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A Test of Direct and Partially Mediated Relationships Between Leader Member Exchange, Job Embeddedness, Turnover Intentions, and Job Search Behaviors in a Southern Police Department

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A TEST OF DIRECT AND PARTIALLY MEDIATED

RELATIONSHIPS BETWEEN LEADER MEMBER EXCHANGE,

JOB EMBEDDEDNESS, TURNOVER INTENTIONS, AND JOB

SEARCH BEHAVIORS IN A SOUTHERN POLICE DEPARTMENT

by

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ABSTRACT

A TEST OF DIRECT AND PARTIALLY MEDIATED RELATIONSHPS BETWEEN
LEADER MEMBER EXCHANGE, JOB EMBEDDEDNESS, TURNOVER
INTENTIONS, AND JOB SEARCH BEHAVIORS IN A SOUTHERN POLICE
DEPARTMNET

Mark D. Bowman
Old Dominion University, 2009
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Job embeddedness has been found to predict turnover intentions, job search behaviors
and turnover, and job embeddedness researchers assert, but have not tested, that job
embeddedness is a mediator of other organizationally significant factors relative to
organizational outcomes. A relationship not previously explored is the role of a
supervisor in job embeddedness, which was operationalized in this study as leader-
member exchange. A single panel survey was conducted in a police department in the
southern United States with 276 current members holding the rank of police officer.
Usable surveys were completed by 128 of those police officers, which is a response rate
of 46 percent. These surveys assessed the participant's perceptions of leader-member
exchange, organizational job embeddedness, turnover intentions, and job search
behaviors. The results indicated statistically significant positive correlations between
leader-member exchange and the organizational job embeddedness, and significant
negative correlations between leader-member exchange and turnover intentions, leader-
member exchange and job search behaviors, organizational job embeddedness and
turnover intentions, and organizational job embeddedness and job search behaviors. The
literature suggested an *a* priori model in which the exogenous variable leader-member
exchange directly affected organizational job embeddedness, which directly affected

turnover intentions, which directly affected job search behaviors. In this *a priori* model the relationship between leader-member exchange and turnover intentions and job search behaviors was mediated by organizational job embeddedness. A measurement model, a saturated structural model, and 4 nested models were tested through structural equation modeling and each was found to be an acceptable fit to the data. There was no statistically significant difference between any of the models and the most parsimonious was accepted. In that model leader-member exchange had a direct positive effect on organizational job embeddedness, which in turn had a direct negative effect on turnover intentions, which in turn had a direct positive effect on job search behaviors. These findings support the proposition that having a good relationship with a supervisor improves the extent to which the employee is embedded in the organization and that embeddedness reduces turnover intentions which reduces job search behaviors.

Co-Directors of Advisory Committee: Dr. John C. Morris
                                        Dr. Donald D. Davis

This is dedicated to all those who sacrifice for others.

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Most importantly I owe my family much. Without my parents I would not have been imbued with a spirit for learning. Without the love and support of my wife Brenda and our children I could not have persevered through this endeavor.

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INTRODUCTION

The primary purpose of this research is to test relationships between leader-member exchange, job embeddedness and turnover and job search behaviors of police officers in a southern police department, herein after referred to as SPD. This research will further extend our knowledge of turnover in organizations as influenced by first line leaders and how that leadership influence is mediated by the extent to which the follower is embedded in an organization. A secondary purpose of the research is to fill a void in understanding turnover in police organizations. Such knowledge will provide sorely needed evidence for evidence-based policy interventions that improve first line leadership and further embed police officers in their organizations so as to reduce dysfunctional turnover. The call for this type of research was made well over a century ago.

In his classic work *The Study of Administration,* Wilson (2004) described a trinity of public administration study, which consists of personnel, government organizations, and governmental methods. He said, "It is a thing almost taken for granted among us, that the present movement called civil service reform must, after the accomplishment of its first purpose, expand into efforts to improve, not the *personnel* only, but also the organization and methods of our government offices..." (Wilson, pp. 22). Turnover is a function of all three of those aspects of public administration. It is most obviously personnel who make up an organization and who leave organizations. Governments are organizations and those organizations have internal methods, commonly called human resources practices, which influence turnover. Other classical public administration theorists took up Wilson's call for studying government organizations.

This dissertation adheres to the format of the *Journal of Applied Psychology.*

Dahl (1947) distinguished public administration from sociology and psychology in that public administration was concerned about human behavior in governing. Dahl further stated that any science of public administration must account for human behavior in public administration. Dahl proffered that the study of public administration could simply incorporate the studies of sociologists and psychologists. Simon (1947) agreed with most of Dahl's assertions concerning the science of public administration but diverged on one critical point. Simon asserted that public administration researchers could not simply adopt the research of sociologists and psychologists but that public administration researchers are social psychologists who specialize in studying human behavior in the public administration context. Who is right or wrong is of little significance to the leaders and members of the SPD and the public, whose good they administer.

In spite of early recognition of the importance of organizational studies to public administration turnover is a largely ignored topic of research in public administration research and publications. In their study of the influence of teacher turnover on SAT and ACT scores, Meier and Hicklin (2007) searched the archives of *Public Administration Review, Journal of Public Administration Research and Theory,* and *Review of Public Personnel Administration* for articles on turnover. For the first two journals only 5 articles were found that contained the word "turnover." In *Review of Public Personnel Administration* the word "turnover" was mentioned 34 times but only 5 of those articles were focused on turnover as a research variable. Essentially, turnover was simply a passing mention in the other 29 articles. This situation would seem to imply that public personnel policy and practice is not at all shaped by fundamental research perhaps due to

its absence from the practice and reporting of public administration research.

The Urban Institute (2003) has called for more rigorous research to serve as part of the policy process instead of relying solely on politics or ideology to develop public policy. In order for there to be evidence-based policy there must be evidence. Universities would seem to be the place for at least some of that research to occur. However, only 12 percent of a group of Canadian national and provincial government officials said they always or almost always receive university studies pertinent to their work (Landry, Lamari, & Amara, 2003). In that study 16 percent said they never receive university research pertinent to their work, 1/3 said they rarely receive university research pertinent to their work, and only 40 percent said they sometimes received university research pertinent to their work. In Canada at least, if evidence based policy is practiced, the evidence is quite likely to have come from some source other than a university. It is unknown if the situation in the United States is markedly different than that in Canada. One would hope that all or most officials in American national, state, and local government organizations receive university research that is pertinent to their work. Hope is a method, but not a plan. It is planned that this research will provide evidence which will inform public policy. The first phase of that plan requires an understanding of the topics of research, how that research has been conducted, and finally what the research found and its implications for public policy.

Construct Definitions

It is important to provide an early basic definition of the major constructs to enable the reader to understand the conceptual foundation of the research discussed early in this introductory section. Later in this introductory section a literature review will

describe each construct in more depth. Leader-member exchange is a construct that describes the quality of the relationship between a follower and his or her superior. Organizational job embeddedness is a construct that describes the extent to which an individual fits within an organization, has links to people within an organization, and the extent to which that individual would sacrifice upon leaving the organization, thereby inhibiting turnover. The construct of turnover intentions consists of an individual's intentions to leave a current employer. The construct of job search behaviors consist of preparatory and active behaviors and the level of effort expended when an individual acts to leave his or her current organization and seek employment with another organization. Each of these constructs will be described and discussed in more detail in the literature review that follows this introduction.

Shortcomings of Leader-Member Exchange and Job Embeddedness Research

Knowledge of turnover in organizations is broad and deep but often lacking a coherence that results from understanding relationships between constructs that are known to influence turnover. The literature reveals that high quality leader-member exchange is associated with reduced turnover intentions (Gerstner, & Day, 1997) and that higher levels of job embeddedness are associated with reduced turnover intentions, job search behaviors and actual turnover (Allen,2006; Cunningham, Fink, & Sagas, 2005: Fletcher, 2005; Mallol, Holtom, & Lee, 2003; Mitchell, Holtom, Lee, Sablynski, & Erez 2001). However, no research to date has examined if these constructs somehow act in concert.

This research will answer the call to fill several voids in the leadership literature. Avolio (2007) has called for more integrative leadership theory building. In his review of

the current state of leadership theory building he laments two significant shortcomings; failure to examine context and a lack of emphasis on followers. He calls for more integration of a number of elements, one of which he calls proximal context. Proximal context "... is what leaders and followers are embedded in..." (Avolio, 2007, p. 29). By its very nature leader-member exchange considers followers and job embeddedness is a construct which accounts for embedding mechanisms.

Much leader-member exchange research lacks contextual emphasis (Cogliser & Schriesheim, 2000; Dienesch & Liden, 1986). By its very nature job embeddedness is a construct that can provide organizational context to an examination of relationships between leaders and followers (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). Erdogan and Liden (2002) have also called for examining leader-member exchange interactions with other variables when explaining organizational outcomes. For example leader-member exchange could be examined to determine the extent to which it contributes to work-family conflict, which in turn contributes to turnover.

Job embeddedness researchers have implicitly and explicitly identified shortcomings in job embeddedness research. Job embeddedness researchers (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001) assert that job embeddedness is a mediating variable between on-the-job constructs, such as work-family conflict, and turnover without offering support for that assertion. To date only one study has tested job embeddedness as a mediating variable (Allen, 2006). In that study Allen examined job embeddedness as a partial mediator of socialization tactics (i.e., actions by group members which are designed to insure newcomers conform to group norms) in predicting turnover. Allen found that organizational job embeddedness did not mediate 5 of six

forms of socialization tactics. Allen concluded that organizational job embeddedness partially mediates the relationship between investiture socialization tactics and turnover; however that partial mediation is very nearly complete. Mitchell et al., have also said that the role of supervisors in job embeddedness should be examined and to date no research has examined that relationship. As with any organizational research Mitchell, et al., also call for additional research in different types of organizations.

Research Question

It would be tempting to address each of the shortcomings in the leader-member exchange and job embeddedness research singly, but there appears to be an overlap in these shortcomings that can be addressed by research which seeks to establish if there are relationships between the constructs of leader-member exchange, organizational job embeddedness and turnover intentions and job search behaviors. The research question posed is:

How does organizational job embeddedness influence the relationship between

leader-member exchange and turnover intentions and job search behaviors?

Need for Research

Research is needed which establishes the nature of the relationship between an officer's perception of leader-member exchange and that officer's embeddedness in the organization. This research establishes if an officer's perception of leader-member exchange is related to turnover intentions and job search behaviors. This research establishes the extent to which the relationships between leader-member exchange and turnover intentions and job search behaviors are mediated by organizational job embeddedness. Previous studies have demonstrated a relationship between

organizational job embeddedness and turnover intentions and turnover. This research will expand the generalization of organizational job embeddedness as a construct that is correlated with turnover intentions and job search behaviors because it has been demonstrated in a police organization.

The scope of this research is limited. This research is the first ever attempt to examine these constructs and their relationships within a police agency. Conducting this research within only one agency limits the generalizability of any findings. Extending the generalizability of this study to other police agencies will require that the study be replicated in many more police agencies. It seems prudent though to first test these hypotheses on a limited scale before conducting a larger study that incorporates more than one police agency.

Positive results will also allow for development and implementation of interventions in the SPD which can then be further studied. Interventions that reduce turnover in one police organization could then be applied in other police organizations in quasi-experimental research designs for both theoretical and practical benefit. Agencies that apply a given intervention could be compared against agencies that apply an alternative intervention, and all those agencies could be compared against control agencies in which no interventions are applied.

The preceding discussion has focused primarily on the theoretical need for research, with limited practical justification for such research. The following discussion will establish the practical need for this research, both within all American police agencies and within the SPD.

Human Capital Challenges in American Police Organizations

Police departments in The United States face significant human capital challenges. A 1999 study sponsored by the U. S. Department of Justice found that more than two-thirds of large police organizations and more than half of small police organizations had difficulty in replacing officers who left those organizations (Kopper, Maguire, & Moore, 2001). The Major Cities Chiefs Association's Critical Issues Study Group identified recruiting and retention of police officers as one of the most difficult tasks facing law enforcement organizations (Beam, 2001). It is important to also understand the complexity of the police organizational landscape in the United States.

The number and variety of police departments in the United States creates unique human capital challenges. In 2004 there were 17, 860 state and local law enforcement agencies and those agencies employed 732,000 sworn law enforcement officers (Reaves, 2007). The Bureau of Labor Statistics (BLS) (2007) indicates that in 2006 there were 861,000 persons who were classified as members of the police and detective occupational title. The BLS statistics also include persons in Federal law enforcement agencies and other Federal, state, and local agencies whose primary mission is not law enforcement but may have limited numbers of law enforcement officers who enforce specialized laws and regulations. The BLS predicts a nation-wide increase in police and detectives of 11 percent through 2016.

The environment in which police departments in The U. S. operate has become much more complex and that too poses challenges in meeting human capital needs. A Rand Corporation study found that police personnel challenges have increased significantly since September 11, 2001 due to changes brought on by events of that day

(Raymond, Hickman, Miller, & Wong, 2005). That study cited increased and changing operational demands, demographic changes, and increased competition in a tight labor pool as further exacerbating recruiting and retention challenges in American police organizations. Police organizations have taken-on new missions since September 11, 2001. The economy also has an effect on the human capital landscape for police agencies.

As baby boom era (1946-1964) workers leave the labor pool they are followed by baby bust era (1965-1970s) workers who are insufficient in numbers to fill existing jobs and jobs created by an expanding economy (Toossi, 2007). The size of any labor pool deficit or surplus of course depends on the size of the economy. A shrinking economy requires fewer workers and an expanding economy require more workers. At the time of Tossi's study the economy was expanding and expected to continue in that direction. Recent economic events would no doubt cause Toossi to reevaluate his projections, at least for the near term. The size of the labor pool influences human capital challenges but so too does the nature of competition for that labor pool.

The events of September 11, 2001 have spawned a burgeoning security market which has fueled increased competition for those who might otherwise be attracted to the police profession (Raymond, Hickman, Miller, & Wong, 2005). That is a form of competition with which American police agencies have never contended. Police organizations are increasingly competing for a sub-set of the labor pool that is shrinking not only in numbers, but also in quality.

The Rand study cites increasing rates of illicit drug use, obesity, financial indebtedness and increasing college attendance as factors that further shrink this already

too small labor pool (Raymond, Hickman, Miller, & Wong, 2005). These are all factors which disqualify applicants. Drug use is criminal and usually all but the most minor drug experimentation casts doubt on an applicant's commitment to obeying the law. Financial indebtedness is viewed as a potential precursor to corruption and at least evidence of inability to manage life's daily challenges. Obesity limits an applicant's ability to perform many physically demanding and often dangerous activities.

The problem of turnover in police organizations is exacerbated by the complexity and length of the selection processes. A Bureau of Justice Statistics report *Law Enforcement Management and Administrative Statistics, 2000: Data for Individual State and Local Agencies With 100 or More Officers* (Reaves & Hickman, 2004) lists 17 personnel selection steps or processes. Those used by over 60 percent of agencies included, background investigation, credit history check, criminal record check, driving record check, drug test, medical exam, personnel interview, physical agility test, polygraph exam, psychological evaluation, and written aptitude test. The selection process for these agencies takes on average 11 weeks (Kopper, Maguire, & Moore, 2001). That process selects individuals to begin training, which presents additional challenges.

Training police officers is a lengthy process which further delays replacing those who have left an organization. Training is typically divided into two phases, academy and field training. Academy training occurs in an institutional setting and may be conducted in an agency, regional, or state training academy. In The U. S. on average academy training lasts 17 weeks (Reaves & Hickman, 2004). After completion of the academy new officers receive training in the field from individual field training officers,

which lasts on average 11 weeks (Reaves & Hickman). Not every individual hired successfully completes the training process. On average for every 100 hired only 89 successfully complete the entire training regimen (Kopper, Maguire, & Moore, 2001). If the processes of recruiting, selection, and training began the day after an officer resigned there is only an 89 percent probability that 39 weeks later a minimally qualified officer will fill that position.

Turnover robs the organization of personnel which it needs to accomplish the mission. Turnover also forces the organization to devote personnel and resources to recruiting, selecting, and training replacements for those who left. It is widely accepted that these factors reduce the ability of the organization to perform its mission. In the private sector, where the bottom line is measureable, that assertion can be easily tested. Public sector organizations like police departments have difficulty in measuring effectiveness. Still some evidence exists that indicates that turnover reduces a public sector organization's ability to accomplish its mission.

In a study of the more than1000 public school districts in Texas, turnover was found to influence performance (Meier, & Hicklin, 2007). In this research, performance was operationalized as a dependent variable using SAT and ACT scores from 1994 to 2002. Turnover served as the independent variable. The researchers sought to establish if an inverted U-shaped regression curve would be found. It is common to find that curvilinear relationship in private sector organizations when examining the role of turnover in performance of complex tasks. Complex tasks require more skilled and valuable employees than do routine simple tasks. In an environment in which the organization must perform complex tasks some turnover is valuable because it brings

new talent and perspectives to the organization. To a point, that turnover is associated with improving performance. At a certain level though, turnover begins to degrade performance of complex tasks. In a regression diagram this produces an inverted U-shaped regression line. Turnover is measured on the X axis and performance on the Y axis. As turnover increases (i.e., moves to the right along the X axis) the regression line rises (i.e., moves up along the Y axis). As turnover continues to increase performance will begin to decline and the regression line will start to move downward. Unfortunately, no single measure of performance, such as student SAT or ACT scores, exists as a proxy measure of performance for police organizations. We can though look at the circumstances of a particular police organization and assess if turnover is a matter of significant concern to that organization's leaders.

Human Capital Challenges in a Southern Police Department

This research was conducted in a police department in a city in the southern United States. The city has a population of around 100,000 and is part of a larger urbanized region with a population over 500,000 (http://www.census.gov/popest/states/NST-ann-est.html). The City's population is approximately 60 percent white and about 40 percent minority. The median household income in this city is below the United States median household income (http://www.census.gov/hhes/www/income/statemedfaminc.html).

The crime challenge that the SPD faces is mixed. The violent crimes per capita are higher than the national per capita levels. Property crimes per capita are lower than the national per capita levels (http://www.fbi.gov/ucr/cius2007/data/table_08.html). The sworn officers per 1000 population exceed both the national average and the average for

cities the size of this city (http://www.fbi.gov/ucr/cius2007/police/index.html). The SPD officer per 1000 population exceeds the national average by 38 percent and the average for cities with similar populations by 76 percent.

This southern city has a strong mayor form of government. The Chief of SPD and the Mayor have a good working relationship. The City is supportive of the police department's mission and provides an adequate budget for equipment and personnel. Cost of living raises and merit raises are common in each annual budget. (Personal communication, SPD Senior Leader, January 8, 2008).

The SPD has experienced significant human capital challenges. The leaders of this police department are eager to see this research conducted but have requested anonymity for the organization and its members who may choose to participate. This police department has a sworn force of over 300 and also has more than 125 civilian employees. For the last five years SPD has experienced an average annual voluntary turnover rate of around 10 percent. SPD leaders have identified retention and leader development as two of their strategic objectives (SPD, 2007). At present SPD's strategies for achieving its strategic objectives are informed only by knowledge of organizational leadership and management in general and not by specific research into its turnover problems (Personal communication, SPD Senior Leader, January 8, 2008).

Summary

Constructs that help us understand turnover in organizations were introduced and defined. A model was proffered which explicates the relationships between leader-member exchange, job embeddedness, turnover intentions, and job search behaviors. Police organizations in the United States are faced with a significant turnover problem,

and consequent recruiting challenge. These human capital challenges in police organizations reduce their effectiveness and are a matter of significant policy concern. It is proposed that research be conducted in one southern police department which tests the relationships between the previously described constructs, which will improve understanding of the problem and help develop interventions to reduce turnover. The following section will review the relevant literature and develop a set of hypotheses for testing. The methods by which those hypotheses were tested, the results of those tests, and a discussion of those results will follow the literature review.

LITERATURE REVIEW

The purpose of this literature review is to provide an understanding of the extant literature that informs this research. While turnover has been widely studied in private and other public organizations, there has been little research of turnover in police organizations. It is important to begin with a review of the turnover literature before reviewing the meager body of police turnover literature. Leader-member exchange has been widely studied since its inception, and that literature will be reviewed, within the larger context of the leadership literature. While job embeddedness is a relatively recent entrant into turnover research, a sufficient body of research exists and will be reviewed.

Conceptually this literature review will review the overlap in shortcomings in each body of literature that were noted earlier in the introduction. Turnover literature that has established the affective antecedents of turnover, such as job satisfaction and organizational commitment, has limited utility due to the low levels of turnover variance explained by those antecedents. Measuring affective antecedents has methodological, psychological, and social shortcomings and measurement of actual turnover has practical shortcomings. Leadership is a distal predictor of turnover but little is known about leadership actions which may enhance or inhibit embeddedness. Leadership usually has a distal influence on turnover because leaders influence conditions that contribute to affective antecedents, such as job satisfaction and organizational commitment.

Readers may be familiar with other constructs that are similar to leader-member exchange, job embeddedness, or job search behaviors and may ask why these constructs were not included in this study. Other constructs, such as career anchors theory and perceived supervisor support were considered and rejected in the process of establishing

which constructs and variables best explained turnover in a police organization. These theories will be reviewed and justification will be given for rejecting these constructs as variables which have greater explanatory power when examining turnover in police organizations.

Turnover

This review of turnover research will not be exhaustive; instead providing an overview of that research, while concentrating on those principles that best inform this research endeavor. Turnover has been a widely researched organizational phenomenon and an exhaustive review would establish too wide a framework within which to evaluate this research endeavor. Many facets of turnover have been widely studied and reported. In their 1995 book *Employee Turnover,* Hom and Griffeth report that over 1,000 studies of turnover had been conducted. That number has grown significantly since then. This review of turnover will focus on antecedents to turnover, such as job satisfaction, commitment, and turnover intentions. A focus on antecedents provides research that is relevant to practitioners in developing interventions to reduce that turnover.

Most turnover research has examined individual level variables either internal or external to the organization. Those variables measured at the individual level have been state like, hence subject to change, such as job satisfaction, organizational commitment, and turnover intentions (Griffeth, Hom, & Gaertner, 2000), as opposed to more stable traits like personality. A good example of a state like trait that can be measured is the job satisfaction facet satisfaction with pay. If that facet were measured the day after a pay raise the level of satisfaction would likely be much higher than if it were measured 6 months after the raise. Another example would be satisfaction with supervision. If an

employee has a good boss, measuring satisfaction with supervision would likely show

satisfaction with supervision. If that good boss is transferred and the same employee's

new boss is a bad boss, the employee's satisfaction with supervision will likely fall. State

like traits are affective reactions to conditions that are subject to rapid change.

Turnover has been a widely studied organizational phenomenon since 1958 when

March and Simon discussed turnover in their now famous *Organizations* (Lee, Mitchell,

Wise, & Fireman, 1996). March and Simon found turnover to be influenced by two

factors, external options and desirability of leaving. External options are an employee's

perceptions of job alternatives. Desirability of leaving usually takes the form of an

employee's attitudes such as job satisfaction, commitment, or met expectations.

Turnover, for the purposes of this review, is defined as termination of

employment by an individual, i.e., voluntary turnover. Griffeth and Hom (2001) describe

turnover as a leading organizational challenge and have developed a taxonomy of

turnover. Turnover can be voluntary or it can be involuntary. Involuntary turnover

occurs when an individual's employment is terminated against the wishes of that

individual. Involuntary turnover can take the form of firing, being laid off, being

disabled, or reaching mandatory retirement age.

The other major category of turnover is classified as voluntary; in other words the

individual chooses to sever the employment relationship (Griffeth & Hom, 2001).

Voluntary turnover can be functional for the organization or it can be dysfunctional. It is

functional for the organization if an employee who is not an effective contributor leaves

the organization. It is dysfunctional for an organization if a valued contributor leaves.

From most managers' perspectives there is not enough voluntary functional turnover and

too much dysfunctional turnover.

Griffeth, Hom, and Gaertner (2000) conducted a meta-analysis of the predictors and correlates of turnover, which expanded on that of Hom and Griffeth (1995). The findings from the 2000 analysis were similar to those of the 1995 analysis except that studies using measures of job search behaviors were included in the 2000 study. They found that turnover is best predicted by proximal factors such as job satisfaction, organizational commitment, and job search behaviors. Leadership was found to be a distal predictor of turnover in that leadership affected conditions which influenced job satisfaction, organizational commitment, and job search behaviors. Griffeth et al. also found that job search behaviors predict turnover as well as do intentions.

Affective constructs such as job satisfaction and organizational commitment, while predictive, explain only a small percentage of the variance in turnover. In their 2000 meta-analysis, Griffeth, Hom, and Gaertner report corrected correlations for job satisfaction of -.19 and for commitment of -.23 to turnover. In an earlier meta-analytic study, Tett and Meyer (1993) found corrected correlations for job satisfaction of -.27 and for commitment of -.33 to turnover. These constructs can explain only between 4 and 11 percent of the variance in turnover.

The weak relationships between attitudinal constructs such as job satisfaction and organizational commitment can best be understood by a review of the theory of planned behavior. Ajzen and Fishbein (1972, 1973, 1977) posit that attitudes and behaviors have four elements: actions, targets of those actions, context, and time. An action is the actual behavior taken by the individual. In the case of turnover the actions are resigning from a current employer and accepting a position with another employer. The target of an action

is the recipient of the outcome. In turnover the target is the new employer. Resigning from the current employer is merely instrumental to allow the employee to accept new employment. Actions are taken within some context. The context could be discontent with the current employer or context could be an unexpected job offer. Planned actions have a timeframe within which the employee takes the actions. An employee could intend to leave during the summer so as not to disrupt schools schedules for his or her children or could intend to leave at the earliest opportunity.

Attitudes are best predictive of behaviors when those attitudes share all four of those elements with behaviors, that is job satisfaction and organizational commitment are weak predictors of turnover because those are constructs that represent attitudes about the current job. Job satisfaction and organizational commitment are not attitudes about the action of leaving the current employer. The target of voluntary turnover is the new employer not the current employer. If the target of turnover was the current employer the employee could simply quit and then seek new employment. Job satisfaction and organizational commitment are necessarily reflective and are not attitudes about the future. Intentions and future oriented behaviors are more useful constructs.

The best predictors of turnover are temporally closer to the turnover event. In their meta-analytic study Tett and Meyer (1993) found that turnover intentions and withdrawal cognitions accounted for 27 percent of the variance in turnover. This study occurred before the development and use of job search behavior constructs, such as the Job Search Behavior Index (Kopelman, Rovenpor, & Milsap, 1992) and Blau's (1994) job search behaviors scale. In their 2000 meta-analysis Griffeth, Hom, and Gaertner were able to include studies which made use of job search behavior constructs. This more

recent meta-analysis found that behavioral constructs accounted for up to 25 percent of the variance in turnover.

The gold standard criterion in turnover research is actual turnover. In order to have adequate numbers and variance in the criterion, studies are usually longitudinal and measure predictor variables at time 1 and the criterion variable at time 2, with the time lag usually being at least one year. Griffeth, Hom, and Gaertner (2000) found that time lag between measuring the predictor variable and the criterion variable may actually be counterproductive. Many predictor variables, such as job satisfaction and organizational commitment, are state like characteristics and thus subject to change. Change may reduce the predictive validities of those variables. Griffeth et al. posit that dissatisfaction stimulates a desire to leave, which begins a series of intentions, cognitions, behaviors, and finally turnover. They state that job search behaviors are good predictors of turnover due to their temporal proximity to the criterion variable, actual turnover.

The role of time was more thoroughly examined by Kammeyer-Mueller, Wanberb, Glomb, and Ahlburg (2005). They studied 932 individuals in seven diverse organizations and surveyed the participants five times over a two year period. Job search behaviors s were found to be the most significant difference between those who stayed and those who left. Job search behaviors of those who left increased over time in conjunction with decreases in job satisfaction and organizational commitment. About 25 percent of the leavers experienced a significant event that precipitated leaving, such as a spouse's job transfer, or an unexpected job offer. Those who experienced these significant events had expressed more commitment, more satisfaction, and fewer job search behaviors at measurement times prior to the significant event. Increasing length of

study time and number of measurement points improves prediction of turnover.

Researchers have proposed many models of turnover. Implicit in discussions of time is that turnover is a process. Mobley (1977) hypothesized and found a process that starts with low job satisfaction which leads to quit cognitions, expectancies related to alternatives, search behaviors, and then intentions to quit. Steers and Mowday (1981) focused on the role of met expectations as an antecedent to affects such as job satisfaction and organizational commitment which then begin the process of turnover. Steers and Mowday as well as others (Hulin, Roznowski, & Hachiya, 1985) hypothesize that models of turnover cannot explain turnover processes for all types of employees. Still others have criticized models that assume all human actions are rational and intended to maximize individual benefit (Lee, & Mitchell, 1994).

Turnover is not always precipitated by negative affect. As previously stated some turnover is precipitated by an unexpected event (Kammeyer-Mueller, Wanberb, Glomb, & Ahlburg, 2005) which can be viewed as a shock (Lee, & Mitchell, 1994). Unexpected events that can precipitate turnover are things such as a spouse's unexpected job transfer, an unsolicited job offer, or a corporate merger. Lee and Mitchell first proposed an unfolding model of voluntary turnover which described five decision paths. Three decision paths begin with a shock, which is defined as an event such as a corporate buy out. Two paths do not begin with a shock. Some employees may then enact preconceived scripts involving leaving the organization. A preconceived script is a plan for leaving and may or may not include new employment. An employee could have a preconceived script to resign and go back to school if the spouse receives a promotion or significant pay raise. A part time employee could have a preconceived script that

involves leaving to take full time employment if the spouse is laid off.

If a shock stimulates enactment of a leaving script or if the current employment situation violates the employee's values or goals or is dissatisfying then the employee may begin searching for another job and evaluating those alternatives. A shock, such as a job offer, may or may not result in turnover. Those paths that do not begin with a shock are precipitated by the current situation which violates the employee's values or goals or is dissatisfying. In initial qualitative research only 32 percent of 44 nurses interviewed made use of decision paths inconsistent with the original five as hypothesized (Lee, Mitchell, Wise, & Fireman, 1996). Quantitative methods allowed for accurately predicting 93 percent of 229 cases of accountants' turnover (Lee, Mitchell, Holtom, McDaniel, & Hill, 1999). Efforts at replication have supported the concept of an unfolding model (Holt, Rehg, Lin, & Miller, 2007; Morrell, Loan, Clarke, Arnold, & Wilkinson, 2008; Niederman, Sumner, & Maertz, 2007).

Turnover Intentions

Purposeful actions are the result of intentions (Ajzen and Fishbein, 1972, 1973, 1993). An employee does not accidentally quit a job. Circumstances, such as learning a spouse is going to be transferred, may stimulate a short time span between formation of intentions to quit and acting on those intentions (Kammeyer-Mueller, Wanberb, Glomb, & Ahlburg, 2005; Lee, & Mitchell, 1994). The process is more commonly longer in which negative affect stimulates intentions to quit and eventually to leaving (Mobley, 1977).

A heuristic model of turnover was first proposed by Mobley in 1977. Quitting is a decision and Mobley's proposed model was essentially a deliberative decision-making

model. He proposed that an employee first evaluated current job conditions and experienced either satisfaction or dissatisfaction with those conditions. Dissatisfaction could lead to thinking of quitting and consideration of the likelihood of finding another job and the costs attendant with leaving. Should opportunity exist and the costs of leaving are acceptable the employee will form intentions to search, conduct the search, and then compare any alternative found during the search. The employee will then weigh alternatives with the current situation and form intentions to either stay or leave, which lead to either staying or leaving. Mobley's (1977) model was put to the test in a study of employee turnover in a hospital (Mobley, Horner, & Hollingsworth, 1979). In that research Mobley et al. found significant regression coefficients between job satisfaction and thinking about quitting and intention to search. Intention to quit was found to be the only factor with a significant coefficient for actual turnover.

Many studies followed Mobley's original research and those studies have been included in subsequent meta-analytical studies. In one such study intentions to quit were found to be more predictive of turnover than overall job satisfaction, satisfaction with work itself, or organizational commitment in a meta-analysis of 34 turnover studies (Steel & Ovale, 1984). In that meta-analysis overall job satisfaction, satisfaction with work itself, organizational commitment, and intentions to quit accounted for 8 percent, 10 percent, 13 percent, and 25 percent respectively.

Another meta-analysis of 17 turnover studies found through structural equation modeling that Mobley's et al. model was a good fit to the data, but found two alternative models (Dalessio, Silverman, & Schuck, 1986; Hom, Griffeth, Sellaro, 1984) that fit the data better (Hom, Carnikas-Walker, Prussia, & Griffeth, 1992). In each of the models

tested intentions to quit were the immediate precursor to quitting. In these studies turnover intentions had an average corrected correlation of .36 to turnover, which accounts for only 13 percent of the variance in turnover.

Job Search Behaviors

Many of the antecedents to turnover are state like and as such are subject to change between measurement of the antecedent and the criterion of turnover (Griffeth, Hom, & Gaertner, 2000). Turnover intentions have been found to be predictive of actual turnover (Steel, Ovale, 1984) and are often the result of individual affect related to the job (Hom, Carnikas-Walker, Prussia, & Griffeth, 1992). However we also know that other factors can stimulate intentions to quit (Kammeyer-Mueller, Wanberb, Glomb, & Ahlburg, 2005; Lee, & Mitchell, 1994). These considerations lead to the need to also measure the most proximal factor in turnover which is job search behaviors.

Job search is usually viewed and measured from the perspectives of intensity and effort (Kanfer, Kanrtowitz, & Wanberg, 2001). Job search intensity is an aggregation of behaviors such as searching job advertisements, filling out an application, or sending a resume. The effect is cumulative such that engaging in more behaviors indicates greater intensity. Effort is a self reported perception of level of effort toward securing new employment. Typically respondents will select from a Likert scale ranging from little to great effort.

Blau (1993) found that job search intensity was a better predictor of turnover than was job search effort. That is not surprising when one considers that intensity is not only a cumulative measure it is also a cumulative practice. The more applications a person completes the more likelihood of finding employment. Submitting a dozen applications

or resumes will likely be more successful than putting a lot of effort into one application.

Blau (1994) also distinguished between preparatory and active phases of job search. Preparatory behaviors consisted of actions such as preparing resumes, searching classified ads, or asking friends about knowledge of possible job openings. Active search behaviors consisted of actions such as sending a resume, completing a job application, or interviewing with a prospective employer. In a meta-analysis job search behaviors were found to be as predictive as intentions and cognitions, and those job search behaviors accounted for up to 25 percent of the variance in turnover (Griffeth, Hom, & Gaertner, 2000). Similarly, job search intensity was found to be the best predictor of job search success for the unemployed (Saks, 2006).

Not all job search behaviors result in turnover (Griffeth, Hom, & Gaertner, 2000; Lee, Mitchell, Wise, & Fireman, 1996; Lee, Mitchell, Holtom, McDaniel, & Hill, 1999; Mobley, 1977; Sommers, & Birnbaum, 2000). Sommers and Birnbaum found a particularly unique condition in their analysis of commitment profiles, job search behaviors, and turnover in a teaching hospital. They found, as in previous research (Griffeth, Hom, & Gaertner, 2000), that affective commitment was negatively related to job withdrawal (i.e., turnover) intentions, job search behaviors, and turnover. A unique finding was that those who were dually committed, to their career and organization, had the highest intensity of job search behaviors. In their research, Sommers and Birnbaum used the Job Search Behavior Index (Kopelman, Rovenpor, & Milsap, 1992), which does not distinguish between preparatory and active job search behaviors. Blau's (1994) measure distinguishes between preparatory and active job search behaviors. Being able to distinguish between the types of job search behaviors helps assess the intended

purpose of those behaviors, which may not be actual turnover.

Job search behaviors may serve some purpose other than obtaining another job. Sommers and Birnbaum (2000) hypothesize that these job search behaviors might well be scanning actions on the part of professionals. Frost (2006) found perceptions of distributive justice were predictive of turnover for baby boomers in a law enforcement organization. Justice perceptions are individual subjective perceptions of fairness. This body of literature is well developed and justice researchers have examined the relationships between justice and many organizational outcomes, such as job satisfaction, organizational commitment, and turnover. Justice has evolved as a construct and is generally accepted to have 4 dimensions (Colquitt, Conlon, Wesson, Porter, & Ng, 2001).

Distributive justice is one dimension of organizational justice; the other three being procedural justice, interactional justice, and informational justice (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Distributive justice is a perception that outcomes, such as pay and benefits or promotion, are distributed fairly. The notion of equity in the workplace, and the justice literature in general, arose from the work of Stacey Adams (1963) while working as a researcher for General Electric. Adams found that individuals compared their outcomes, such as pay, and their inputs, such as amount or quality of work, to like outcomes and inputs of others in the workplace. That comparison resulted in a perception of equity or inequity. If an individual perceived that he worked harder and received less than a peer, that individual would perceive inequity in the situation. Adams found that, if an individual perceived an inequity, that individual would engage in behaviors that were designed to restore perceptions of equity. An individual could reduce inputs by not working as hard. Another option is to attempt to increase outcomes by

asking for a raise. Another option is also to leave the situation in which the inequity exists by either resigning or transferring. Inherent in the comparison equation is the other individual to whom the comparison is made.

Scanning might well serve as an individual's attempts to assess distributive justice inherent in the current employment arrangement. In the private sector, where more compensation flexibility exists than in the public sector, job search behaviors have been found to serve as leverage with a current employer (Boswell, Boudreau, & Dunford, 2004). One strategy recommended by job embeddedness researchers (Holtom, & Inderrieden, 2006; Holtom, Mitchell, & Lee, 2006) is to make employees aware that the employer will compete with other organizations' employment offers.

Even though job search behaviors may not be intended to result in taking a new job, they are actions employers would prefer to limit. Private employers would prefer not to engage in bidding for current employees and public employers rarely have that option. In the public sector employers should be concerned that unexpected job offers could serve as shocks (Lee, & Mitchell, 1994), which stimulate the turnover process. Measuring job search behaviors offers a valid and reliable research criterion, which has been shown to be predictive of eventual turnover (Blau, 1993, 1994; Griffeth, Hom, & Gaertner, 2000) and also offers an outcome against which interventions can be measured.

This research has a practical as well as theoretical goal. The practical goal is to provide information to the leaders of the SPD that will enable them to develop interventions to reduce turnover. Developing and implementing those interventions and measuring the efficacy of those interventions in reducing turnover intentions, job search behaviors, and turnover would be a form or program evaluation.

Police Turnover Research

The police turnover literature is quite sparse. In general there are three types of turnover research in policing. The most common type is research that examines the scope and characteristics of turnover. A second type of research examines the causes of turnover but is not theoretically grounded and is often conducted by human resources or police professionals. The least common type of research on turnover in policing is theoretically grounded research conducted by academics.

An example of a combined study at the state level is a 2003 study by the North Carolina Criminal Justice Analysis center. In that study analysts surveyed police departments throughout North Carolina and found that large police departments have an annual average turnover rate of 10 percent and that small departments experience on average 18 percent annual turnover (Yearwood, 2003). The study found average tenure for officers who leave to be 34 months. Rather than inquire about reasons for leaving the study elicited suggestions for how to improve retention. The leading suggestions were pay increases, merit based pay systems, increased benefits, pay equity between agencies, and other forms of extrinsic reward.

Another such study was conducted in Vermont where all 46 of the state's municipal police departments participated (Stageberg, 1988). Similar to North Carolina this study found that turnover was an event that occurred early in an officer's career. In Vermont half of those who left their agency had less than two years of service with that agency. Officers who had departed responded to surveys, in which they rank ordered the level of importance of particular factors in their decision to leave. The rank ordering of categories of factors were job: salary, benefits, and satisfaction, 66 percent; frustration

with the department, 41 percent; frustration with the justice system, 29 percent; and job and family stress, 22 percent.

Similar concerns exist in other nations as evidenced by a recent study of officers who had resigned from the West Australia, South Australia, and Victoria Police Departments conducted by the Australasian Centre for Policing Research (Lynch, & Tuckey, 2004). Those officers reported important reasons for their departures with the three most important being: looking for improved quality of life, poor management generally, and poor leadership by superiors respectively.

Harris (1998) conducted his dissertation research in the Birmingham, Alabama Police Department. He examined turnover by surveying former and current field operations (patrol) officers. Harris examined two variables, satisfaction and congruence between pre-employment expectations and actual experiences. While Harris' study was theoretically grounded in confluence theory he did not use existing measures of job satisfaction. Instead he created a measure with items that measured attitudes toward satisfaction with extrinsic rewards, personnel policies, administrative and operational practices, and the Chief's leadership as well as accuracy of information received during recruitment and selection. Some of Harris' findings run contrary to private sector turnover research. Satisfaction did not predict turnover. Satisfaction for those who left and those who stayed was low however those who stayed were more dissatisfied than those who left at a statistically significant level. Perhaps those who remained were unable to leave the organization, which made staying all the more dissatisfying. This counterintuitive finding points to the possibility that some force holds these officers in their organization. A construct which might explain this phenomenon is job

embeddedness theory, which will be reviewed in more depth later in this section. Participants reported that their pre-employment expectations were congruent with their experiences on the job.

Other police turnover research has been more theoretically grounded. In one study former local law enforcement officers who were FBI Special Agent Trainees reported perceptions of inequity while employed in their former agency (Bowman, Carlson, Colvin, & Green, 2006). Those trainees reported that they felt they put more into the job than did their peers but that they received the same rewards. From the perspective of expectancy theory they also perceived low instrumentality, which is a perception that there is no certain link between a behavior and a reward. They felt that there was no link between superior performance and reward in their former agency. Those rewards were primarily pay and benefits. There is also intrinsic motivation from work.

Intrinsic motivation through job design was also examined. The characteristics of a job can provide intrinsic motivation (Hackman, & Oldham, 1980). Jobs with high skill variety require the application of many different skills, thereby increasing challenge and reducing boredom and monotony. Tasks that are perceived as more significant are more motivating and rewarding than are those perceived as being less significant. Some tasks are only part of a whole and the more a job contains tasks that are identified as a meaningful whole the more motivating that job will be. The more a job allows the incumbent to exercise autonomy the more the job will be perceived as motivating. Receiving feedback on performance and outcomes increases the motivating potential of a job. The trainees reported high levels of skill variety, task significance, autonomy, and

feedback in their former law enforcement positions, but reported low task identity.

There were several outcomes of research with FBI Special Agent Trainees that were noteworthy. Interestingly they did report that they felt experienced meaningfulness of work, which is an aggregate of the perceived skill variety, task identity, and task significance, would be greater as FBI Special Agents (Bowman, Carlson, Colvin, & Green, 2006). This research was conducted in the fall of 2002 and the recent events of September 11, 2001 and the FBI's change in organizational mission toward counter terrorism may have influenced those outcomes. Almost two thirds of the trainees reported that they had always wanted to be FBI Special Agents, so employment with their former law enforcement agency had likely been solely instrumental. In spite of the instrumental nature of their initial law enforcement employment half of those who had always wanted to be FBI Special Agents said that their former agencies could have taken steps that would have resulted in them not leaving. A reasonable conclusion is that there are actions an organization can take to prevent turnover, even when quitting was the original intent of the employee when joining the organization. Such actions might embed an individual in the organization and that phenomenon might be best measured using the job embeddedness construct.

Other police turnover studies have reflected traditional approaches similar to turnover research in the private sector. Brough and Frame (2004) studied predictors of job satisfaction and turnover intention in New Zealand police officers. She found that both supervisor and colleague support predict job satisfaction and turnover intentions. The relationship between supervisor and colleague support and job satisfaction is positive and is negative for turnover intentions, while supervisor support is a stronger predictor

than is colleague support for both criteria.

Frost (2006) examined the role of organizational justice and generational differences as predictors of job satisfaction and turnover intentions of police officers. In this study Frost only examined distributive and procedural dimensions of organizational justice. The organizational justice literature in general and its genesis from Stacy Adams' (1963) work and one of its dimensions, distributive justice, has been previously described. It is also necessary to have an understanding of procedural justice.

Outcomes, such as pay raises, assignments, or promotions, are a result of decisions made by individuals or of formal or informal procedures within an organization. How decisions are made and the content and nature of procedures which are enacted are evaluated as well as are the outcomes of those decisions or procedures. The essence of procedural justice perceptions is an evaluation of the fairness, accuracy, and objectivity of procedures used to allocate outcomes, such as raises, assignments, and promotions (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). If promotions are decided based on who goes golfing with the boss, members of that organization will likely perceive low procedural justice, except of course those who are the bosses golfing buddies. There is only so much room in a golf cart though, and that usually leaves out quite a few people who are also important in accomplishing the organization's mission.

For all officers organizational justice perceptions are predictive of job satisfaction and turnover intentions. Justice perceptions account for 36 percent of the variance in job satisfaction and 29 percent of the variance in turnover intentions. No demographic variable was found to be a significant predictor of either criterion.

The most interesting of Frost's (2006) findings was differences in generations'

sensitivity to justice. Generation X officers were more sensitive to procedural justice whereas Baby Boomers were more sensitive to distributive justice. Procedural justice accounted for 32 percent of the variance in job satisfaction and 30 percent of the variance in turnover intentions for Generation X officers. Distributive justice accounted for 53 percent of the variance for job satisfaction and 31 percent of variance in turnover intentions for Baby Boomer officers. Distributive justice was not significantly correlated to any criterion for Generation X officers and procedural justice was not significantly correlated to any criterion for Baby Boomer officers.

While the police turnover literature may be sparse the findings of several of the studies indicate that there are organizational phenomena that should be examined to better understand turnover in a police organization. The studies by Harris (1998) and Bowman, Carlson, Colvin, and Green (2006) raise the possibility of some phenomenon or force that may embed an officer in an organization, thereby preventing turnover. It was also found that higher supervisor support was predictive of reduced turnover intentions for police officers in New Zealand (Brough, 2004). The role of embeddedness and the role of a supervisor in reducing turnover should be examined. The role of a supervisor in embedding an officer should also be examined. How these phenomena act in concert should also be examined. Each of these variables can be explained using constructs such as leader-member exchange and job embeddedness, which will be described in more detail in the remainder of this section.

Leadership Research and Leader-Member Exchange Theory

Leader-member exchange theory exists within a larger framework of leadership research. The purpose of this review of the larger leadership literature is to provide

context for the choice of leader-member exchange as a theory that is related to job embeddedness and job search behaviors.

Leadership theory and research has evolved over time. The original theoretical perspective for leadership theory and research was the trait approach, which evolved in the 1930s and 1940s (Yukl, 2006). This evolved from the "Great Man" emphasis on studying the behavior of great men such as Washington, Lincoln, or Roosevelt (Franklin or Theodore). Recognition of great women, such as Eleanor Roosevelt, as great leaders has been a relatively late entrant onto the field of leadership study. At the more conventional level, the trait approach took the form of examining the correlation between leader traits, such as integrity, and subordinate outcomes, such as job satisfaction or satisfaction with supervision. It became apparent to most researchers that traits offered limited explanatory power and they shifted focus to leader behaviors.

In the 1950s leadership researchers began to examine what leaders do, as opposed to what leaders are (Yukl, 2006). The purpose of this research stream has been to identify which leader behaviors are more effective in influencing specific outcomes. One example would be examining the relationship between communication styles and subordinate satisfaction with supervision. This stream of research has been leader-centric in that it examined the behaviors of leaders and the reactions of followers to those behaviors. Some researchers recognized that power and influence were implicit in the behavioral approach and that this perspective needed explication.

Researchers began to examine the nature and role of power and influence in the leader and follower relationship (Yukl, 2006). This research explicated that nature of power possessed by leaders, and has evolved to examine the nature of power possessed

by followers. This research has identified styles of leadership, such as autocratic or participative, which explain the nature of power and how it is exercised in the leader and follower relationship. Autocratic leaders possess and retain power in the leader and follower relationship. Participative leaders possess and share power in the leader and follower relationship. It was recognized that power and leader and follower relationship exist within a context, and that contextual differences might explain leadership outcomes.

The context, or situation, has been recognized as having a strong impact on the outcomes of leadership in organizations (Yukl, 2006). The situational research perspective has examined similar situations and the extent to which different leader behaviors or styles explain differences in outcomes. This research has shown that a given leader behavior or style may be ideal in one context but will likely not be the best leader behavior in all contexts. This contingency approach emphasizes matching leader behaviors and styles to the appropriate situation or context. As leadership theory and research has evolved the predominant pattern that has emerged in that overarching body of literature has been the emphasis given to each of major characteristics of that research, the leader, the follower, and the situation.

Leadership research can be categorized by its emphasis. The three categories of emphasis have been the leader, the follower, and the situation. The most common theoretical research perspective of the last 50 years has been focused on the leader (Yukl, 2006). Leadership theories can be further conceptualized based on the leader's influence processes, which are dyadic (leader-follower), group, or organizational.

Leader-member exchange is a dyadic concept (Yukl, 2006). That relationship can be assessed by gathering data, usually with a survey, from both the leader and the

follower (Miner, 2005). This theory arose out of questioning the validity of viewing leaders' style as being the average of followers' perceptions. Instead leader-member exchange explains the quality of a relationship between a leader and each follower. In this research the follower's perspective of the relationship is the independent variable.

Inherent in discussions of how leadership influence processes are conceptualized is their level of measurement. Leadership research usually involves survey or interview research of followers' perceptions of leaders' behaviors (Yukl, 2006). That measurement is taken at the individual level. Drawing conclusions about group and organizational level constructs when measurement occurs at the individual level raises a host of methodological and statistical issues (Klein, & Kozlowski, 2000). This research measures constructs solely at the individual level, the follower's perceptions of leader-member exchange, the follower's organizational job embeddedness, and the follower's job search behaviors. This avoids multi-level methodological and statistical issues. The leadership relationship between the lowest level employee and his or her immediate superior is also less vulnerable to confounds than are leadership behaviors of middle and senior level leaders in an organization. Leader-member exchange involves only the leader and the follower. Leadership of a group or an organization involves more people and a greater likelihood that some factor other than leadership influences outcomes.

Leader-member exchange posits a relationship domain that incorporates parts of the leader and follower domains (Graen & Uhl-Bien, 1995). This review of the literature that explicates this domain will not be exhaustive, but will provide an overview of leader-member exchange theory, its evolution, its significant correlates and its relationship to turnover.

Evolution of Leader-Member Exchange Theory. Leader-member exchange had its inception in the belief that leader style is not an average of how that leader treats all subordinates, more commonly referred to as average leader style. Originally leader-member exchange was called vertical-dyad linkage theory because of the traditional hierarchical view of leadership and followership (Dansereau, Graen, & Haga, 1975). Initial research supported the notion that leaders treat each follower differently. It was felt that leaders had limited resources, such as time and rewards, and surrounded themselves with a few trusted followers who received most of the leader's time and rewards. The other followers received less from the leader and thus had a lower quality relationship with the leader. This differentiation came to be known as the in-group and out-group. The level of analysis was the dyad, the leader and follower.

Validating leader-member exchange association with outcomes and explicating the characteristics of the relationship was the next phase of leader-member exchange research (Graen & Uhl-Bien, 1995). Studies found some relationships to be characterized by unique communication patterns, value congruence, loyalty, decision influence, and affect. Studies in this phase of research also found that some of the organizationally significant correlates of leader-member exchange were: turnover intentions, organizational commitment, organizational citizenship behaviors, procedural and distributive justice, and performance. During this second phase of research is when the theory became known as Leader-Member Exchange theory (Graen, & Uhl-Bien, 1995).

The third phase of research was characterized by a new focus on the processes by which the leader and follower relationship developed, in addition to continued examination of outcomes of leader-member exchange (Graen, & Uhl-Bien, 1995).

Relationship development was found to move sequentially through three stages, role finding, role making, and role implementation. In this phase of research leader-member exchange became a prescriptive theory rather than a descriptive theory. Leaders could be trained to improve the quality of relationships with as many followers as possible. When leaders developed high quality relationships with as many followers as possible individual follower and unit level performance improved.

The fourth phase of leader-member exchange research has examined the construct at different levels in an organization (Graen, & Uhl-Bien, 1995). Groups, networks, and organizations are levels at which leader-member exchange can be analyzed. The relationship between a CEO and a vice-president for operations could be examined to determine if that impacts diffusion of innovation. The relationships between a shop foreman and the members of that work group could be examined to establish if those relationships reduce work place accidents.

Leader-member exchange as Construct and Reality. In its original development, Graen et al. (Graen, & Uhl-Bien, 1995) viewed leader-member exchange as a unidimensional construct. Others (Dienesch, & Liden, 1986; Ford, & Greguras, 2006; Liden & Maslyn, 1998) view leader-member exchange as a multidimensional construct. Dienesch and Liden first proposed that leader-member exchange consisted of three dimensions, affect, loyalty, and contribution. Studies by Liden and Maslyn and Ford and Greguras found support for those three dimensions as well as a fourth, professional respect.

A construct is of course an abstraction. What does leader-member exchange look like in the workplace? The relationship has characteristics that can be examined from

two perspectives, that of leader and of follower (Yukl, 2006). In a high quality relationship a leader provides a follower with challenging assignments, influence in decision-making, extrinsic rewards, support, and career promotion. In exchange a follower provides a higher quantity and quality of work, commitment to accomplishing the leader's goals, loyalty to the leader, and carrying out delegated tasks from the leader. A low quality relationship is characterized by less of all these exchanges.

There can be too much of good thing though. Harris, Kacmar, and Witt (2005) found a curvilinear relationship between leader-member exchange quality and turnover intentions. As quality of relationship improved, turnover intentions decreased until a point at which intentions began to rise. The authors speculate that high quality relationships create more potential for the follower and therefore stimulate turnover intentions. Another possibility is that followers with high quality relationships are overburdened and may view leaving as the only way to reduce their workload.

Organizational Outcomes of High Quality Relationships. In their meta-analysis of leader-member exchange studies, Gerstner and Day (1997) found significant positive correlation between leader-member exchange and objective performance, satisfaction with supervision, overall satisfaction, organizational commitment, and role clarity. Significant negative correlations were found for turnover intentions and role conflict.

There were unexpected findings in this meta-analysis as well (Gerstner, & Day, 1997). There were significant differences between the leaders' and the followers' perceptions of the quality of their relationships. There was a significant positive relationship between a leader's perception of quality of relationship and a follower's performance rating by that leader. There was no significant correlation between a

follower's perception of quality of relationship and a follower's performance rating by that follower's leader. There was also no significant relationship found between quality of relationship and eventual turnover.

Job embeddedness

Job embeddedness is as the name implies a construct which explains the extent to which an individual is embedded in his or her job. Mitchell, Holtom, Lee, Sablynski, and Erez (2001) recognized that there are conditions within the organization that embed an individual and there are conditions outside the organization that embed an individual in his or her job. Those internal conditions are called the organizational dimension and those external conditions are called the community dimension. Each dimension has three sub-dimensions, those of links, fit, and sacrifice.

Job Embeddedness as Construct and Reality. The organizational dimension of job embeddedness consists of three factors or sub-dimensions, which are links, fit, and sacrifice. Links to the organization are those formal and informal connections to people in the organization. Conditions such as having friends at work and being part of a team link an individual to the organization. Fit to the organization is the extent to which the individual shares the goals and values of the organization. There are things that the individual values that he or she would have to sacrifice upon leaving the organization. Things that one might have to sacrifice would be salary and benefits, friendships, position, and future opportunity (Fletcher, 2005).

The community dimension of job embeddedness consists of three factors or sub-dimensions, which are links, fit, and sacrifice. Links to the community are those formal and informal connections to the community. Conditions such as having friends in the

community or belonging to a sports team or community group are all things that link an individual to the community. Fit to the community is the extent to which the individual shares the values and goals of the community. There are things that the individual would have to give up if he or she left the community. Things like schools, friendships, family, and location are things that one would have to sacrifice when leaving the community (Fletcher, 2005). Of course increased community embeddedness can only help prevent turnover that involves leaving the area.

A high level of job embeddedness can serve as a buffer to shocks and dissatisfaction which are precursors to turnover (Holtom, & Inderrieden, 2006; Holtom, Mitchell, & Lee, 2006). Job satisfaction or organizational commitment can be low and stimulate turnover for many reasons. Unlike turnover theories that rely on affective predictors of turnover, job embeddedness is a prescriptive theory. Leaders need specific and accessible levers for influencing turnover. Organizational job embeddedness can be manipulated by increasing the use of work teams or providing work, salary, and benefit flexibility that most employees would not want to sacrifice. Community job embeddedness can also be increased through developing and hiring from the local area, providing opportunities for community involvement, and providing locally specific amenities or benefits that most employees would not want to sacrifice.

It has been asserted that job embeddedness mediates the influence of other factors on employee turnover (Mitchell, Holtom, Lee, Sablynski, and Erez, 2001). To date that assertion has only been tested once. Allen (2006) hypothesized that organizational job embeddedness would partially mediate the influence that 5 forms of socialization tactics have on turnover. That hypothesis was partially supported. Organizational job

embeddedness was found to fully mediate the relationship between only one form of socialization, which was investiture tactics.

There can be too much of a good thing though. Researchers (Mitchell, Holtom, Lee, Sablynski, and Erez, 2001) warn that there may be a thin line between embedded and stuck. Leavitt's (1996) study of a public utility of about 1000 non-unionized employees found that high pay and benefits produced low turnover but that coexisted with low job satisfaction. This may be an example of an over emphasis on one aspect of organizational job embeddedness, that of expected sacrifice of high pay and benefits. Leavitt admitted that this public utility was rare in the public sector in that the leaders of the organization had consciously chosen to become a market leader in pay and benefits. These findings would seem to argue for a balanced approach to increasing job embeddedness, which may well be the only choice available to most public sector organizations.

It is important to distinguish between other constructs and job embeddedness. The original researchers (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001) sought to distinguish between job embeddedness, and its dimensions, and job satisfaction and organizational commitment. First and foremost, job satisfaction and organizational commitment are entirely affective states of mind. These affective states exist for some reason. The inference in most turnover literature is that some organizational condition or conditions influences the affective state. Job embeddedness is much more than an affective reaction to organizational conditions.

Some dimensions of job embeddedness are affective. Fit and sacrifice are affective in nature in that those dimensions measure an individual's reaction to

organizational or community conditions. Links is an entirely objective measure of organizational and community conditions. Links items measure conditions such as the number of work teams on which the individual participates or the number of relatives who live nearby. One item seeks a somewhat subjective assessment in that it asks the number of co-workers who are highly dependent on the individual.

Finally there is empirical support for the assertion that job embeddedness is a construct that is measurably distinct from job satisfaction and organizational commitment. Job embeddedness has been shown to significantly improve the prediction of turnover above the predictive values of job satisfaction and organizational commitment (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001).

Organizational Outcomes and Predictors of Job Embeddedness. Job embeddedness has been found to be negatively related to voluntary turnover (Allen, 2006; Mallol, Holtom, & Lee, 2003; Mitchell, Holtom, Lee, Sablynski, & Erez 2001); negatively related to turnover intention and job seeking behaviors (Fletcher, 2005); negatively related to volitional absences and voluntary turnover and positively related to organizational citizenship behaviors and job performance (Lee, Mitchell, Sablynski, Burton, & Holtom, 2004). Allen, Lee et al., and Fletcher et al., examined the amount of variance that job embeddedness accounted for beyond other correlates and predictors of turnover such as job satisfaction, socialization tactics, and organizational commitment. They concluded job embeddedness was a separate construct from other predictors of turnover, such as job satisfaction, socialization tactics, and organizational commitment, and that job embeddedness explained turnover beyond that explained by these other predictors.

Giosan (2003) examined personality predictors of job embeddedness. The five factor model of personality, or the big five, measures five broad personality characteristics, which are neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness (McRae, & John, 1992). Neuroticism is the extent to which a person displays anger or is depressed and has other generally negative emotional reactions. Extraversion is the extent to which a person displays positive emotions and seeks out the company of others. Openness to experience is the extent to which an individual is open to new ideas or seeks out new experiences. Agreeableness is the extent to which an individual displays compassion for others and is generally cooperative with others. Conscientiousness is the extent to which an individual exercises self-discipline and engages in goal directed behavior.

Agreeableness and conscientiousness were the two personality traits which Giosan (2003) found to predict job embeddedness. This finding contrasts with a meta-analysis examining the personality correlates of job satisfaction across 163 independent samples (Judge, Heller, & Mount, 2002). In that meta-analysis the only two personality traits which generalized across all studies as correlates of job satisfaction were neuroticism ($p = -.29$) and extraversion ($p = .25$). These findings provide further support for the assertion that the job embeddedness construct is distinct from the job satisfaction construct.

Other Constructs Considered and Rejected

Alternative theories to explain turnover exist but have been considered and rejected in this current study. One theory similar to leader-member exchange is perceived supervisor support. A theory similar to job embeddedness is career anchors theory. Both

of these theories have similarities to leader-member exchange and job embeddedness and will be reviewed in this section.

Humans tend to ascribe human attributes to organizations. This personification of the organization makes possible the application of social exchange theory to the employee – employer relationship. Perceived organizational support is the extent to which employees believe the organization values their contributions and supports their personal and professional needs or desires (Rhoades, & Eisenberger, 2002). In exchange for this support in the form of rewards and social support the employee reciprocates with loyalty and hard work. Perceived organizational support is a multi-dimensional construct, and one of those dimensions is perceived supervisor support. This is not surprising when one considers that the most immediate representative of the organization as an entity is one's supervisor.

Perceived supervisor support is a construct that describes the extent to which a supervisor values a follower's contributions and cares about the well being of that follower (Rhoades, & Eisenberger, 2002). Perceived supervisor support has been found to be negatively related to intention to quit (Gagnon, & Michael, 2004) and voluntary turnover (Rhoades, & Eisenberger, 2002).

Within the perceived organizational support literature often supervisor support is operationalized by measuring leader-member exchange (Rhoades, & Eisenberger, 2002). Safety related behavior increases and accidents decrease when employees perceive the organization supports them and when they have a good relationship with their supervisor, when measured as leader-member exchange (Hofmann, & Morgeson, 1999). As an example, in a study of wood production (timber cutting and lumber products) employees

Gagnon and Michael (2004) used leader-member exchange to explain increased organizational citizenship behaviors, self-rated performance, trust, satisfaction, and affective commitment but used a PSS measure to operationalize leader-member exchange as a construct.

If leader-member exchange is viewed as an indicator of perceived supervisor support, it begs the question, "Why not just measure leader-member exchange?" No such contradictions exist within the leader-member exchange literature. In 3 major reviews of leader-member exchange literature (Gerstner, & Day, 1997; Graen, & Uhl-Bien, 1995; Schriesheim, Castro, Cogliser, 1998) no mention of PSS is found. Measuring PSS instead of leader-member exchange increases the likelihood of a misspecification error and is therefore rejected.

Career anchors theory arose from analysis of the relationship between individuals and their organization by Edgar Schein (1971). He viewed the construct of career as a variable that explained a relationship between individual psychological variables and organizational variables. Subsequently Schein (1978, 1985) hypothesized that individuals move through stages of a career and that certain anchors existed at each of these stages. These anchors consist of self-perceptions of talents and abilities, motives and needs, and attitudes and values. Schein viewed these anchors as a means by which the individual organizes previous experiences.

Schein's (1978, 1985) initial research followed MIT graduates longitudinally and qualitatively measured their career experiences and self-perceptions. He found evidence for 5 career anchors, which were: autonomy/independence, security/stability, technical-functional competence, general managerial competence, entrepreneurial creativity.

Subsequent research found evidence for 3 additional anchors, which were: service or dedication to a cause, pure challenge, and lifestyle.

There is limited research on career anchors theory probably because Schein's (1996) intent in assessing career anchors was for use in job and role planning not quantitative research. Schein believes that career anchors should be assessed to allow the individual to more accurately assess the state of his or her career and to better plan that career. Career anchors assessment can be used to better match individuals to jobs within the organization that match the individual's predominant anchor. Career anchors theory might be more appropriately used in a police organization much as it was meant to be used in any organization, for career planning and counseling.

It is interesting to note that in Schein's (1971) early writing he recognized the existence of forces that inhibit leaving an organization in spite of a desire to leave. He casts those forces in a negative light by characterizing the condition as being trapped. Previous review of job embeddedness literature and police turnover literature discussed the potential for entrapment as a consequence of embeddedness or being dissatisfied and staying in a job. Career anchors theory may be a better perspective from which to examine the negative side of embeddedness. The purpose of this research though is to establish the relationships between leader-member exchange, job embeddedness, and job search behaviors, not to characterize individual perceptions of whether embeddedness is an individually desirable or undesirable condition.

Hypothesized Structure of Relationships

A review of the extant literature points to a need for research that offers greater understanding of the relationships between leader-member exchange, organizational job

embeddedness, turnover intentions, and job search behaviors. That literature suggests a structure to those relationships which is illustrated in below in Figure 2.1.
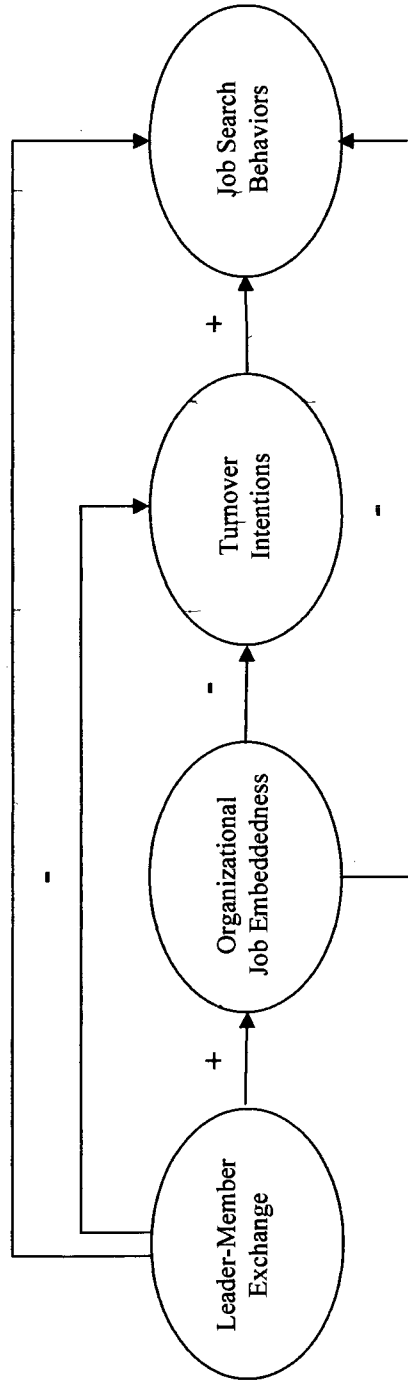
Figure 2.1. Model of relationships between leader-member exchange, organizational job embeddedness, turnover intentions, and job search behaviors.

Leader-Member Exchange Relationships. In their meta-analysis, Gerstner and Day

(1997) found that leader-member exchange was negatively related to turnover intentions.

Turnover is widely viewed as a process that starts with affective reactions to conditions,

which stimulates thoughts of quitting, which stimulates intentions of quitting, which then.

leads to intentions to search, culminating in turnover (Hom, Caranikas-Walker, Prussia,

& Griffeth, 1992; Sager, Griffeth, and Hom, 1998). A logical extension of those findings

is to examine the relationship between leader-member exchange and job search

behaviors. As leader-member exchange decreases turnover intentions and job search

behaviors will increase.

Job Embeddedness Relationships. Job embeddedness researchers have called for

research on the role of the supervisor in embedding an individual in the organization

(Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). It would seem logical that the quality

of the leader – follower relationship would only influence organizational embeddedness

and not community embeddedness. As leader-member exchange increases

organizational job embeddedness will increase.

Research has found job embeddedness to be negatively related to turnover

intentions, job search behaviors, and voluntary turnover (Allen, 2006; Fletcher, 2005;

Lee, Mitchell, Sablynski, Burton, & Holtom, 2004; Mallol, Holtom, & Lee, 2003;

Mitchell, Holtom, Lee, Sablynski, & Erez 2001). Job embeddedness has not been

examined in the public sector or in police organizations where there is a significant need

for better understanding of the antecedents of turnover.

It has been asserted that job embeddedness is a mediating construct between on-

the-job constructs and turnover (Mitchell, Holtom, Lee, Sablynski, & Erez, 2001). Allen

(2006) tested this assertion and found that job embeddedness fully mediates investiture socialization tactics and turnover outcomes. Supervisors are important socialization agents and an analysis of the extent to which job embeddedness mediates a follower's relationship with his or her leader would add to our knowledge of organizational turnover.

Mediation, or as it is sometimes called, indirect effect, explains the relationships between three or more variables. In a mediated model the independent variable is correlated to a dependent variable. The independent variable is also correlated with a mediating variable. That mediating variable is also correlated with the dependent variable. As variation between the mediator and dependent variable is controlled, so as to reduce the relationship, variation between the independent and dependent variables is also reduced. Seldom does a mediator completely mediate, so that reducing the variation between the mediator and dependent variable to zero does not reduce the relationship between the independent and dependent variables to zero. In the social sciences especially there are often multiple mediating variables that influence the relationship between an independent and dependent variable, and completely eliminating the influence of one mediator will not completely negate the relationship between the independent and dependent variables (Barron, & Kenney, 1986).

As discussed previously the role of job embeddedness as a mediator has only been examined in one study (Allen, 2006). In that study job embeddedness was found to mediate the relationship between turnover and only 1 of 6 forms of socialization tactics. Allen's conclusion of complete mediation was however equivocal in that he found partial mediation which was very nearly complete. It would seem that one equivocal finding of

full mediation (Allen, 2006) is insufficient to warrant an hypothesis that organizational job embeddedness fully mediates the relationships between leader-member exchange and turnover intentions and job search behaviors.

Organizational job embeddedness partially mediates the relationship between leader-member exchange and turnover intentions, such that as organizational job embeddedness decreases, the correlation of leader-member exchange with turnover intentions will also decrease. Organizational job embeddedness also partially mediates the relationship between leader-member exchange and job search behaviors, such that as organizational job embeddedness decreases, the correlation of leader-member exchange with job search behaviors will also decrease.

Turnover Intentions Relationship. Intentions to quit have been found to be predictive of actual turnover ((Hom, Carnikas-Walker, Prussia, & Griffeth, 1992; Mobley, Horner, & Hollingsworth, 1978; Steel, Ovale, 1984). Turnover is most often the result of actions taken to seek another job and those job search behaviors have been found to be as predictive of turnover as intentions (Griffeth, Hom, & Gaertner, 2000). Logically one would expect turnover intentions to be positively related to job search behaviors. As turnover intentions increase job search behaviors will increase.

Hypothesis. Each of the previously hypothesized relationships is interrelated and those interrelationships are best represented by the hypothesized model shown in Figure 2.1.

H1:   The structure of relationships illustrated in Figure 2.1 will best fit the data.

Summary

A review of the extant literature has found that the constructs of leader-member exchange, job embeddedness, turnover intentions, and job search behaviors and their logical relationships would likely improve our understanding of turnover in a police organization. The structure of these relationships was illustrated in a model (Figure 2.1) which was hypothesized as being the best fit to the data. The following sections will describe the methodology used in this research, the results of analysis of data obtained, and a discussion of those results, and a conclusion.

METHOD

This research made use of a single panel survey research design methodology to explore the relationships between leader-member exchange, job embeddedness, turnover intentions, and job search behaviors. The study examined primary data obtained from officers in the SPD. Primary data were obtained using an anonymous paper and pencil survey administered to all police officers in the SPD. Consideration was given to online survey administration but that was rejected due to limited availability of computer work stations for the majority of police officers who work in patrol cars in the field. It was felt that this type of data collection placed the least burden on SPD and was likely to produce the highest response rate.

Participants

The primary concern in terms of turnover in the SPD is for the ranks below that of Sergeant. SPD has a career development program that stratifies the police officer rank based on seniority, education, and varied experiences. This is a form of career progression and not a competitive promotion. The participants in the study are Police Officers below the rank of Sergeant in the SPD. There are 292 authorized Police Officer positions in the SPD. At the time of this survey, due to turnover or other lengthy absences, only 276 officers were available from which to draw the sample. Of that sample frame 128 officers (46 %) completed usable surveys.

Power Analysis

The population examined in this research is that of police officers in SPD. This population is small enough to allow for inclusion of the entire population as the sample frame. Sample size is critical in reducing the likelihood of type II error, but is practically

limited in this case. Even though the entire sample frame of 276 officers in the SPD was to be surveyed, it was important to determine if the study would have sufficient power to find statistically significant relationships as hypothesized.

Power and minimum sample size for this research must be examined through the lens of structural equation modeling (SEM). The sample size needed for testing a structural model can be estimated based on the number of degrees of freedom in the model using a formula proposed by MacCallum, Browne, and Sugawara (1996). Degrees of freedom are computed using the formula [df = p (p+1)/2-q]. In this formula p represents the number of manifest or observed variables and q represents the number of distinct parameters to be estimated in the model. In the measurement model tested there are 14 observed parcels, which are far fewer than the number of items in the instruments which measure these constructs. The rationale and techniques for parceling will be described in more detail later in this section. The number of distinct parameters measured in this structural model was 34.

For this structural model then *df* = 14(14+1)/2-34, or 71 degrees of freedom. MacCallum et al. provide a table with levels of degrees of freedom and the corresponding minimum sample size to achieve a power of .80 for a test of close fit to the data. In that table 70 degrees of freedom requires a minimum sample size of 168 and for 75 degrees of freedom a sample size of 161. MacCallum et al. also provide a table of sample sizes necessary for tests of exact fit which indicates that a model with 70 degrees of freedom would require a minimum sample size of 123 to achieve a power of .50 and 200 to achieve a power of .80. In the best case outcome a sample size of 128 provides only a 50 percent chance of correctly rejecting the null hypothesis.

Data Collection Procedures

On October 23, 2008 and November 10, 2008 the principal researcher met with officers who were on duty, either during their initial shift briefing or at their work offices, and explained the purpose of the research and requested that they complete the survey. Survey packets were given to these officers in person by the principle researcher. Each packet contained a cover letter (Appendix A) on university department letterhead stationary which explained the importance of the research, a paper survey (Appendix B), and an envelope in which to seal the completed survey. Approximately 63 percent, or 99 of the 176 officers on duty those two dates, chose to participate and returned surveys to the researcher.

There were 120 officers who were not on duty those days and a survey packet, which contained a cover letter, a survey instrument, and a self addressed stamped envelope, was left with their supervisors to deliver when the officer returned to duty. For five days starting on November 19, 2008 a message (Appendix C) from the principal researcher thanking officers who participated and asking that those who received mail in surveys complete those surveys was included in SPD's daily report which is read to each officer at the start of duty. As of December 3, 2008, 29 surveys had been returned by mail. That number represents a 24 percent return rate for mail in surveys. Overall the return of 128 surveys represents a return rate of 46 percent.

Several strategies were implemented to improve response rates and reduce non-response bias. Approximately one week prior to the beginning of the research the SPD's senior leaders distributed a memorandum (Appendix C) informing officers explaining the purposes of the research and their support for the research. The memorandum made it

clear that participation was voluntary and guaranteed anonymity for every individual who

chose to participate. When meeting with officers the principal researcher made a point of

stressing that the cover letter contained the name, email address, and phone number of the

Chair of the College of Business & Public Administration Committee for Review of

Human Subjects should they have any concerns over the ethical conduct of the research.

Surveys were returned to the researcher in a sealed envelope. Return mail envelopes

contained no sender identification and were addressed to the office of the Department of

Urban Studies and Public Administration, Old Dominion University.

Measures

Hypothesis testing requires that variables be operationalized through some

method which allows observation of the relational phenomenon. In this research the

variables will be operationalized through survey items that have previously been shown

to be both valid and reliable.

All variables were measured at the same time. It is felt that anonymity stimulated

greater candor from the respondents and reduced common methods variance due to social

desirability, negative affectivity, and acquiescence (Podsakoff, MacKenzie, Lee, &

Podsakoff, 2003; Spector, 2006). The survey instrument has a variety of response

formats, with some items requiring fill in the blank, some requiring a yes or no response,

and some requiring selection of Likert scaled responses, and as such should reduce same

method bias as recommended by Podskoff, et al, and Spector.

Four valid and reliable scales were used to gather data for this research. Each

instrument has been found to be a valid and reliable measure of the construct it purports

to measure. Items in each of these scales have different modes of response which will

reduce the likelihood of common methods variance.

Leader-Member Exchange Measure. Leader-member exchange was measured using the Leader-Member Exchange-7 (LMX-7 see Appendix A). This instrument was developed by Graen, Novak, and Sommerkamp (1982) and was further modified by Graen and Uhl-Bien (1995). The respondent is asked to respond to questions about the character of his or her relationship with a supervisor. In their review of 25 years of leader-member exchange research Graen and Uhl-Bien found Chronbach alphas ranged between .80 and .90 and the LMX-7 was found to have both discriminant and convergent validity. In their meta-analysis Gerstner and Day (1997) found a mean sample-weighted alpha of .85 for leader-member exchange measures.

Job Embeddedness Measure. A 40 item job embeddedness survey developed by Mitchell, Holtom, Lee, Sablynski, and Erez (2001) was used in the SPD (se Appendix A). Job embeddedness is an index score of two dimensions, organization and community. The sub-dimensions are assessed to determine the extent to which an individual is linked to the organization and community, fits with the organization and community, and the sacrifices that an individual would have to make if he or she left the organization or community.

Organizational job embeddedness measures consist of 10 agreement type scale items that measure fit, 10 agreement type scale items that measure sacrifice, and 7 fill in the blank items that measure links. The agreement type scales are used to report the respondent's perceptions such as the being similar to her coworkers or having values compatible with those of the organization. The fill in the blank items solicit specific information such as the length of time the respondent has been in her current assignment

or in the profession.

The job embeddedness survey instrument has been found to be both reliable and valid. Lee, Mitchell, Sablynski, Burton, and Holtom (2004) report that α's = .84 for organizational job embeddedness. Other studies report α's in the range of .80 to .93 (Fletcher, 2005; Mitchell, et al. 2001). Lee et al. (2004), Mitchell et al. (2001), and Fletcher (2005) all report correlational analyses that support both convergent and discriminant validity for the measure.

Turnover Intentions Measure. Three items from the Michigan Organizational Assessment Questionnaire (MOAQ) that measure intention to turnover were used (Cammann, Fichman, Jenkins, & Klesh, 1983). Two items ask for responses on a seven-point agreement type scale anchored by strongly disagree and strongly agree to statements concerning thoughts of quitting and that the respondent will likely seek another job. The final item is a question that asks for a response on a seven-point agreement type scale anchored by not at all likely and extremely likely. This question assesses a respondent's intent to actively seek another job within one year. Using this measure Shaw (1999) found turnover intentions to be negatively related with job satisfaction, and that relationship was stronger for individuals with high positive affect than for those with low positive affect. Shaw reported that α = .83.

Job Search Behavior Measure. The 16 item Job Search measure developed by Blau (1993, 1994) was adapted for use in the SPD. This measure asks the respondent to report job search behaviors that he or she has engaged in during last 6 months. It is felt that measuring this variable for a 3 month period would reduce variance and that extending that period to 12 months would increase the likelihood of reflective bias (Blau,

1993). Six items measure preparatory job search behaviors, 6 items measure active job search behaviors, and 4 items measure job search effort. Items describe behaviors such as sending a resume to a prospective employer, contacting an employment agency, and devoted effort toward looking for a job. The measure asks the respondent to mark the frequency of behaviors from 1 = Never (0 times) to 5 = Very frequently (6-9 times). In a sample of registered nurses and insurance employees, Blau (1993) found an α for preparatory job search of .81 and .80; for active job search of .80 and .83; and general effort of .76 and .74, respectively. Two items were modified to reflect use of the Internet, which has increased significantly since Blau's measure was developed in 1992.

Demographic Measures. Demographic data were collected. Each survey respondent was asked to identify race, gender, and ethnicity (Latino or non-Latino). Demographic data for all Police Officers were obtained from SPD. These data contained the numbers of officers currently in the organization and their numbers and percentages by race, gender, and ethnicity. These data allowed for testing for significant differences between racial and gender groups for each of the research variables.

Analytic Strategy Overview

A variety of statistical methods were used in this research. Descriptive statistics are provided. Differences between participants' race, gender, and method of response (in person vs. mail in) were examined using t – tests. The previously described statistical methods were conducted using SPSS 16.0. A two stage method of structural equation modeling, with AMOS 16.0, was used to test the measurement model and the hypothesized structural model (Figure 2.1), and nested models.

Survey Response Bias Analysis. Response bias is a potential threat to validity of

any research based on survey responses. Response bias exists when the responses of non-respondents would significantly change the results of the survey (Rogelberg, & Stanton, 2007). In other words the respondents are not representative of the population. A recent review of nine management journals found only 30 percent of studies based on voluntary survey responses reported response bias analyses (Werner, Praxedes, & Kim, 2007).

Analyses were conducted to examine for the possibility of response bias. Rogelberg and Luong (1998) recommend several strategies for analyzing for non-response bias. No one method is without its flaws and Rogelberg and Luong recommend achieving convergence though use of multiple strategies. It was possible to use only 2 strategies to assess non-response bias in this study. Responses of those surveys completed and returned in person were compared for significant differences with those surveys completed and returned by mail using a *t* test. Those who did not fully complete the links portion of the organizational job embeddedness items were compared using a *t* test against those did fully complete that section of the survey instrument.

Demographic Comparisons. Demographic data were gathered and are reported to provide a description of the respondents and to allow for tests of significance. Demographic data for the sample frame and for respondents are reported as descriptive statistics. Each variable was examined for significant differences by race and gender using a *t* test. Too few respondents answered the item assessing Latino ethnicity to allow for meaningful comparisons. Further comparisons by demographic combination (i.e., white male, white female, black male, black female, etc...) were not possible due to the small numbers of respondents in some of the categories.

Two-Stage Structural Equation Model Testing

It is hypothesized that the model illustrated in Figure 2.1 will best fit the data. A two stage method, similar to that described by Anderson and Gerbing (1988), was used to test that hypothesis. In the first stage the measurement model was tested, and in the second stage the structural model and nested models were tested using structural equation modeling.

Fit Indices. Model goodness of fit was assessed by statistics Ch-square (X^2), normed fit index (NFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). The null hypothesis states that the model being tested is valid, i.e., a non-significant X^2 indicates a good fitting model (Kline, 2005). The NFI (Bentler, & Bonett, 1980) compares the hypothesized model with the independence, or null model, which assumes no covaraiances between variables for the population (Kline). Because the NFI can underestimate fit in small samples (Byrne, 2001), such as the sample for this research, the CFI was also used. The CFI, like the NFI, compares the hypothesized model to the independence model but is not sensitive to sample size (Bentler, 1990). Values for the NFI and CFI range from 0 to 1.0. Values approaching .95 indicate superior fit (Hu, & Bentler, 1999). Finally, RMSEA measures how poorly the model fits the data, with a score of 0 being a perfect fit (Kline). RMSEA takes into account parsimony in that it will favor the simpler model among models with the same explanatory power. Values of RMSEA of less than .08 indicate good fit, between .08 and .10 indicate moderate fit, and above .10 indicate poor fit (MacCallum, Browne, & Sugawara, 1996).

Item Parceling. Item parceling is a method used to reduce the number of indicator

variables used in the measurement and structural model analyses. Scale level items are combined into item parcels that contain more than one scale level item. Some consider item parceling to be controversial (Little, Cunningham, Shahar, & Wildman, 2002), but it is generally accepted as sound because the practice increases parsimony, reduces the number of estimated parameters, and increases model fit. When sample sizes are small parceling reduces the number of parameters measured in the model (Bagozzi & Edwards, 1998; Bagozzi & Heatherton, 1994). In this research two constructs, leader-member exchange and turnover intentions are unidimensional, and job embeddedness and job search behaviors are multi-dimensional. The turnover intentions variable is measured at the scale level with only 3 items and was not parceled.

For multi-dimensional constructs Little et al. recommend a domain representative approach to parceling. Domain representative parceling involves equally dividing items from each construct sub-dimension into each parcel. This approach was found by Kishton and Wildman (1994) to be a more stable and better fit of the data they tested. Each parcel will contain an equal number of separate construct sub-dimension items, unless there are an odd number of items. If a construct consists of four sub-dimensions (A, B, C, D) and each sub-dimension consists of three items (A1, A2, A3, B1, B2, B3, etc....) the construct can be represented by three parcels (P1, P2, P3) of four items each, i.e., P1 would consist of A1, B1, C1, D1; P2 would consist of A2, B2, C2, D2; etc.... Kishton and Wildman though provide no guidance on how to decide on the appropriate number of parcels. It was decided to conduct several confirmatory factor analyses (CFA) using AMOS to determine which number of parcels produced the best fitting measurement model for each variable.

Unidimensional constructs can be parceled using a variety of techniques (Bandalos, 2002: Kim & Hagtvet, 2003; Kishton & Widaman, 1994). In one technique items are randomly assigned to the parcels. In a second technique, called item to construct balance, items are assigned to parcels based on their factor loadings, in an attempt to balance the indicators of the latent variable. A third technique, called the congeneric method, assigns items to parcels based on the similarity of their factor loadings and item content similarity. The congeneric technique has been found to be a superior method for constructing item parcels for unidimensional variables (Fletcher, 2005).

Leader-member exchange was parceled using the congeneric technique. Leader-member exchange consists of seven items and the confirmatory factor analysis (CFA) using seven indicators was not a good fit. Organizational job embeddedness is a multi-dimensional construct which consists of three sub-dimensions, which are fit with 10 items, links with 7 items, and sacrifice with 10 items. A CFA was conducted using 27 indicators which was not a good fit. Job search behaviors is a multi-dimensional construct which consists of three sub-dimensions of preparatory behaviors with 6 items, active behaviors with 6 items, and effort with 4 items. A CFA was conducted using 16 indicators which was not a good fit. For each of the multidimensional variables, models consisting of 3, 4, and 5 parcels were tested, and in each case the best fitting model was found to consist of 4 parcel indicators. The variable turnover intentions was not parceled because it consists of only 3 items. Scales and their corresponding parcels are shown in Table 3.1.

Table 3.1

Distribution of Scale Items to Parcels

Scale	Parcel 1 Items	Parcel 2 Items	Parcel 3 Items	Parcel 4 Items
LMX	2, 4	3, 7	1, 6, 5	N/A
OJE	F 1, 5, 9 S 3, 7 L 1, 5	F 2, 6, 10 S 4, 8 L 2, 6	F 3, 7 S 1, 5, 9 L 3, 7	F 4, 8 S 2, 6, 10 L 4
JSB	P 1, 5 A 3 E 1	P 2, 6 A 4 E 2	P 3 A 1, 5 E 3	P 4 A 2, 6 E 4

Note. Abbreviations are: LMX = Leader-Member Exchange, OJE = Organizational Job Embeddedness, JSB = Job Search Behaviors, F = Fit, S = Sacrifice, L = Links, P = Preparatory, A = Active, E = Effort.

Summary

A survey was administered in the SPD, in which 46 percent of the population of police officers responded. Measures for leader-member exchange, organizational job embeddedness, turnover intentions, and job search behaviors were used in the survey. The data collected were analyzed to develop descriptive statistics and to examine for differences based on race, gender, or response method. Scale level items were parceled in order to reduce the number of parameters in the measurement and structural models where were tested through a two stage process using structural equation modeling. The results of these analyses are presented in the Results section that follows. Those results are discussed and conclusions are drawn from those discussions following the Results section.

RESULTS

Data were first screened for normality, outliers, linearity, homoscedasticity, and missing data (Kline, 2005). Table 4.1 below lists the mean, standard deviation, skewness, kurtosis, and intercorrelations for each variable, which consist of the scale items from the measures. As can be seen turnover intentions and job search behaviors are not normally distributed.

Turnover intentions were measured using 3 agreement type items (see Appendix A). The agreement scale ranged from 1, strongly disagree to 7, strongly agree. The mean score for turnover intentions was 3.84 out of a possible maximum score of 7, with a standard deviation of 1.71. That means that about 84 percent of the respondents scored 5.55 or below, which corresponds to at most only slightly agreeing. So, in this sample, only 16 percent of the respondents agreed or strongly agreed that they intend to leave the SPD.

Job search behaviors are less common than are intentions to turnover. Job search behavior (see Appendix A) is measured with 16 items which ask for agreement on the extent to which the respondent engaged in a particular job search behaviors within the last six months. The agreement scale ranges from 1, never (0 times) to 5, frequently (at least 10 times). The average job search behavior score was 24.37 out of a possible maximum score of 80, with a standard deviation of 9.60. That means that about 84 percent of the respondents scored 33.97 or less. So, in this sample, 84 percent of the respondents scored on average 2.12 per item, which represents having only engaged in those job search behaviors on average only rarely (1 to 2 times) during the last 6 months.

Table 4.1.

Variable Mean, Standard Deviation, Skewness, Kurtosis, Inter-correlations, and Alpha Coefficient.

Variables	M	SD	Skewness	Kurtosis	1	2	3	4
1. Leader-Member Exchange	3.50	0.98	-.45	-.60	.93			
2. Organizational Job Embeddedness	3.84	0.95	.50	1.62	.36**	#		
6. Turnover Intentions	3.84	1.71	.74	-.66	-.29**	-.43**	.91	
4. Job Search Behaviors	24.37	9.60	1.36	1.49	-.23**	-.42**	.68**	.93

Note. N =128, ** Correlation is significant at the 0.01 level (2-tailed). Coefficient alpha is in the diagonal. # Different scale metrics do not allow for computing a coefficient of alpha for Organizational Job Embeddedness.

It was decided not to transform any data to achieve a more normal distribution. Unstandardized regression weights have practical value in that they allow the researcher to demonstrate that for a given amount of change in one variable a given amount of change can be expected in the other variable. While that is a purely mathematical ratio it has value for the practitioner who is tasked with developing programs to improve outcomes and often has to prioritize in order to achieve the best possible return on effort. Transforming data makes that ratio less meaningful for the practitioner. Related to normality are outliers, linearity, and homoscedasticity. All of these characteristics were found to be within acceptable ranges and it was not necessary to remove any outliers.

Maximum likelihood estimation is a method of estimating structural equation models which has shown to be robust with regard to violations of multivariate normality, but it has been noted that kurtosis creates a greater potential for biased results than does skewness (Decarlo, 1997; McDonald & Ho, 2002). Univariate normality for skewness and kurtosis and multivariate normality for kurtosis were assessed using AMOS (Arbuckle, 2007). Table 4.2 provides the normality analyses results for the measurement model parceled items. Critical ratios greater than 2.0 are considered significantly different from normal distributions. Using AMOS, model fit can be assessed using the Bollen-Stine bootstrap method, which corrects for non-normality in the data (Arbuckle, 2007; Hancock & Nevitt, 1999). In 2000 bootstrap samples, the measurement model fit better in 1693 of those samples and not well or not at all in 307 samples. The null hypothesis that the model is correct has a $p = .15$. Therefore this measurement model is not rejected and it is judged to provide an acceptable fit to the data. Measurement model fit indices are discussed in more detail later in this section.

Table 4.2

Measurement Model Variable Minimum, Maximum, Skew, Kurtosis, and Critical Ratios for Parceled

Variables.

Variable	Minimum	Maximum	Skew	C.R.	Kurtosis	C. R.
TI1	1.00	7.00	.594	2.746	-.953	-2.200
TI2	1.00	7.00	.826	3.816	-.701	.1.618
TI3	1.00	7.00	.932	4.304	-.118	-.272
OJEP1	1.476	6.245	-.847	-3.914	.816	1.885
OJEP2	1.075	5.087	-.502	-2.320	.278	.643
OJEP3	1.086	5.164	-.502	-2.318	.032	.075
OJEP4	2.000	12.667	1.247	5.761	3.581	8.269
JSBP1	4.000	18.000	1.370	6.326	1.381	3.189
JSBP2	4.000	15.000	1.229	5.678	1.084	2.503
JSBP3	4.000	14.000	1.475	6.814	1.901	4.390
JSBP4	4.000	15.000	1.312	6.059	1.134	2.619
LMXP1	1.000	5.000	-.413	-1.906	-.848	-1.958
LMXP2	1.000	5.000	-.394	-1.821	-.555	-1.283
LMXP3	1.000	5.000	-.309	-1.428	-.574	-1.326
Multivariate	---	---	---	---	34.753	9.288

Note, N = 128. Abbreviations: TI = Turnover Intentions, OJEP = Organizational Job Embeddedness Parcel, JSBP = Job Search Behaviors Parcel, LMXP = Leader-Member Exchange Parcel, C.R. = Critical Ratio.

Data were screened for missing values. With two exceptions missing values appeared to be missing completely at random and likely the result of inattention during completion of the survey. Following analysis of differences between those who appeared not to provide data at random and those who fully completed the survey, missing data was replaced using mean substitution for one category of missing data and the other category was excluded from further analysis. Those data and procedures are described below.

The organizational job embeddedness links sub-dimension is measured with some items which ask the respondent to fill in the blank with the number of people who rely on the respondent, for example the number of work teams on which the respondent serves. A total of 22 respondents failed to provide at least one of the fill in the blank organizational job embeddedness links items. A new variable was created designating those who provided all links data and those who did not. A *t* test indicated that for the research variables there were no significant differences between these groups. Mean substitution was used to replace the missing values for organizational job embeddedness links.

Just over half the respondents, 66 of 128, chose not to indicate Latino or non-Latino ethnicity. The reason for this is unknown but it can hardly be characterized as a random occurrence. As with organizational job embeddedness links, those who responded were coded as a group and those who did not respond were also coded as another group. A *t* test indicated that for the research variables there were no significant differences between these groups. Only 3 of the 62 who responded to this item identified themselves as Latino so for the foregoing reasons this demographic distinction was not

included in any further analysis.

Descriptive Statistics

Participants were reasonably representative of the population of police officers in SPD. Table 4.3 compares participants and the population by race and gender and Table 4.4 compares participants and population by race and gender combinations. Males overall, and white and black males are slightly underrepresented. Females overall, and white females are overrepresented. Following sections will explore the significance of participant distributions and differences between these demographic groups for the research variables.

The results could also be biased if the participants are significantly different from the population. Race and gender are two characteristics that allow for comparisons of participants and population. In this research participants were asked to identify race and gender and those distributions were compared to racial and gender distributions for the population in Tables 4.3 and 4.4 in the Descriptive Statistics section. Race and gender are categorical variables and can be compared in a 2 X 2 table. With an N of 128 (125 for race/gender combinations due to missing data and limited numbers of participants classified as Other) it is important to use a statistical test that is accurate.

A chi-square test would not be appropriate with a sample size this small. The expected frequency for each cell should be high enough to allow accurate approximation. Many researchers use 5 as the lowest number for any cell's expected frequency in a 2 X 2 table as a rule of thumb. It has been found though that the minimum expected frequency for any cell varies with sample size and skewness of the variable distributions (Andres, & Tejedor, 2000). Using tabular data provided by Andres and Tejedor this sample, with its

distribution of these categorical variables, would require a minimum cell expected

frequency of at least 12 in order for the chi-squared test to be accurate. Black females

comprise 4 percent of the population of SPD officers and the expected frequency in the

sample, with an $N = 125$, would be 5. It is recommended that the Fisher's exact test be

used under these circumstances.

The Fisher's exact test of significance gives the probability that a particular

distribution would occur by chance. With the distribution seen in Table 4.4 for

demographic combination of race and gender (for black and white, male and female) the

exact significance (1 − sided) $p = .530$. In other words there is an exact probability of 53

percent that this distribution is a result of sampling chance. The distribution of

participants' race and gender is not significantly different than that of the population of

SPD officers.

Table 4.3

SPD Officer Sample and SPD Officer Population Demographic Numbers*/Percentages**

Group	Male	Female	White	Black	Other
SPD Population	246/89%	30/11%	210/76%	56/20%	10/4%
SPD Sample	104/84%	21/16%	103/81%	22/17%	2/2%

Note, $N = 127$ *One participant did not identify race. **Percentages are rounded. Numerator = number of participants/ Denominator = percentage of total participants.

Table 4.4

SPD Officer Population and SPD Officer Sample Demographic Combinations
Numbers*/Percentages**

Group	W/M	W/F	B/M	B/F	O/M	O/F
SPD Population	191/69%	19/7%	46/17%	10/4%	9/3%	1/0%
SPD Sample	86/67%	17/13%	18/14%	4/3%	2/2%	0/0%

Note, N = 127 *One participant did not identify race, **Percentages are rounded, Numerator = number of participants/ Denominator = percentage of total participants. Abbreviations: W/M = White Male, W/F = White Female, B/M = Black Male, B/F = Black Female, O/M = Other Male, O/F = Other Female.

Demographic Comparisons

In that there were slight differences in response rates for different demographic groups, those groups were compared to determine if their variable values for turnover intentions, job search behaviors, and organizational job embeddedness. White and Black groups and male and female groups were compared using independent samples *t*-tests. The number of participants in demographic sub-groups other than white, black, and male is too small for analysis of variance in those groups for the research variables.

No significant differences were found between Whites and Blacks for any of the variables measured. The only significant differences found between males and females were for the values of organizational job embeddedness. Independent samples *t* tests, which did not assume equal variances, were conducted and are reported in Table 4.5.

Table 4.5

Means and Standard Deviations for Males and Females for Organizational Job Embeddedness and t Test Results

	Organizational Job Embeddedness		t Test Results		
	M	*SD*	*t*	*p*	95% CI
Male	3.89	.97			
			(35.02)=2.43	.02	.07 to .84
Female	3.43	.74			

Note, N = 128.

Response Bias Analysis

A variable was created which categorized participants as either having completed the survey in person or having returned the survey by mail. A *t*-test was conducted for turnover intentions, job search behaviors, and organizational job embeddedness in which any differences were non-significant.

Reliabilities of Measures

The internal consistencies for the scale items, which were parceled to create indicator variables included in the measurement and structural models, were estimated and are reported in Table 4.1. All alphas exceed .90 and indicate acceptable internal consistency.

Model Testing

AMOS 16.0 was used to first conduct a confirmatory factor analysis of the fit of the measurement model and then to examine the fit of the hypothesized structural model and alternative nested models.

Measurement Model Testing. The measurement model depicted in Figure 4.1

was tested using maximum likelihood estimation. As previously described, indicators

were constructed from items for each of the measures that were parceled into each

indicator. The measurement model was a good fit to the data. Fit indices were χ^2 (71) =

101.80, $p < .01$, NFI = .95, CFI = .98, and RMSEA = .06. The χ^2 is significant however

the normed chi-square (χ^2_M/df_M) was 1.57, which is well below the lowest value of 2.0

routinely recommended (Kline, 2005). The means, standard deviations, and

intercorrelations for parceled indicators are contained in Appendix D. This matrix was

analyzed to test the measurement and structural models.
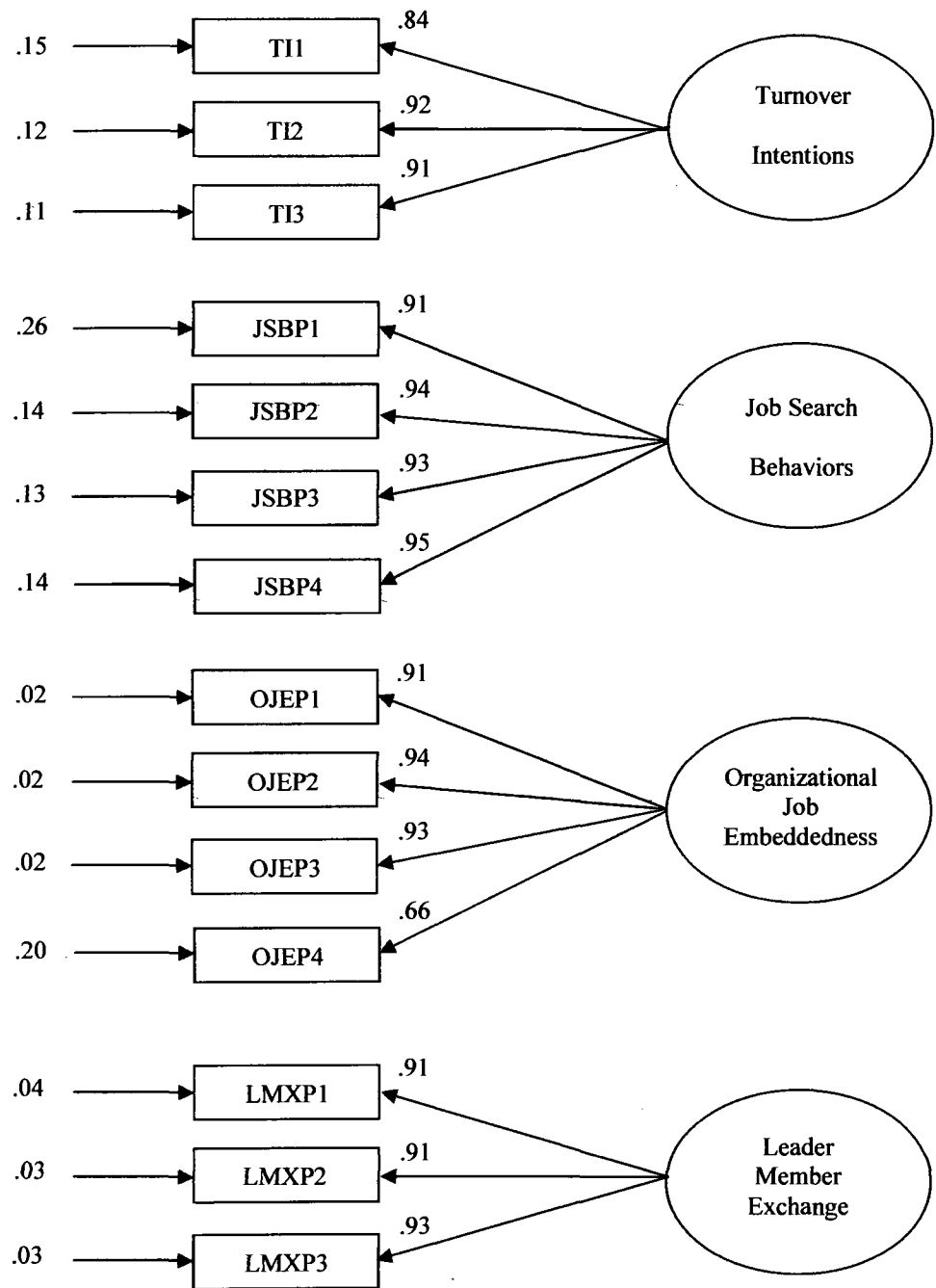
Figure 4.1. Full latent variable measurement model with standardized estimates. All paths are significant, $p < .05$.

$\chi^2 (71) = 101.80, p < .01$, NFI $= .95$, CFI $= .98$, and RMSEA $= .06$

Saturated Structural Model Testing. Hypothesized Model: The saturated

structural model depicted in Figure 4.2 was tested using maximum likelihood estimation.

In a saturated structural model all paths are estimated and in this case the saturated

structural model is the hypothesized model as well. As is indicated in the figure, the

paths from leader-member exchange to turnover intentions, leader-member exchange to

job search behaviors, and organizational job embeddedness to job search behaviors were

non-significant. The hypothesized model is a good fit to the data. All directional

relationships were as previously hypothesized. Fit indices were χ^2 (71) = 101.80, $p < .01$,
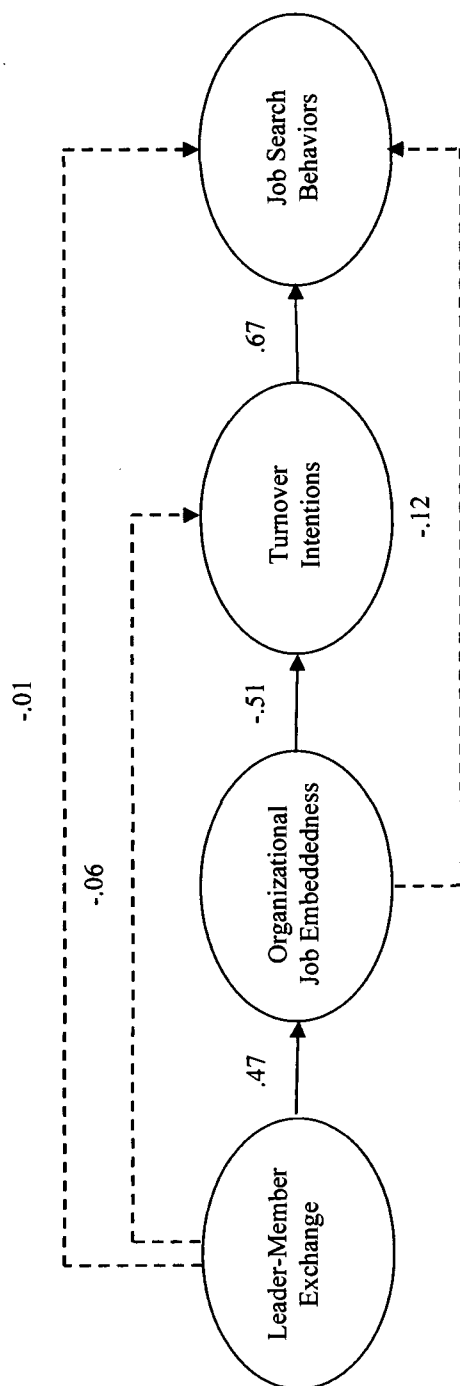
NFI = .95, CFI = .98, and RMSEA = .06.

Figure 4.2. Saturated structural model with standardized estimates. Dashed lines are non-significant paths. All other paths are significant, $p < .05$.

$\chi^2 (71) = 101.80, p < .01$, NFI $= .95$, CFI $= .98$, and RMSEA $= .06$.

Nested Model Testing. Four nested models were tested using maximum likelihood estimation. The fit indices for each of these models will be compared against the fit indices of the hypothesized model in the following section.

Gerstner and Day (1997) propose that leader-member exchange affects turnover through other attitudinal factors. It is reasonable to believe that organizational job embeddedness might also serve as a factor through which leader-member exchange could influence turnover. Three successive models constrained paths from the exogenous variable leader-member exchange to 0. Nested Model 1 constrained the path from leader-member exchange to turnover intentions. Nested Model 2 constrained the path from leader-member exchange to job search behaviors. Nested Model 3 constrained both paths from leader-member exchange to turnover intensions and job search behaviors.

In their meta-analytical structural equations analysis of turnover models, Hom, Caranikas-Walker, Prussia, and Griffeth (1992) found support for a model of turnover which consisted of a causal chain from dissatisfaction to withdrawal cognitions, to turnover. It is logical to interpose job search behaviors, which were not measured in any of the studies included in the Hom et al. analysis, between withdrawal cognitions and turnover. If the turnover process is a causal chain as found in this research by Hom et al. it is also logical to believe that organizational job embeddedness influences job search behaviors through turnover intentions and not directly. Therefore Nested Model 4 constrained to 0 all the paths constrained in Nested Models 1, 2, and 3, as well as the path from organizational job embeddedness to job search behaviors. Nested Model 4 then represents a causal chain flowing from leader-member exchange to organizational job embeddedness, from organizational job embeddedness to turnover intentions, and from

turnover intentions to job search behaviors.

Comparison of Hypothesized and Nested Models. Model fit was compared using a series of sequential chi-square difference tests (Anderson & Gerbing, 1988; Bentler & Bonnet, 1980). Table 4.7 depicts the results of a series of sequential chi-square difference tests which compare the fit statistics for the hypothesized and nested models. There is no statistically significant difference in the fit of any of the models.

Table 4.6

Comparison of Hypothesized Model with Nested Models

Model	χ^2	df	$\Delta\chi^2$	Δdf	NFI	CFI	RMSEA
Hypothesized	101.80	71	---	----	.95	.98	.06
Nested #1	102.20	72	.40 ns	1	.95	.98	.06
Nested #2	101.90	72	.10 ns	1	.95	.95	.06
Nested #3	102.27	73	.47 ns	2	.95	.98	.06
Nested #4	104.51	74	2.71 ns	3	.94	.98	.06

Note. $N = 128$. Abbreviations: ns = Non-Significant, NFI = Normed Fit Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation.

The fit indices for all the models analyzed indicate a good fit of the models to the data. Fit should also be analyzed from a practical as well as a statistical perspective (Anderson & Gerbing, 1988). Given this statistical equivalence the practicality of parsimony should guide our choice. Nested Model 4, which is illustrated in Figure 4.3,

is the most parsimonious of the models. This model indicates a path from leader-member exchange to organizational job embeddedness, from organizational job embeddedness to turnover intentions, and from turnover intentions to job search behaviors.
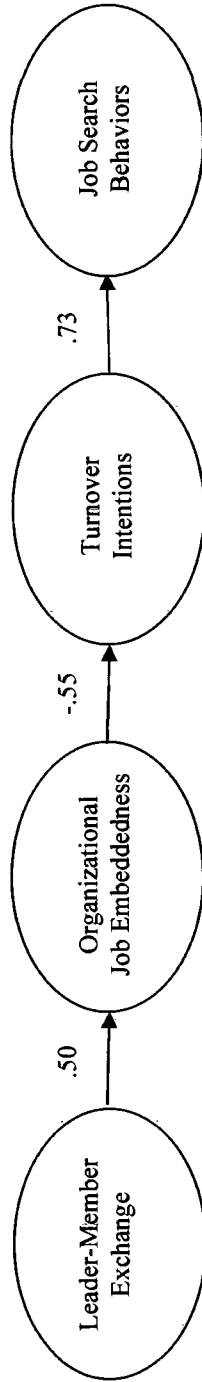
χ^2 (74) = 104.51, p < .02, NFI = .94, CFI = .98, and RMSEA = .06

Figure 4.3. Nested Model 4 with standardized estimates. All paths are significant, p <.05.

Explained Variance. Squared multiple correlations, or the amount of variance

explained by each variable's predictors, for Nested Model 4 are contained in Table 4.8.

Table 4.7
Multiple Correlations for Variables in Nested Model 4

Variable	Multiple Correlation
Organizational Job Embeddedness	.22
Turnover Intentions	.29
Job Search Behaviors	.53

Note, N = 128.

Nested Model 4 obviously does not explain all the variance of its constituent variables.

The error variance, i.e., the influence of other predictors, explains 78 percent of variance

in organizational job embeddedness, 71 percent variance in turnover intentions, and 47

percent of the variance in job search behaviors.

Hypothesis Judgment. It was hypothesized that the model depicted in Figure 2.1

would be the best fit to the data. The hypothesized structural model and 4 nested models

were tested for fit. There was no statistically significant difference between any of the

tested models. There was however a practical difference in that Nested Model 4 was the

most parsimonious of the models tested.

Summary

A survey instrument was administered to police officers in SPD. A response rate

of 46 percent was achieved, $N = 128$. The sample was not significantly different from the population of police officers in the SPD. Females' scores for organizational job embeddedness were significantly lower than those of males. No differences were found between in person or mail in survey response. Hypothesized measurement, saturated structural, and nested models were tested through SEM. The measurement model was found to be a good fit to the data. The saturated structural model and 4 nested models were found to be good fits to the data. There was no significant difference between these models, and Nested Model 4 was found to be the most parsimonious of the models tested. Hypothesis H1: that the hypothesized model would be the best fit to the data was not rejected. The next section will discuss the results, their theoretical and practical implications, limitations of this research, and finally recommendations for future research.

DISCUSSION

The purpose of this study was to test a hypothesized model of relationships between leader-member exchange, organizational job embeddedness, turnover intentions, and job search behaviors in a police organization. In the hypothesized model leader-member exchange was negatively related to turnover intentions and job search behaviors and positively related to organizational job embeddedness. Organizational job embeddedness was hypothesized to partially mediate the relationship between leader-member exchange and turnover intentions and job search behaviors. Implicit in mediation is that the mediating variable be related to the dependent variable as well as the independent variable. In this case organizational job embeddedness was hypothesized to be negatively related to turnover intentions and job search behaviors. This study has achieved it stated purpose. The discussion that follows will elaborate on how this study informs our knowledge of these constructs in a police organization.

Direct Effects of Leader-Member Exchange on Organizational Job Embeddedness

Up to this point the relationship between leader-member exchange and organizational job embeddedness had not been investigated. Early job embeddedness researchers speculated that an employee's relationship with a supervisor might be related to embeddedness (Mitchell, et al., 2001). They proffered that having a good supervisor might be something that an employee might not want to sacrifice. These results support the proposition that having a good relationship with a supervisor increases an employee's embeddedness in the organization.

Job embeddedness consists of two dimensions, organization and community. Each dimension consists of three sub-dimensions, fit, sacrifice, and links. This study

examined the relationship between leader-member exchange and the organizational

dimension of job embeddedness. The relationship between leader-member exchange and

organizational job embeddedness is weak, $r = .35$. Though weak, the relationship is as

hypothesized in the tested model. Leader-member exchange accounts for 22 percent of

the variance in organizational job embeddedness.

In their meta-analysis, Gerstner and Day (1997, pp 840) say, "On the basis of our

review of the literature, we view the relationship with one's supervisor as a lens though

which the entire work experience is viewed." Organizational job embeddedness could be

viewed as the entire work experience. Organizational job embeddedness consists of fit to

the organization, factors that one doesn't want to sacrifice upon leaving, and links to the

people in the organization. Organizational job embeddedness is a construct that accounts

for the social, psychological, and structural aspects of the work experience.

Perhaps the metaphor of a lens is not quite accurate. A more accurate metaphor

would be a lens filter. Much like a filter can be applied to a camera lens to accentuate a

particular light spectrum, leader-member exchange is a theory that accentuates one part

of the work experience. As the results indicate that filter enables us to see 22 percent of

the variance in the work experience. Anyone with much work experience recognizes the

importance of one's relationship with a supervisor, but also recognizes that other factors

influence the work experience.

These findings also fill a void which will help realize the call by Gerstner and

Day (1997) to move leader-member exchange research from a descriptive perspective to

a more prescriptive foundation. A necessary step in that direction is to identify the direct

outcomes as opposed to indirect, and more distal, outcomes of high quality leader-

member exchange. Interventions, which are designed to improve the quality of leader-member exchange, can now be developed and tested to determine the extent to which those interventions improve organizational job embeddedness. As a practical matter, knowing a direct outcome eases the task of developing and implementing an intervention designed to achieve that outcome. Supervisors can improve embeddedness through improving the quality of relationships with individual subordinates, which is a central tenant of leader-member exchange theory.

The seminal proposition in leader-member exchange theory is that leaders have different relationships with each of their subordinates (Graen & Uhl-Bien, 1995). Each individual's wants and needs are different. This knowledge is helpful in realizing the potential for job embeddedness to provide first line leaders levers which can be manipulated to more deeply embed an employee. The supervisor can improve the work experience for each subordinate through improved individual relationships.

Direct Effects of Leader-Member Exchange on Turnover Intentions and Job Search Behaviors

In the hypothesized model leader-member exchange was negatively related to turnover intentions and job search behaviors. The relationship to turnover intentions had been previously found in a meta-analytic study of leader-member exchange (Gerstner, & Day, 1997), and a meta-analytic study of turnover (Griffeth, Hom, & Geartner (2000) and it was logical to believe that leader-member exchange would also be negatively related to job search behaviors. The correlations between leader-member exchange and turnover intentions and job search behaviors are weak however, $r = -.29$ and $-.22$ respectively.

There is an indirect relationship between leader-member exchange and turnover

intentions and job search behaviors. These results are consistent with the findings of Gerstner and Day (1997) who proposed that leader-member exchange affects turnover through other mediating and moderating variables. This study proposed that organizational job embeddedness was one of those variables which mediated the influence of leader-member exchange on turnover intensions and job search behaviors. Analyses support a model in which leader-member exchange influences organizational job embeddedness, which in turn influences turnover intentions, and turnover intentions influences job search behaviors.

Direct Effects of Organizational Job Embeddedness on Turnover Intentions and Job Search Behaviors

Organizational job embeddedness was hypothesized to have a negative relationship with turnover intentions and job search behaviors. Organizational job embeddedness had a moderate relationship to turnover intentions and job search behaviors, $r = -.42$ for both turnover intentions and job search behaviors. Organizational job embeddedness accounted for 30 percent of the variance in turnover intentions.

Organizational job embeddedness was found to have a direct effect on turnover intentions as was hypothesized. However the hypothesized direct effect of organizational job embeddedness on job search behaviors was not found. Organizational job embeddedness influences job search behaviors through turnover intentions.

Direct Effects of Turnover Intentions on Job Search Behaviors

Inclusion of the job search behaviors construct was important because it has been found to be more predictive of eventual turnover than were turnover intentions (Griffeth, Hom, & Geartner (2000). Job search behaviors are essentially the last point of possible

measurement in the turnover process prior to resignation. Not surprisingly, as hypothesized, turnover intentions had a strong relationship to job search behaviors, $r = .68$. Turnover intentions accounted for 53 percent of the variance in job search behaviors. As hypothesized a direct relationship was found between turnover intensions and job search behaviors.

Mediating effects of Organizational Job Embeddedness and Turnover Intentions

It was hypothesized that organizational job embeddedness partially mediated the relationship between leader-member exchange and turnover intentions and leader-member exchange and job search behaviors. The hypothesized structural model fit the data. Two nested models were also tested and found to fit the data as well. All the models tested were statistically equivalent. The most parsimonious model was one in which organization embeddedness completely mediated the relationships between leader-member exchange and turnover intentions and job search behaviors. In other words leader-member exchange influences turnover intentions and job search behaviors through organizational job embeddedness. Organizational job embeddedness likewise exerts influence on job search behaviors through turnover intentions.

This study supports a path of influence from leader-member exchange, through organizational job embeddedness, through turnover intentions and leading eventually to job search behaviors. An officer's relationship with a supervisor affects organizational job embeddedness. The extent to which an officer is embedded in the police organization affects turnover intentions. The strength of an officer's turnover intentions affects that officer's job search behaviors. This effect is consistent with meta-analytic SEM findings which model turnover as the end result of the distal influence of job satisfaction through

withdrawal cognitions (Hom, Caranikas-Walker, Prussia, & Griffeth, 1992).

Modeling of Variable Relationships

The benefit of structural equation modeling is that it allows the researcher to hypothesize and test more complex relationships than can be tested through bivariate or multivariate linear regression. Relationships between variables can be examined in light of the simultaneous influence of other variables. The *a priori* model did fit the data. Previous research suggested alternative models that could also be specified *a* priori and tested as well.

Four nested models were also tested in this research. It has been proposed that leader-member exchange influences turnover through other factors (Gerstner & Day, 1997). This proposition supported three nested models in which the path from leader-member exchange to turnover intentions, the path from leader-member exchange to job search behaviors, and the paths from leader-member exchange to turnover intentions and job search behaviors were constrained to 0. Previous research also suggested that other predictors influenced turnover through turnover intentions (Hom, Caranikas-Walker, Prussia, and Griffeth, 1992). It was logical to view job search behaviors as falling between turnover intentions and turnover. It was therefore logical to also constrain the path from organizational job embeddedness to job search behaviors.

Each successive model was more parsimonious than the preceding saturated structural or nested model. Each of these models was tested through maximum likelihood estimation and a series of sequential chi-square difference tests was conducted. These sequential chi-square tests found no significant differences between any of the models. Absent any statistical superiority the most parsimonious model was chosen as

the best fit to the data.

The most parsimonious model contains a path from leader-member exchange through organizational job embeddedness, then turnover intentions, and finally ending in job search behaviors. The implication is that this model represents a causal path from leader-member exchange to job search behaviors. This model explains 53 percent of the variance in job search behaviors, so obviously there are other variables which account for 47 percent of the variance in job search behaviors.

Implications for Job Embeddedness and Turnover Theory in a Police Organization

This study contributes to further generalizability of the job embeddedness construct. Any theoretical construct can only be generalized within spatial and temporal boundaries (Miner, 2005). Temporally this research demonstrates that job embeddedness theory continues to be a theory that explains organizational phenomena. Spatially this research expands the types of organizations in which job embeddedness theory explains organizational phenomena. Considerably more research will have to be done within police organizations before the spatial boundary of job embeddedness theory expands t encompass all police organizations. This research in SPD is an important first step in that boundary expansion.

Police officers in SPD can be embedded in their organization and the less embedded the more likely they are to have turnover intentions or engage in job search behaviors. To this point the role of a supervisor in embedding an employee had only been subject to speculation. This study establishes that in the SPD a supervisor plays a role in embedding a police officer in the organization.

Practical Implications for the SPD

As measured through leader-member exchange, first line leadership in SPD is good. Leader-member exchange is measured with 7 items using a 5 point agreement type scale. The overall score is an average of responses for each of the items. The lowest score could be 1 and the highest score could be 5. The mean score of participant perception of leader-member exchange in this study was 3.50 with a standard deviation of .98. Approximately 84 percent of first line supervisors score above 2.5 which would be the mid-point of the scale. That good news is tempered though with the realization that other factors also play a role in turnover intentions and job search behaviors.

First line supervisors have some influence on organizational job embeddedness, turnover intentions, and job search behaviors. First line supervisors have some influence and control over an officer's fit in the work group and are a source of intrinsic reward for their subordinates. Both fit and sacrifice are important in embedding an officer in the organization and should be a matter of emphasis for first line supervisors. If first line supervisors do not recognize their role in retention they need to be educated as to that role and its influence on retention.

A matter of significant concern for leaders in SPD should be the significantly lower scores on organizational job embeddedness and its sacrifice sub-dimension for females than for males. Females comprise 11 percent of SPD's police officer rank. In 2003, on average women comprised 11.3 percent of sworn officers in local police agencies (Hickman, & Reaves, 2006). However, for agencies of similar size women comprise 12.7 percent of the sworn force (National Center for Women & Policing, 2002). So, SPD is below the national average for agencies its size. Retention of current female

officers should be a priority. It is also possible that the conditions that foster lower scores on the sacrifice sub-dimension of organizational job embeddedness also inhibit recruitment.

An interesting aspect of lower scores on organizational job embeddedness for females is the fact that those same women did not rate their first line supervisors significantly different than did their male peers. First line supervisors may not be able to overcome organizational or occupational values and underlying assumptions that shape the work place for female police officers. Perhaps relationships with co-workers is just as important in the intrinsic rewards found in the work place as is one's relationship with a supervisor.

Practical implications should not be limited to problems that research illuminates. Knowing good outcomes can stimulate analysis of the process that resulted in the good outcome. Recruiting blacks for police jobs is a challenge (Kopper, Maguire, & Moore, 2001). In this study blacks were not found to have significantly different scores on organizational job embeddedness than whites. The SPD may have a well thought out strategy for recruiting and retaining blacks as police officers. Then again, the SPD may have accidentally, and unknowingly, developed on an effective strategy for recruiting and retaining blacks as police officers.

As a construct organizational job embeddedness offers leverage points for leaders to attempt to reduce turnover. To the extent to which leaders can institute policies and practices that improve fit, links, and sacrifice the SPD will experience lower turnover. The default judgment in turnover discussions and often decisions is that it's all about the money. As has been demonstrated it is possible to put golden hand cuffs on an employee

(Leavitt, 1996), though not common in police organizations. Strategies which focus on fit, links, and the intrinsic aspects of sacrifice offer alternatives to a singular focus on money.

The results of this study point to the obvious construct that offers the greatest leverage – intentions. To the extent that leaders can influence intentions to leave they will significantly reduce turnover. Organizational job embeddedness accounts for 30 percent of the variance in turnover intentions. Another factor, or most likely other factors, account for 70 percent of the variance in turnover intentions. There is no silver bullet. Turnover is a complex phenomenon and reducing turnover will require complex solutions.

Limitations

The most obvious limitation of this study is sample size. The population of police officers in SPD was 276 and 128 or 46 percent participated in this survey. Response rates in the job embeddedness literature range from 30 to 50 percent so this level of response rate is not a matter of significant concern. The sample size affects the power to avoid a Type II error. A power analysis for SEM found only a 53 percent chance of avoiding a Type II error. This limitation was apparently overcome by the large effect sizes for these variables under study.

As variables, turnover intentions and job search behaviors are not normally distributed. That is common in turnover research. Maximum likelihood estimation is considered relatively robust, as are many statistical tests, to violations of normality (Kline, 2005; McDonald & Ho, 2002). Analysis of the measurement model using the Bollen-Stine bootstrapping method, which compensates for underlying extreme non-

normality (Arbuckle, 2007; Hancock & Nevitt, 1999), found that the model was a good fit to the data. None the less the potential still exists for nonnormality to have biased the results of this research.

Common methods variance could be a limitation. The survey instrument is constructed such that the items require a variety of response methods, such as fill in the blank, circle a response, and check a box. Only weak and moderate correlations between the variables were found which argues against common methods variance.

This research tested the fit of an *a priori* model and 4 nested models to the data. A potential limitation may be that this model will only fit the data which was obtained from members of the SPD. This model may not fit data obtained from other police organizations which limits the generalizability of these findings.

Future Research Directions

First and foremost this study should be replicated in another police agency. Kline (2005) points out that seldom are results from structural equation modeling replicated with the purpose of testing a model that has been tested and supported or re-specified. Ideally this research should be replicated in a much larger police agency so that even a 46 percent response rate will result in a much larger study sample.

Kline (2005) also points out that, in spite of its use for over 30 years, results from studies using SEM are seldom used to shape policy or used to design experiments. An underlying purpose of this research has been to inform practitioners of the role of leader-member exchange and organizational job embeddedness in shaping turnover intentions and job search behaviors. It is incumbent on researchers to foster inclusion of this and other relevant literature in public policy. Public policy should be based on evidence

which this study has provided. The creation and implementation of policy will allow for quasi-experimental research designs that measure the effects of those interventions.

Research using qualitative methods should follow this study. It is vital to gain a better understanding of how these constructs are operationalized in SPD. In particular, in as much as police organizations are challenged in recruiting and retaining females, the nature and scope of conditions that reduce organizational job embeddedness for females deserves much more investigation. How and why blacks are more embedded should also be investigated to determine the processes that produced that result. Interventions based on these results could be developed through an organizational development effort in the SPD.

The accepted model accounts for 53 percent of the variance in job search behaviors. That is a significant amount but still leaves 47 percent unaccounted for. Additional research should examine the role of other constructs such as organizational justice or work-family conflict which has also been shown to influence turnover intentions in police organizations.

Conclusions

This research hypothesized that leader-member exchange was correlated to turnover intentions and job search behaviors and that organizational job embeddedness mediated those relationships. Those constructs were measured through a survey of police officers in an southern police department. The literature suggested an *a priori* model. The *a priori* model and 4 nested models, were tested through SEM. All models tested were found to be good fits to the data. There was no statistically significant difference between any of the models. The most parsimonious model, Nested Model 4, was

accepted.

In Nested Model 4 direct effects were found between leader-member exchange and organizational job embeddedness, between organizational job embeddedness and turnover intentions, and between turnover intentions and job search behaviors. Paths between leader-member exchange and turnover intentions and job search behaviors as well as paths between organizational job embeddedness and job search behaviors were found to be non-significant. Nested Model 4 supports the proposition that leader-member exchange has effect on turnover intentions through organizational job embeddedness and that organizational job embeddedness in turn has effect on job search behaviors through turnover intentions. This implies a causal chain in which leader-member exchange influences organizational job embeddedness, which in turn influences turnover intentions, and those intentions influence job search behaviors. This research has provided more than just a model that fits a given set of data.

This research provides a model which consists of components that inform Wilson's (2004) trinity of public administration study. High quality leader-member exchange embeds personnel in a police organization. Organizational job embeddedness is but one aspect of a public organization that must be studied. Embeddedness in that organization is in part an outcome of many internal human resources methods. Wilson realized that the study of public administration must be more comprehensive than it was in Wilson's day and that remains true today. If public administration matters, then public organizations matter. This study can help improve how one police department's personnel, organization, and methods can better administer the public's good. This study will also improve the study of public administration as envisioned by Wilson.

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APPENDIX A

Survey Instrument Items

Leader-Member Exchange 7

1. How often do you know where you stand with your leader? In other words, do you usually know how satisfied our supervisor/manager is with what you do?
2. How well does your supervisor/manager understand your job problems and needs?
3. How much does your supervisor/manager recognize your potential?
4. Regardless of how much formal authority he/she has built into his/her position, what are the chances that he/she would use his/her power to help you solve problems in your work?
5. Again, regardless of the amount of formal authority your supervisor/manager has, what are the chances that he/she would "bail you out" at his/her expense?
6. I have enough confidence in my supervisor/manager that I would defend and justify his/her decisions if he/she were not present to do so.
7. How would you characterize your working relationship with your supervisor/manager?

Job Embeddedness Items

FIT-Organization
1. I like the members of my work group.
2. My coworkers are similar to me.
3. My job utilizes my skills and talents well.
4. I feel like I am a good match for this organization.
5. My values are compatible with the organization's values.
6. I can reach my professional goals working for this organization.
7. I feel good about my professional growth and development.
8. I fit with the organization's culture.
9. I like the authority and responsibility I have at this organization.
10. If I stay with this organization, I will be able to achieve most of my goals.

FIT-Community
1. I really love the place where I live.
2. The weather where I live is suitable for me.
3. This community is a good match for me.
4. I think of the community where I live as home.
5. The area where I live offers the leisure activities that I like.

LINK-Organization
1. How long have you worked in this industry? (years)
2. How long have you worked for this organization? (years)

3. How long have you been in your present position? (years)
4. How many coworkers do you interact with regularly?
5. How many coworkers are highly dependent on you?
6. How many work teams are you on?
7. How many work committees are you on?

LINK-Community
1. My family roots are in this community.
2. Are you currently married?
3. If you are married, does your spouse work outside the home?
4. How long have you lived in your community? (years)
5. Do you own the home you live in?
6. How many family members live nearby?
7. How many of your close friends live nearby?

SACRIFICE-Organization
1. I have a lot of freedom on this job to decide how to pursue my goals.
2. The perks on this job are good.
3. I feel that people at work respect me a great deal.
4. I would sacrifice a lot if I left this job.
5. My promotional opportunities are excellent here.
6. I am well compensated for my level of performance.
7. The benefits are good on this job.
8. The health-care benefits provided by this organization are excellent.
9. The retirement benefits provided by this organization are excellent.
10. I believe the prospects for continuing employment with this organization are excellent.

SACRIFICE-Community
1. Leaving this community would be very hard.
2. People respect me a lot in my community.
3. My neighborhood is safe.
4. If I were to leave the community, I would miss my non-work friends.
5. If I were to leave the community, I would miss my neighborhood.

Job Search Behaviors

During the past six months have you? (Modification in italics)

1 Read the help wanted/classified ads in a newspaper, journal, professional association, *or internet job search sites.*
2 Listed yourself as a job applicant in a newspaper, journal, professional association, *or internet job search sites.*
3 Prepared/reviewed your resume.
4 Sent out resumes to potential employers.
5 Filled out a job application.

6　Read a book or article about getting a job or changing jobs.
7　Had a job interview with a prospective employer.
8　Talked with friends or relatives about possible job leads.
9　Contacted an employment agency, executive search firm, or state employment service.
10　Spoke with previous employers or business acquaintances about their knowing of potential job leads.
11　Telephoned a prospective employer.
12　Used current within company resources to generate potential job leads.
13　Spent a lot of time looking for other jobs.
14　Devoted much effort to looking for other jobs.
15　Focused my time and effort on job search activities.
16　Gave best effort to find a new job.

APPENDIX B

Survey Cover Letter Contents

October 24, 2008

Dear Officers:

I am Mark Bowman, a Ph.D. candidate at Old Dominion University, Norfolk, Virginia. I need your help in conducting my doctoral dissertation research. Participation in this research is strictly voluntary and there will be no negative repercussions for choosing to participate or not participate.

I am researching organizational and community factors that influence police officer retention in police organizations. Police organizations need talented police officers committed to accomplishing their missions. Increasing our knowledge of the factors that help retain talented police officers will help us improve retention, and improve the ability of police organizations to better serve their communities.

In order to examine these factors I have prepared a survey that I hope you will take the time to complete. It will take about 15 minutes to complete the survey. You can complete the survey at this time or I can provide a self-addressed stamped envelope for returning the survey. Your responses are anonymous and there is no means of identifying who completed a given survey form. No individual survey responses will be provided to any member of your department. Only aggregate data will be reported to your department. No individual or your department will be identified in any publication or presentation on the results of this research.

If you have any questions concerning this research you may contact me by writing me at the address on this letterhead or by emailing me at mbowm009@odu.edu. If you have any questions concerning your rights as a research participant that I cannot answer you may contact Dr. Joan Mann, Chair, College of Business & Public Administration Committee for Review of Human Subjects at 757-683-4342 or jmann@odu.edu.

Thank you for taking the time to help me complete my doctoral dissertation research and help us better understand the factors that influence police officer retention.

Sincerely,

APENDIX C

Follow up message from researcher.

November 18, 2008

I appreciate the time that many of you took to help me with my research project. Unfortunately I was not able to get to see everyone at Department. If I left you a survey with a self-addressed stamped envelope I would greatly appreciate it if you took a few minutes to complete it and return it to me. Thanks again to all of you for your help and support. Stay safe and if you ever need anything please don't hesitate to contact me.

APPENDIX D

Means, Standard Deviations, and Intercorrelations between Parcels

Parcel Means, Standard Deviations, and Intercorrelations

	Mean	SD	1	2	3	4	5	6	7
1. LMXP1	3.58	1.15	1.00						
2. LMXP2	3.62	1.03	.83**	1.00					
3. LMXP3	3.35	0.96	.85**	.85**	1.00				
4. OJEP1	4.25	0.84	.40**	.45**	.40**	1.00			
5. OJ3P2	3.56	0.74	.39**	.44**	.38**	.85**	1.00		
6. OJEP3	3.51	0.80	.43**	.42**	.34**	.84**	.87**	1.00	
7. OJEP4	5.10	1.67	.30**	.26**	.25**	.56**	.61**	.66**	1.00

Note. $N = 128$, ** Correlation is significant at the 0.01 level (2-tailed),
* Correlation is significant at the 0.05 level (2-tailed)

APPENDIX D – Continued

Parcel Means, Standard Deviations, and Intercorrelations

	Mean	SD	1	2	3	4	5	6	7
8. TI1	2.99	1.83	-.27**	-.29**	-.29**	-.57**	-.47**	-.48**	-.35**
9. TI2	2.77	1.89	-.22*	-.30**	-.23**	-.46**	-.41**	-.49**	-.32**
10. TI3	2.55	1.80	-.20*	-.27**	-.21*	-.47**	-.46**	-.43**	-.32**
11. JSBP1	6.57	3.10	-.21*	-.23**	-.25**	-.45**	-.43**	-.41**	-.33**
12. JSBP2	6.02	2.39	-.23*	-.23**	-.24**	-.44**	-.41**	-.42**	-.33**
13. JSBP3	5.60	2.08	-.17	-.15	-.15	-.34**	-.35**	-.35**	-.26**
14. JSBP4	6.19	2.61	-.16	-.20*	-.20*	-.42**	-.41**	-.41**	-.35**

Note. $N = 128$, ** Correlation is significant at the 0.01 level (2-tailed),
* Correlation is significant at the 0.05 level (2-tailed)

APPENDIX D – Continued

Parcel Means, Standard Deviations, and Intercorrelations

	Mean	SD	8	9	10	11	12	13	14
8. TI1	2.99	1.83	1.00						
9. TI2	2.77	1.89	.79**	1.00					
10. TI3	2.55	1.80	.73**	.84**	1.00				
11. JSBP1	6.57	3.10	.58**	.58**	.69**	1.00			
12. JSBP2	6.02	2.39	.58**	.56**	.64**	.82**	1.00		
13. JSBP3	5.60	2.08	.50**	.53**	.63**	.81**	.84**	1.00	
14. JSBP4	6.19	2.61	.56**	.57**	.65**	.87**	.84**	.85**	1.00

Note. $N = 128$, ** Correlation is significant at the 0.01 level (2-tailed),
* Correlation is significant at the 0.05 level (2-tailed)

VITA

Mark Denis Bowman received a Bachelor of Arts from the University of Arkansas at Little Rock in 1979, with a major in criminal justice and minor studies in sociology and psychology. He received a Master of Public Safety Leadership from Christopher Newport University in 2002. His Master's Thesis research was published as, The loss of talent: Why local and state law enforcement officers resign to become FBI agents and what agencies can do about it, in the journal *Public Personnel Management*. Mark serves as a Lieutenant with the Virginia Beach, Virginia Police Department.