables, only immigrant concentration had a significant effect on overall job satisfaction and three facets of satisfaction. Officers who worked in neighborhoods with a higher population of foreign nationals reported a lower level of satisfaction with work, equipment, salary, benefits, supervisors, and coworkers. With respect to individual-level predictors, the results of the HLM revealed that officer rank was positively associated with overall job satisfaction and satisfaction with personnel management, and in the direction hypothesized. Length of service and assignment were also found to be significantly related to job satisfaction. Officers who served longer were more satisfied with work and equipment than were inexperienced officers. With regard to assignment, police officers who were assigned to non-patrol duties reported a higher level of satisfaction with salary and benefits than those who worked in the patrol units. Similarly, police officers who worked outside reported a lower level of job satisfaction than officers who worked inside. However, it should be noted that the individual-, organizational-, and

neighborhood-level variables included in the current study did not significantly contribute to the variance explained within and between police stations or neighborhoods (GUs).

Theoretical Implications

The current study was built on the theoretical foundations of Klinger's negotiated order theory and social ecological perspective of crime and police behaviors (i.e., social disorganization theory). The findings presented previously have several theoretical implications for future research on job satisfaction. With respect to social disorganization theory, three distinct neighborhood factors including residential instability, economic disadvantage, and immigrant concentration are expected to affect police officers' level of job satisfaction. Among these neighborhood variables, immigrant concentration was found to be a statistically significant factor on overall and multiple facets of job satisfaction among police officers. However, the current study found no effects of either residential instability or economic disadvantage on job satisfaction, which is somewhat inconsistent with previous multilevel studies that have studied neighborhood effects on police behaviors (Kane, 2002; Ingram, 2007; Terrill & Reisig, 2003). It is possible that social disorganization theory is unable to explain job satisfaction among police officers for two reasons. First, social disorganization theory was developed to examine crimes and delinquent behaviors across urban neighborhood areas. Thus, the theory may be more appropriate for explaining criminal behavior. Second, these neighborhood-level variables were not able to fully capture the neighborhood concept or its characteristics. For example, concentrated disadvantage was measured based on the factor analysis using five different items including percent living in poverty and auto vehicle ownership rather than the percentage of

unemployment rate or the average household income which may be more appropriately representing the concept of concentrated disadvantage.

Regarding Klinger's negotiated order theory and other relevant organizational theories, the current study tested the effects of workload and department size on job satisfaction. More specifically, according to Klinger's theory (1997), district workload and level of district deviance are indirectly associated with police cynicism, which directly or indirectly related to the vigor of police action. Based on the theory, it is hypothesized that police officers with a heavy workload and a higher level of district deviance are less satisfied with their jobs than those with a lighter workload and a lower level of deviance. Inconsistent with this study hypothesis, the current study found no statistically significant effects of workload and district deviance (violent crime rates; measured at the neighborhood level) on overall job satisfaction among police officers. The possible explanation for the lack of significance is that the effects of workload and district deviance on job satisfaction could be mediated by other relevant factors, such as police cynicism, normal crime, deserving victims, seriousness of immediate offense, and resource constrains which were not included in the current study. That is, workload and district deviance may indirectly influence overall job satisfaction via other factors.

In regards to department size, it is expected that department size have a negative impact on job satisfaction. Specifically, the increased size of a department increases divisions of labor and status differentiation, both leading to a lower level of job satisfaction. However, the current study found no effect of department size on job satisfaction. More specifically, since South Korea has a centralized and national police force, it is possible that all South Korean officers experience and work in very similar circumstances and conditions regardless of department size. Finally, the relationship between department size and overall job satisfaction may not be a linear one but a curvilinear fashion (Dantzker, 1997; for more details, see page 129).

Policy Implications

As noted earlier in Chapter I, understanding the nature and extent of police job satisfaction is extremely important for police administrators who want to develop training protocols that can be tailored to promote officers' job satisfaction. The findings of the current study contain several policy or practical implications for law enforcement agencies with respect to training and policy. In particular, the current study has demonstrated that officers working in a neighborhood with a higher level of immigrant concentration (% of foreigners in each district) were less satisfied with their jobs. That is, due to the language barriers and lack of foreign language capacity, South Korean police officers have a difficult time interacting with their foreign-born constituents, which in turn may decrease their levels of job satisfaction.

To be effective both in fighting crimes committed by foreign nationals and in protecting immigrants, a police agency needs to understand the changing demographics of the neighborhoods in its jurisdiction. This information can be used effectively when the agency allocates its limited resources wisely when recruiting and deploying officers. Also, law enforcement agencies need to develop a policy for interacting with persons who have limited Korean-language proficiency. That is, a written policy or protocol can guide officers on how and when to use a translator under various circumstances, including making enforcement stops, conducting field interrogations, and other law enforcement duties. In addition, all police officers (especially patrol officers) should be trained in how to respond when interacting with foreigners and how and when to request a translator or interpreter (to reduce delay in the process). Lastly, but certainly not least, the agency needs to hire more translators, bilingual officers or civilian staff in order to better communicate with the foreign population. As of 2008, there were only 154 translators for 18 different languages for the entire country (Lim, 2010). However, despite an intense effort to recruit people from different cultures and languages, most translators only speak either English or Chinese, yet there is an increasing population of foreign nationals from many other countries (e.g., Mongolia, Vietnam, Bangladesh) in South Korea. Therefore, the agency should develop a plan to hire more translators for various languages in order to effectively handle foreigner-related crimes.

Another significant and consistent finding across several HLM models was work type (inside vs. outside). That is, officers working outside were less satisfied with their jobs than those working inside. As noted earlier, type of work is an important factor that determines salary, promotional opportunities, and performance ratings for South Korean police officers, and officers who work inside usually have a higher salary, more promotional chances, and better performance ratings (Kim & Ji, 2007). Thus, police officers who work outside frequently suffer from a lack of communication within the department, support from coworkers or supervisors, and promotional opportunities (Baek, 2011; Lee, 2008). This particular finding also implies that police agencies should revise their current promotional systems in order to take into account the different types of work and assignments. Specifically, transforming the current promotion system into a flexible promotional system may resolve this imbalance of job satisfaction between police officers working outside and those working inside (see Kim & Ji, 2007). In this way, officers could be evaluated using different criteria, based on their main duties and related performance outcomes, instead of using a universal point system for the entire KNPA police force (i.e., 60% promotional exam, 25% performance evaluation, and 15% training evaluation).

Finally, compared to previous studies on job satisfaction, the current study indicated that South Korean officers in the current sample reported a lower level of overall job satisfaction (M=2.59) than police officers in the other nations that have a centralized police system such as Australia (M=3.69), New Zealand (M=2.95), Slovenia (M=3.85), and Turkey (M=3.01) (see Figure 6.2).



Figure 6.2 Overall Job Satisfactions among Police Officers in Selected National Police Agencies²⁶

Unlike other centralized police agencies (e.g., Australian Federal Police), to be a

supervising officer, South Korean police must graduate from the Korea National Police

²⁶ It should be noted that since each study employs a different scale to measure levels of overall job satisfaction, the scale is adjusted into a 5-Point Likert scale for comparison purpose (i.e., 1=Very dissatisfied, 2=Satisfied, 3=Neutral, 4=Dissatisfied, and 5=Very dissatisfied) (Brough & Frame, 2004; Buker & Dolu, 2010; Nalla et al., 2011; Noblet & Rodwell, 2008). In addition, due to the fact many studies employed non-probability sampling methods, caution is needed in interpreting the results of this comparison.

University or pass a high-level national civil service exam. Thus, individuals who begin their careers as line officers are rarely promoted to supervisory positions (Park, 2002). As a result, perceived lack of opportunity for promotion could be a negative predictor of job satisfaction (Kim, Ku, & Yoon, 2002; Park, 2002). The centralized nature of the national police force and the method of selecting individuals for high level positions might be relevant to explaining why South Korean police officers reported a lower level of overall job satisfaction than officers in other centralized police agencies. To improve overall job satisfaction among South Korean police officers, the KNPA should consider changing their promotion and recruitment systems. In addition, according to Hofstede (1980), in collectivist societies like South Korea, employees expect organizations to look after them like a family and to provide them with training, sporting, and recreational activities; the separation between workplace and life is much less than in individualistic societies (e.g., U.S.). Therefore, the KNPA should take a paternalistic role in creating a friendly work environment and in supporting their police officers in order to increase police officers' level of job satisfaction (Aycan et al., 2000; Tang, Kim, & O'Donald, 2000).

Limitations and Recommendations for Future Research

The current study was the first empirical study to examine the effects of neighborhood contexts on individual officers' levels of job satisfaction in the South Korean context. It attempted to fill the theoretical and methodological gaps in prior research. First, based on social disorganization theory and Klinger's ecological theory of police behavior, this study incorporated theoretically relevant neighborhood- and organizational-level variables into the analysis to enhance our understanding of neighborhood (organizational) contexts on job satisfaction. Second, the current study also employed a multilevel analysis to examine the

impacts of neighborhood contexts on job satisfaction and tested cross level effects of both individual characteristics and neighborhood factors, or both individual factors and organizational variables, on job satisfaction simultaneously. Finally, this research examined the external validity of existing information regarding the influence of individual, organizational and neighborhood characteristics on job satisfaction among Korean police officers.

Although the study improves our understanding of the effects of neighborhood contexts on job satisfaction, there are several limitations, and future research needs to be conducted to better understand police job satisfaction. First of all, since the current study used several secondary and publicly available datasets, some important theoretically and empirically driven factors were not included. For example, according to Hackman and Oldham (1976), there are five core task characteristics—task identity, task significance, variety, autonomy, and feedback—that work together to influence underlying psychological states that have a relationship to job satisfaction. Using a sample of 199 police officers, Zhao et al. (1997) found that these five job dimensions explained a substantial amount of variance in officers' satisfaction with work $(R^2=.43)$, supervisors $(R^2=.30)$, and coworkers $(R^2=.17)$. This finding has been supported by an extensive number of studies (e.g., Buker & Dolu, 2010; Miller et al., 2010; Reiner & Zhao, 1999). In addition, recent studies on job satisfaction found that organizational culture and organizational or environmental climate were statistically significant predictors of job satisfaction among police officers. For example, Nalla et al. (2011) found that organizational factors such as opportunities to innovate, perceptions of citizen cooperation, and job challenges were significant factors that contributed to explained variance on individual officers' job satisfaction. Thus, future study should consider these organizational-level predictors in analytic models in order to improve overall explained variance in job satisfaction.

A second limitation is the conceptual and methodological problems associated with neighborhoods. More specifically, the current study utilized a GU (district) as a proxy measure of a neighborhood unit because most economic and demographic statistics are available at this level, since the smallest units of Korean census data are districts or GUs. As noted in Chapter IV, in terms of the areas' size and setting, Dongs (sub-units of district [GU]; similar to U.S. census tracts) provide the geographic unit closest in conception to a neighborhood in the U.S. context. However, a recent study by Sampson et al. (2002) argued that defining neighborhoods based on census geography and using census tracts or higher geographical aggregations as proxies for neighborhoods is problematic, since the higher geographical units cannot capture the microdimensions of neighborhood interactions (p.470). They suggest that using a smaller unit such as street blocks that are reachable by pedestrian access is a more appropriate measure to represent the concept of neighborhoods. Such a small unit also allows a researcher to estimate patterns of interaction that involve neighborhood members (Guo & Bhat, 2007; Kruger, 2008). For example, Kruger (2008) argued that the GIS-specified neighborhood area (i.e., within .25-mile radius) was a more appropriate operational definition for neighborhood residential structures than census tracts or ZIP codes, since this smaller unit represents social conditions well, via measures of social contact with neighbors, perceptions of social capital, and neighborhood quality of life (pp. 57-58). Therefore, future research on the effects of neighborhood contexts on police attitudes and behaviors should consider using a GIS-based small unit rather than census tracts in order to represent a neighborhood.

A third limitation of this research is the cross-sectional nature of the data collection. It is possible that officers who spend more years in a high crime district and transfer to a low crime district (or vice versa) may feel differently than do officers who only work in one district for their tenure. Since the survey was conducted once by the research company and there was no measure of the district exposure variable, the current study cannot capture these temporal aspects or changes in job satisfaction among the officers. Thus, future research with longitudinal survey designs is needed to allow a researcher to test temporal changes or aspects of officers' levels of job satisfaction.

A fourth limitation of the study is related to measurement issues regarding neighborhoodlevel factors. As noted earlier, most social disorganization indicators were not significantly associated with job satisfaction. In particular, residential instability and concentrated disadvantage were found to be non-significant predictors of job satisfaction, which is somewhat inconsistent with previous multilevel studies that have studied neighborhood effects on police behaviors (Kane, 2002; Ingram, 2007; Terrill & Reisig, 2003). It is possible that these neighborhood-level variables were not able to fully capture the neighborhood concept or its characteristics. For example, concentrated disadvantage was measured based on the factor analysis using five different items (e.g., percent living in poverty, auto vehicle ownership). But, the concept of concentrated disadvantage may be more appropriately constructed using the percentage of unemployment rate or the average household income, which were not available in the Korean census data. Thus, future study should incorporate this information to better represent the neighborhood characteristics.

Finally, the main purpose of the study is to test empirically the effects of neighborhood-, organizational-, and individual-level factors on job satisfaction. What is clear from the research is that neighborhood context is a good candidate for further attention in research, and also in interventions designed to increase job satisfaction. However, the current study did not provide full explanations of why certain neighborhoods had a higher level of job satisfaction compared to

others. Thus, it would be useful to do exploratory qualitative research to ask the officers for their opinions and thoughts on satisfaction issues. In addition, it may be worthwhile to consider spatial variables (e.g., spatial autocorrelation or dependency) to estimate more accurate effects of neighborhood contexts on job satisfaction (see Morenoff, 2003). Particularly, future studies that use a smaller unit of analysis (e.g., GIS-based units, census blocks) should examine spatial effects or conduct a spatial regression analysis, since spatial dependency can lead to biased standard error estimates and produce inaccurate statistical inferences regarding the effects of neighborhood contexts on job satisfaction (Anselin, Cohen, Cook, Gorr, & Tita, 2000).

Conclusion

In conclusion, it should be noted that although the results of the current study did not fully support all proposed hypotheses, they do provide some interesting findings, which support previous studies in relation to neighborhood contexts and police officers' behaviors or attitudes. Based on the empirical test of research hypotheses derived from social ecology theory and Klinger's theory, officers' levels of job satisfaction were found to vary across different spatial boundaries (neighborhoods or police stations). However, the individual-, organizational-, and neighborhood-level variables included in the current study did not significantly contribute to the explained variance within and between police stations or neighborhoods (GUs). Also, with the exception of one neighborhood-level variable, none of the neighborhood- and organizationallevel variables produced significant effects on job satisfaction. Therefore, future research efforts should continue to focus on these issues. In particular, the findings from the current study will, it is hoped, provide an empirical or theoretical foundation for future research on the effects of neighborhood contexts on police officer attitudes, especially with regard to job satisfaction. APPENDIX

APPENDIX A:

TABLE OF RESEARCH FINDINGS

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Nalla, Rydberg, & Mesko (2011)	11 police directorates	995 Slovenian Officers	Overall Job Satisfaction	<i>Demographic:</i> Experience (16 or more years: All & State border) (+), Monthly Salary (Law enforcement)	<i>Demographic:</i> Gender, Education, Experience (Law enforcement & Investigators), Monthly salary (All, Law enforcement, & Investigators)
				Organizational/Environmental: Innovation (+), Management support (All)(-), Job challenge (+), Citizen cooperation (All & Law enforcement) (+)	<i>Organizational /Environmental:</i> Management support (Law enforcement, investigators, & State border), Citizen cooperation (Investigators & State border), Supervision
					* Sample: 389 (Law enforcement), 319(Investigators), & 287 (State border)
Brunetto, Farr- Wharton, Ramsay, & Shacklock (2010)	Training sessions at the district head- quarters	180 Police officers	Overall Job Satisfaction	<i>Demographic:</i> NA <i>Work-related:</i> Work-family conflict (+)	<i>Demographic:</i> Gender <i>Work-related:</i> Leader-member exchange

Table 3.1 Summary of Prior Research on Job Satisfaction among Police Officers (N=53)

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Buker (2010)	Seven police juris- dictions in Turkey	812 Turkish police officers	Satisfaction with supervisors	<i>Demographic:</i> NA <i>Work-related/Neighborhood:</i> Type of Supervisor (with no prior line officer Experience) (+), Commitment (+), Motivation potential score (+)	<i>Demographic:</i> Age, Gender, Experience, Rank <i>Work-related/Neighborhood:</i> Crime rate
Buker & Dolu (2010)	Seven police juris- dictions in Turkey	812 Turkish police officers	Satisfaction with three dimensions (work, supervisors, & co-workers)	Demographic: Rank (Work) (+) Job Characteristics (JDS): Skill variety (Work) (+), Task identity (Work) (+), Task significance (Work & Supervisors) (+), Autonomy (All) (+), Feedback (All) (+) Neighborhood/Organizational: Bureaucracy index (All) (-) Crime rate (Co-workers) (-) Work load (Supervisors) (+)	 Demographic: Rank (Supervisors & Co-workers), Age, Gender, Education, Years in service, Marital status Job Characteristics (JDS): Skill variety (Supervisors & Co- workers), Task identity (Supervisors & Co-workers), Task significance (Co-workers) Neighborhood/Organizational: Crime rate (Work & Supervisors) Work load (Work & Co-workers)

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
De Guzman & De Guzman	Local People's Law Enforce-	206 Pilipino reviewed	Overall satisfaction with civilian review board	<i>Demographic:</i> NA	<i>Demographic:</i> Age, Gender, Education, Monthly income, Rank
(2010)	ment Board offices	officers		<i>Work-related (Case):</i> Integrity (Legitimacy) (+) Expectations speed resolution (+)	<i>Work-related (Case):</i> Integrity (Filing venue, Investigators, Hearing venue, Composition), Performance (# of days cases resolved, Outcomes of cases), No charge
Hsieh & Hsieh (2010)	179 Police Precincts in Taiwan	337 Taiwanese police officers	Satisfaction with pay	<i>Policy:</i> NA	<i>Policy:</i> New policy (Name disclosure/Uniform scheme) * <i>No multivariate analysis</i>
Miller, Mire, & Kim (2010)	A mid- size PD from a Southern state	87 Police officers	Overall Job Satisfaction	<i>Demographic:</i> Year of service (except Final Model) (+/-; U shape)	Demographic/Personality: Gender, Race, Education, Neuroticism, Extroversion, Openness, Agreeableness, Conscientiousness
				Job Characteristics (JDS): Autonomy (+) Feedback (+)	Job Characteristics (JDS): Skill variety, Task identity, Task significance

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
White, Cooper, Saunders, &	NYPD	187 police officers	Overall Job Satisfaction	<i>Demographic:</i> Race/Ethnicity (Hispanic > Black > White)	<i>Demographic:</i> Gender
Raganella (2010)					*No multivariate analysis
Boke & Nalla (2009)	Detroit, Ann Arbor, Southfield Columbus & Cleveland PDs	669 Police officers	Overall Job Satisfaction	Demographic: Race (Nonwhite vs. White) (MI)(+) Education (Univ. or more vs. high school or less) (Cleveland) (-) Rank (Supervisor vs. patrol)(Cleveland)(+)	<i>Demographic:</i> Race (OH, Detroit, Columbus, & Cleveland), Experience, Gender, Education (MI, OH, Detroit, & Columbus), Rank (MI, OH, Detroit, & Columbus), Officers from large population
				Organizational culture: Management support (MI & OH)(+), Citizen cooperation (MI)(+), Job challenges (MI & OH, Detroit, Columbus, & Cleveland)(+), Social cohesion (OH, Detroit, Columbus, & Cleveland) (+)	Organizational culture: Management support (MI & OH)(+), Citizen cooperation (MI)(+), Job challenges (MI & OH, Detroit, Columbus, & Cleveland)(+), Social cohesion (OH, Detroit, Columbus, & Cleveland) (+)

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Chan & Doran (2009)	New South Wales	150 Australian police	Satisfaction with six dimensions	<i>Demographic:</i> NA	<i>Demographic:</i> Gender
(2007)	Police agency	recruits (1995) + Follow- up surveys	(career, present duty, geo- graphical location, NSW police, performance &	<i>Work-related:</i> Current duty (General duty vs. others; only with NSW police) (+)	Work-related: NA
			promotion)		* No multivariate analysis
Coaston- Shelton (2009)	Survey of Ohio School Resource Officers	170 School Resource Officers	Overall Job Satisfaction	<i>Demographic:</i> NA	<i>Demographic:</i> Age, Education, Years of police officer, Years as school resource officer
	(2007)			<i>Organizational/Work-related:</i> NA	Organizational/Work-related: Danger, Role conflict, Role overload, Supervisory support, Family support
Moon, Huh, & Kim (2009)	Five Police stations in Pusan	386 Police officers	Overall Job Satisfaction	<i>Demographic:</i> Age (51 yrs and older vs. 50 yrs and younger) (–)	<i>Demographic:</i> Gender, Education
(2007)	City, South Korea			<i>Organizational/Work-related:</i> Trust (+), Social network (+), Fairness (+)	<i>Organizational/Work-related:</i> Policy/rule, Conflict, Competition

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Nalla, Madan, & Mesko (2009)	A police agency in Ljubljana, Slovenia	252 Slovenian police officers	Overall Job Satisfaction	<i>Demographic:</i> Age (-), Education (+)	<i>Demographic:</i> Gender, Marital Status, Years of service
()				<i>Work-related:</i> Overall positive view of police (+), Personal identity (+), Training programs improve professional image (+)	<i>Work-related:</i> Relationship with the other group
Ercikti (2008)	AOC & CODC Courses	136 Mid-level police officers	Overall Job Satisfaction	Demographic: Years of service in the dept. (-) Organizational/Job Characteristics (JDS): Feedback (+), CompStat (+)	Demographic: Age, Gender, Education, Rank Organizational/Job Characteristics (JDS):Skill variety, Task identity, Task significance, Autonomy
Hwang (2008)	Korean police agencies (2002)	1,500 South Korean police	Overall Job Satisfaction	<i>Demographic:</i> Year of service (13 yrs/more vs. 1-6 yrs) (-), Rank (Sergeant vs. Patrol) (-)	<i>Demographic:</i> Year of service (7-12 yrs vs. 1-6 yrs) Rank (Lieutenant vs. Patrol), Gender
		onicers		<i>Organizational/Work-related:</i> Dept. Hierarchy (Police stations /agency vs. police substation) (+) Assignment (Outside vs. inside) (+) Conformance with managerial decisions (+)	<i>Neighborhood:</i> Location of Dept. (Metropolitan vs. Rural)

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Noblet & Rodwell (2008)	Australian state- based law enforcement	2,466 Australian police officers (Study1)	Intrinsic & Extrinsic Satisfaction	<i>Demographic:</i> Tenure (5-9 years vs. more than 25 years) (Intrinsic) (–), Gender (Intrinsic & Extrinsic) (–)	<i>Demographic:</i> Age, Tenure (4 years or less, 10-14 years, 15-19 years, 20-24 years)
	agency	(5000)		Organizational/Work-related: Job demands centered (Intrinsic & Extrinsic) (-), Job control centered (Intrinsic & Extrinsic) (+), Support at work (Intrinsic & Extrinsic) (+), Breach centered (Intrinsic & Extrinsic) (-), Procedural fairness centered (Intrinsic) (+), Distributive fairness centered (Intrinsic & Extrinsic) (+), Interpersonal fairness centered (Extrinsic)(+)	Organizational/Work-related: Support outside work, Procedural fairness centered (Extrinsic), Informal fairness centered, Job demand, Breach centered, Procedural fairness centered, Distributive fairness centered, Interpersonal fairness centered, Informational fairness centered
Lilley & Hinduja (2007)	Nationwide survey of 600 PDs (with at least 50 sworn officers)	413 Police agencies	Overall Satisfaction with appraisal process	Organizational: Evaluating community policing activities (+) Anchored measures (+) Rater training time (+) Officer development (+)	<i>Organizational:</i> Community policing level

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Carlan (2007)	21 Municipal PD (with 50 or	1,114 Police officers	Overall Job Satisfaction	<i>Demographic:</i> Age (+)	<i>Demographic:</i> Gender, Race, Marital status, Rank, Education, Years of service
	more sworn officers) in AL			<i>Work-related:</i> Pay (+), Adventure (+), Autonomy (+), Social contribution (+), Peer respect (+), Enforce laws (+), Job Security (+)	<i>Work-related:</i> Benefits (excluding pay) Community respect Authority
Pelfrey (2007)	Six rural police agencies from South Carolina	192 Police officers	Satisfaction with work (Moderator, Not DV)	Demographic: Years of service (Unknown) Work-related: Assignment (Community policing vs. Traditional motorized policing) (Unknown)	NA
Slate, Johnson, & Colbert (2007)	NA	128 Police officers	Overall Job Satisfaction	<i>Work-related:</i> Assignment (Uniform routine patrol vs. Other duties (–)	NA
Burke & Paton (2006)	The state of Tasmania	114 Police officers	Overall Job Satisfaction	<i>Organizational:</i> Organizational hassles (–)	<i>Organizational:</i> Operational uplifts, Operational hassles, Organizational uplifts

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Eliason (2006)	Kentucky wildlife law enforcement	24 Conser- vation officers	Overall Job Satisfaction	<i>Work-related</i> : Enjoyment of the outdoor (+) Independence (+) Job diversity/variety (+) Meeting people (+)	* No multivariate analysis & Qualitative Approach (i.e., Interviews)
Fass, Bishop, & Glissmeyer (2006)	Several PDs in the Southern U.S.	108 Police officers	Overall Job Satisfaction	<i>Work-related:</i> Coworker support (+) Felt responsibility (+)	NA
Frost (2006)	A Large Federal Law Enforce- ment Agency & A Metro- politan PD	209 Law enforce- ment officials	Overall Job Satisfaction	<i>Demographic:</i> NA <i>Organizational:</i> Procedural justice (+), Distributive justice (+)	<i>Demographic:</i> Age, Ethnicity, Gender, Education, Years of Service <i>Organizational:</i> NA

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Dowler (2005)	Baltimore City PD	1,104 Police officers	Proxy measure for Job Dissatisfaction (i.e., looking for	<i>Demographic:</i> Age (+), Gender (+) Years of service (+)	<i>Demographic:</i> Race (Black vs. White), Education, Rank, Marital status
			new job outside of PD)	<i>Organizational/Work-related:</i> Frequent contact with suspects (+), Trust partner (-)	Organizational/Work-related: Experienced physical contact with suspects, Cooperation, Support from administration, Social Support from family & Friends, Accomplished many things on job, Stress debriefing
Mire (2005)	Lafayette PD, LA	87 Police officers	Overall Job Satisfaction	<i>Demographic:</i> Year of service (–)	<i>Demographic/Personality:</i> Gender, Ethnicity, Education, Neuroticism, Extroversion, Openness, Agreeableness, Conscientiousness
				Job Characteristics (JDS): Feedback (+)	Job Characteristics (JDS): Skill variety, Task identity, Task significance, Autonomy

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Park (2005)	Police stations in Seoul Metro-	456 Police officers	Overall Job Satisfaction	Demographic: Education (-)	<i>Demographic:</i> Age, Marital status, Education, Previous Occupation, Social class
	politan and Kyounggi Province			Work-related: Workload (-), Evaluation (+), Authority (+), Relation with coworker (+)	Work-related: NA
Lee (2004)	Kyoung Buk Province Police Agency in South Korea	145 Police officers	Overall Job Satisfaction	<i>Police Chiefs' Leadership:</i> Innovative leadership (+), Guidance of Innovation (+)	<i>Police Chiefs' Leadership:</i> Respect, Take the lead, Democratic management
Brough & Frame (2004)	New Zealand Police	398 Police officers (229 [T1] + 169 [T2])	Intrinsic & Extrinsic Job Satisfaction	Demographic: NA Organizational/Work-related: Supervisor support (Extrinsic & Intrinsic) (+) * Extrinsic Job Satisfaction (Intrinsic) (+)	<i>Demographic:</i> Gender, Marital status, Rank, Tenure <i>Organizational/Work-related:</i> Leave, Harassment, Advancement, Family Support, Colleagues support (No direct effect, only indirect effect via Supervisor Support)

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Howard, Donofrio, & Boles (2004)	City/count y police officers from a large south- eastern state	119 Police personnel	Overall Job Satisfaction & Satisfaction with Pay, Co- workers, Work, Supervision, & Promotion	<i>Conflict between Work and Home</i> Work-family conflict (–)	<i>Conflict between Work and Home</i> Family-work conflict
Winfree & Taylor (2004)	New Zealand Police (NZP)	484 Sworn /unsworn members of the NZP	Workplace satisfaction	Neighborhood: Work location (Small Towns > Rural/ metropolitan areas) * Metropolitan areas = Six major Cities; Small towns = Other metropolitan cities; Rural = Non metropolitan cities	** No multivariate analysis
Brunetto & Farr- Wharton (2003)	Australian state police service	178 Police officers	Job Satisfaction with supervisor communication	Organizational: Informal communication mode (-) Indirect communication content (+) Bi-directional communication (+) Supervisor ambiguity (+) Ethical ambiguity (+)	<i>Organizational:</i> Communication frequency Customer ambiguity Promotion ambiguity

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Krimmel & Gormley (2003)	Pittsburgh PD and several PDs in NJ	175 Female police officers	General Job Satisfaction	<i>Demographic:</i> Age (+), Education (+)	<i>Demographic:</i> Race, Married, Years of service, # of Children, Income, Family Income
				<i>Organizational/Work-related:</i> # of Females (+) Coworker (+) Freedom (-) Discriminated against (-)	<i>Organizational/ Work-related:</i> # of Males, Hours worked, Union member, Supervisor's gender, Training, Effort, Danger, Steady, Supervise others, Total officers
Aremu & Adeyoju (2003)	Nigeria Police	1,297 Police officers	Overall Job Satisfaction	Organizational: NA	Organizational: Mentoring Cf. Mentored female officers > Mentored male officers (based on Z score)
Brunetto & Farr- Wharton (2002)	Australian state police service	178 Police officers	General Job Satisfaction	Demographic: NA Satisfaction with job aspects: Satisfaction with fellow workers (+) Satisfaction with clients (+)	Demographic: Rank Satisfaction with job aspects: Satisfaction with Supervision, Pay, Management policies, & Promotion policies

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Kohan & O'Connor (2002)	NA	122 Police officers	General Job Satisfaction	<i>Emotional experience:</i> Positive affect (+) Negative affect (-), Self-esteem (+) Life satisfaction (+) Alcohol consumption (-) Intention to leave (-)	* No multivariate analysis
Lee (2002)	Central Police Academy in South Korea	159 Police officers (Supervis or positions)	Satisfaction with training	Demographic: NA Organizational (Training): Curriculum (+) Facilities & Service (+)	Demographic: Age, Education, Years of Service Organizational (Training): Quality of faculty, General education Department hierarchy, Serving areas
Davey, Obst, & Sheehan (2001)	Two divisions of Australian state police service	749 Police officers	Overall Job Satisfaction	Demographic: NA Organizational/Work-related: Shift work (-) Dangerous job aspects (+) Organizational support (+) Organizational change (+)	Demographic: Age, Gender, Years of service Rank Organizational/Work-related: Operational or Non-operational, Region stationed Long work hours

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Kim (2001)	Korean police agencies	373 Police (Patrol) officers	Overall Job Satisfaction	 Demographic: Years of service (5 years or less, 6- 10 years, 11-15 years, 16-20 years, 20 years or more) Organizational/Work-related: Assigned area (Metropolitan, Mid, Rural), Citizen cooperation, Promotion, Achievement, Acknowledgement, Development, Responsibility, Salary, Job security, Supervision, Discipline, Physical condition, Citizen cooperation, Crimes, Public perception toward police, Relation between police and community 	* No multivariate analysis ** Provide magnitude of correlation coefficients without significance level and directions and t statistics without mean difference

Table 3.1 (cont'd).

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Halsted, Bromley, & Cochran (2000)	Hills- borough County Sheriff's Office (1997)	87 Deputies	Overall Job Satisfaction & Job Satisfaction with Autonomy, Personal growth, Work alienation, Pay, & Supervision	<i>Demographic:</i> Years of service (Overall, Growth, Alienation, & Pay) (–), Rank (Overall, Growth, & Pay) (–), Education (Growth) (–)	<i>Demographic:</i> Age, Race, Gender, Marital status, Education (Overall, Autonomy, Alienation, Pay, & Supervision), Years of service (Autonomy & Supervision), Rank (Autonomy, Alienation, & Supervision), Education (Overall, Autonomy, Alienation, Pay, & Supervision)
				Work Orientation: Service orientation (Overall, Growth, & Pay) (+) & (Alienation) (-) Crime control orientation (Supervision) (+)	<i>Work Orientation</i> : Service orientation (Autonomy & Supervision), Crime control orientation (Overall, Autonomy, Growth, Alienation, & Pay)

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Zhao, Thurman, & He (1999)	Spokane PD in WA	199 Police officers	Job Satisfaction with Work, Supervisor, & Coworkers	<i>Demographic:</i> Years of service(Work) (–), Rank(Work) (–)	<i>Demographic:</i> Ethnicity, Gender, Education, Years of service(Supervisor & Coworkers), Rank (Supervisor & Coworkers)
				Job Dimensions (JDS) Skill variety(Work) (+), Task identity (Work) (+), Task significance(Work) (+), Autonomy (All DVs) (+), Feedback(Supervisor) (+)	Job Dimensions (JDS) Skill variety (Supervisor & Coworkers), Task identity (Supervisor & Coworkers), Task significance (Supervisor & Coworkers), Feedback (Work & Coworkers)
Reiner & Zhao (1999)	55 th Security Police Squadron at Offutt Air Force Base, NE	135 Air Force security police personnel	Job Satisfaction with Work, Supervisors, & Coworkers	<i>Demographic:</i> Age (Work: without job dimensions in the model) (+) <i>Work-related/Job Dimensions (JDS)</i> Job assignment (Security vs. law enforcement) (Work & Coworkers: without job dimensions in the model) (+), Skill variety (Work) (+) Task significance (Work) (+) Autonomy (Coworkers) (+) Feedback (Supervisors) (+)	 Demographic: Ethnicity, Gender, Education, Age (Supervisors & Coworkers), Work-related/Job Dimensions (JDS) Job assignment (Supervisors) Skill variety (Supervisors & Coworkers), Task identity (All DVs) Task significance (Supervisors &Coworkers) Autonomy (Work & Supervisors) Feedback (Work & Coworkers)

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Dantzker & Kubin (1998)	14 Municipal PDs in seven States (IL, TX, CA, NE, AL, GA, & MA)	2,734 Police officers	Overall Job Satisfaction, Satisfaction with Administration, Extras, Equipment, & Job	Demographic: Rank (Overall, Admin, Extras, Equip., & Job) (+), Years of experience (Overall, Admin, Extras, & Job) (-), Gender (Overall, Admin, Equip., & Job) (-), Age (Overall & Admin.) (+) Education (Admin.) (-) Ethnicity (Equip.) (+)	<i>Demographic:</i> Years of experience (Equip.), Gender Extras), Age (Extras, Equip., & Job), Education (Overall, Extras, Equip., & Job), Ethnicity (Overall, Admin., Extras, & Job)
Hoath, Schneider, & Starr (1998)	Ontario PD in Canada	239 Police officers	Job Satisfaction score (20 5-Point Likert type items range from 20 to 100)	Demographic: Age (+), Organization tenure (+), Rank (+), Position tenure (-) Work-related: Career orientation (Careerist > Artisan > Self-investor)	Demographic: NA Work-related: Job assignment (Administration > Investigation > Patrol) * No multivariate analysis
Lim & Teo (1998)	Singapore Police Force	467 Singapore police officers	General Job Satisfaction	<i>Demographic:</i> Ethnicity (+): Non- Chinese police officers > Chinese police officers Locus of control (Internals vs. externals) (+) Job tenure (3-6 yrs < less than 3 yrs < more than 6 yrs)	<i>Demographic:</i> Gender * <i>No multivariate analysis</i>
Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Bennett (1997)	Three Caribbean nations	752 Constables / Super- visors (143,362, & 257)	Overall Job Satisfaction	Demographic: Rank (Nation2) (+) Organizational/Work-related:: Supervision (Total, Nation1&2) (+) Discipline (Total, Nation2) (+) Promotion (Total, Nation1&2) (+) Citizen support (Total, Nation1&2) (+), Personal equipment (Nation3) (+), Station equipment (Total) (+)	Demographic: Gender (Total, Nation1, 2, &3) Years of service (Total, Nation1,2, & 3), Rank (Total, Nation1&3) Organizational/Work-related: Supervision (Nation3) Discipline (Nation1&3) Promotion (Nation3) Citizen support (Nation3) Citizen support (Nation3) Crime problem (Total, Nation1,2, & 3), Personal equipment (Total, Nation1&2), Station equipment (Nation1,2,&3)
Dantzker (1997)	14 Municipal PD in seven States (IL, TX, CA, NE, AL, GA, & MA)	2,733 Police officers	Overall Job Satisfaction, Satisfaction with Administration, Extras, Equipment, & Job	Organizational: Dept. Size (less than 100, 101 to 500, & More than 500 sworn officers): Less than $100 > 101$ to 500 & More than 500 (Overall, Admin.) Less than $100 > More$ than $500 >$ 100 to 500 (Extra, Job), Less than $100 > 100$ to $500 > More$ than 500 (Equip.)	* No multivariate analysis

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Winfree, Guiterman , & Mays (1997)	Four PDs in New Mexico	355 Police officers	Organizational attitudes (Proxy measure for job and organizational satisfaction)	Demographic: Gender (+) Organizational/Work-related: Location (East vs. South) (+), Law enforcer (-), Management support (+)	Demographic: Education, Years of service, Rank Organizational/Work-related: Location (Central, North vs. South), Variety of police activities, Paperwork, Public safety provider, Parcentions of workplace
Seltzer, Alone, & Howard (1996)	Washingt on DC PD (1994)	322 Arresting police officers	General Job Dissatisfaction Index	Demographic: Education (-) Organizational/Work-related: Work assignment (Undercover) (+) Confidence in fellow officer/Supervisor (+) Discrimination is problem (+) Substance abuse is problem (+)	Demographic: Race, Gender, Marital status, Residence of police officers, Rank, Age, # of Children, Years of service Organizational/Work-related: Located in the district, Had been shot at, Fired his or her own gun in the line of duty, # of arrest made in average week.
Buzawa, Austin, & Bannon (1994)	Detroit PD (1989)	324 Police officers	General Job Satisfaction Index (Ordinal variable: Low, Medium, & High)	<i>1978 Survey vs. 1988 Survey</i> The existence of a slow by steady process of a deterioration of reported job satisfaction among the patrol officers in DPD (p.70).	* No multivariate analysis; Main purpose of the study was to determine the consistency of job satisfaction over a ten year period.

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Trojanowicz & Banas (1985)	Flint PD (MI)	114 Police officers (64 foot	Level of difficulty to achieve Job satisfaction	<i>Demographic:</i> NA	<i>Demographic:</i> Age, Gender, Race Military experience, Years of service
		50 50 motorized)		<i>Work-Related:</i> Type of Patrol (Foot > Motor patrol)	<i>Work-Related:</i> NA
					* No multivariate analysis
Buzawa (1984)	Detroit & Oakland (CA) PDs	170 Police officers (94 from DPD & 76 from OPD)	General Job Satisfaction Index (Ordinal variable: Low, Medium, & High)	Demographic: Race (-), Years of service (-), Gender (DPD) (+) vs. (OPD) (-), Education (DPD) (-) vs. (OPD) (+), Marital status (Mixed) Work-Related: Money (+), Prestige (+), Stress (+), Family (+), Supervision (+), Self-fulfillment (OPD) (+) vs. (DPD) (-), Advancement (+)	* In this study, the author does not indicate significance level of each coefficient, rather she only discusses about magnitude and direction of each coefficient along with overall explained variance by IVs.

Table 3.1 (cont'd).

Author(s)	Data Source	Sample	Dependent Variable(s)	Significant Independent Variables	Insignificant Independent Variables
Sheley & Nock (1979)	NA	105 Male police officers	Job Satisfaction Sub Scales (Discourageme nt of enlistment & Willingness of defect)	Demographic: Years in Rank (-), Rank (Patrol vs. captain) (+) Organizational/Neighborhood: Community confidence (on discouragement of enlistment)(-) Superior's recognition (on willingness to defect) (-)	<i>Demographic:</i> Rank (Sergeant/lieutenant vs. Captain)

Note: JDS = Job Diagnostic Survey (Hackman & Oldham, 1975); AOC (the administrative Officers' Course) & CODC (Commanding Officer Development Course) offered by the Southern Police Institute (SPI) at the University of Louisville.

APPENDIX B:

TABLE OF THE RESULTS FROM OLS REGRESSION ANALYSES:MULTIPLE FACETS OF JOB SATISFACTION

	Sa	it. Wor	·k ^a	Sat.	Sat. Personnel ^a		Sat. Salary ^a		Sat. Supervisor ^a		visor ^a	
Variables	b	SE	В	b	SE	β	b	SE	β	b	SE	β
Individual Level Variables												
Gender (1=Male)	14	.12	04	16	.11	05	30**	.11	09	26*	.11	08
Rank (1=Middle manager)	.20	.10	.07	.28**	.10	.11	.14	.10	.06	.19*	.10	.07
Length of Service ^b												
1 = 5 - 9 years	.04	.11	.02	.03	.11	.01	09	.11	03	14	.11	04
2 = 10 - 19 years	00	.10	00	13	.10	06	19	.10	08	12	.10	05
3 = 20 or more years	.09	.12	.04	.00	.12	.00	12	.12	05	10	.11	04
Assignment (1=Non patrol)	.10	.08	.05	01	.08	01	.17	.08	.08	.07	.07	.03
Work Type (1=Work outside)	21*	.09	10	26**	.08	12	25***	.08	12	25**	.08	12
Organizational Level Variables												
Workload	00	.00	02	.00	.00	.01	.00	.00	.01	00	.00	02
Department Size	.00	.00	.03	.00 [*]	.00	.09	.00	.00	.05	.00 [*]	.00	.09
Neighborhood Level Variables												
Violent Crime Rate	.01**	.00	.20	.01**	.00	.18	.01**	.00	.23	.01**	.00	.21
Concentrated Disadvantage	08	.04	09	07	.04	07	08*	.04	08	08*	.04	09
Residential Instability	.03*	.05	.03	03	.04	03	.00	.04	.00	01	.04	01
Immigrant Concentration	20***	.06	15	13*	.06	10	20***	.06	14	16**	.06	12
Adjusted R ²		.05			.05			.08			.05	
df / F	13, 8	898 / 4.	47	13, 9	997 / 4.	89 ^{**}	13, 9	97 / 7.	.47	13, 9	997 / 5.	37**

Appendix B: The Results from Ordinary Least Square Regression Analyses: Multiple Facets of Job Satisfaction

** P < .01, * P < .05; * Sat. Work=Satisfaction with Work & Equipment, Sat. Personnel=Satisfaction with Personnel Management, Sat. Salary=Satisfaction with Salary & Benefits, and Satisfaction with Supervisor=Supervisor & Coworker; ^b Less than 5 years in service is the reference category

APPENDIX C:

CRIMINAL PROCEDURES FOR FOREIGNERS IN SOUTH KOREA



Figure 6.3 Criminal Procedures for Foreigners (Migrants) in South Korea

APPENDIX D:

SURVEY QUESTIONNAIRE

2006 Police Officer Job Satisfaction Survey

Hello?

This is a survey research company, Research R&A Corporation. On behalf of the Korean National Police Agency, we would like to conduct a police officer survey in order to examine overall satisfaction on work environment and working conditions.

Following up the previous officer survey of 2005, this study particularly aims to investigate overall job satisfaction among South Korean police officers and develop a strategy for enhancing the job satisfaction.

This is an anonymous survey where you do not have to write your name or let us know who you are. The results of this survey will be used solely for research purposes, and any information collected from this survey will be kept confidential.

There is no right or wrong answer. If you are not sure of the answer, please do your best to select one of the choices. However, if you do not want to answer a question for some reason, that is acceptable.

If you have any question regarding this survey, or if you want to receive results of this study, please contact the Research R&A Corporation.

Thank you so much for your time and participation.

I. Work Environment and Workplace Conditions:

Q1. How satisfied are you with your work shift (double shift, three shifts)?

	1	2	3	4	5	6	7
	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied
Q2.	How satis	sfied are you v lministration)	vith traffic ass ? (only applica	ignments (i ble to polic	ncluding car e officers in	accident inves a traffic divisi	stigation, on)
	1	2	3	4	5	6	7
	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied
Q3.	How satis	sfied are you w	vith police uni	forms?			
	1	2	3	4	5	6	7
	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied
Q4.	How satis	sfied are you w	vith equipmen	t (e.g., hand	lcuffs, baton	s, and riot shie	elds)?
	1	2	3	4	5	6	7
	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied
Q5.	How satis	sfied are you w	with new equip	oment (e.g.,	TASER, pe	pper spray, pro	otective vest)
	1	2	3	4	5	6	7
	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied
Q6.	How satis	sfied are you w	vith police veh	nicles (inclu	ding buses,	motorcycles)?	
	1	2	3	4	5	6	7
	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied
Q7.	Overall, h	now satisfied a	are you with w	orkplace co	onditions and	l work environ	ment?
	1	2	3	4	5	6	7
	Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied

II. Personnel Management:

Do you think that annual performance evaluation, merit rating, and promotion are fairly Q8. conducted?

1	2	3	4	5	6	7
Very unfair	Moderately unfair	Slightly unfair	Neutral	Slightly fair	Moderately fair	Very fair

Not Applicable Q9.

Q10. How satisfied are you with performance evaluation and reward programs?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Noutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	Incultat	satisfied	satisfied	satisfied

Q11. How satisfied are you with job assignment policies or systems in your department?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Neutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	Incuttat	satisfied	satisfied	satisfied

Q12. Overall, how satisfied are you with the personnel management system?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Neutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	incultat	satisfied	satisfied	satisfied

III. Salary & Benefits Package:

Q13. How satisfied are you with current salary and pay scheme?

1	2	3	4	5	6	7
Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied

Q14. Not Applicable

Q15. How satisfied are you with overtime pay?

1	2	3	4	5	6	7
Very dissatisfied	Moderately dissatisfied	Slightly dissatisfied	Neutral	Slightly satisfied	Moderately satisfied	Very satisfied

Q16. How satisfied are you with fringe benefits?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Noutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	Incutial	satisfied	satisfied	satisfied

Q17. Overall, how satisfied are you with salary and benefits package?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Neutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	routiai	satisfied	satisfied	satisfied

IV. Communication:

Q18. How satisfied are you with communication (e.g., consultation, discussion, suggestions) with your supervisors?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Noutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	Neutral	satisfied	satisfied	satisfied

Q19. How satisfied are you with supervisors' performance?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Noutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	Incultat	satisfied	satisfied	satisfied

Q20. How satisfied are you with cooperation with other agencies (e.g., prosecutors' offices)?

_	1	2	3	4	5	6	7
-	Very	Moderately	Slightly	Noutral	Slightly	Moderately	Very
	dissatisfied	dissatisfied	dissatisfied	Incutial	satisfied	satisfied	satisfied

Q21. Overall, how satisfied are you with internal communication?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Neutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied		satisfied	satisfied	satisfied

V. Training:

Q22. How satisfied are you with basic and professional training by police academy or training centers?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Neutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	Incuttat	satisfied	satisfied	satisfied

VI. Overall Satisfaction:

Q23. How satisfied are you with your job?

1	2	3	4	5	6	7
Very	Moderately	Slightly	Noutral	Slightly	Moderately	Very
dissatisfied	dissatisfied	dissatisfied	Incultat	satisfied	satisfied	satisfied

Demographic Characteristics:

- D1. What is your gender?
 - 1. Male 2. Female
- D2. How old are you?
 - 1. 20-29 2. 30-39 3. 40-49 4. 50 or older
- D3. Number of years in the police service: ______ years

D4. What is your current rank?

- 1. Superintendent or higher
- 2. Senior inspector
- 3. Inspector
- 4. Assistant Inspector
- 5. Senior police officer
- 6. Police officer

- D5. Where are you currently working?
 - 1. The Headquarter of KNPA
 - 2. Road Traffic Authority
 - 3. Korea National Police University
 - 4. National Police Hospital
 - 5. Central Police Academy
 - 6. Police Training Institute (formerly known as police comprehensive academy)
 - 7. Provincial Police Agencies
 - 8. Police Stations
 - 9. Police Sub-stations
 - 10. Police Boxes
- D6. Not Applicable

D8.

- D7. What is your current job assignment?
 - 1. Police affairs 2. Public safety 3. Criminal Investigation 4. Criminal affairs 5. Security 6. Traffic 7. Intelligence 8. Public security 9. Public relations 11. Internal affairs 10. Foreign affairs 12. Communication 13. Human resources Are you currently working outside or inside? 1. Inside 2. Outside

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