

## ABSTRACT

SLOAN, STEPHANIE LEIGH. Does Working for a Better Performing Boss Improve Subordinate Performance? A Longitudinal, Quasi-experimental Study. (Under the direction of S. Bartholomew Craig and Joan J. Michael.)

The current study examined the relationship between supervisor and subordinate performance, explored the impact of supervisor performance on subordinate performance and performance change over time, and investigated whether supervisor performance has a stronger impact on subordinate performance over time than initial subordinate performance has on supervisor performance over time. This study utilized a longitudinal, quasi-experimental design with multiple sources of measurement. Multisource managerial performance ratings from 2001 to 2003 were obtained from a large multinational technology firm. Subordinates and their bosses' performance ratings from different sources were investigated by correlational and multiple regression analyses. Separate analyses were conducted on a subset of the subordinates who experienced a change in supervisor between years one (2001) and two (2002) and another subset who did not experience change in supervisor over the three year study. The correlational and predictive analyses revealed that supervisor performance and change in supervisor performance did not relate to or predict the performance or performance change of subordinates at the middle management level. Change in supervisor performance, specifically when a supervisor is replaced by another supervisor with a different level of performance, did not predict change in subordinate performance concurrently or over time. Finally, neither initial supervisor performance nor initial subordinate performance differentially predicted later subordinate or supervisor performance over time.

**DOES WORKING FOR A BETTER PERFORMING BOSS  
IMPROVE SUBORDINATE PERFORMANCE?  
A LONGITUDINAL, QUASI-EXPERIMENTAL STUDY**

by  
**STEPHANIE LEIGH SLOAN**

A dissertation submitted to the Graduate Faculty of  
North Carolina State University  
in partial fulfillment of the  
requirements for the Degree of  
Doctor of Philosophy

**PSYCHOLOGY**

Raleigh, North Carolina

2007

**APPROVED BY:**

---

S. BARTHOLOMEW CRAIG, Ph.D.  
Co-chair of Advisory Committee

---

JOAN J. MICHAEL, Ph.D.  
Co-chair of Advisory Committee

---

SAMUEL B. POND, Ph.D.

---

RICHARD M. BURTON, DBA

## BIOGRAPHY

Stephanie Leigh Sloan was born on May 6, 1970 in Gainesville, GA. Stephanie was the oldest of William G. (Bill) and Janice Sloan's two children, and her younger brother Bart was born six years later on a day she can still vividly remember. She attended public schools and graduated from Johnson High School in 1988. During high school, she was very involved in socializing with her friends and cheerleading. She competed with her high school cheerleading squad in both State and National Competitions, and her cheerleading squad won Georgia's state competition title in 1988.

After Stephanie's father successfully brainwashed her during her early formative years to become a loyal Georgia Bulldog fan, Stephanie attended the University of Georgia in the fall of 1988 and graduated in 1992. During college, she was intrigued by human behavior and decided to major in Psychology. She immediately was drawn to Industrial/Organizational Psychology and the overlap between the business world and psychological behavior. She decided to pursue a graduate degree in Industrial/Organizational Psychology and was advised by her advisor, Dr. Hammock, the head of the I/O department at UGA, that she needed to increase her GPA if she wanted to get accepted into an accredited graduate school program in I/O. While attending the University of Georgia, she continued in her pursuit of socializing, but still managed to graduate with a 3.4 overall GPA and made the Dean's List all 6 quarters of her junior and senior year.

After graduating from the University of Georgia, Stephanie pursued a career in Human Resources in order to get some practical experience before attending graduate

school. Stephanie began her professional career as an Account Executive with a staffing firm in the Atlanta area. A short time later, Stephanie decided to go ahead and pursue a Master's degree while working full-time. Her father advised her to first obtain a Master's degree in School Psychology, so she could have "something to fall back on" if her dream of a graduate degree in I/O Psychology did not come to fruition. One year after graduating from the University of Georgia, Stephanie began a Master of Arts degree at Georgia State University in School Psychometry.

During the next four years, Stephanie developed in her professional career and eventually managed two staffing offices in the Atlanta area with 11 direct reports. She also completed her degree from Georgia State University and graduated in 1996. At that time, she decided to pursue her dream of a doctorate in I/O Psychology, quit her lucrative job in the staffing industry and moved to Raleigh to attend NC State University's I/O program in the Fall of 1997 and experience life again as a broke college student.

During her doctoral studies at NC State, Stephanie taught undergraduate classes in Research Methods, I/O Psychology, and Personality Psychology. Of course, she still kept up her first love of socializing with friends, and she made many close friends while living in Raleigh and attending graduate school. Stephanie completed her thesis under the guidance of her first advisor, Dr. Bert Westbrook, and she presented her research at APA's Annual Conference in 2002. Her thesis was published in the Journal of Career Assessment in August of 2006.

After finishing her doctoral classes in I/O, Stephanie moved back to Atlanta and completed the rest of her program long distance. She initially worked as a Business

Development Manager for an Atlanta staffing firm and then later taught Psychology classes at Lanier Technical College in Oakwood, GA for three years. At the same time, Stephanie completed her preliminary exams and began her dissertation work with Dr. Bart Craig after Dr. Westbrook retired.

Stephanie now lives in Atlanta, Georgia, and since July of 2005, she has worked as a Leadership Development Consultant at The Home Depot corporate office. She still enjoys socializing with friends.

## ACKNOWLEDGEMENTS

As those of you who have completed doctorates know, it is a difficult endeavor made easier by the support and encouragement of many people. I have been extremely fortunate to have many people in my life that have been willing to help me achieve my goal of earning a Ph.D.

The people that deserve the most recognition for supporting me in my academic accomplishments are my family. It all started on that first fateful day, when I went to my parent's house and discussed with them my idea to leave my job and attend graduate school in another state. Although they were concerned about my financial security and the distance from home, they encouraged me to follow my dreams. The late night phone calls, the emotional breakdowns, and the lack of income were all handled with support and empathy.

Although my grandparents (Mildred & Guy Sloan and Clara & Van Lively) are no longer with us, I hope that they are proud of me. None of them attended college, but all believed in the value of an education. They, along with my parents, instilled in me the desire to achieve academically, and I would have never pushed myself to finish my degree if it had not been for the foundation that they set and the values that they demonstrated many years ago.

Lig Quigley has been a mentor and a wonderful friend for me throughout my career and graduate school. Through the rough patches of life, she has always been there for me, and I can never express to her how truly grateful and indebted I am to her. She

has truly helped me become the person that I am today and she continues to serve as a role-model that I am always inspired to emulate.

Leah Ranney has been the truest of friends to me during graduate school. She has been a source of companionship and understanding from the beginning. She convinced me several times not to give up, especially the first time when I went to her house to work on SAS (not a pretty sight).

Other close friends from graduate school include Scott Bublitz and Sara Little, who supported me not only in school but maintaining my socializing. Scott saved me that first year from being lonely away from my friends and family. He also taught me how to read, more like peruse, research articles very quickly so I would not be caught in class completely unprepared. We shared a lot of good times both inside and outside the classroom and I thank Leah, Scott and Sara for the many wonderful memories.

Dr. Bert Westbrook, my first advisor and chair of my thesis, was instrumental in my choice to attend NC State over other offers. He helped secure a teaching assistantship for me which was so incredibly helpful monetarily, but it also gave me the opportunity to learn and experience the joy of teaching others which I continued to use throughout my degree and hope to use again in the future. Dr Westbrook loved teaching and helping students. He was an incredible mentor and advisor to me during my first few years of graduate school. I could never thank him enough for his support, advice and example.

My second advisor during my graduate program has been Dr. Bart Craig who is terrific as both an advisor and friend. He agreed to take me on as a graduate student

when Dr. Westbrook retired, even though he was new to the department and teaching and probably felt overwhelmed. He has been responsive and supportive, and I have benefited greatly from his vast experience in research and practice. I am honored that I have had the opportunity to work with him during my graduate student years, and I could not have asked for a better advisor for my dissertation.

Last, but certainly not least, I would like to acknowledge Rob Kaiser for inspiring the topic for my dissertation, providing the data, and offering up guidance and support whenever needed. Rob's enthusiasm for research and leadership development is inspirational, and he is a joy to work with.

## TABLE OF CONTENTS

LIST OF TABLES .....	ix
Section I: Literature Review .....	1
Leadership Training Expenditures.....	1
Leadership Training Methods.....	2
Subordinate-Supervisor Developmental Relationships .....	3
Supervisors' Impact on Subordinate Learning and Performance Improvement .....	4
Learning Theories and Research .....	6
Social Learning .....	7
Operant Learning Theory and Performance Feedback.....	9
Mentoring .....	13
Leadership Theories.....	18
Two-Factor Model: Consideration versus Initiating Structure Behavior .....	18
Leader-Member Exchange.....	22
Transformational Leadership.....	28
Cascading Leadership .....	36
Subordinate Influences on Supervisor Performance and Leadership Behaviors .....	42
Skill Acquisition and Job Performance Changes over Time .....	46
Managerial Succession .....	54
Performance Appraisals .....	58
Conclusion .....	64
Present Study .....	66
Section II: Method.....	69
Sample and Procedure .....	69
Measures.....	69
Rater Training.....	70
Data Manipulation .....	71
Analyses .....	73
Section III: Results .....	78
Descriptive Statistics .....	78
Cross-sectional Analyses .....	78
Longitudinal Analyses .....	80
Section IV: Discussion .....	87
Limitations .....	92
Directions for Further Research .....	93
Section IV: References .....	95
Section IV: Appendices .....	129

## LIST OF TABLES

	Page
Table 1. Descriptive Statistics for Dimensions of Boss Performance in 2001 .....	132
Table 2. Descriptive Statistics for Dimensions of Subordinate Performance in 2001 .....	133
Table 3. Intercorrelations of Subordinate Overall Performance with Supervisor Overall Performance .....	134
Table 4. Intercorrelations between Dimensions of Subordinate Performance in 2001 with Dimensions of Supervisor Performance in 2001 .....	135
Table 5. Intercorrelations between Dimensions of Subordinate Performance in 2002 with Dimensions of Supervisor Performance in 2002 .....	136
Table 6. Intercorrelations between Dimensions of Subordinate Performance in 2003 with Dimensions of Supervisor Performance in 2003 .....	137
Table 7. Intercorrelations of Differences in Subordinate Performance from 2001-2002 with Differences in Performance of Different Supervisors from 2001-2002 .....	138
Table 8. Intercorrelations of Differences in Subordinate Performance from 2001-2002 with Differences in Performance of the Same Supervisors from 2001-2002 .....	139
Table 9. Intercorrelations of Differences in Subordinate Performance from 2001-2003 with Differences in Performance of Different Supervisors from 2001-2002 .....	140
Table 10. Regression Analysis for Predicting Change in Dimensions of Subordinate Performance from 2001-2002 with Changes in Dimensions of Supervisor Performance from 2001-2002 .....	141
Table 11. Regression Analysis for Predicting Change in Dimensions of Subordinate Performance from 2001-2003 with Changes in Dimensions of Supervisor Performance from 2001-2002 .....	144
Table 12. Cross-lagged Panel Correlation Technique and Dynamic Correlation Analysis of Supervisor Performance and Subordinate Performance over Time .....	147

## Does Working for a Better Performing Boss Improve Subordinate Performance?

### A Longitudinal, Quasi-experimental Study

Interest in leadership appears to be at its peak in popularity. Indicators abound, including articles and books devoted to leadership in the mainstream media, scientific research studies focused on leadership in current journal publications, and results of organizational survey data highlighting the increased resources earmarked for leadership training (The Conference Board, 1999). This heightened attention to leadership and leadership development results from the profound transformation that continues in virtually every industry. Technological advancement, globalization, and workforce changes have intensified turbulence and uncertainty in the fiercely competitive business environment. Consequently, managerial training and development are now top priorities for today's business leaders, as these leaders increasingly believe human capital holds the key to organizational competitive advantage in an aggressive, ever-evolving global marketplace (Graham & Robinson, 2002). Human capital is limited, though, and competent managers, in particular, are in short supply (Kaiser & Craig, 2004). Many organizations fear that they may not be prepared for the leadership challenges of the future due to the shortage of able and skilled managers. As a result, there is an increased emphasis on investing more intensely in leader development across all organization levels and developing leadership capacity in all employees (Day, 2001).

### Leadership Training Expenditures

According to the American Society for Training and Development (1997 State of the Industry Report), U.S. organizations invest billions in employee development,

specifically leadership development. In the year 1997 alone, organizations spent roughly \$60 billion on formal training classes (ASTD, 1997 State of the Industry Report), and training expenditures and the number of formal learning hours per employee continue to rise yearly. Companies allocate the largest percentage of these training expenditures for managerial and executive positions above all other employee groups (ASTD, 2004 State of the Industry Report).

### Leadership Training Methods

As companies continue to spend heavily in formal leadership training programs, researchers have found that most of the meaningful leadership development experiences occur in the context of everyday work (McCall, Lombardo, & Morrison, 1988). The U.S. Department of Labor, Bureau of Labor Statistics projected that 70% of learning in the workplace is informal, meaning that learning takes place outside a classroom setting and with a pedagogy that is closer to modeling or coaching than formalized instruction (Day & Halpin, 2004). In addition to formal classroom training, McCauley, Moxley, and Van Velsor (1998) proposed that the full range of leadership development experiences includes mentoring, job assignments, feedback systems, on-the-job experiences, developmental relationships, exposure to senior executives, and leader-follower relationships. According to Day and Halpin (2004), leadership is more likely to be enhanced through these development efforts than through traditional training.

Although there is conceptually a real movement away from classroom-based leadership training toward understanding and practicing leadership development more effectively in the context of the work itself, research and practical application of these

leadership development methods have not caught up with classroom-based training (Day, 2001). In a recent study on the effectiveness of managerial leadership development programs, Collins and Holton (2004) noted, “few empirical studies were available for outcomes of on-the-job assignments, coaching, mentoring or feedback interventions, which made it impossible to determine the effectiveness of those interventions through this meta-analysis” (p. 239). Much more research needs to be conducted regarding the outcomes of these widely used, informal training interventions, and one of the least explored of these interventions is developmental relationships (McCall et al., 1988).

#### Supervisor-subordinate developmental relationships

A developmental relationship that naturally occurs in organizations is the relationship between a manager and his or her direct reports. Since supervisors are responsible for training and guiding subordinates on a day-to-day basis, an immediate supervisor’s skills in developing his or her employees and the supervisor’s own competence (performance) in doing so may then play a major role in determining the performance level and development of subordinates (Varma, Fariah, & Stroh, 1999). For example, Boerlijst (1994) and Boerlijst, Van der Heijden, and Van Assen (1993) found that shortcomings on the part of middle managers seriously endanger the mobility and employability of their direct reports at higher levels in the organization. This research suggests that managers’ shortcomings can cause pitfalls in the careers of many highly positioned employees, limiting or hampering their development. Other research has shown that supervisors learn how to direct and motivate their subordinates based on their own experiences with certain types of managers throughout their careers (McCall et al., 1988).

Therefore, the developmental relationship between a manager and his or her subordinate may lie at the heart of the learning context.

Some managers assume the role of a coach who focuses on the development of their subordinates, while others excel at other types of leadership roles, such as initiating structure or making tough decisions. The differences between these managers may provide the answer researchers and organizations need in order to determine if subordinates' leadership development and performance improvement truly occur within these developmental relationships. A developmentally focused and motivating mid-level boss may facilitate the learning of particular leadership skills and enhance the overall performance of lower level managers to a greater degree than bosses who are either ineffective or excel in other leadership roles.

#### Supervisors' Impact on Subordinate Learning and Performance Improvement

Researchers have long recognized the influence of the manager on subordinate performance and development (Bass, 1990; Yukl, 2002). For the last 60 years, managerial behavior and subsequent subordinate performance have been important concepts in applied psychology and related disciplines. Primarily, they are key concepts in several leadership theories: transformational leaders are more likely than transactional leaders to improve subordinate performance (Bass, 1985); higher quality exchange relationships with subordinates result in higher performance (Graen & Uhl Bien, 1995); initiating structure behaviors affect performance more so than consideration behaviors (Judge, Piccolo, & Illes, 2004). The impact of manager behavior on employees' workplace experiences, and

specifically on their performance ratings, is clearly considered very important (Day, 2001). It also appears that certain leadership behaviors, more so than others, have a greater impact on follower performance (Bass, Avolio, Jung, & Berson, 2003; Dvir, Eden, Avolio, & Shamir, 2002; Howell & Hall-Merenda, 1999; Judge & Piccolo, 2004).

Although past leadership research has found a relationship between supervisor performance and subordinate performance, others argue that this research, with its widespread use of inherently weak research designs, has not found conclusive results to support the opinion that managerial behavior truly causes change in subordinate performance (Lowe, Kroeck, & Sivasubramaniam, 1996). One common and major criticism of leadership research is that it is dominated by studies with significant methodological weaknesses, including cross-sectional designs that rely on common methods and sources of data collection (Lowe et al., 1996). Very little leadership research has utilized longitudinal designs with experimental or quasi-experimental manipulation.

While cross-sectional, correlational research has found that the subordinates of highly rated leaders receive higher ratings of performance (e.g., see reviews in Bass, 1990; Yukl, 2002), correlational designs leave ambiguity in attributing causality in this relationship. For instance, it may be that the ability, motivation, and experience of subordinates have causal effects on leader performance. When encountering followers with higher levels of ability, motivation, or experience, leaders may be encouraged to activate a more transformational style of leadership with its focus on inspiring and developing subordinates (Klein & House, 1995; Shamir & Howell, 2000; Yukl, 1999), because working with these subordinates may enhance the probability that

transformational leadership will result in positive outcomes, such as improved subordinate performance.

There is empirical evidence suggesting that follower characteristics do causally affect a portion of variance in leader performance (Greene, 1975; Dvir & Shamir, 2003). These findings highlight the complex and dynamic interplay between followers and leaders and suggest that more rigorous research is warranted in the leadership field in order to discover the true causal nature of such a relationship.

Before this paper examines leadership theories and research findings on leadership behavior and subordinate performance, the importance of managerial behaviors has also been emphasized in other research literatures, such as learning and training. Learning theories and subsequent research in training methods attempt to explain and demonstrate how managers influence their subordinates' on-the-job learning experiences and how the managers' actions result in improved job performance by subordinates.

#### Learning Theories and Research

Over the last 50 years, various learning theories have been applied to the work environment and particularly to the subordinate-supervisor relationship. Researchers have investigated whether leaders impact their direct reports' performance through various theoretically based learning methods, specifically the use of feedback, reinforcement, role modeling, and active instruction (coaching and mentoring).

## *Social Learning*

### *Social Learning Theory*

Bandura's social cognitive theory (1977) proposes that people acquire much of their behavior by observation and imitation of others in a social context. This approach acknowledges that people can learn by observing a model of the desired behavior rather than learning exclusively through their direct experiences with positive and negative consequences (operant learning theory).

Role modeling behavior is often discussed in transformational and charismatic leadership theories, and many leadership theorists attempt to explain how a leader's role modeling behaviors motivate subordinates to behave in a similar manner (Bass, 1990). The concept of role modeling as an appropriate example to emulate was first identified in House's (1977) theory of charismatic leadership and later in Bass's (1985) theory of transformational leadership. Kouzes and Posner (1995) identified "modeling the way" as a leadership practice common to successful leaders and wrote that "managers may speak eloquently about vision and values, but if their behavior is not consistent with their stated beliefs, people will ultimately lose respect for them" (p. 12).

These theorists incorporated role modeling into their leadership theories. They believed that to be credible and effective leaders, managers must proactively set a positive example through their own behavior and thus serve as role models to their subordinates. According to Rich (1997), leadership by example is critical because lower level managers tend to emulate the work habits, positive attitudes, and goals of their leaders and are less likely to "go the extra mile" if their superiors are not willing to do the same.

Furthermore, Bass (1990) noted that by role modeling, leaders can teach their employees to operate in a similar manner creating a climate in which employees exhibit the same type of leadership as the boss. This example or model could be associated with a specific leadership behavior or could be broader in scope and associated with a leader's values and beliefs guiding the supervisor to work hard, behave ethically, or motivate his or her own followers. When interacting specifically with subordinates, the leader may provide a positive example that demonstrates how the lower level supervisor should manage his or her own direct reports (Bass, 1990).

Leaders may also demonstrate how *not* to behave with direct reports, especially when the subordinate observes first-hand the negative role model's actions and the resulting consequences. For instance, in one study supervisors reported learning managerial behaviors after experiencing positive role models (learning what to do), as well as negative role models (learning what not to do) (McCall et al., 1988).

#### *Social Learning Research*

Manz and Sims (1988) proposed that modeling may be a mechanism to help followers learn to lead themselves, but it is also a complex phenomenon that goes beyond just mere imitation. In one study, they found that leaders who previously viewed videotaped supervisors reprimanding subordinates later showed less positive reinforcement and goal setting behavior in their own interactions with subordinates (Manz & Sims, 1988).

Other studies found that employees who observe their superiors more frequently have a greater opportunity to cognitively store examples of their leaders' behavior and use

these memories of leader behavior to guide their own behavior when handling organizational challenges and dealing with various employees within the organization (Yukl, 2002).

### *Social Learning Summary*

Based on the social learning literature, one might expect that better performing managers elicit higher performance from their subordinates due to the role modeling of superior managerial behavior and performance. This research study examined whether better performing bosses bring about similar behaviors in their subordinates. If social learning occurred, subordinates would eventually demonstrate the same superior leadership skills as their managers.

While role modeling is one particular way leaders may develop their direct reports, it is not the only type of learning method used to train lower level managers. Leaders also attempt to influence their subordinates through operant conditioning and, specifically, contingent reinforcement techniques, such as performance feedback.

### *Operant Learning Theory and Performance Feedback*

#### *Overview*

Performance feedback, which is the most commonly used contingent reinforcer provided by leaders, continues to be widely applied as a method to change performance in a variety of organizational settings and across all organizational levels (Alvero, Bucklin, & Austin, 2001). Performance feedback has also generated numerous research and review papers over the last several decades (Alvero et al., 2001; Balcazar, Hopkins, & Suarez,

1986; Prue & Fairbank, 1981), and the general value and importance of receiving feedback as a means of directing and reinforcing behavior have been recognized (Larson, 1986).

### *Theoretical Basis*

Prue, Freidericksen and Bacon (1978) defined feedback as “information provided to individuals about the quantity or quality of their past performance” (p. 216). Latham and Yukl (1979) theorized that performance feedback or “knowledge of results” could lead to an increase in effort and performance. The delivery of feedback to change performance is based on reinforcement theory, which asserts that learning occurs through a person’s direct experiences with positive and negative consequences, such as praise or criticism.

Leadership theorists have long incorporated feedback as an important part of supervision (London, Larsen, & Thisted, 1999). For instance, Bass’s (1985) transformational leadership model links feedback to charisma and individualized consideration. Additionally, Podsakoff and his colleagues (Podsakoff & MacKenzie, 1995; Podsakoff, MacKenzie, & Fetter, 1993) maintain that praise and criticism are important to effective leadership. These various theories claim that leaders facilitate the development of employees when they explicitly tell their subordinates the expected standards for performance and advise these employees, at the very least, on how to improve and overcome shortcomings in performance, or even better, how to improve performance when employees are currently meeting or even exceeding standards (Dvir & Shamir, 2003).

*Research in Performance Feedback*

Over the last several decades, researchers have investigated whether leaders facilitate the development of employees by providing performance feedback results (Alvero et al., 2001; Balcazar et al., 1986; Kluger & DeNisi, 1996). Researchers have generally established that feedback under the right conditions leads to performance improvements (Ilgen, Fisher, & Taylor, 1979). Three different reviews of the feedback research literature found similar results (Alvero et al., 2001; Balcazar et al., 1986; Kluger & DeNisi, 1996). Feedback has a moderately positive effect on performance outcomes, and certain characteristics of feedback are more consistently associated with improved performance. However, feedback does not uniformly improve performance; more than 38% of the effects found in one review were negative (Kluger & DeNisi, 1996). The addition of other behavioral management procedures tends to improve the consistency of the feedback's effect. The combination of feedback with goal setting or behavioral consequences (reinforcers) was much more effective than feedback alone (Alvero, et al., 2001). Therefore, the authors concluded that feedback must be constructive in order to help. In summary, providing performance feedback is an essential component in changing employees' job-related skills, but it is most effective when used in combination with other behavioral change procedures.

Several studies have examined feedback's effect when provided specifically by supervisors. Feedback delivered by supervisors and managers has been more frequently associated with consistent effects than feedback from any other sources (Alvero et al., 2001; Balcazar et al., 1985). However, it is important that subordinates accept and agree

with their supervisors' performance feedback (Ilgen et al., 1979). Agreement and acceptance are more likely if the feedback is positive, clear, and convincing (Jacobs, Jacobs, Feldman, & Cavior, 1973) and if the supervisor is highly credible and gives feedback frequently (Bass, 1990; Shaw & Fisher, 1986). According to Stone, Gueutal, and MacIntosh (1984), the credibility of the superior's feedback is likely to be enhanced if the subordinate believes the superior is highly knowledgeable about the subordinate's job and has sufficient opportunities to observe the subordinate's performance.

#### *Performance Feedback Summary*

Research findings on the effects of performance feedback are inconsistent. Feedback, however, is clearly more productive and beneficial when combined with other behavioral techniques (Dvir & Shamir, 2003). Characteristics of both the feedback itself and the underlying supervisor-subordinate relationship can greatly improve the impact of performance feedback (Alvero et al., 2001; Balcazar et al., 1985).

An optimal supervisor-subordinate relationship may be one in which the manager values employee development and focuses on the betterment of his or her direct reports. This type of manager is more inclined to provide consistent and constructive feedback to developing employees. One might also expect that bosses who receive higher performance ratings are more likely to provide effective feedback to their subordinates possibly contributing to the higher performance of these subordinates over time. This research study examined whether better performing bosses who are rated higher in developing their employees improve subordinate performance over time.

## *Mentoring*

### *Overview*

In the last couple of decades, there has been increased interest in the use of formal mentoring programs to facilitate leadership development (Noe, 1991). Mentoring occurs when a more experienced, higher-level manager helps develop a less experienced protégé, and usually the mentor is not the protégé's immediate boss. As a potential training method, mentoring may be more effective than other training options, because it is more likely to be linked to learning by doing, like on-the-job training (Churchill, Ford, & Walker, 2000).

From an organizational perspective, mentoring can be viewed as an especially effective approach to developing future leaders (Carter, Giber, & Goldsmith, 1999). In a survey of over 350 companies, leadership development efforts described as most successful included mentoring programs, action learning, and 360-degree feedback (Carter et al., 1999).

### *Mentoring Research*

Although many large organizations have either implemented or plan to implement formal mentoring programs as a method of fostering career development (Douglas & McCauley, 1997), very little research exists on mentoring processes and programs. As Ragins and Cotton (1999) noted, these formal programs are being implemented without the benefit or direction of empirical research. The current rapid implementation and use of mentoring programs within organizations may represent a situation where practice has outpaced research (Allen & Poteet, 1999). Initial results indicate that there are differential

outcomes between formal and informal mentoring programs, with more positive benefits associated with informal mentoring (Chao, Walz, & Gardner, 1992; Ragins & Cotton, 1999; Day, 2001).

The minimal research that has been done on mentoring has found support for the proposition that mentoring results in greater career advancement and success for the protégé (Chao et al., 1992; Dreher & Ash, 1990; Scandura, 1992; Turban & Dougherty, 1994; Whitely & Coetsier, 1993). Compared with employees who have not been mentored, protégés in a variety of industries, from retail stores to accounting firms, report increased job satisfaction (Collins, 1994; Whitely & Coetsier, 1993), increased income (Chao et al., 1992), more rapid career progress and increased job motivation (Gaskil & Sibley, 1990), and increased self-confidence and encouragement of creativity (Fagan & Walter, 1982). However, no known research has reported improved performance or enhanced leadership effectiveness.

Although even less is known regarding mentor effects, evidence exists that mentoring may also provide benefits to the mentor (Wilbur, 1987; Pullins & Fine, 2002). Mentors may benefit from the mentoring experience, because it is likely to increase job satisfaction and help them develop their own leadership skills (Yukl, 2002). Mentoring may also refresh various skills as the mentor re-examines his or her own performance in order to train the protégé (Hollister, 2001).

A few research studies have found that mentoring does benefit the mentor. Wilbur (1987) noted that career advancement was predicted both by mentoring given and mentoring received. In other research, mentors reported that providing exposure to the

protégé rejuvenated their careers and made the mentors feel more involved with their jobs (Pullins & Fine, 2002). The mentors also reported greater job satisfaction and improved job performance after developing a protégé's selling skills.

Additionally, little is known regarding effective mentor characteristics and skills. As Day (2001) noted, more attention is needed regarding the apparent overlap between developing sound mentoring skills and leadership development. One study explored the ideal mentor characteristics which should lead to greater protégé development (Allen & Poteet, 1999). Results of this qualitative analysis found a number of different dimensions of ideal mentor characteristics, such as listening and communication skills, patience, knowledge of organization and industry, ability to read and understand others, and honesty and trustworthiness. To the extent that a mentor is seen as displaying these behaviors and characteristics, a more beneficial mentoring relationship is predicted (Allen & Poteet, 1999).

In general, the mentoring literature suggests that mentoring can be a useful technique for facilitating career advancement, adjusting to job promotions, and improving job satisfaction of a protégé (Yukl, 2002). However, little research exists on the ways a mentor actually facilitates the development of leadership competencies in a protégé, and little is known about the skills, values, and behaviors most likely to be acquired or enhanced in a mentoring relationship (Allen & Poteet, 1999).

A ripe area for mentoring research is the superior and subordinate dyad. A mentoring relationship may naturally emerge between a supervisor and his or her

subordinate, and as Clawson (1985) suggested, these naturally occurring mentoring relationships should be examined to shed light on mentoring outcomes.

#### *Future Mentoring Studies*

Bass (1990) and Yukl (2002) strongly urged increased research on the mentoring of subordinates by leaders or supervisors. They advocated this line of research because it might provide support for the contention that transformational leadership augments transactional leadership and provides significant performance improvement over and above that explained by transactional leadership alone. Bass (1990) and Yukl (2002) viewed supervisory mentoring as a transformational activity involving leader and subordinate commitment to the long-term development of the subordinate. They believed developmental changes are made within the subordinate by the sharing of values, knowledge, and experience.

In 1994, Scandura and Schriesheim explored whether supervisory mentoring augments the leader-member exchange (LMX) relationship and accounts for additional variance over LMX in respect to rated performance, salary progression, and promotion rate. They found that supervisory mentoring added significantly to rated salary progression and promotion rate (but not performance) over LMX alone. While LMX did not augment the effects of supervisory mentoring for salary progression and promotion rate, a significant relationship was found between LMX and performance (Scandura & Schriesheim, 1994).

The researchers explained these results by arguing that LMX focuses on providing resources necessary for positive short-term career outcomes, such as high performance

appraisal ratings. However, supervisory mentoring is developmental and therefore more related to long-term outcomes, such as salary progression and promotion growth over time. Scandura and Schriesheim (1994) concluded that managerial success is a multidimensional outcome, which implies the need for managers to have both a good exchange and mentoring relationship with their superiors.

#### *Summary of Mentoring Research*

Based on initial studies, mentoring impacts certain subordinate outcomes, such as faster salary progression, greater career advancement, and increased job satisfaction (Chao et al., 1992; Collins, 1994; Gaskil & Sibley, 1990; Whitely & Coetsier, 1993). Mentoring relationships, however, have not demonstrated an improvement in subordinate job performance or leadership behavior, though little research has examined these particular outcomes.

The mentoring literature describes developmental relationships that can also emerge between a manager and his or her subordinates and suggests that these types of developmental relationships will relate to the career success of the lower level manager (Clawson, 1985). Similar to a mentor, managers who are rated higher in coaching and developing their subordinates should make a greater impact on subordinate performance over time than managers who are rated lower in these skills. Additionally, if managers assume an active coaching and mentoring role with their direct reports, the subordinates' performance may improve across various performance dimensions unlike the effects of social learning which impact only corresponding areas of subordinate performance. This research study investigated whether higher performing, developmentally focused managers

improve their subordinates' performance among a range of leadership dimensions over time.

### Leadership Theories

Since supervisors are responsible for training and guiding subordinates on a day-to-day basis, an immediate supervisor's skill in influencing, directing, motivating, and developing employees should play a major role in determining the performance level and development of subordinates (Varma et al., 1999). Indeed, that is the key theoretical process by which leaders are thought to impact organizational performance—through their influence on followers (Bass, 1985).

Based on this assumption, various theories, including Transformational Leadership and Leader-Member Exchange (LMX), have proposed that a supervisor's leadership skills and behaviors influence subordinate performance (Bass, 1985; Graen & Uhl-Bien, 1995). Moreover, tests of these theories find general support for the idea that certain leader behaviors and management styles make a greater impact on follower performance than other leader behaviors (Bass et al., 2003; Dvir et al., 2002; Howell & Hall-Merenda, 1999; Judge & Piccolo, 2004). These leadership theories and research results are described in further detail throughout the following section.

#### *Two-Factor Model: Consideration versus Initiating Structure Behavior*

##### *Historical Overview*

The two-factor models of managerial behaviors, such as those developed as part of the Ohio State (Stogdill, 1950) and Michigan studies (Katz & Kahn, 1952), dominated early leadership research. These research studies investigated the relationship between

managerial behaviors, specifically initiating structure and consideration behaviors, and employees' attitudes and performance (Yukl, 2002). Across these studies, researchers found that the behavior categories of initiating structure and consideration were independent, and leaders could be rated high on one and low on the other, or alternatively high or low on both categories (Yukl, 2002). Although research has found some support that leaders who are rated highly on both skill factors are more effective (Fleishman, 1998), results of these studies have been inconsistent, contradictory, and inconclusive (Bass, 1990; Yukl, 2002).

Across the two-factor model studies, the most consistent finding was a positive relationship between consideration and subordinate satisfaction (Bass, 1990; Yukl, 2002). Although initiating structure tended to be related to greater productivity and performance in some studies (Judge et al., 2004), these particular results were not consistent across the Ohio State leadership research. Studies examining the high/high leader also found support for the proposition that these types of leaders performed better than others, but again the results were weak and inconsistent (Fisher & Edwards, 1988).

Prior to recent meta-analyses, consideration and initiating structure were widely viewed to be of limited validity and utility in contemporary leadership research and application (Judge et al., 2004). In 1979, Davis and Luthans concluded after an extensive review of the leadership literature that the two-factor models of managerial behaviors lacked the ability to predict manager success. Even as recently as 1997, Northouse stated that researchers have not been able to establish a consistent link between relationship- and task-oriented behaviors and outcomes such as morale, job satisfaction, and productivity.

### *Current Two-Factor Model Research*

A recent meta-analysis (Judge et al., 2004) more extensively examined consideration and initiating structure research and found that these leadership behaviors were related to various follower and leader outcomes. Specifically, consideration exhibited stronger relationships with follower satisfaction, follower motivation, and leader effectiveness than did initiating structure. Initiating structure was found to relate to group-organization performance slightly more strongly than consideration. To some extent, the belief that followers prefer considerate leaders but will perform more effectively for structuring leaders was supported. However, consideration was also linked to leader job performance and group-organization performance, and initiating structure was linked to leader satisfaction. Both behaviors were associated with follower motivation and leader effectiveness, with consideration being somewhat more important.

Based on these findings, Judge et al. (2004) claim that consideration and initiating structure are important pieces in the leadership puzzle. The results of their review revealed that both consideration and initiating structure behaviors affect numerous criteria of effective leadership; therefore, Judge et al. (2004) argue that these behaviors are fundamental indicators of effective leadership.

### *The Two Factor Model and Current Leadership Theories*

Although initiation and consideration behaviors have been shown to be related to performance (Judge et al., 2004), Bass (1985) believes that the additional behaviors displayed by more transformational leaders may lead to even higher levels of subordinate performance and satisfaction. The emotionally appealing behaviors that these leaders

demonstrate, such as visioning, empowering, role modeling, risk-taking and supportive behaviors, may result in enhanced follower motivation and improved follower development (Yukl, 2002), because the fundamental nature of transformational leadership involves inspiring, developing, and empowering followers (Bass & Avolio, 1990).

According to Bass (1985), individualized consideration, which is a component of transformational leadership, is unlike the consideration construct in that it focuses on the individual development of followers. He believes transformational leadership could produce higher levels of subordinate effort and performance beyond what would occur with a transactional approach.

A study by Seltzer and Bass (1990) examined whether transformational leadership behaviors made a further impact over and above initiation and consideration behaviors alone in explaining the outcomes of a leader's behavior. Their results revealed moderately strong correlations among transformational leadership, consideration, and initiating structure; however, the transformational scales accounted for 8 to 28% more variability in the outcome measures. These findings support the assertion that transformational leadership augments the managerial behaviors of initiating structure and consideration.

#### *Two Factor Model Summary*

Consideration and initiating structure behaviors may make a modest impact on follower outcomes, such as job satisfaction and performance. However, similar to other leadership research, consideration and initiating structure studies have often been criticized for their reliance on common source data in which the leadership behavior ratings and criteria were collected from the same source (Judge et al., 2004). Although some

relationship between the two factors and subordinate performance has been found (Judge et al., 2004), a causal influence of these managerial behaviors on subordinate performance has not been established.

### *Leader-Member Exchange (LMX)*

#### *Leader-Member Exchange Theory*

Leader-Member Exchange (LMX) theory is based on the premise that high-quality relationships between superiors and their subordinates result in more highly developed employees (Graen & Uhl-Bien, 1995). According to Graen & Uhl-Bien (1995), leaders establish different social relationships with individual followers ranging from low-quality to high-quality exchanges between the leaders and different subordinates. Low-quality LMX relationships are characterized by unidirectional downward influence, exchange behaviors, and formal role-defined relationships, whereas high-quality LMX relationships are characterized by mutual trust, respect, influence and obligation (Graen & Uhl-Bien, 1995).

Certain types of supervisor and subordinate behaviors facilitate the development of such interdependent relationships. Higher levels of supervisor support and guidance toward the “in-group” subordinate fosters a higher quality relationship between the two employees (Graen & Uhl-Bien, 1995). Leaders rely more heavily on these followers and encourage them to undertake more work responsibilities than they normally would. Followers in high-quality LMX relationships interact more frequently with their leaders and have their leaders’ support, confidence, encouragement, and consideration, and they

take on added duties, play a greater role in meeting work goals, and deliver performance beyond contractual expectations (Howell & Hall-Merenda, 2004).

The theory asserts that these close, mutually supportive relationships between the leader and his or her employees leads to several important positive outcomes, such as lower turnover and higher subordinate performance, citizenship behavior, satisfaction, and commitment. Unlike other leadership theories, proponents of LMX theory believe that the “quality” of the relationship is more important for positive employee and organizational outcomes than the actual traits or behaviors of the superior (Graen & Uhl-Bien, 1995).

Intuitively, the link between LMX and performance makes sense. Compared to dyads with low quality exchanges, subordinates in high-quality LMX relationships are in a better position to receive additional information, support, and attention that could contribute to improved performance (Dunegan, Uhl-Bien, & Duchon, 2002; Graen & Cushman, 1975).

#### *Leader-Member Exchange Research*

*General LMX research.* Research in the area of LMX theory has not found overwhelming support for its premises, especially the belief that these close relationships lead to improved employee performance. Several studies investigated the association between LMX and performance. Some studies found weak (Rosse & Kraut, 1983), mixed (Vecchio & Gobdel, 1984; Wayne & Ferris, 1990) or nonsignificant results (Liden, Wayne, & Stilwell, 1993; Vecchio, 1982). Other empirical studies (Graen, Novak, & Sommerkamp, 1982; Liden & Graen, 1980; Liden, Wayne, & Stilwell, 1993; Scandura & Schriesheim, 1994; Wayne, Shore, & Liden, 1997) and a recent meta-analysis (Gerstner &

Day, 1997) have demonstrated positive relationships between LMX and subordinate performance ratings. Thus, the association between LMX and performance is not reliable and still not fully understood.

Researchers have also examined the relationships between LMX and other outcome variables, such as subordinate development, career progression, and advancement. Positive relationships between LMX and employee development were found (Graen & Scandura, 1987; Graen, Wakabayashi, Graen, & Graen, 1990; Wakabayashi & Graen, 1984; Wayne, Liden, Kraimer, & Graf, 1999). Additionally, studies of career advancement indicated that the effectiveness of the supervisor-subordinate working relationship is related to career progress and advancement of the subordinate (Scandura & Schriesheim, 1994; Wakabayashi & Graen, 1984; Wakabayashi, Graen, Graen, & Graen, 1988).

However, many of these studies used the superior's ratings to measure subordinate performance and, therefore, might be biased based on liking, a characteristic of the LMX relationship, or even demographic or perceived similarity rather than being an actual measure of true subordinate performance. LMX and performance ratings may both jointly reflect the influence of multiple biases (Duarte, Goodson, & Klich, 1990). Research by Duarte et al. (1990) found support for "halo" biases in superior ratings of subordinate performance when the LMX relationship is high. In contrast, Vecchio and Gobdel (1984) found modest but statistically reliable correlations between LMX and objective measures of performance suggesting that the LMX relationship may actually result in heightened employee performance.

There is still not enough conclusive LMX research to indicate that the relationship between superiors and their subordinates results in higher subordinate performance or increases subordinate leadership effectiveness. Several researchers (Graen & Scandura, 1987; House & Aditya, 1997) have noted that LMX may be a better explanation for the development of superior-subordinate relationships than for the effects of leaders on followers' performance.

*LMX and transformational leadership research.* Some researchers have tried to integrate theoretically transformational and LMX models of leadership (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995). According to Graen and Uhl-Bien (1995), LMX is both transactional and transformational because it begins as a transactional social exchange and may evolve into a transformational social exchange. They posited that low-quality LMX, which is characterized by downward influence, economic exchange and formally defined relationships, is equivalent to transactional leadership. Followers comply to a leader's requests because of their reporting relationship to the leader and the leader's control of rewards, whereas high-quality leader-follower relationships, based on mutual trust, respect and extra effort by the follower, are aligned with transformational leadership in which the leader inspires followers to transcend their own self-interest for the broader collective purpose (Graen & Uhl-Bien, 1995).

Howell and Hall-Merenda (1999) examined the joint impact of the behaviorally based transformational leadership model and the relationship-based LMX model on predicting follower performance. This was the first large-scale attempt to empirically test the link between LMX and transformational models of leadership. They found that LMX

and active management by exception each directly and positively predict follower performance over time and that LMX, transformational, and contingent-reward leadership are positively related.

Howell and Hall-Merenda (1999) also examined physical distance as a potential moderator influencing both the LMX relationship and transformational leadership on predicting follower performance. Their results indicate that transformational leadership is significantly more effective in predicting follower performance under close conditions, whereas LMX predicts follower performance irrespective of physical distance.

Howell and Hall-Merenda's research (1999) contributes to the leadership literature by supporting the idea that high-quality leader-follower relationships are positively associated with transformational leadership behaviors and transformational leadership theory may complement ideas about the formation of high-quality relationships in a mutually reinforcing way (Deluga, 1992).

*Moderators of the LMX and performance relationship.* Dunegan et al. (2002) examined other moderators, which may affect the LMX relationship and its impact on performance. They found a significant direct relationship between LMX and performance. However, when these relationships were examined more closely, they were not always significant and varied with differences in situational factors. According to the findings, positions with low levels of intrinsic satisfaction and ambiguity neutralize the relationship between LMX and performance. On the other hand, jobs high in intrinsic satisfaction and high ambiguity, such as management positions, are conditions that enhance the LMX and performance relationship. Under these conditions, differences in LMX quality are

associated with differences in performance, with higher LMX scores correlating with higher subordinate performance.

*Other factors affecting the LMX relationship.* LMX research found that a leader's upward dyadic relationship with his or her superior affects the downward dyadic relationships with the leader's subordinates (Cashman, Dansereau, Graen, & Haga, 1976; Graen, Cashman, Ginsburgh, & Schiemann, 1977). These findings imply that a manager who has a favorable exchange relationship with his or her boss is more likely to establish a favorable exchange relationship with subordinates. Possibly, a favorable upward relationship enables a manager to obtain more benefits for subordinates and to facilitate their performance by obtaining necessary resources, cutting red tape, and gaining approval for changes desired by subordinates (Cashman et al., 1976; Graen et al., 1977). There is less reason for subordinates to take on extra obligations if the leader has little to offer in the way of extra benefits, opportunities, and empowerment. The research also found that subordinates, regardless of their own relationship with the manager, felt the effects of their manager's upward relationship with his or her boss (Cashman et al., 1976; Graen et al., 1977). Managers with favorable upward relationships were described by subordinates as having more technical skill, providing more outside information, allowing more participation in decision making, allowing more subordinate autonomy, and providing more support and consideration (Yukl, 2002).

*LMX research summary.* One issue that has not been addressed adequately in LMX research is whether high LMX employees actually "exchange" higher levels of performance in return for the positive outcomes they receive. According to Duarte et al.

(1993), there are possible biases operating in favor of high LMX employees, which are supported by the lack of significant positive correlations between LMX and objective measures of performance (Liden et al., 1993; Vecchio, 1982). The ratings of poorly performing, high-quality LMX employees appear to be inflated by factors other than task performance. The results tend to favor the notion that affect plays a role in the rating process. As in the case with most leadership studies, LMX studies which reported significant relationships typically used subjective, common source measures of performance.

### *Transformational Leadership*

#### *Transformational Leadership Theory*

Transformational and charismatic leadership theories describe how certain leaders are able to achieve extraordinary levels of follower motivation, admiration, trust, commitment, and performance by demonstrating emotionally appealing leader behaviors, such as visioning, empowering, role modeling, image-building, risk-taking and supportive behaviors (Yukl, 2002). Transformational theories espouse that these particular leader behaviors result in not only increased follower motivation and improved follower development but greater organizational achievement as well (Yukl, 2002).

Transformational leadership differs from the exchange theories of leadership, such as transactional leadership, in that the fundamental nature of transformational leadership involves inspiring, developing, and empowering followers (Bass & Avolio, 1990).

The Full Range Leadership Model (Bass & Avolio, 1990) differentiates between transactional and transformational leaders. According to this model, transactional leaders

influence subordinates by setting goals, clarifying desired outcomes, providing feedback, and exchanging rewards for accomplishments (Bass & Avolio, 1990). Transformational leaders, on the other hand, exert additional influence by expanding and elevating followers' goals and providing them with the confidence necessary to perform above the expectations in the exchange agreement (Dvir et al., 2002). Transformational leaders wield this influence by exhibiting charismatic behaviors, arousing inspirational motivation, providing intellectual stimulation and treating followers with individual consideration (Bass & Avolio, 1990). These behaviors transform their followers helping them to reach their full potential and produce the highest levels of performance.

#### *Transformational Leadership Research*

*General transformational leadership research.* Numerous field survey studies have examined transformational leadership behavior and its relationship to leadership effectiveness, follower motivation, and follower performance. Lowe, Kroeck, & Sivasubramanian (1996) conducted a meta-analysis of results from 39 of these studies and found three transformational behaviors (charisma, individual consideration, and intellectual stimulation) were related to leader effectiveness in most studies. Although individual consideration and intellectual stimulation were both consistently associated with subordinate perceptions of leader effectiveness, charisma was the transformational behavior most strongly related to leader effectiveness regardless of organization type, level of the leader, or effectiveness measure.

Additionally, transformational leadership behavior correlated more strongly and consistently with leader effectiveness than did the transactional behaviors; however,

contingent reward behavior, a transactional leadership behavior, also correlated with leader effectiveness in some studies (Lowe et al., 1996). Consistent with other leadership survey research, the relationship between transformational leadership and outcome measures was stronger for subordinate self-rated effort than for independent measures of leader effectiveness, such as ratings of the leader by superiors or objective performance of the business unit.

Lowe and his colleagues (1996) also found lower level leaders were rated higher than upper level leaders on all three transformational leadership scales. The authors suggested that leadership at upper levels in the organization may not utilize the opportunity to elevate the performance of their subordinates using transformational leadership. It is possible that top leaders assume their direct reports do not need transformational leadership and should be naturally self-motivated, self-developing, and high performing since they are also leaders in the organization. Alternatively, Lowe et al. (1996) also suggested that the differences found between upper and lower managerial levels may reflect the functional demands placed within the organizational hierarchy. Lower level leaders have more day-to-day contact with subordinates and have a greater opportunity to affect work outcomes through frequent displays of charisma, individual consideration, and intellectual stimulation of subordinates.

Another more recent and extensive meta-analysis (Judge & Piccolo, 2004) examined the Full Range Leadership Model, including transformational, transactional, and laissez faire leadership behaviors. Lowe et al.'s prior meta-analysis (1996) comprised survey research, which examined only part of the Full Range Leadership Model and

utilized only the Multifactor Leadership Questionnaire as the leadership measure. In Judge and Piccolo's research (2004), they found that transformational leadership displayed stronger relationships with criteria that reflect follower satisfaction and motivation than with criteria that reflect performance. However, the performance measures were objective in nature and, therefore, consistent with other research results which demonstrated higher correlations between transformational leadership and subjective criteria.

Charisma also displayed higher validities with the criterion measures more than the other transformational leadership factors. The effect sizes for transformational leadership in this study were not nearly as strong as those reported in Lowe et al. (1996). However, many more studies were included in the meta-analysis, and according to the researchers, more rigorous designs have been commonplace since the mid-1990s (Judge & Piccolo, 2004).

Furthermore, contingent reward leadership had validity levels comparable with transformational leadership. Based on these findings, both types of leadership affect subordinate outcomes. However, under more rigorous research designs (e.g., longitudinal studies or research using criteria from different data sources), transformational leadership was considerably more valid, and when controlling for contingent reward, transformational leadership was a stronger predictor of the leadership criteria (Judge & Piccolo, 2004).

In summary, transformational and transactional leadership have been shown to display a positive relationship with performance (Judge & Piccolo, 2004; Lowe et al., 1996). A causal relationship between transformational leadership and follower performance, however, has only rarely been demonstrated because most prior studies have

used static, correlational, or nonexperimental designs (Kirkpatrick & Locke, 1996). Additionally, most studies rely on ratings of leadership and outcomes collected from a single source, leaving their results open to common-source, common-method bias (e.g., Bycio, Hackett, & Allen, 1995). Fewer studies have utilized survey data for both leadership and outcome variables collected from multiple sources (e.g., Dvir et al., 2002; Keller, 1992).

*Transformational leadership causal research.* Only four studies to date have examined the causal relationship between transformational leadership and follower performance. First, Kirkpatrick and Locke (1996) investigated three leadership behaviors (visioning, expressive style of communication, and clarifying task objectives and methods) and their effects on followers. Followers with a visioning leader perceived the task to be more interesting, challenging and important, and they set higher performance goals, had greater trust in the leader, and perceived the leader to be more charismatic, inspirational, and intellectually stimulating. Visioning had a positive effect on quality of follower performance (mediated by higher goals for quality and more self efficacy) but did not affect quantity of follower performance. Clarifying behavior had a positive effect on follower role clarity, job satisfaction, perceived leader intellectual stimulation, and both the quality and quantity of followers' performance (quantity was mediated by higher goals for quantity). Style of communication affected ratings of leader charisma but did not affect follower attitudes or performance.

Barling, Weber, and Kelloway (1996) conducted a field experiment to evaluate the effect of managers who were trained to use more transformational leader behavior. One

group was trained to use more intellectual stimulation and individual consideration, and these managers were compared with a control group of managers who received no training. The results showed higher organizational commitment and improved performance of the employees reporting to managers trained in transformational leader behavior.

In another field experiment, Dvir, Eden, and Shamir (1999) examined transformational leadership of infantry officers in the Israeli Defense Force. Some of the officers attended a three-day workshop on transformational leadership as a substitute for the regular leadership training that other officers received. The results showed that the leaders trained in transformational leadership demonstrated more transformational behavior than the control group leaders. The direct reports of the transformational leaders achieved higher scores on measures of motivation, including self-efficacy, individual thinking, and extra effort. Also, the platoons led by officers in the experimental condition performed better in the field training exercises than platoons led by leaders in the control group (Dvir, et al., 1999).

In a longitudinal study, Dvir et al. (2002) explored the impact of transformational leadership on follower development and performance for both direct and indirect reports and its lasting causal impact on the followers' performance. A subset of the squad's leaders received transformational leadership training compared to a control group who received routine leadership training. The transformational leaders had more of a positive impact on direct followers' development and indirect followers' performance than the controls' impact on their reports, which supports core causal propositions of transformational leadership theory. Among the direct followers, transformational

leadership enhanced their development as determined by motivation, morality, and empowerment measures. Performance improved for the indirect followers, yet similar improvement in these followers' development was not found. The researchers proposed that the effect on indirect follower development may take longer than the measurement time frames used in the study.

*Transformational leadership research summary.* Empirical evidence suggests that transformational leadership or its components predict positive performance outcomes in field studies (Barling et al., 1996; Curphy, 1992; Hater & Bass, 1988; Howell & Avolio, 1993; Keller, 1992), laboratory studies (Howell & Frost, 1989; Kirkpatrick & Locke, 1996), and meta-analytic studies (Judge et al., 2004; Lowe et al., 1996). Thus, transformational leaders, who encourage followers to question assumptions and generate new ideas, develop their capabilities, and inspire them to accomplish challenging future goals, are expected to enhance followers' performance on the job (Dvir et al., 2002).

Research findings also indicate that contingent reward leadership relates to follower satisfaction and performance (Hunt & Schuler, 1976; Klimoski & Hayes, 1980; Podsakoff, Todor, Grover, & Huber, 1984; Podsakoff, Todor, & Skov, 1982; Sims & Szilagyi, 1975), although negative relationships have been reported as well (Howell & Avolio, 1993; Yammarino & Bass, 1990).

In summary, the majority of previous studies and two meta-analyses have demonstrated that both transformational leadership and transactional contingent reward leadership relate to follower outcomes, although transformational leadership is more

positively related to these outcome variables than contingent reward leadership (Curphy, 1992; Judge et al., 2004; Lowe et al., 1996).

The main criticism of this research cited in both previous meta-analyses (Judge et al., 2004; Lowe et al., 1996) is the lack of research that unequivocally demonstrates the relationship between transformational leadership and follower performance due to the generally weak methodological designs of most leadership survey research.

*Future research in transformational leadership.* Questions remain regarding transformational leadership and its effect on followers. The direction of the causal relationship between leader transformational performance and subordinate performance is still unclear. Although an association between transformational leadership and follower performance has been consistently found in the leadership research, this relationship may exist due to the impact the subordinate makes upon his or her supervisor. High follower performance might possibly influence leaders to become more transformational.

Furthermore, although many believe that transformational leaders induce changes in followers' psychological states resulting in improved follower outcomes (Shamir, House, & Arthur, 1993; Avolio, Weichun, Koh, & Puja, 2004), it is uncertain if these states and improved outcomes continue after the separation of leader and follower. There is no evidence demonstrating stable and long-term effects of leaders on followers' self-esteem, motives, desires, preferences, or values (House & Aditya, 1997). One final question remains- since transformational leaders are expected to role model desired subordinate performance, do transformational leaders develop their subordinates to become

transformational leaders themselves through a cascading process of learned leadership behaviors?

### Cascading Leadership

#### *Theoretical Basis*

In 1990, Bass questioned whether strong leaders at one hierarchical level alternate with weak leaders at the next level below or whether similar styles and strengths of leadership are reflected in one management level to the next through a “cascading” process. These two opposing theoretical propositions have been discussed in the leadership literature. Burns (1978) originally suggested that charismatic leaders become models of dedication, caring, and participation imitated by successive layers of followers. A few years later, Bass and his colleagues (1987) proposed a “cascading effect” of leadership styles based upon prior findings that managers at various levels within an organization tend to adopt similar leadership behaviors.

In contrast, Tichy and Ulrich (1984) proposed that organizational changes envisioned by top management require lower level managers to adopt different leadership behaviors. Rather than modeling the same strategic behavior of the superior, lower level managers must demonstrate behaviors supporting the practical implementation of their superiors’ long-term visions (Tichy & Ulrich, 1984). Only a few studies have actually tested these two opposing theories (Bass, Waldman, Avolio, & Webb; 1987; Stordeur, Bandenberghe, & D’hoore, 2000).

*Cascading Leadership Research*

*General research.* Bass and his colleagues' original proposition (1987) was based on previous research findings that leadership behavior patterns exhibited among managers were reflected in similar behavior patterns in their subordinates, who were also supervisors (Bowers & Seashore, 1966; Misumi, 1985; Ouchi & Maguire, 1975; Stogdill, 1955). For instance, Bowers and Seashore (1966) found that supervisors who emphasized goals and initiated interaction with their subordinates were related to the extent that their superiors exhibited the same behaviors. Stogdill (1955) examined the effects of leader-subordinate interactions on the interactions at the next level in the management hierarchy and found participatory leadership at lower levels depended on it being practiced at higher levels. In other research, Ouchi and Maguire (1975) found that managers tended to use the same control methods as their superiors when dealing with subordinates. Finally, Misumi (1985) reported that the supervisory styles used by different managerial levels within a departmental unit tended to be similar up and down the department hierarchy.

*Cascading leadership research.* Based on these research results, Bass et al. (1987) predicted that patterns of leadership cascade from one management level to another as a consequence of selection, modeling, and other processes. Bass and his colleagues (1987) obtained initial support for the cascading phenomenon and found that transformational leadership cascaded from one management level to the next. Of the transformational leadership components, charismatic leaders, more so than others, tended to have subordinates who demonstrated similar leadership qualities. Furthermore, significant correlations were observed between first-level and second-level superiors' leadership

behavior in three of the four transformational leadership components, actual charisma ( $r = .35, p < .05$ ), individual consideration ( $r = .26, p < .05$ ), and intellectual stimulation ( $r = .28, p < .05$ ). Results, however, were mixed for transactional leadership ( $r = .51$  for contingent reward, and  $r = .04$  for management by exception). These results imply that although charismatic leaders may be more likely to serve as a model of leadership, transactional leaders also serve as models of particular leadership behaviors.

While leadership patterns of subordinates and superiors tended to match each other in Bass et al.'s study (1987), the process of how the cascading effect occurs is unknown. Bass et al. (1987) suggested that subordinates may be modeling the same behaviors that the manager exhibits (Manz & Sims, 1988; Hogan, Curphy, & Hogan, 1994; Shamir, House, & Arthur, 1993; Waldman & Yammarino, 1990). However, differential selection is another possibility; upper level managers might select lower level supervisors who are already stylistically compatible with themselves (Klein & House, 1995; Waldman & Yammarino, 1999; Avolio & Bass, 1995). Another plausible explanation is the organizational culture. The organization itself might reinforce and reward a particular behavioral style of management (Hollander & Offerman, 1990; Schneider, 1987; Stordeur, Vandenberghe, & D'hoore, 2000).

#### *Alternative Theories of Cascading Leadership*

Since 1987, other theorists have proposed various alternate ideas regarding the cascading effect (Klein & House, 1995; Waldman & Yammarino, 1999). Most of these theorists focused specifically on the charisma factor of transformational leadership, and they believed that charisma is the one aspect of transformational leadership most likely to

cascade from higher levels to lower levels of the organization. Klein and House (1995) proposed that the perception of a leader's charisma among his or her followers is conducive to the spread of charisma to the followers' own subordinates, thus a "cascading hypothesis."

In contrast, Avolio and Bass (1995) suggested that individualized consideration, more so than charismatic leadership, diffuses throughout the organization. In some organizations, individualized consideration behaviors may begin with senior management and then cascade downward in the organization through built-in structures and processes, such as working relationships, expectations, rewards, and guidelines for treating employees. Avolio and Bass (1995) believe that senior management, even the founder, often sets the expectation for developing a learning or developmentally focused culture. Additionally, employees may be selected who are oriented toward continuous development, and these employees may also be rewarded for pursuing their own or others' developmental activities. Finally, subordinates may model their own individualized consideration behaviors after their superiors'.

In summary, Avolio and Bass (1995) maintained that if a leader demonstrates a consistent pattern of individualized consideration behavior, this behavioral style will likely diffuse to others in the leader's group, become the norm, and eventually embed within the culture of the group. However, it is unclear whether the cascading effect occurs primarily due to role modeling, selection, organizational expectations, or a combination of these processes.

Waldman and Yammarino (1999) extended this cascading hypothesis and proposed that particular leadership behaviors can either cascade from higher to lower echelons or alternatively can bypass directly to lower echelons. They further believe that role modeling is the primary mechanism that drives the cascading process. Managers who are charismatic and inspirational in the eyes of their followers tend to serve as role models for employees at lower levels (Bass, 1985; Shamir, 1995).

However, the attraction, selection, and attrition cycle described by Schneider (1987) provides an appropriate alternative for considering the likelihood of charisma homogeneity across the organization, especially regarding similarity between a manager and his or her subordinates' leadership behavior. The cycle suggests that homogeneity is created when followers are attracted to a particular leader, are selected specifically by the leader, and tend to remain with the leader due to similarities between the two people.

While other researchers have expanded Bass et al.'s theory of cascading leadership (1987), only one research study was found which examined the cascading effect since Bass et al.'s initial research (1987). Stordeur et al. (2000) investigated the cascading effect of leadership style within nursing departments, yet their findings did not provide evidence of the cascading effect across hierarchical levels. The variation of leadership style was explained more so by the organizational context. Therefore, the study supported the hypothesis that company structure and culture are major determinants of leader behavior.

#### *Future Research in Cascading Leadership*

Although several theorists believe that the cascading effect occurs, Bass and Avolio (1995) noted that research to date has not measured the diffusion of transformational

leadership which requires a longitudinal study. They also suggested that research needs to examine how leadership evolves from the perspective of “bottom-up” as well as “top-down” leadership. Followers may also influence the style of leadership exhibited by the supervisor. Additionally, many theorists have proposed various ways the cascading effect might occur, yet no one has tested these recent theories (Klein & House, 1995; Waldman & Yammarino, 1999) from a longitudinal perspective.

Bass et al. (1987) suggested that future studies utilize a longitudinal design to examine how followers shift their own leadership styles to conform more closely to those of their superiors. They believed a more sophisticated analysis is necessary to obtain a more accurate picture of the developmental side of leadership. In a broad sense, the Bass et al. (1987) findings indicate that managers tend to model any form of active leadership behavior, including charisma, individual consideration, intellectual stimulation, and contingent reward.

#### *Cascading Leadership Summary*

The minimal research in this area generally supports a cascading effect rather than an alternating effect of managerial behavior, but many questions remain. Although there is some support that a cascading effect may occur, research has also found that the alternating effect may be functioning as well (Bass et al., 1987; Dvir & Shamir, 2003). Additionally, the processes responsible for the cascading effect have not been examined in the literature at all, which requires a longitudinal study and either an experimental design or a change in leader to shed light on the cascading process. If the cascading effect occurs, does this effect continue after separation of the leader and subordinate, or does the subordinate begin

to model the leadership behaviors of the new manager? Lastly, it is assumed that the cascading effect occurs through a top down process; however, subordinates may also influence the emergence of certain managerial behaviors demonstrated by their superiors.

### Subordinates' Influence on Supervisor Performance and Leadership Behaviors

Several researchers have emphasized that leadership is a relationship that is jointly produced by leaders and followers (e.g., Shamir & Howell, 1999). However, according to Hollander (1993), the vast majority of leadership research has neglected the important role of followers in shaping the leaders' behaviors and actions. Traditional leadership research focused on the impact of leaders' traits and behavior on followers' characteristics, attitudes, and behaviors, and there is a variety of evidence that demonstrates that leadership affects subordinate performance (Judge et al., 2004; Judge & Piccolo, 2004; Lowe et al., 1996).

#### *Theoretical Basis*

Some theorists have asserted that leaders and followers might both play an active role in forming mutual relationships and thus together shape organizational outcomes (Shamir & Howell, 1999). Subordinates may perform a primary role, not only in the emergence of certain types of leadership, but also impact leaders by empowering them (Dvir & Shamir, 2003).

There are sound theoretical bases from which many argue that subordinate performance can cause the leader to alter his or her style of leadership (Dvir & Shamir, 2003; Katz & Stotland, 1959; Shamir & Howell, 1999). For instance, Katz and Stotland

(1959) proposed that low performance by a subordinate will cause the leader to restrict or further define the subordinate's work activities (a form of initiating structure) in an attempt to improve the subordinate's performance and to express disapproval with current performance (a form of reduced consideration).

*Research in Subordinate Influences on Leader Behavior*

Several studies have investigated the possible effect of subordinate performance on leadership style and behavior, and there are mixed results. Jackson (1953) found that supervisors' leadership styles remained unchanged even through the performance characteristics of the different groups they managed changed substantially, indicating that subordinate performance did not affect subsequent leader behavior. In contrast, research conducted by Farris and Lim (1969), Herold (1977), Lowin and Craig (1968), and Podsakoff and Schriesheim (1985) provided evidence that subordinate performance causes changes in leader behavior. Additionally, Greene (1975) and Sims and Szilagyi (1978, 1979) have shown that even in cases where subordinates bring about changes in leader behavior, leaders also cause changes in subordinates' behavior. Thus, a reciprocal causality exists.

Greene (1975) examined possible directions of causality between leader behavior (consideration and initiating structure) and subordinate performance and satisfaction in a longitudinal study. Reciprocal effects between leader behavior and subordinate performance were found. Highly considerate leaders, who also emphasized structure, caused higher subordinate performance. Additionally, subordinate performance caused changes in a leader's emphasis on both consideration and structure. These findings indicate

that subordinate performance causes changes in a leader's emphasis on consideration and structure.

These results confirm findings by Lowin and Craig (1968) supporting the theoretical position that a leader's attitude and behavior toward his or her direct reports is contingent upon the subordinate's performance. The leader may support and show approval of those subordinates who have positively reinforced him or her by their high performance and be less considerate of subordinates who negatively reinforce him or her through their poor performance. Low performance also caused more leader initiating structure yet, when combined with low consideration, did not produce performance improvement (Greene, 1975). These results support many of the same theoretical propositions underlying Leader-Member Exchange Theory.

One recent study examined the role of follower characteristics in relation to leader outcomes. Dvir and Shamir (2003) examined initial follower characteristics as predictors of actual transformational leadership style in a real-life situation. Dvir and Shamir hypothesized that followers' initial characteristics contribute to the transformational leadership process by influencing their leaders' managerial style. When encountering followers who are compatible to themselves, leaders will be more likely to activate a transformational style, because they perceive their followers as having the appropriate characteristics for such leadership.

The researchers found that followers' initial development level did predict transformational leadership ratings over time. Transformational leadership, therefore, is not solely inherent within a leader as a trait but can change over time based on

characteristics of the followers. However, more surprisingly, Dvir and Shamir (2003) found that indirect followers' initial level of development positively predicted transformational leadership, whereas direct followers' level of development negatively predicted their superiors' transformational leadership. The researchers speculated that the negative relationship between developmental level and the perceptions of transformational leadership among direct followers may operate through three distinct mechanisms: a threat mechanism, a compensatory mechanism, or a disillusion mechanism.

These research results align with findings by Bass et al. (1987) that lower level, highly charismatic leaders would prefer not to have a charismatic superior with whom they may have to compete for power. Leaders who are already developmentally mature professionals may require or demand less from their boss, suppressing their superiors' active transformational leadership, because it may be unnecessary for those particular followers who are already transformational leaders.

#### *Subordinate Influences on Leader Behavior Summary*

As demonstrated in previous research (e.g., Dvir & Shamir, 2003; Greene, 1975), follower developmental level appears to precipitate changes in leadership style of superiors. Longitudinal studies that measure leader behaviors and follower performance do not clearly address causality. Results of these studies are vulnerable to the possibility of opposite or bidirectional causal explanations due to prior relationships between leaders and followers (Howell & Hall-Merenda, 1999). Research of a longitudinal and experimental nature will be necessary to verify the causal relationship between leader behavior and subordinate performance and attitudes. According to Howell and Hall-

Merenda (1999), future research should be designed using newly established leader-follower reporting relationships in order to assess more accurately the direction of causality.

### Skill Acquisition and Job Performance Changes over Time

An individual's job performance changes over time as a person encounters various learning opportunities, develops greater skills, gains expertise, and becomes less or more motivated. A variety of theories have been developed to explain how a person's performance varies over time, and researchers have provided some evidence of how performance can change throughout the employee's career (Ackerman, 1987; Anderson, 1982).

#### *Skill Acquisition Theory*

Based on the belief that the transition from initial learning to skilled performance involves a qualitative shift in information processing (Schneider & Shiffrin, 1977), Anderson (1982) first theorized that skill acquisition can be divided into three distinct hierarchical phases, specifically declarative knowledge, knowledge compilation, and procedural knowledge phases. The declarative knowledge phase of skill acquisition involves the encoding and processing of information necessary to understand and perform the requirements of the task learned. Performance at this phase is slow and error prone. However, once an adequate cognitive representation of this information has been acquired, the trainee is ready to move on to the knowledge compilation phase (Kanfer & Ackerman, 1989). During the knowledge compilation phase, the trainee transfers information presented during the declarative knowledge phase from short-term to long-term memory

by practicing the tasks learned (Kanfer & Ackerman, 1989). Procedural knowledge, which is defined by Anderson (1985) as the knowledge of how to perform various cognitive activities, occurs when the performance of the newly learned skills has become automatic and can be performed with little direction needed (Kanfer & Ackerman, 1989).

According to Ackerman (1988), the relationship between general cognitive ability and performance changes as task performance becomes increasingly automated with practice over the three learning phases. Results of Ackerman's (1988) laboratory research provided some support for the major tenets of this theory. The proposed changes in ability-performance correlations for consistent tasks were demonstrated repeatedly. Inconsistent tasks, however, did not show this same pattern (Ackerman, 1988).

Therefore, transitions between these three phases may not occur for certain positions, such as management, which have high task inconsistency, complexity, and ambiguity. Ackerman (1987) hypothesized that skill acquisition on an inconsistent or complex task does not proceed through the same qualitative shifts as a consistent task, and the transition to phase two and three are either slowed or prevented altogether. According to Ackerman (1987), task complexity, which involves the amount of information provided, memory load, and sheer number of subtasks, can impact the attentional demands of the task, the accuracy of performance, and the time to complete the task.

#### *Individual Characteristics and Job Performance*

Training researchers have since theorized that cognitive ability, personality, and motivation are all important determinants of learning in skill acquisition (Oakes, Ferris, Martocchio, Buckley, & Broach, 2001). It is commonly believed that performance during

the declarative phase depends largely on cognitive ability (Farrell & McDaniel, 2001); however, performance during the knowledge compilation and procedural knowledge phases may be more closely tied to personality or motivational dispositions rather than cognitive ability. For instance, Deadrick, Bennett, and Russell (1997) argued that if the majority of employees are in maintenance stages, individual differences in dispositional factors, rather than cognitive ability, should determine interindividual differences in performance change patterns.

Numerous studies have investigated the role of cognitive-intellectual abilities in predicting individual differences in job performance (e.g., Hunter, 1986). Findings from this large amount of research show a substantial positive relationship between cognitive abilities and job performance (Dunnette, 1976; Hunter, 1986; Hunter & Hunter, 1994; Schmidt & Hunter, 1998).

Hunter and Hunter, in their 1994 study on predictors of job performance, found that cognitive ability has a strong relationship to success in skill acquisition, and there were no jobs for which cognitive ability does not predict training success. Schmidt and Hunter (1998) concluded that cognitive ability is the most valid predictor of job learning and performance. Additionally, Bray and Howard (1963) found that scores on cognitive ability tests were the best predictors of managerial success.

From a different perspective, motivational theorists have focused on the effects of dispositions and the environment on task performance (Bandura, 1977; Locke, 1968; Weiner, 1986). Incentives, goal assignments, need achievement, expectancies, subjective valuation of outcomes, self-efficacy expectations and a host of other noncognitive factors

have been shown to influence goal choice, intended effort, task behavior, and work performance (Bandura, 1986; Kanfer & Ackerman, 1989).

When examining personality characteristics and job performance, Barrick, Mount, and Strauss (1993) found that conscientiousness affects goal setting, which then affects subsequent job performance. Oakes et al. (2001) found support for the joint roles of cognitive ability and personality traits in the prediction of skill acquisition and the relationship of skill acquisition to performance as an air traffic controller.

Terborg (1977) reviewed previous research in ability and motivation interactions with job performance and found mixed evidence of the relationship between ability and motivation with performance across the studies. He believed that differences in task difficulty might account for the mixed results. On less difficult tasks, ability may present a less important predictor of performance than would motivation. In contrast, performance of more difficult task assignments may be substantially affected by the interactive aspects of motivational processes and ability.

#### *Skill Acquisition and Job Performance over Time*

According to Ackerman (1988), skill acquisition for more complex jobs, such as management, occurs over a long period of time. These positions involve a multitude of inconsistent, complex tasks, and performance on these tasks does not improve rapidly across skill acquisition. Instead, performance stabilizes early, after which performance on an inconsistent task changes less rapidly as compared to a consistent task (Ackerman, 1988).

Farrell and McDaniel (2001) examined Ackerman's model of skill acquisition in an applied setting. Using superior ratings as performance criteria, they found that learning curves can occur over a 10-year period. First, cognitive ability was the strongest predictor of performance for both consistent and inconsistent tasks. It also appears learning in organizations occurs well beyond initial training with continuous learning on the job over a span of years. With inconsistent jobs, there is a sustained reliance on general cognitive ability which results in longer periods of time to obtain proficiency.

Previous applied research has also demonstrated that learning on the job can occur for a number of years (McDaniel, 1986; McDaniel, Schmidt, & Hunter, 1988; Schmidt, Hunter, Outerbridge, & Goff, 1988). These findings suggest that learning extends far beyond initial socialization and training and well into the career of the individual. Consequently, variables such as motivation and personality become increasingly important in ensuring extended effort on the part of the employee (Farrell & McDaniel, 2001). The primary role of the manager, then, could be one who monitors performance, provides development feedback, and maintains the employee's motivation to learn.

#### *Skill Acquisition, Job Performance, and Social Facilitation*

While Anderson's model (1982) explains the internal processes involved in complex skill acquisition, the model does not address how the acquisition of skills is facilitated. Vygotsky (1978) proposed a theory explaining how cognitive skill acquisition is facilitated in novices. He believed that cognitive skills are developed through social interaction. Unskilled persons learn cognitive skills by assuming more and more responsibility from experts during performance—“expert scaffolding” (Vygotsky, 1978).

Based on Vygotsky's model (1978), social interaction is fundamental, and the role of the expert is critical to skill acquisition and job performance changes over time. Initially, experts model skills, provide feedback about performance, and help novices develop more powerful cognitive self-monitoring strategies. As novices become more expert-like, the novices develop strategies that allow them to perform these monitoring tasks for themselves (Vygotsky, 1978).

Farrell and McDaniel (2001) suggested social learning theory (Bandura, 1986) is a theoretical perspective that could be incorporated into a broader framework of skill acquisition. By taking into account situational influences that are social in nature (e.g., mentoring), one can view the influence of more primary abilities within a larger context. Research in expertise already suggests that competent coaching is necessary in acquiring proficiency (Ericsson, Krampe, & Tesch-Romer, 1993; Ericsson & Smith, 1991). According to Farrell and McDaniel (2001), research could benefit by considering the role that social interaction plays in quality of instruction and individual motivation to continue learning on the job.

#### *Job Performance Changes and Environmental Factors*

Mumford and his colleagues (Mumford, Stokes, & Owens, 1989) have argued that individual development proceeds as an ongoing interchange between individuals and their environments. They hypothesized that people develop a consistent pattern of behavior and set of activities that best help them adapt to their environment and continue to use these same patterns of behavior changing only when necessary. Individuals may break from a crystallized adaptive style if they are forced into a set of situations where their previous

adaptive behaviors will not permit effective adjustment (Mumford et al., 1989). Their research has shown that exposure to unexpected and powerful change variables, such as divorce or poor occupational choice (or possibly even exceptional leadership), could be related to the change in the developmental trajectories of the individual.

Murphy (1989) presented a two-stage model of dynamic job performance. Transition stages of performance occur when employees are new to the position or when any of the major duties or responsibilities of the job change. Occasional changes in job demands and the job environment (e.g., getting a new boss) can trigger additional transition stages even though the job title and the job description have not changed. Performance during transitions should depend largely on cognitive ability, because the transition requires learning new tasks or considerable changes in judgment. Maintenance stages occur when job tasks are well learned and employees are no longer confronted with novel or unpredictable job demands. According to Murphy (1989), performance during maintenance stages should, therefore, depend largely on dispositional (e.g., personality and motivation) variables versus cognitive ability factors. All employees new to a job, regardless of prior experiences, start off in a transition stage, yet the duration and frequency of transition stages will vary depending upon the job (e.g., task complexity, routinization), the individual (cognitive ability), and the situation (quality of training and supervision) (Murphy, 1989).

Hofmann and his colleagues (Hofmann, Jacobs, & Baratta, 1993; Hofman, Jacobs, & Gerras, 1992) examined individual growth curves as a means of better understanding dynamic criteria, such as performance. In two separate studies, they investigated

intraindividual performance changes for major league baseball players (Hofman et al., 1992) and interindividual differences in performance change among life insurance sales people (Hofmann et al., 1993). They found different change patterns among these groups in intraindividual and interindividual performance. Although they were unable to examine possible determinants of interindividual differences in performance change patterns, Hofmann et al. (1993) speculated that individual differences in abilities and goal orientations might explain the different change patterns.

Based on their findings, Hofmann et al. (1993) argued that future research needs to examine the determinants of interindividual differences in performance trajectories. For instance, environmental or contextual differences, such as supervisor behavior or supervisor performance, may be one determinant of performance changes for individual employees in contrast to changes or stability observed in other employees (Deadrick et al., 1997).

#### *Job Performance Summary*

Although job performance research has examined cognitive ability, motivational disposition, and personality in relation to job performance changes, little prior research has examined the effect of managerial performance on changes in subordinate performance over time. Atwater, Dionne, Avolio, Camobreco, and Lau (1999) noted that few studies have addressed the factors that contribute to leader effectiveness using a longitudinal design to track leader development, and Hollander and Offermann (1990) stated that there is a need to examine the dynamic features of leadership over time.

## Managerial Succession

### *Management Succession and Employee/Organizational Performance*

Little prior research has been conducted in the area of managerial succession, but this research tends to support the notion that managerial succession has minimal impact on organizational performance (Allen, Panian, & Lotz, 1979; Brown, 1982; Carroll, 1984; Eitzen & Yetmen, 1972; Garrison & Scotch, 1964). Thirty years ago the average tenure of a middle manager was 5.9 years (Eitzen & Yetmen, 1972). Today, job stability is much lower, and the average tenure of a middle manager continues to decline (Jaegar & Stevens, 1999). Increases in management attrition emphasize the need for further research and understanding on managerial succession's impact on the organization.

According to Armstrong, Pecotich, and Mills (1993), the roles and responsibilities of a manager affect the business unit's performance and the people within the unit but can also have a cumulative implication for the organization's performance. However, one main problem in succession research is controlling for alternative explanations for changes in performance, such as regression to the mean.

As Fredrickson, Hambrick, and Baumrin (1988) and Vancil (1987) point out, poor organizational or managerial performance increases the likelihood that a succession event will occur. This prior low performance makes any inferences drawn about post-succession increases in performance problematic, as they could be explained either by the succession event or regression to the mean. Managerial succession can also be disruptive, and the negative effects of the disruption might cancel out any positive effects caused by the change in manager (Grusky, 1963, 1964).

Pfeffer and Davis-Blake (1986) offered three explanations for research findings that management succession has minimal impact on the unit or employee performance. The first explanation is the possibility that positive and negative effects cancel each other out. The second possibility is that managers don't matter, and the third option is that managers do matter, but that too many other variables confound or interact with the succession effect and impact performance. Pfeffer and Davis-Blake (1986) suggested that managers' experience and ability moderate succession effects. Therefore, future studies should focus not only on the succession event itself but also examine the factors associated with the management change, particularly the abilities and experiences of the manager pre- and post-succession (Pfeffer & Davis-Blake, 1986).

#### *Management Succession and Managerial Abilities and Experiences*

Four studies provided evidence that successor ability and experience are important moderators of the relationship between managerial succession and organizational performance. In a longitudinal study of Methodist ministers, Smith, Carson, and Alexander (1984) showed that ministers identified as effective leaders in earlier positions were more likely to improve performance for congregations after a succession event than were other ministers in the sample. The authors concluded that when succession involves an "able" new leader, a positive impact on organizational performance is likely.

Pfeffer and Davis-Blake (1986) investigated the relationships of coaching ability and prior coaching experience with subsequent performance for a sample of basketball teams. Coaches with more experience and coaches with good prior records brought about performance improvements after the succession event more so than the coaches who

lacked experience or who had achieved only lackluster records in previous coaching positions.

In a similar study of baseball field managers, manager succession alone did not impact team performance; however, field manager experience and ability were significantly associated with performance when no succession event occurred (Cannella & Rowe, 1995). Coaching ability was important to team performance whether or not a succession event occurred. Teams with managers of higher ability performed better than teams with a manager of lesser ability.

Armstrong, Pecotich, and Mills (1993) explored the effects of mid-management succession, the characteristics of the successor, and type of succession on post-succession performance. They found a positive effect due to the succession event alone. Contrary to the findings of previous research (Pfeffer & Davis-Blake, 1986), performance improved as a result of the succession, yet the effect due to succession was small. Only 2% of the variance in post-succession performance was explained. Additionally, Armstrong et al. (1993) noted that the issue of time and cyclical effects must be incorporated into any succession research. It is possible that the time necessary for succession effects to occur may be longer than the time frame allotted in a study.

Succession is clearly a complex phenomenon, and the effects of the succession event appear to be moderated by a host of variables (Thomas, 1988). Of particular importance is the evidence that the performance outcome of the succession event is influenced by the ability of the new leader as measured by his or her past performance.

When the new leader's abilities are marginal, he or she is less likely to bring about performance improvements.

#### *Management Succession and Performance Improvement over Time*

Abilities in certain leadership dimensions may influence both initial and later performance differentially across performance criteria. For instance, Russell (2001) examined how well competency ratings predicted initial and subsequent performance for top-level executives. Resource problem solving competence, such as financial analysis, understanding the business, and short-term business execution, consistently predicted initial performance levels. However, people competencies, such as staffing, climate setting, communication, and customer interaction ratings, predicted later performance scores. According to these findings, managing relationships with employees takes longer to implement causing delayed performance gains as evidenced in the performance trends. Russell (2001) noted that efforts to implement a vision, which involves necessary changes in trust, work values, and corporate culture, do not occur quickly. As a result, it is not surprising that resource problem solving contributed most to the prediction of initial performance levels, but people-oriented dimensions predicted later performance ratings.

#### *Future Research on Managerial Succession*

Several researchers have advocated the need for further research on managerial succession. Russell (2001) encouraged future researchers to examine whether different profiles of leaders' on-the-job behavior are equally likely to result in performance improvement over time. Day and Lord (1988) suggested that the effects of leadership change lag the succession event rather than taking place immediately; therefore,

longitudinal studies must be utilized to examine time-delayed effects. Additionally, Kesner and Sehora (1994) stated that there are four key components to the succession event: antecedents, the event itself, consequences, and contingencies. They prescribed more longitudinal methods to improve the understanding of leader succession and these four components of the succession event.

### Performance Appraisals

#### *Overview of Performance Appraisals*

To date, research in performance appraisal and management effects have spanned several key areas, such as the cognitive processes associated with performance appraisal and the role of the various types of rating instruments in use (Varma et al., 1999). According to Varma et al. (1999), these areas of performance appraisal research have largely ignored an important piece of the puzzle— the impact of the supervisors' performance level on subordinate performance ratings. Some researchers addressed this issue over four decades ago (e.g., Kirchner & Reisberg, 1962; Mandell, 1956; Schneider & Bayoff, 1953). Since then, the literature has largely held the variable of supervisor performance level constant when examining subordinate performance and appraisal ratings (Varma et al., 1999). However, supervisor performance level (or competence) could be an important determinant of subordinate performance and appraisal ratings.

#### *Measurement of Job Performance*

*Objective measures of job performance.* The common, traditional approach to measuring managerial performance is to employ objective measures of employee behaviors and results which are expected to deliver unambiguous and reliable data (Werner, 1994).

Objective performance measures range from individual-oriented measures, such as work samples, to organization-oriented ones of maximum output, market share or financial performance (Fraser & Zarkada-Fraser, 2001).

However, there is limited availability of objective data, and results are greatly influenced by variables outside of the leader's control, such as corporate strategy, market structure, competition, and even political events (Werner, 1994). Objective measures can thus be unfair to the individual being evaluated and provide no guidance for developmental planning as they do not provide a clear picture of what tasks the person performs adequately or what competencies he or she needs to develop. Additionally, certain positions, such as management, are much more difficult to measure via primarily objective means because these positions require the employee to obtain results through other people and the job tasks are ambiguous and complex (Dvir & Shamir, 2003).

*Supervisor ratings of job performance.* These concerns prompted the current, more popular view of using a single subjective criterion, namely the supervisor's judgment of the employee's performance (Fraser & Zarkada-Fraser, 2001). The logic behind such an approach is that the immediate superior has a significant appreciation of the constraints under which subordinates are performing their duties and is able to take them into consideration when evaluating their performance.

A meta-analysis by Heneman (1986), however, estimated the average correlation between supervisor ratings and results-oriented measures of performance to be  $r = .27$  suggesting that supervisors may not be particularly good judges of on-the-job performance. On the other hand, more recent research (Bommer, Johnson, Rich, Podsakoff, &

MacKenzie, 1995; Viswevaran, 1996) has demonstrated considerable evidence for the validity of supervisor ratings in the form of moderate correlations with objective criteria such as productivity, salary change, and promotions.

Traditionally, a manager's boss completes the performance evaluation, as he or she has been assumed to have the most objective position to evaluate the manager's behavior. The superior has access to performance results of the manager as well as performance results of the company as a whole. However, the superior rarely witnesses the manager engaging in day-to-day behaviors which comprise a large share of a manager's performance (Salam, Cox, & Sims, 1997).

*Supervisor vs. subordinate ratings of performance.* Other researchers and practitioners (Nowack, 1992; Shipper & Neck, 1990) have argued that subordinates are probably in the best position to observe a given manager's behavior in the workplace and, therefore, should yield the most accurate assessments overall. Subordinate appraisal offers a number of distinct advantages over the traditional use of superior evaluations. First, subordinates offer a different perspective on a supervisor's performance, assessing such things as the supervisor's leadership style, interpersonal skills in dealing with subordinates, delegation of authority, and day-to-day organization and planning (Cascio, 1987). Because ratings can be collected from a number of subordinates, subordinate ratings may be more reliable than a single supervisor or self-appraisal ratings. Also, it is possible that subordinates experience the leadership style and its consequences better than the superior and they are able to make more informed judgments (Borman, 1974).

Managers also behave differently toward individual subordinates (London & Smither, 1995; Van Velsor & Leslie, 1991) leading to relatively dissimilar evaluations from multiple subordinates. Low subordinate reliabilities may reflect these differences in treatment from the same superior (Conway & Huffcutt, 1995). Even though subordinates' ratings will be contaminated to some degree by rating errors, subordinates' ratings also reflect some knowledge of a person's actual performance in a leadership role (Hogan, Curphy, & Hogan, 1994).

Low subordinate correlations with other sources also demonstrate that subordinates have unique perspectives. In a review of the leadership literature, Hogan et al. (1994) noted that boss' ratings of a manager's overall effectiveness were largely influenced by judgments of his or her technical competence, whereas subordinates' ratings of a manager's overall effectiveness were largely influence by judgments of integrity. Surprisingly, subordinates and bosses tended to agree in their overall evaluation of a manager's effectiveness, even though they evaluated rather different aspects of that performance.

Riggio and Cole (1992) specifically investigated the agreement between superior and subordinate performance ratings. They expected that superiors may be exposed to only limited aspects of the manager's work performance and these restricted observations may be generalized to an overall appraisal of performance. However, results indicated significant agreement between superior and subordinate ratings of captains' performance. In another study, Furnham and Stringfield (1994) found that subordinate and superior ratings were significantly correlated. Thus, their findings also suggest subordinates and

superiors share similar views and ratings of managers. Additionally, Mount (1984) found that subordinate ratings were prone to the same kinds of biases as superior ratings and tended to be more easily compared to supervisor ratings than to peer ratings.

In summary, there is evidence of convergence between subordinate and superior performance ratings, evidence of halo bias among both sets of ratings, and some evidence of discrimination among different dimensions of performance (Riggio & Cole, 1992). As Salem, Cox, and Sims (1997) stated, a supervisor will have different expectations, values and goals than the subordinate, and differences in performance ratings from different sources should not be regarded as “error” but instead be seen as equal sources of important information, perception, and feedback.

*360-degree feedback measures.* Today, behavioral ratings provided by members of an individual’s work team, including direct reports, peers, and supervisors (often termed 360-degree feedback), are quickly becoming the standard method of assessment serving both developmental and performance-based needs (Church, 1997). 360-degree feedback provides opportunities for a multitude of individuals affected by the manager’s behaviors and performance to communicate their views and opinions in a relatively nonthreatening and constructive way. Additionally, a manager’s awareness of his or her actions and their impact on others, through some form of feedback process, has been linked to maximizing the manager’s performance (Church & Waclawski, 1999).

The 360-degree feedback method is not without its critics either. For instance, Fraser and Zarkada-Fraser (2001) found polarization of ratings among high performers over other lower performing managers. They believe polarization of ratings may reflect a

halo effect that above average performance produces. Perhaps assessors who hold the abilities and personality of a manager in high regard exhibit a natural tendency to over score or forgive shortcomings in specific areas. Thus, managers who demonstrate a performance level that is generally higher than the majority might end up being assigned a higher rating across all performance dimensions (Fraser & Zarkada-Fraser, 2001).

*Consolidation of 360-degree feedback ratings.* One of the most critical issues surrounding the 360 feedback system is how to consolidate evaluations from alternative sources (e.g., peers and supervisors). Research in the performance appraisal literature generally finds that ratings obtained from different types of raters usually do not converge (Faction & Craig, 2001). The intercorrelations among the ratings provided by different sources tend to range from low to average at best (Conway & Huffcutt, 1997; Harris & Schaubroeck, 1988). It is unclear, however, whether this lack of convergence stems from: (a) quality differences in their ratings across sources (Conway & Huffcutt, 1997; Yammarino & Dubinsky, 1994), (b) individual performance variability across different contexts and with different people (Murphy & Cleveland, 1995), (c) different theories of work performance across sources (Campbell & Lee, 1988; Landy, Farr, Saal, & Freytag, 1976) or (d) exposure to only limited and different aspects of work performance (Lance, Teachout, & Donnelly, 1992; Latham & Wexley, 1982; Murphy & Cleveland, 1995; Salam et al., 1997). Lance and Woehr (1989) suggested that strong correspondence among ratings from different sources should not be expected due to the different perspectives of supervisors versus subordinates. It is also possible that several of the explanations are operating simultaneously.

Facteau and Craig (2001) studied rater groups to see whether they held different conceptualizations about the dimensionality of job performance and whether items contained on a rating instrument related differently to the underlying performance constructs across these raters. They found that the rating instrument could be regarded as measuring the same underlying performance constructs across rater groups, thus supporting the practice of directly comparing the ratings that managers receive from different sources. Their results suggest that comparisons between different raters are legitimate.

#### *Summary of Performance Appraisal Ratings*

After reviewing recent performance appraisal literature, Arvey and Murphy (1998) noted that there was a trend in improved optimism regarding the use of supervisor ratings and other subjective appraisal instruments and formats. There is increased recognition that subjectivity does not automatically translate into rater error or bias. Ratings are most likely valid reflections of true performance and represent a low-cost mechanism for evaluating employees (Arvey & Murphy, 1998).

#### Conclusion

Supervisors are primarily responsible for training and guiding subordinates on a day-to-day basis. Therefore, immediate supervisors' competence in developing their employees should then play a major role in determining the performance level and development of subordinates (Varma et al., 1999). Various theories (LMX, Transformational Leadership, and Mentoring) either explicitly or implicitly suggest that supervisors' own employee developmental capabilities influence subordinates'

performance, yet little has been done to test and examine the direct, causal relationship between managers' developmental capabilities and subordinate performance (Clawson, 1985).

Rather than examining the direct relationship between superior-subordinate performance levels and leadership development, previous research involving both the superior and the subordinate has focused primarily on the behaviors of the superior, such as initiating structure versus consideration, and the resulting subordinate consequences, such as subordinate satisfaction, commitment, or extra effort expended (e.g., Judge et al., 2004). Research on the specific role of superiors in subordinates' leadership development and performance improvement has rarely been undertaken and, when examined, contains significant methodological weaknesses (Lowe et al., 1996).

Limitations of most leadership studies involve the use of concurrent research designs and common sources for measurement of predictor and criterion (Bass & Avolio, 1985, Kane & Tremble, 2000). Such limitations interfere with conclusions about causality and leave open the possibility that results were due to common source variance, other unknown variables, or individual differences that shaped responses by research participants. As Kirkpatrick and Locke (1996) noted, there has been a serious lack of research which unequivocally demonstrates causal relationships between specific leadership components and follower effects. Therefore, the need exists to investigate causal links between leader behavior and follower effects.

Similarly, very few studies have addressed leader development and performance improvement using a longitudinal design (Atwater et al., 1999). Most longitudinal studies

were experiments built around short time frames that may not have allowed the necessary time for certain performance affects to emerge (Conger, Kanungo, & Menon, 2000).

In summary, a limitation of past research is the inability to ascertain whether leadership is a cause, a consequence, or a coincidence of employee performance and developmental characteristics (Bass, 1990). This is a long-standing criticism of the literature (Korman, 1976), yet with few exceptions there have been few rigorous efforts to establish causal relationships between leader behaviors and outcomes (Judge et al., 2004).

### Present Study

#### *Overview*

This longitudinal, quasi-experimental study examined the impact of supervisor performance on subordinate performance and performance change over time. A critical feature is the quasi-experimental manipulation of leader performance. For a subset of the subordinates during the three-year study, their supervisors were replaced with new managers. To determine whether changes in supervisor performance occurred, the level of the new supervisor's performance on five different dimensions was compared to the performance level of the previous supervisor. This study investigated whether these changes in supervisor and supervisor performance were followed by changes in subordinate performance over time. Changes in subordinate performance were then compared to baseline measures of performance change for subordinates who had the same supervisor over the same time span. Furthermore, this study examined whether different dimensions of supervisor performance, such as developmentally focused leader behavior, are differentially related to subordinate performance and performance changes over time.

This research also investigated whether supervisor performance makes a stronger impact on subordinate performance over time over the impact that initial subordinate performance may make on supervisor performance over time.

### *Performance Appraisal Raters*

This research study used ratings of managerial performance from separate sources to determine the relationship between supervisor performance and subordinate performance representing a departure from most leadership research. This approach overcomes the research design weaknesses of prior studies, specifically common source biases.

Based on the suggestion of others (Hogan et al., 1994; Kaiser & Craig, 2004), this research used superior and direct report ratings of managerial performance to determine the relationship between job performance of supervisors and their subordinates, both of whom are middle-level managers. Direct reports of the lower level manager rated his or her performance, while superiors of the higher level manager rated his or her performance. The performance ratings of the two managers were compared and analyzed. Direct reports and superiors are thought to provide two of the most accurate ratings of management performance (Hogan et al., 1994; Kaiser & Craig, 2004).

### *Hypotheses and Research Questions*

This study explored several research questions and hypotheses regarding the relationship between changes in supervisor performance and the resulting changes in subordinate performance. Where the research literature suggests competing arguments

with no clear rationale for favoring one hypothesis over another, research questions were proposed rather than hypotheses. The following questions and hypotheses were tested:

*Cross-sectional Hypotheses and Questions*

- 1) Hypothesis 1: Immediate supervisor overall performance (i.e., averaged across dimensions) is positively related to subordinate overall performance.
- 2) Research Question 1: Which dimensions of supervisor performance are related to which dimensions of subordinate performance?

*Longitudinal Hypotheses and Questions*

- 3) Hypothesis 2: Changes in immediate supervisor overall performance over time are positively related to changes in subordinate overall performance over time.
- 4) Research Question 2: Which changes in specific dimensions of supervisor performance are related to which changes in specific dimensions of subordinate performance?
- 5) Research Question 3: Does change in overall supervisor performance affect subordinate overall performance immediately (year 1) or over time (year 2)?
- 6) Research Question 4: Does changes in specific dimensions of supervisor performance affect specific dimensions of subordinate performance immediately (year 1) or over time (year 2)?
- 7) Hypothesis 3: Changes in subordinate performance over time (year 2) are related to initial supervisor performance (year 1) more strongly than changes in supervisor performance over time (year 2) are related to initial subordinate performance (year 1).

## Method

### *Sample and Procedure*

Data for the study came from an archival database of multisource managerial performance ratings provided by a large multinational technology firm. Performance ratings were collected annually from 2001 to 2003. The focal participants in the current study included 947 “supervisors” and their 4,673 “subordinates.” The focal supervisors were rated by their superiors and the focal subordinates were rated by their own subordinates, thus providing for heterosource assessments of performance at the two focal levels. A subset of the focal subordinates experienced a change in supervisor between years one (2001) and two (2002). The research design is presented in Diagram 1.

### *Measures*

The measure used is a proprietary multisource (360°) leadership appraisal instrument called the *Leadership Standards Assessment* (LSA). The LSA contains 30 items in five scales labeled Envision, Energize, Edge, Execute, and Ethics. The five scales in the rating instrument measure performance across five dimensions: providing a strategic vision, motivating employees, making tough decisions, achieving results, and behaving ethically.

The Envision scale concerns the extent to which managers generate a vision or strategy for their units, along with plans for producing profitable change. The Energize scale assesses the extent to which managers inspire, involve, and empower subordinates. The Edge scale measures managers’ decisiveness, action orientation, and emphasis on high performance. Execute items assess the extent to which managers plan and organize the

work of their unit and meet performance objectives. The Ethics scale measures managers' fair treatment of others, compliance with ethical guidelines, and ability to maintain personal composure.

The 30 items on the performance appraisal use ratings of skill level (e.g., 0 = ineffective to 4 = exceptionally effective) rather than frequency of behaviors, which represents a departure from the majority of prior research on managerial performance (Schriesheim & Kerr, 1974; Van Velsor & Leslie, 1991; Yukl 2002). A few studies have found that focusing on skill rather than frequency of behaviors improves the predictability of employee outcomes, and skill is a better predictor of managerial performance than frequency of behaviors (Shipper, 1991; Shipper & White, 1999).

The LSA instrument has been rigorously evaluated and refined, with the current version generating internal consistency reliability coefficients greater than .80 for each scale and good fit to an *a priori* model with five correlated factors (Kaiser, Craig, Kaplan, & McArthur, 2002). Because this instrument is evaluated and slightly modified each year, only items unchanged between years of the 2001 and 2003 were analyzed in the current study. Application of this criterion resulted in five items on each of the first four scales and three items on Ethics being retained for analysis.

### *Rater Training*

Rater training became accessible to all raters between the 2002 and 2003 administrations of the performance appraisal, however rater training was not rigorously tracked as to whether raters completed rater training prior to providing performance ratings in 2003. The rater training was delivered via a standard web browser and included audio

guidance and animation. The rater training was assessed in 2005 to determine if the training improved the quality of the performance ratings provided by raters (Craig, Lindberg, Kaiser, & Baydoun, 2005). The results of the analyses indicated that there was no evidence of reduction in halo error found. However, there was some evidence of reduction of leniency errors due to training. Additionally, there was equivocal evidence of gamma change and no evidence of beta change in the ratings. These results suggest that although the rater training may have improved the leniency of the ratings, significant changes in the functioning of the instrument were not observed.

#### *Data Manipulation*

The original dataset consisted of performance ratings by various individuals (e.g., peer, boss, direct report) for each target. Each rater's performance ratings of a target were positioned on separate lines in the dataset. In order to conduct the data analyses, manipulation of the dataset was required to create a new dataset with performance ratings of targets by their direct reports and performance ratings of the targets' bosses by their superior integrated on the same line in the dataset.

The original dataset provided identification of both targets and raters across time, which allowed for the data manipulation and analyses. Each person in the dataset was assigned with a unique identification number. When a person rated another individual in the company, the identification number was used to code this person as the rater, and this identification number could be found in the rater id column in the dataset. If that same person was the ratee, the same identification number could be found in the target id column. Additionally, in the original dataset, raters were coded by their reporting

relationship to the target. For example, targets' direct reports were coded as source = 3, while their bosses were coded as source = 1. The identification number and the source codes made it possible to determine each target's boss and determine that boss's performance as rated by his or her superior.

Initially, the data manipulation involved extracting data and creating separate datasets from the original dataset. A separate dataset, which included only the direct reports' performance ratings of each target, was made for each year (e.g., 2001, 2002, 2003) by extracting the ratings of each target by source = 3 and year. Then, within each dataset, the direct reports' ratings of each target were averaged for the appropriate items in the appraisal to create ratings for the five dimensions of performance, and the ratings across the five dimensions were averaged to yield an overall performance rating for each year. Finally, merging the data from the separate datasets by target created a larger dataset, which included each target's performance ratings from direct reports separated by year on the same dataset line.

Similarly, separate datasets were created by extracting the performance ratings of the targets' bosses. For each target's boss (source = 1) in year 2001, 2002, and 2003, the performance ratings of the boss (who is now the target id) by his or her superior (source 1) were extracted into separate datasets by year. In each dataset, the superior's ratings of the boss were averaged for certain items in the appraisal to create ratings for the five dimensions of performance, and the averages of the five dimensions were averaged to generate an overall performance rating for each year. Finally, merging all of the data from the separate datasets by the original target id created a larger, composite dataset, which

included targets' performance ratings from their direct reports as well as performance ratings of targets' bosses by their superior on the same dataset line.

Finally, two separate datasets were created from the composite dataset, and the actual data analyses were conducted on these two final datasets. One dataset included only the targets who had the same boss during the three years of the research study. Supervisors were coded as a "source=1" in the original dataset, and only those targets whose rater id for source 1 was consistent across all three years were included in this dataset. The other dataset included targets whose boss changed only between year 1 and 2 (2001 and 2002) of the study. In this dataset, only targets whose rater id changed for source 1 between year 1 and year 2 were included in the dataset.

### *Analyses*

*Overview.* This study examined the research questions and hypotheses through correlation analyses, cross-lagged panel correlation techniques, dynamic correlations, and multiple regression analyses. These analyses explored the relationship between supervisor and subordinate performance and whether changes in supervisor performance (better or worse) were followed by analogous changes in subordinate performance (improvement or decline, respectively) and whether this relationship differed across performance dimensions. The performance dimensions were labeled Envision, Energize, Edge, Execute, and Ethics, and when these dimension scores were averaged, they provided an overall rating of performance.

*Hypothesis 1.* Correlational analyses examined hypothesis 1 which expected a positive relationship between supervisor and subordinate overall performance. The

correlations between supervisor and subordinate performance at Year 1, Year 2, and Year 3 were analyzed to test the first hypothesis.

*Research Question 1.* Correlational analyses were also used to investigate dimensions of superior performance and its relationship to specific dimensions of subordinate performance. Correlations between each dimension of supervisor performance and subordinate performance were compared to determine if certain dimensions of superior performance are significantly related to specific dimensions of subordinate performance.

*Hypothesis 2.* Change in immediate supervisor overall performance was expected to be positively related to change in subordinate overall performance. Hypothesis 2 was tested by correlating overall performance changes (deltas) of supervisors with overall performance changes (deltas) of subordinates. This analysis was conducted specifically on those subordinates whose supervisor was actually replaced by a new supervisor between 2001 and 2002. The difference between the first supervisor's performance and new supervisor's performance was the overall performance change (delta) variable in the study. The correlation between overall performance changes (deltas) of supervisors and overall performance changes (deltas) of subordinates was then compared with the correlation between overall performance changes of subordinates and their supervisors who were not replaced during 2001 and 2002.

*Research question 2.* Correlational analyses were used to examine whether changes in particular dimensions of supervisor performance are related to changes in dimensions of subordinate performance. Correlational analyses were also utilized to explore if change in a particular dimension of superior performance is related to subsequent changes in the

same dimension of subordinate performance or different dimensions of subordinate performance.

Regression analyses were employed to further test whether change in one dimension of superior performance is more predictive of changes in certain dimensions of subordinate performance more so than changes in other dimensions of superior performance. Changes in the five dimensions of supervisor performance were entered into a single regression model to predict change in each dimension of subordinate performance. For example, changes in supervisor performance in Envision, Edge, Execute, Energize, and Ethics dimensions from 2001-2002 were entered in the regression model to predict change in subordinate Envision performance in from 2001-2002. Therefore, five sets of regression analyses were conducted with changes in each subordinate performance dimension serving as the criterion: one for changes in the Envision ratings, one for changes in the Energize ratings, one for changes in the Execute ratings, one for changes in the Edge ratings, and finally one for changes in the Ethics ratings.

*Research question 3 and 4.* Correlational analyses were used to explore whether change in overall superior performance is related to change in overall supervisor performance immediately (Year 2002) or over time (Year 2003). Multiple regression analyses were utilized to examine whether changes in dimensions of supervisor performance differentially predict changes in dimensions of subordinate performance immediately or over time. In all cases, the changes in dimensions of supervisor performance between year 2001-2002 served as the predictors and the changes in dimensions of subordinate performance from 2001-2002 and from 2001-2003 served as the

criterion. For example, change in supervisor performance in Envision, Edge, Execute, Energize, and Ethics from 2001-2002 were entered in the regression model to predict change in subordinate Energize performance from 2001-2003. To determine whether changes in supervisor performance differentially predict changes in subordinate performance immediately or over time, 10 separate regression analyses were conducted.

*Hypothesis 3.* The cross-lagged panel correlation technique and dynamic correlation analysis were used to investigate whether supervisor performance causes change in subordinate performance, whether subordinate performance causes change in supervisor performance, or whether causation is reciprocal. Although the results of these analyses alone would not be sufficient evidence for conclusions about causation, certain patterns of possible results could at least be consistent with causation, suggesting causality in a certain direction.

#### *Cross-lagged panel correlation analysis*

Two methods for longitudinal data analysis are the cross-lagged panel correlation technique and dynamic correlation analysis (Greene, 1975). Although no correlational research design can allow for complete confidence in causal inferences, cross lagged correlation analysis makes it possible to rule out at least one alternative explanation that would compete with an inference of causality from correlational data. Specifically, a reversed direction of causality can be ruled out by examining correlations between putative causes at Time 1 and putative effects at Time 2 (i.e., because causes must precede effects in time).

To support the hypothesis that high superior performance causes high subordinate performance, the present (Time 1) state of superior performance should be more highly related to the future (Time 2) state of subordinate performance than the future state of subordinate performance (Time 2) is related to the present state of superior performance (Time 1). Thus, if superior performance does cause subordinate performance, the magnitudes of the correlations should be:  $r_{\text{SupP}_1\text{SubP}_2} > r_{\text{SupP}_1\text{SubP}_1} = r_{\text{SupP}_2\text{SubP}_2} > r_{\text{SubP}_1\text{SupP}_2}$ . Conversely, if subordinate performance causes superior performance then the correlation should look like:  $r_{\text{SubP}_1\text{SupP}_2} > r_{\text{SupP}_1\text{SubP}_1} = r_{\text{SupP}_2\text{SubP}_2} > r_{\text{SupP}_1\text{SubP}_2}$ . The relative magnitudes of the two cross-lagged coefficients ( $r_{\text{SupP}_1\text{SubP}_2}$  and  $r_{\text{SubP}_1\text{SupP}_2}$ ) provide indication of the extent to which causation may be reciprocal.

Differences in relative strengths of the cross-lagged coefficients ( $r_{\text{SupP}_1\text{SubP}_2}$  and  $r_{\text{SubP}_1\text{SupP}_2}$ ) indicate the possible causal direction. The correlational coefficients provide information about the stability of the two variables over time and, thus, are not directly concerned with inference of causality.

#### *Dynamic correlation analysis*

In order to weaken the “third variable” alternative explanation for covariance among the variables of interest, (Vroom, 1966) a dynamic correlation coefficient was computed by correlating the difference between subordinate performance at Time 1 and Time 2 with the difference in superior performance from Time 1 and 2. In other words, the change in subordinate performance over time is correlated with the change in superior performance over time. Given a pattern of cross lagged correlations showing, for example,

that subordinate performance causes superior performance, a large, highly significant dynamic correlation would be consistent with causality.

## Results

### *Descriptive Statistics*

The *Leadership Standards Assessment (LSA)*. Means, standard deviations, and inter-scale correlations for the scales of the LSA are presented in Table 1 and 2. For each of the LSA scales, a higher score is indicative of a greater rating of the job performance dimension. In the sample of supervisors, LSA mean scores ranged from 2.57 (Edge) to 3.27 (Ethics), while the sample of subordinate mean scores ranged from 2.30 (Envision) to 3.04 (Ethics). Inter-scale correlations were moderate to high with coefficients ranging from .27 to .76.

### *Cross-sectional Analyses*

This first section focuses on the cross-sectional analyses and addresses hypothesis one, which explored the relationship between overall supervisor performance and overall subordinate performance, and research question one, which examined the relationship between dimensions of supervisor performance and dimensions of subordinate performance.

*Hypothesis 1.* The five dimensions of performance were averaged in order to create the composite overall performance score, and the relationship between supervisor overall performance and subordinate overall performance was assessed using correlational analyses. The correlations between supervisor and subordinate performance at Year 1 (2001), Year 2 (2002), and Year 3 (2003) were analyzed to test the first hypothesis, and the

findings indicated that there was no relationship between overall supervisor and subordinate performance within either year 2001 or 2003. However, there was a significant, albeit low relationship between subordinate overall performance and supervisor overall performance in 2002 ( $r = .14, p < .05, R^2 = .02$ ). The results of these analyses are presented in Table 3. Although supervisor performance was expected to be positively related to subordinate performance, a significant relationship between these variables was not found consistently within any of the three years of the study; thus, hypothesis 1 was not supported.

*Research Question 1.* The relationships between dimensions of superior performance and dimensions of subordinate performance were measured using correlational analyses. Correlations between the dimensions of supervisor performance and subordinate performance were compared to determine whether certain dimensions of superior performance are significantly related to specific dimensions of subordinate performance.

The findings indicated that there were no relationships between the dimensions of superior performance and the dimensions of subordinate performance in either 2001 or 2003. Among the 2002 performance ratings, several significant, although low, correlations were found between the dimensions of supervisor and subordinate performance. The Energize dimension of superior performance in 2002 correlated significantly with the Edge ( $r = .12, p < .05, R^2 = .014$ ), Execute ( $r = .14, p < .05, R^2 = .02$ ), and Ethics ( $r = .14, p < .05, R^2 = .02$ ) dimensions of subordinate performance. The Edge dimension of superior performance correlated significantly with subordinate performance on the Edge ( $r = .11, p$

< .05,  $R^2=.012$ ) and Execute dimensions ( $r = .14, p < .05, R^2=.02$ ), while the Execute dimension of superior performance correlated significantly with the Edge ( $r = .13, p < .05, R^2=.017$ ), Execute ( $r = .15, p < .01, R^2=.023$ ), and Ethics ( $r = .16, p < .01, R^2=.026$ ) dimensions of subordinate performance. The results of these analyses are presented in Table 4, 5, and 6.

Although the relationships among these dimensions were significant, the correlation coefficients were low, and the relationships between these performance dimensions were only observed in 2002, not 2001 or 2003. Therefore, the overall findings do not indicate that dimensions of supervisor performance are related to dimensions of subordinate performance.

#### *Longitudinal Analyses*

The second section focuses on the longitudinal aspects of the study and addresses research questions two through four and hypotheses two and three which examine the impact of supervisor performance on subordinate performance and performance change over time.

*Hypothesis 2.* The expected relationship between changes in immediate supervisor overall performance and changes in subordinate overall performance was tested by correlating overall performance changes (deltas) of supervisors from 2001 to 2002 with overall performance changes (deltas) of subordinates from 2001 to 2002. This analysis was conducted separately for subordinates whose supervisor was actually replaced by a new supervisor between 2001 and 2002 and subordinates whose supervisor stayed the same between 2001 and 2002. For the subordinate group whose supervisor was replaced

between 2001 and 2002, the difference between the new supervisor's overall performance and the original supervisor's overall performance was the overall performance change (delta) variable in the study.

The correlation analysis between overall performance changes among new and previous supervisors from 2001-2002 and overall performance changes of their subordinates from 2001-2002 yielded no relationship ( $r = .05, p = .66, R^2 = .0025$ ). Table 7 presents the intercorrelations of differences between changes of subordinate performance from 2001-2002 with differences in performance of different supervisors. Change in supervisor overall performance was expected to be positively related to change in subordinate overall performance. However, the results indicate that there was no relationship between changes in immediate supervisor overall performance and changes in subordinate overall performance; thus, hypothesis 2 was not supported.

The correlation analysis between overall performance changes of supervisors, who were not replaced during 2001-2002, and overall performance changes of their subordinates between 2001-2002 also yielded no relationship ( $r = .00, p = .97; R^2 = .00$ ). Table 8 presents the intercorrelations of differences between changes of subordinate performance from 2001-2002 with differences in performance of the same supervisors. These results further indicate that there was no relationship between changes in immediate supervisor overall performance and changes in subordinate overall performance whether the superior was replaced or not during 2001-2002.

The correlation coefficient between overall performance changes (deltas) of subordinates, whose boss changed during 2001-2002, and overall performance changes

(deltas) of their supervisors was then compared with the correlation coefficient between overall performance changes of subordinates, who had the same boss in 2001 and 2002, and overall performance changes of their supervisors. To determine whether the two correlations were significantly different, effect sizes were analyzed. Each correlation was converted to a Fisher z-score, and the difference between the two correlations was computed ( $z = .41$ ). The difference between the correlations coefficients of the two groups was nonsignificant.

*Research question 2.* Correlational analyses were used to examine whether changes in particular dimensions of supervisor performance are related to changes in dimensions of subordinate performance. Correlational analyses were also used to explore whether change in a particular dimension of superior performance is related to subsequent changes in the same dimension of subordinate performance or different dimensions of subordinate performance. The difference between the new supervisor's performance in each dimension and the original supervisor's performance in the same dimension was the dimensional performance change (delta) variable in the study.

The results of the correlational analyses indicate that there were no relationships between dimensional performance changes among new and previous supervisors from 2001-2002 and dimensional performance changes of their subordinates from 2001-2002. The correlations between changes in supervisor performance and changes in subordinate performance revealed null to low correlation coefficients ranging from  $-.10$  to  $.16$ , with none being statistically significant. The correlations are presented in Table 7.

In order to further address the second research question and assess the relative validity of changes in dimensions of supervisor performance in predicting changes in dimensions of subordinate performance, changes in the five dimensions of supervisor performance were entered into a single regression model to predict change in each dimension of subordinate performance. For example, change in supervisor performance in the Envision, Edge, Execute, Energize, and Ethics dimensions from 2001-2002 were entered in the regression model to predict change in subordinate Envision performance from 2001-2002. Therefore, five sets of regression analyses were conducted with changes in each subordinate performance dimension serving as the criterion: one for changes in the Envision ratings, one for changes in the Energize ratings, one for changes in the Execute ratings, one for changes in the Edge ratings, and finally one for changes in the Ethics ratings.

The results indicate that changes in the dimensions of supervisor performance from 2001-2002 account for no significant amount of variance in changes in any of the subordinate performance dimensions from 2001 to 2002. All of the models predicting changes in the subordinate dimensions of Envision, Energize, Edge, Execute, and Ethics were nonsignificant (Envision:  $\text{Adj } R^2 = -.025, p = .73$ ; Energize:  $\text{Adj. } R^2 = -.018, p = .64$ ; Edge:  $\text{Adj } R^2 = .030, p = .79$ ; Execute:  $\text{Adj. } R^2 = .003, p = .40$ ; Ethics:  $\text{Adj } R^2 = -.005, p = .48$ ). The results of these analyses are presented in Table 10.

The findings indicate that when better or worse performing supervisors replace other supervisors, no performance change occurs within subordinates. Supervisors' performance improvement or decline in the performance dimensions was not significant in

predicting change in subordinate performance in any of the models. Therefore, a new supervisor's performance improvement (or decline) among performance dimensions does not appear to be significantly related to change in any of the dimensions of subordinate performance measured here.

*Research question 3.* Correlational analyses were used to explore whether change in overall supervisor performance is related to change in overall subordinate performance immediately (2001-2002) or over time (2001-2003). These analyses were conducted specifically on the subordinate subset that experienced boss turnover between 2001 and 2002. The correlation matrix of changes in supervisor performance from 2001-2002 with changes in subordinate performance from 2001-2002 is presented in Table 7, while the correlation matrix of changes in supervisor performance from 2001-2002 with changes in subordinate performance from 2001-2003 is presented in Table 9. The results indicate that changes in supervisor performance are not related to changes in subordinate performance immediately or over time.

To estimate the effect of boss performance change over time, the correlation coefficient between change in supervisor overall performance from 2001-2002 and change in subordinate overall performance from 2001-2002 was compared to the correlation coefficient between change in supervisor overall performance from 2001-2002 and change in subordinate overall performance from 2001-2003 to investigate whether change in supervisor overall performance differentially relates to change in subordinate overall performance immediately or over time. The difference between the two correlations coefficients was nonsignificant ( $z = .35, p = .36$ ).

In summary, the findings indicate that there is neither a relationship between changes in supervisor overall performance from 2001-2002 and changes in subordinate overall performance from 2001-2002 nor a relationship between changes in supervisor overall performance from 2001-2002 and changes in subordinate overall performance from 2001-2003. Additionally, change in supervisor overall performance in 2001-2002 does not differentially relate to subordinate overall performance change in 2001-2002 or 2001-2003.

*Research question 4.* Multiple regression analyses were used to examine whether changes in dimensions of supervisor performance differentially predict changes in dimensions of subordinate performance immediately or over time. In all cases, the performance changes within dimensions of supervisor performance between year 2001-2002 served as the predictors and the changes in dimensions of subordinate performance from 2001-2002 and from 2001-2003 served as the criteria. For example, changes in supervisor performance in Envision, Edge, Execute, Energize, and Ethics from 2001-2002 were entered in the regression model to predict change in subordinate Envision performance from 2001-2003. To determine whether changes in supervisor performance differentially predict changes in subordinate performance immediately or over time, 10 separate regression analyses were conducted.

As shown in Tables 10 and 11, none of the regression models was significant (F-values ranging from 0.40 to 1.11,  $df = 5, 85$ ;  $ps > .05$ ) in which changes in subordinate performance in Envision, Energize, Edge, Execute, and Ethics dimensions from 2001-2002 and from 2001-2003 were the criteria.

The findings indicate that new supervisors who performed better or worse than previous supervisors among the five dimensions of performance did not improve or worsen subordinate performance in any of the performance dimensions immediately (2001-2002) or over time (2001-2003). Change in supervisor performance was not significant in any of the models. Therefore, a new supervisor's performance improvement across dimensions does not appear to be significantly related to changes in any of the dimensions of subordinate performance in 2002 or 2003.

*Hypothesis 3.* The cross-lagged panel correlation technique and dynamic correlation analysis were used to investigate whether supervisor performance influences change in subordinate performance, whether subordinate performance impacts change in supervisor performance, or whether causation is possibly reciprocal.

The cross-lagged panel correlation compared four correlations: 1) the correlation between supervisor performance in 2002 and subordinate performance in 2002, 2) the correlation between supervisor performance in 2003 and subordinate performance in 2003, 3) the correlation between supervisor performance in 2002 and subordinate performance in 2003, 4) correlation between supervisor performance in 2003 and subordinate performance in 2002.

To support the hypothesis that better performing managers cause higher subordinate performance, the 2002 ratings of superior performance should be more highly related to the 2003 ratings of subordinate performance than the 2002 ratings of subordinate performance are related to the 2003 ratings of superior performance. Thus, if superior performance does cause subordinate performance, the magnitudes of the correlations

should be:  $r_{\text{SupP}_1\text{SubP}_2} > r_{\text{SupP}_1\text{SubP}_1} = r_{\text{SupP}_2\text{SubP}_2} > r_{\text{SubP}_1\text{SupP}_2}$ . Conversely, if subordinate performance causes superior performance then the pattern of correlations should look like:  $r_{\text{SubP}_1\text{SupP}_2} > r_{\text{SupP}_1\text{SubP}_1} = r_{\text{SupP}_2\text{SubP}_2} > r_{\text{SupP}_1\text{SubP}_2}$ . The relative magnitudes of the two cross-lagged coefficients ( $r_{\text{SupP}_1\text{SubP}_2}$  and  $r_{\text{SubP}_1\text{SupP}_2}$ ) provide indication of the extent to which causation may be reciprocal. The actual magnitudes of the correlations were  $r_{\text{SupP}_1\text{SubP}_1} (r = .14) > r_{\text{SupP}_1\text{SubP}_2} (r = .03) = r_{\text{SupP}_2\text{SubP}_2} (r = -.02) > r_{\text{SubP}_1\text{SupP}_2} (r = .00)$ . However, none of the correlations were significant, and there were not significant differences between the magnitudes of the correlation coefficients.

The findings of the cross-lagged panel correlation technique indicate that supervisor performance in 2002 is not more highly related to subordinate performance in 2003 more so than subordinate performance in 2002 is related to supervisor performance in 2003. The results suggest that initial supervisor performance does not influence later subordinate performance. The highest correlation between supervisor and subordinate performance occurred at the same point in time in 2002, leaving any inferences about causality subject to the usual difficulties associated with correlational analysis.

### Discussion

As stated previously, the purpose of the current study was to examine the relationship between supervisor and subordinate performance, explore the impact of supervisor performance on subordinate performance and performance change over time, and investigate whether supervisor performance makes a stronger impact on subordinate performance over time more than initial subordinate performance predicts supervisor

performance over time. Although previous research in transformational leadership found support for the relationship between leadership behavior and subordinate performance (Dvir et al., 2002; Lowe et al., 1996), evidence of a direct relationship between performance ratings of supervisors and subordinates was not found in the current study. Additionally, various theorists have questioned whether strong leaders at one hierarchical level alternate with weak leaders at the next level below or whether similar styles and strengths of leadership are reflected in adjacent levels through a cascading process (Bass, 1990; Tichy & Ulrich, 1984). This research suggests that supervisor performance levels neither cascade nor alternate from one level to the next, specifically at middle-level management.

Results from the correlational and predictive analyses indicate that supervisor performance and change in supervisor performance does not relate to or predict the performance or performance change of subordinates at the middle management level. Change in supervisor overall performance, specifically when a supervisor is replaced by another supervisor with a different level of performance, did not predict change in subordinate overall performance immediately or over time. Additionally, when a new supervisor had different levels of dimensional performance, there was no change in subordinate performance immediately or over time across various dimensions of performance. Finally, the performance level of the new supervisor did not differentially relate to future subordinate performance more strongly than the initial performance level of the subordinate related to future supervisor performance.

The results suggest that managerial performance may not relate to or affect subordinate performance in readily measurable ways. Furthermore, when a better or worse performing manager replaced another, performance change within the subordinate did not occur, supporting previous research in managerial succession, which tends to support the notion that selection efforts in managerial succession make minimal impact, if any, on the organization and performance (Allen et al., 1979; Brown, 1982; Carroll, 1984; Eitzen & Yetmen, 1972; Garrison & Scotch, 1964).

At the middle management level, the performance of leaders may not greatly impact the performance of their direct reports, who have been in management positions for several years. Over time, these direct reports may have already developed stable performance levels and managerial behavioral patterns, and performance in maintenance stages of skill acquisition might be based largely on personality and dispositional factors independent of supervisor performance levels (Deadrick et al., 1997)

However, other skill acquisition research suggests that the length of this study may not have been long enough to detect subordinate performance effects from working with a higher performing supervisor. According to Ackerman (1988), skill acquisition for more complex jobs, such as management, occurs over a long period of time. These positions involve a multitude of diverse, complex tasks, and performance on these tasks does not improve rapidly. Previous applied research (McDaniel, 1986; McDaniel, et al., 1988; Schmidt, et al., 1988) suggests that learning extends far beyond initial socialization and training and well into the career of the individual. For instance, Farrell and McDaniel (2001) found that learning in organizations continues well beyond initial training with

continuous learning on the job over a span of years, and especially for managerial positions, learning curves can occur over a 10-year period.

Also, there may be a stronger relationship between boss performance and subordinate performance when the subordinate is new to management. The largest performance effects may take place early in one's career when taking on new managerial responsibilities and learning new leadership skills. A new manager's first boss may have more of an influence on the subordinate's developing managerial skills and performance improvement than bosses encountered later in the subordinate's career. Vygotsky (1978) theorized that experts facilitate skill acquisition in novices, and over time novices become more expert-like and develop strategies that allow them to perform these tasks for themselves independently of the expert. Additionally, Lowe et al. (1996) noted that lower level leaders have more day-to-day contact with subordinates and have a greater opportunity to affect subordinates' work outcomes through frequent displays of leadership.

Furthermore, middle managers may not utilize opportunities to develop and elevate the performance of their direct reports who are middle managers themselves. Based on research findings that lower-level managers tended to demonstrate more transformational leadership behaviors, Lowe and his colleagues (1996) suggested that top leaders assume their direct reports do not need strong examples of leadership and should be naturally self-motivated, self-developing, and high performing since they are also leaders in the organization.

The lack of significant findings in this study may also be the result of utilizing subjective performance ratings. First, there was limited variability in the performance

ratings and changes in performance ratings from year to year. As such, the restriction of range in performance change may have made it difficult to detect significant relationships between change in supervisor performance and change in subordinate performance. It should be noted that the results reported here were obtained without correcting for unreliability in the predictors or the criteria and with no corrections for range restriction.

Furthermore, rater errors, such as leniency and failure to differentiate among ratees, might occur more frequently for managerial positions (Conway & Huffcutt, 1997), and ratings may not accurately distinguish performance differences between managers (Craig, Lindberg, Kaiser, & Baydoun, 2005). Ratings collected for administrative purposes tend to be less honest and more lenient than those collected for research purposes only (Jawahar & Williams, 1997). Additionally, the data included raters who worked in distant geographical regions and different countries than the target whom they were rating, which also may have affected the validity of their ratings.

Another consideration concerns the length of time that subordinates worked for the original supervisor prior to the initial 2001 performance ratings. Subordinates may not have worked for the original supervisors long enough for a performance effect to take place. Data were not available to examine the lengths of reporting relationships and factor that moderating variable into the analyses. A manager's performance may take longer to make an impact than the time frames provided in the study.

The use of a heterosource design with superior ratings of supervisor performance and direct report ratings of subordinate performance may have also contributed to the null findings in the study. Most prior leadership studies that have found relationships between

leadership behavior and performance outcomes for subordinates have utilized common sources of measurement, which has been a widespread criticism of leadership research (Fuller, et al., 1996; Gerstner & Day, 1997; Lowe et al., 1996). This study utilized heterosource performance ratings to avoid this common method weakness and provide a more stringent test of the effects under investigation.

To summarize, the results of the correlational and multiple regression analyses do not support the hypotheses that supervisor performance and subordinate performance are related and changes in supervisor performance affect subordinate performance and performance change over time.

#### *Limitations of the Study*

When utilizing an organization's actual internally collected performance ratings for research purposes, certain limitations in the study are worth noting. First, employees naturally leave organizations or move to other departments over time; thus, raters of the target's performance may change from year to year. Change in a target's performance ratings from one year to another may be due to differences among the raters themselves rather than performance change within the ratee. Rater change, especially when utilizing a single source for rating the supervisor's performance, could be a confounding variable. In this particular study, many of the supervisors were rated by different (single) superiors over the course of the three-year study.

As stated earlier, the organizational data did not provide the length of time that supervisors and subordinates worked together. Length of the reporting relationship would have allowed for more extensive, detailed analyses by factoring in the length of time that

supervisors and subordinates worked together prior to 2001 and at what point during 2001 and 2002 that the supervisor was replaced.

The organization provided access to rater training to all company employees prior to the 2003 administration of the performance appraisals. Ideally rater training would have occurred before the research study began. As it is, changes in performance ratings from 2002-2003 may be due to rating differences caused by training rather than actual performance changes in subordinates or supervisors.

#### *Directions for Future Research*

This research study utilized real company data to examine managerial performance change over time and avoided common method variance weaknesses found in much leadership research by utilizing separate sources for measures of performance. Future leadership research should continue to utilize sound research designs incorporating both longitudinal data with separate sources of measurement to further advance the continuing body of knowledge in the leadership research literature.

Similar longitudinal, quasi-experimental studies should examine the causal relationship between supervisor performance and subordinate performance at different managerial levels. Relationships between leaders and subordinates differ hierarchically within organizations as supervisors and subordinates tend to work more closely at lower organizational levels. As leaders advance in organizations, they gain discretion and power, spend less time supervising direct reports and undertake broadened responsibilities (Kane & Tremble, 2000). The differences between leaders at distinct levels of management may account for different performance effects among their subordinates. Furthermore,

subordinates in new, entry-level leadership positions may model the majority of their managerial behaviors on those of their first supervisor rather than leaders they encounter in later years of management (Vygotsky, 1978). Future empirical research which examines the relationship between supervisor and subordinate performance at different levels in the organization (e.g., first-line supervisors versus upper-level managers) may shed light on performance change and skill acquisition within the organization across the various managerial levels.

Additionally, research should consider incorporating moderating variables, such as length of reporting relationship and physical working distance from supervisor, into the research design. The frequency and duration of the interactions between supervisors and their subordinates could also potentially moderate the relationship between their performance levels and performance change over time. Future research in this area could examine a three-way interaction between interaction frequency, level of management, and leader-subordinate relationship length when examining the relation between supervisor and subordinate performance.

## References

- 1997 State of the Industry Report. Training, 33, 36-39.
- 2004 State of the Industry Report. Training, 40, p. 32-38.
- Ackerman, P. L. (1987). Individual differences in skill learning: An integration of psychometric and information processing perspectives. *Psychological Bulletin*, 102, 3-27.
- Ackerman, P. L. (1988). Determinants of individual differences during skill acquisition: Cognitive abilities and information processing. *Journal of Experimental Psychology: General*, 117, 288-313.
- Allen, T. D., & Poteet, M. L. (1999). Developing effective mentoring relationships: Strategies from the mentor's viewpoint. *The Career Development Quarterly*, 48(1), 59-73.
- Ackerman, P. L., & Kanfer, R. (1993). Integrating laboratory and field study for improving selection: Development of a battery for predicting air traffic controller success. *Journal of Applied Psychology*, 78, 413-432.
- Allen, M. P., Panian, S. K., & Lotz, R. E. (1970). Managerial succession and organizational performance: A recalcitrant problem revisited. *Administrative Science Quarterly*, 24, 167-180.
- Alvero, A. M., Bucklin, B. R., & Austin, J. (2001). An objective review of the effectiveness and essential characteristics of performance feedback in organizational settings (1985-1998). *Journal of Organizational Behavior Management*, 21(1), 3-29.
- Anderson, J. R. (1982). Acquisition of cognitive skill. *Psychological Review*, 38, 396-406.

- Anderson, J. R. (1985). *Cognitive psychology and its implications* (2nd ed.). New York: W. H. Freeman.
- Armstrong, R. W., Pecotich, A., & Mills, B. (1993). Does the sales manager make a difference? The impact of sales management succession upon departmental performance. *Journal of Personal Selling & Sales Management, 13*(4), 15-24.
- Arthur, W., Jr., Bennett, W. J., Stanush, P. L., & McNelly, T. L. (1998). Factors that influence skill decay and retention: A quantitative review and analysis. *Human Performance, 11*(1), 57-101.
- Arvey, R. D., & Murphy, K. R. (1998). Performance evaluation in work settings. *Annual Review of Psychology, 49*(10), 141-168.
- Ashford, S. J. (1993). The feedback environment: An exploratory study of cue use. *Journal of Organizational Behavior, 14*(3) 201-224.
- Ashford, S. J., & Tsui, A. S. (1991). Self-regulation for managerial effectiveness: The role of active feedback seeking. *Academy of Management Journal, 34*(2) 251-280.
- Atwater, L. E., Dionne, S. D., Avolio, B., Camobreco, J. F., & Lau, A. W. (1999). A longitudinal study of the leadership development process: Individual differences predicting leader effectiveness. *Human Relations, 52*(12), 1543-1562.
- Avolio, B. J. (2004). Examining the Full Range Model of leadership: Looking back to transform forward. In D. V. Day, S. J. Zaccaro, & S. M. Halpin (Eds.), *Leader development for transforming organizations: Growing leaders for tomorrow* (pp. 71-98). Mahwah, NJ: Lawrence Erlbaum Associates.
- Avolio, B. J., & Bass, B. M. (1995). *You can bring a horse to water, but you can't make it*

- drink: Evaluating a full-range leadership model for training and development.* New York: Center for Leadership Studies, Binghamton University, State University of New York.
- Avolio, B. J., Weichun, Z., Koh, W., & Puja, B.(2004). Transformational leadership and organizational commitment: mediating role of psychological empowerment and moderating role of structural distance. *Journal of Organizational Behavior*, 25(8), 951-968.
- Balcazar, F., Hopkins, B. L., & Suarez, Y. (1986). A critical, objective review of performance feedback. *Journal of Organizational Behavior Management*, 7(3/4), 65-87.
- Baldwin, T. T., & Ford, J. K. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology*, 41, 63-105.
- Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Rinehart & Winston.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. National Institute of Mental Health; Upper Saddle River, NJ: Prentice-Hall, Inc.
- Barling, J., Weber, T., & Kelloway, K. E. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology*, 81, 827-832.
- Barrick, M. R., Mount, M. K., & Strauss, J. P. (1993). Conscientiousness and performance of sales representatives: Test of the mediating effects of goal setting. *Journal of*

- Applied Psychology*, 78(5), 715-722.
- Bass, B. M. (1990). *Bass and Stogdill's Handbook of Leadership* (3<sup>rd</sup> ed.). New York: Free Press.
- Bass, B. M. (1985). *Leadership and performance beyond expectation*. New York: Free Press.
- Bass, B. M., & Avolio, B. J. (1990). The implications of transactional and transformational leadership for individual, team, and organizational development. In R. W. Woodman & W. A. Pasmore (Eds.), *Research in organizational change and development* (Vol. 4, pp. 231-272). Greenwich, CT: JAI Press.
- Bass, B. M., Avolio, B. J., Jung, D. I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology*, 88, 207-218.
- Bass, B. M., Waldman, D. A., Avolio, B. J., & Bebb, M. (1987). Transformational leadership and the falling dominoes effect. *Group & Organization Studies*, 12(1), 73-87.
- Bezuijen, X. M., Thierry, H., van Dam, K., & van den Berg, P. T. (2005, April). *Leadership and employee development: The mediating role of employees' self-efficacy*. Paper presented at the annual conference of the Society for Industrial and Organizational Psychology, Los Angeles, CA.
- Boerlijst, J. G. (1994). The neglect of growth and development of employees over 40 in organizations: A managerial and training problem. In J. Snel & R. Cremer (Eds.), *Work and Aging* (pp. 251-271). London: Taylor & Francis Ltd, London.

- Boerlijst, J. G., Van der Heijden, B. I. J. M., & Van Assen, A. (1993). *Veertig-plussers in de onderneming (Over-forties in the Organization)*. Assen: Van Gorcum/Stichting Management Studies.
- Bommer, W. H., Johnson, F. L., Rich, G. A., Podsakoff, P. M., & MacKenzie, S. B. (1995). On the interchangeability of objective and subjective measures of employee performance: A meta-analysis. *Personnel Psychology, 48*, 587-605.
- Borman, W. C. (1974). The rating of individuals in organizations: An alternate approach. *Organizational Behavior & Human Performance, 12*(1), 105-124.
- Bowers, D. G., & Seashore, S. E. (1966). Predicting organizational effectiveness with a four-factor theory of leadership. *Administrative Science Quarterly, 11*, 238-263.
- Bradley, G. (1978). Self-serving bias in the attribution process: A reexamination of the fact or fiction question. *Journal of Personality and Social Psychology, 36*, 56-71.
- Bray, D. W., & Howard, A. (1963). The AT&T longitudinal studies of managers. In K. W. Schaie (Ed.), *Longitudinal studies of adult psychological development* (pp. 266-312). New York: Guilford.
- Brown, C. M. (1982). Administrative succession and organizational performance: The succession effect. *Administrative Science Quarterly, 27*, 538-547.
- Burns, J. M. (1978). *Leadership*. New York: Harper & Row.
- Bycio, P., Hackett, R. D., & Allen, J. S. (1995). Further assessment of Bass's (1985) conceptualization of transactional and transformational leadership. *Journal of Applied Psychology, 80*(4), 468-478.

- Campbell, D. J., & Lee, C. (1988). Self-appraisal in performance evaluation: Development versus evaluation. *Academy of Management Review*, *13*, 302-314.
- Cannella, A. A., Jr., & Rowe, W. G. (1995). Leader capabilities, succession, and competitive context: A study of professional baseball teams. *Leadership Quarterly*, *6*(1), 69-88.
- Carroll, G. (1984). Dynamics of publisher succession in newspaper organizations. *Administrative Science Quarterly*, *29*, 93-113.
- Carter, L., Giber, D., & Goldsmith, M. (1999). Best practices in organization development and change. *Personnel Psychology*, *55*(4), 1033-1035.
- Cascio, W. F. (1987). *Applied Psychology in Personnel Management* (4<sup>th</sup> ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Cashman, J., Dansereau, F., Graen, G., & Haga, W. J. (1976). Organizational understructure and leadership: A longitudinal investigation of the managerial role-making process. *Organizational Behavior & Human Performance*, *15*, 278-296.
- Chao, G. T., Walz, P. M., & Gardner, P. D. (1992). Formal and informal mentorships: A comparison on mentoring functions and contrast with nonmentored counterparts. *Personnel Psychology*, *45*(3), 619-636.
- Church, A. H. (1997). Do you see what I see? An exploration of congruence in ratings from multiple perspectives. *Journal of Applied Social Psychology*, *27*(11), 983-1020.
- Church, A. H., & Waclawski, J. (1999). Influence behaviors and managerial effectiveness in lateral relations. *Human Resource Development Quarterly*, *10*(1), 3-34.

- Churchill, G. A., Jr., Ford, N. M., & Walker, O. C., Jr. (2000). *Sales Force Management*. Chicago: Irwin McGraw-Hill.
- Clawson, J. G. (1985). Is mentoring necessary? *Training and Development Journal*, 39, 36-39.
- Collins, P. M. (1994). Does mentorship among social workers make a difference? An empirical investigation of career outcomes. *Social Work*, 39(4), 413-419.
- Collins, D. B., & Holton, E. F., III. (2004). The effectiveness of managerial leadership development programs: A meta-analysis of studies from 1982 to 2001. *Human Resource Development Quarterly*, 15(2), 217-248.
- Conway, J. M., & Huffcutt, A. I. (1997). Psychometric properties of multisource performance ratings: A meta-analysis of subordinate, supervisor, peer, and self-ratings. *Human Performance*, 10, 331-360.
- Craig, S. B., Lindberg, J. T., Kaiser, R. B., & Baydoun, R. (2005, April). "Virtually" error-free 360? *Effects of web-based, multimedia training on rating errors*. Paper presented at the annual conference of the Society for Industrial and Organizational Psychology, Los Angeles, CA.
- Curphy, G. J. (1992). An empirical investigation of the effects of transformational and transactional leadership on organizational climate, attrition and performance. In K. E. Clark, M. B. Clark, & D. R. Campbell (Eds.), *Impact of Leadership* (pp. 177-187). Greensboro, NC: The Center for Creative Leadership.
- Davis, T. R., & Luthans, F. (1979). Leadership reexamined: A behavioral approach. *Academy of Management Review*, 4(2), 237-248.

- Day, D. V. (2001). Assessment of leadership outcomes. In S. J. Zaccaro & R. J. Klimoski (Eds.), *The nature of organizational leadership: Understanding the performance imperatives confronting today's leaders* (pp. 384-410). San Francisco: Jossey-Bass.
- Day, D. V., Zaccaro, S. J., & Halpin, S. M. (2004). *Leader development for transforming organizations: Growing for leaders for tomorrow*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Day, D. V., & Lord, R. G. (1988). Executive leadership and organizational performance: Suggestions for a new theory and methodology. *Journal of Management*, 14, 453-464.
- Deadrick, D. L., Bennett, N., & Russell, C. J. (1997). *Journal of Management*, 23(6), 745-758.
- Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for organizational research. *Journal of Applied Psychology*, 87, 611-628.
- Douglas, C. A., & McCauley, C. D. (1997). A survey on the use of formal developmental relationships in organizations. *Issues & Observations*, 17, 6-9.
- Dreher, G., & Ash, R. (1990). A comparative study of mentoring among men and women in managerial, professional, and technical positions. *Journal of Applied Psychology*, 75, 525-535.
- Duarte, N. T., Goodson, J. R., & Klich, N. R. (1990). How do I like thee? Let me appraise the ways. *Journal of Organizational Behavior*, 14(3), 239-249.

- Dunegan, K. J., Uhl-Bien, M., & Duchon, D. (2002). LMX and subordinate performance: The moderating effects of task characteristics. *Journal of Business and Psychology, 17*(2), 275-285.
- Dunnette, M. D. (1976). Aptitudes, abilities, and skills. In M. D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology* (pp. 473-520). Chicago: Rand McNally.
- Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal, 45*, 735-744.
- Dvir, T., & Shamir, B. (2003). Follower developmental characteristics as predicting transformational leadership: a longitudinal field study. *Leadership Quarterly, 14*, 327-344.
- Ehrhart, M. G., & Klein, K. J. (2001). Predicting followers' preferences for charismatic leadership: The influence of follower values and personality. *Leadership Quarterly, 12*(2), 153-179.
- Eitzen, S., & Yetman, N. R. (1972). Managerial change, longevity, and organizational effectiveness. *Administrative Science Quarterly, 23*, 553-581.
- Ericsson, K. A., Krampe, R. T., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*(3), 363-406.
- Ericsson, K. A., & Smith, J. (1991). *Toward a general theory of expertise: Prospects and limits*. New York, NY: Cambridge University Press.

- Facteau, J. D., & Craig, S. B. (2001). Are performance appraisal ratings from different rating sources comparable? *Journal of Applied Psychology, 86*(2), 215-227.
- Fagan, M. M., & Walter, G. (1982). Mentoring among teachers. *Journal of Educational Research, 76*(2), 113-118.
- Farrell, J. N., & McDaniel, M. A. (2001). The stability of validity coefficients over time: Ackerman's (1988) model and the General Aptitude Test Battery. *Journal of Applied Psychology, 86*(1), 60-79.
- Farris, E. R., & Lim, F. G., Jr. (1969). Effects of performance on leadership, cohesiveness, influence, satisfaction, and subsequent performance. *Journal of Applied Psychology, 53*, 490-497.
- Fisher, B. M., & Edwards, J. E. (1988). Consideration and initiating structure and their relationships with leader effectiveness: A meta-analysis. *Proceedings of the Academy of Management Annual Meeting, 201-205*.
- Fleishman, E. A. (1998). Patterns of leadership behavior related to employee grievances and turnover: Some post hoc reflections. *Personnel Psychology, 51*(4), 825-834.
- Fleishman, E. A., & Mumford, M. D. (1989). Abilities as causes of individual differences in skill acquisition. *Human Performance, 2*(3), 201-223.
- Fraser, C., & Zardada-Fraser, A. (2001). Perceptual polarization of managerial performance from a human resource management perspective. *Journal of International Human Resource Management, 12*(2), 256-269.
- Fredrickson, J., Hambrick, D., & Baumrin, S. (1988). A model of CEO dismissal. *Academy of Management Review, 13*, 255-270.

- Furnham, A., & Stringfield, P. (2001). Gender differences in rating reports: Female managers are harsher raters, particularly of males. *Journal of Managerial Psychology, 16*(3-4), 281-288.
- Gagne, E. D. (1985). *The cognitive psychology of school learning*. Boston: Little, Brown, and Company.
- Gamson, W. A., & Scotch, N. A. (1964). Scapegoating in baseball. *American Journal of Sociology, 70*, 69-72.
- Gaskil, L. R., & Sibley, L. R. (1990). Mentoring relationships for women in retailing: Prevalence, perceived importance, and characteristics. *Clothing and Textiles Research Journal, 9*(1), 1-10.
- Gegner, C. (1997). *Coaching: Theory and practice*. Unpublished master's thesis, University of San Francisco, San Francisco, CA.
- Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology, 82*, 827-844.
- Gibler, D., Carter, L., & Goldsmith, M. (2000). *Best practices in leadership development handbook*. San Francisco: Jossey Bass.
- Graen, G., Cashman, J. F., Ginsburgh, S., & Schiemann, W. (1977). Effects of linking pin quality on the quality of working life for lower-level participants. *Administrative Science Quarterly, 22*, 491-504.
- Graen, G. B., & Cashman, J. F. (1975). A role making model of leadership in formal organizations: A developmental approach. In J. G. Hunt & L. L. Larson (Eds.), *Leadership Frontiers* (pp. 143-165). Kent, Ohio: Kent State University Press.

- Graen, G. B., Novak, M. A., & Sommerkamp, P. (1982). The effects of leader-member exchange and job design on productivity and satisfaction: Testing a dual attachment model. *Organizational Behavior & Human Performance*, 30(1), 109-131.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, 6, 219-247.
- Graen, G. B., & Scandura, T. A. (1987). Toward a psychology of dyadic organizing. *Research in Organizational Behavior*, 9, 175-208.
- Graen, G. B., & Wakabayashi, M., Graen, M. R., & Graen, M. G. (1990). International generalizability of American hypotheses about Japanese management progress: A strong inference investigation. *Leadership Quarterly*, 1(1), 1-24.
- Graham, S. W., & Robinson, D. A. G. (2002). Leadership development in organizational consulting. In R. L. Lowman (Ed.), *The California school of organizational studies handbook of organizational consulting psychology: A comprehensive guide to theory, skills, and techniques* (pp. 370-395). San Francisco: Jossey Bass
- Greenblatt, M. (1983). Management succession: Some major parameters. *Administration in Mental Health*, 11, 3-10.
- Greene, C. N. (1973). Causal connections among managers' merit pay, job satisfaction, and performance. *Journal of Applied Psychology*, 58, 95-100.
- Greene, C. N. (1975). The reciprocal nature of influence between leader and subordinate. *Journal of Applied Psychology*, 60, 187-193.

- Greene, C. N. (1976). A longitudinal investigation of performance–reinforcement behaviors and subordinate satisfaction and performance. *Proceedings of the Midwest Academy of Management, St. Louis, MO*, 157-185.
- Grusky, O. (1963). Managerial succession and organizational effectiveness. *American Journal of Sociology*, 69, 21-31.
- Grusky, O. (1964). Reply to scapegoating in baseball. *American Journal of Sociology*, 68, 47-54.
- Hall, D. T., Otazo, K. L., & Hollenbeck, G. P. (1999). Behind closed doors: What really happens in executive coaching. *Organizational Dynamics*, 27, 39-53.
- Harris, M. M., & Schaubroeck, J. (1988). A meta-analysis of self-supervisor, self-peer, and peer-supervisor ratings. *Personnel Psychology*, 41, 43-62.
- Hater, J. J., & Bass, B. M. (1988). Superiors' evaluations and subordinates' perceptions of transformational and transactional leadership. *Journal of Applied Psychology*, 73(4), 695-702.
- Hedge, J. W., & Borman, W. C. (1995). Changing conceptions and practices in performance appraisal. In A. Howard (Ed.), *The changing nature of work* (pp. 451-481). San Francisco: Jossey-Bass.
- Heneman, R. L. (1986). The relationship between supervisory ratings and results-oriented measures of performance: A meta-analysis. *Personnel Psychology*, 39, 811-826.
- Herold, D. M. (1977). Two-way influence processes in leader-follower dyads. *Academy of Management Journal*, 20, 224-237.

- Hillerbrand, E. (1989). Cognitive differences between experts and novices: Implications for group supervision. *Journal of Counseling and Development, 67*, 293-296.
- Hogan, R., Curphy, G. J., & Hogan, J. (1994). What we know about leadership: Effectiveness and personality. *American Psychologist, 49*(6), 493-504.
- Hofman, D. H., Jacobs, R., & Baralta, J. E. (1993). Dynamic criteria and the measurement of change. *Journal of Applied Psychology, 78*, 194-204.
- Hofman, D. H., Jacobs, R., & Gerras, S. J. (1992). Mapping individual performance over time. *Journal of Applied Psychology, 77*, 185-195.
- Hollander, R. P. (1978). *Leadership dynamics: A practical guide to effective relationships*. New York: Free Press.
- Hollander, E. P. (1993). Legitimacy, power, and influence: A perspective on relational features of leadership. In M. M. Chemers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (pp. 29-47). San Diego: Academic Press, Inc.
- Hollander, E. P., & Offermann, L. R. (1990). Power and leadership in organizations: Relationships in transition. *American Psychologist, 45*(2), 179-189.
- Hollister, L. R. (2001). The benefits of being a mentor. *HealthCare Executive, 16*(2), 49-50.
- Hooijberg, R., Hunt, J. G., & Dodge, G. E. (1997). Leadership complexity and development of the leaderplex model. *Journal of Management, 23*, 375-408.
- House, R. J. (1971). A path goal theory of leadership effectiveness. *Administrative Science Quarterly, 16*, 321-338.

- House, R. J. (1977). A 1976 theory of charismatic leadership. In J.G. Hunt & L. L. Larson (Eds.), *Leadership: The cutting edge* (pp. 189-207). Carbondale, IL: Southern Illinois University Press.
- House, R. J., & Aditya, R. N. (1997). The social scientific study of leadership: Quo vadis? *Journal of Management*, 23(3), 409-473.
- Howell, J. M., & Avolio, B. J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. *Journal of Applied Psychology*, 78(6), 891-902.
- Howell, J. M., & Avolio, B. J. (1993). Transformational leadership, transactional leadership, locus of control and support for innovation: Key indicators of consolidated-business-unit performance. *Journal of Applied Psychology*, 78, 891-902.
- Howell, J. M., & Frost, P. J. (1989). A laboratory study of charismatic leadership. *Organizational Behavior and Human Decision Processes*, 43(2), 243-269.
- Howell, J. M., & Hall-Merenda, K. E. (1999). The ties that bind: The impact of Leader-Member Exchange, Transformational and Transactional Leadership and distance on predicting follower performance. *Journal of Applied Psychology*, 5, 680-694.
- Hunt, J. G., & Schuler, R. S. (1976). *Leader reward and sanctions: Behavior relations criteria in a large public utility*. Carbondale, IL: Southern Illinois University, Department of Administrative Sciences.

- Hunter, J. E. (1986). Cognitive ability, cognitive aptitudes, job knowledge, and job performance. *Journal of Vocational Behavior, 29*, 340-362.
- Hunter, J. E., & Hunter, R. F. (1994). Validity and utility alternative predictors of job performance. *Psychological Bulletin, 96*(1), 72-98.
- Ilgel, D. R., & Feldman, J. M. (1983). Performance appraisal: A process focus. *Research in Organizational Behavior, 5*, 141-197.
- Ilgel, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology, 64*, 349-371.
- Jaeger, D. A., & Stevens, A. H. (1999). Is job stability in the United States falling? Reconciling trends in the current population survey and panel study of income dynamics. *Journal of Labor Economics 17*, 1-28.
- Landy, F. J., Farr, J. L., Saal, F. E., & Freytag, W. R. (1976). Behaviorally anchored scales for rating the performance of police officers. *Journal of Applied Psychology, 60*(5), 550-555.
- Locke, E. A. (1968). Toward a theory of task motivation and incentives. *Organizational Behavior and Human Performance, 3*, 157-189.
- London, M., Larsen, H. H., & Thisted, L. N. (1999). Relationships between feedback and self-development. *Group & Organization Management, 24*(1), 5-27.
- London, M., & Smither, J. W. (1995). Can multi-source feedback change perceptions of goal accomplishment, self-evaluations, and performance related outcomes? Theory based applications and directions for research. *Personnel Psychology, 48*, 803-839.

- Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. *Leadership Quarterly*, 7, 385-425.
- Lowin, A., & Craig, J. (1968). The influence of level of performance on managerial style: An experimental object-lesson in the ambiguity of correlational data. *Organizational Behavior and Human Performance*, 2, 440-458.
- Jackson, J. M. (1953). The effect of changing the leadership of small work groups. *Human Relations*, 6, 25-44.
- Jacobs, M., Jacobs, A., Feldman, G., & Cavior, N. (1973). Feedback II- the “credibility gap”: Delivery of positive and negative and emotional and behavioral feedback in groups. *Journal of Consulting and Clinical Psychology*, 41, 215-223.
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89, 755-768.
- Judge, T. A., Piccolo, R. F., & Illes, R. (2004). The forgotten ones? The validity of consideration and initiating structure in leadership research. *Journal of Applied Psychology*, 89(1), 36-51.
- Kaiser, R. B., & Craig, S. B. (2004, April). What gets you there won't keep you there: Managerial behaviors related to effectiveness at the bottom, middle, and top. In R. B. Kaiser & S. B. Craig (Co-chairs), *Filling the Pipe I: Studying management development across the hierarchy*. Symposium conducted at the annual conference of the Society for Industrial and Organizational Psychology, Chicago, IL.

- Kaiser, R. B., Craig, S. B., & Kaplan, R. E. (2002). *More analysis of the 4 e's data: Refining the instrument*. Greensboro, NC: Kaplan Devries, Inc.
- Kaiser, R. B., Craig, S. B., Kaplan, R. E., & McArthur, C. (2002, April). Practical science and the development of Motorola's leadership standards. In K. B. Brookhouse (Chair), *Transforming leadership at Motorola*. Practitioner forum presented at the annual conference of the Society for Industrial and Organizational Psychology, Toronto, Canada.
- Kampa-Kokesch, S. (2001). *Executive coaching as an individually tailored consultation intervention: Does it increase leadership?* Unpublished doctoral dissertation, Western Michigan University, Kalamazoo, MI.
- Kampa, S., & White, R. P. (2002). The effectiveness of executive coaching: What we know and what we still need to know. In R. L. Lowman (Ed.), *Handbook of Organizational Consulting Psychology* (pp. 139-158). San Francisco: Jossey-Bass.
- Kane, T. D., & Tremble, T. R., Jr. (2000). Transformational leadership effects at different levels of the Army. *Military Psychology, 12*(2), 137-160.
- Kanfer, R., & Ackerman, P. L. (1989). Motivation and cognitive abilities: An integrative/aptitude-treatment interaction approach to skill acquisition. *Journal of Applied Psychology, 74*(4), 657-690.
- Katz, D., & Kahn, R. L. (1952). Some recent findings in human relations research. In E. Swanson, T. Newcomb, & E. Hartley (Eds.), *Readings in social psychology* (pp. 650-665). New York: Holt, Reinhart, & Winston.

- Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations* (2<sup>nd</sup> ed.). New York: John Wiley.
- Katz, D., & Stotland, E. (1959). A preliminary statement to a theory of attitude structure and change. In S. Koch (Ed.), *Psychology: A study of science* (pp. 423-475). New York: McGraw-Hill.
- Keller, R. T. (1992). Transformational leadership and the performance of research and development project groups. *Journal of Management*, 18, 489-501.
- Kesner, I. F., & Sebor, T. C. (1994). Executive succession: Past, present, & future. *Journal of Management*, 20(2), 327-372.
- Kilburg, R. R. (1996). Toward a conceptual understanding and definition of executive coaching. *Consulting Psychology Journal: Practice and Research*, 48(2), 134-144.
- Kirchner, W. K., & Reisberg, D. J. (1962). Differences between better and less effective supervisors in appraisal of subordinates. *Personnel Psychology*, 15, 295-302.
- Kirkpatrick, S. A., & Locke, E. A. (1996). Direct and indirect effects of three core charismatic leadership components on performance and attitudes. *Journal of Applied Psychology*, 81, 36-51.
- Klein, K. J., & House, R. J. (1995). On fire: Charismatic leadership and levels of analysis. *Leadership Quarterly*, 6, 183-198.
- Klein, K. J., & Ziegert, J. C. (2004). Leader development and change over time: A conceptual integration and exploration of research challenges. In D. V. Day, S. J. Zaccaro, & S. M. Halpin (Eds.), *Leader development for transforming organizations:*

- Growing leaders for tomorrow* (pp.359-382). Mahwah, NJ: Lawrence Erlbaum Associates.
- Klimoski, R. J., & Hayes, N. J. (1980). Leader behavior and subordinate motivation. *Personnel Psychology, 33*(3), 543-555.
- Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*, 254-284.
- Komaki, J. (1985). Toward effective supervision: An operant analysis and comparison of managers at work. *Journal of Applied Psychology, 71*, 270-279.
- Korman, A. K. (1976). A hypothesis of work behavior revisited and an extension. *Academy of Management Review, 1*, 50-63
- Kotter, J. P., & Heskett, J. L. (1992). *Corporate culture and performance*. New York; Free Press.
- Kouzes, J. M., & Posner, B. Z. (1995). *The leadership challenge: How to keep getting extraordinary things done in organizations*. San Francisco: Jossey-Bass.
- Kram, K. E. (1985). *Mentoring at work: developmental relationships in organizational life*. Glenview, IL: Scott, Foresman.
- Lance, C. E., Teachout, M. S., & Donnelly, T. M. (1992). Specifications of the criterion construct space: An application of hierarchical confirmatory factor analysis. *Journal of Applied Psychology, 77*, 437-452.
- Lance, C. E., & Woehr, D. J. (1989). The validity of performance judgments: Normative accuracy model versus ecological perspectives. In D. F. Ray (Ed.), *Proceedings of*

- the Southern Management Association* (pp. 115-117). Starkville, MS: Southern Management Association.
- Larsen, J. R., Jr. (1986). Supervisors' performance feedback to subordinates: The impact of subordinate performance valence and outcome dependence. *Organizational Behavior and Human Performance*, 37, 391-408.
- Laske, O. E. (1999). *Transformative effects of coaching on executive's professional agenda*. Ann Arbor: University of Michigan Press.
- Latham, G. P., & Saari, L. M. (1979). Application of social-learning theory to training supervisors through behavioral modeling. *Journal of Applied Psychology*, 64(3), 239-246.
- Latham, G. P., & Wexley, K. N. (1982). *Increasing productivity through performance appraisal*. Reading, MA: Addison-Wesley.
- Latham, G., & Yukl, G. (1979). A review of the research on the application of goal setting in organizations. *Academy of Management Journal*, 18(4), 824-845.
- Leslie, J. B., & Fleenor, J. (1998). *Feedback to managers: A review and comparison of multi-rater feedback instruments*. Greensboro, NC: Center for Creative Leadership.
- Liden, R. C., & Graen, G. (1980). Generalizability of the vertical dyad linkage model of leadership. *Academy of Management Journal*, 23(3), 451-465.
- Liden, R. C., Wayne, S. J., & Stilwell, D. (1993). A longitudinal study on the early development of leader-member exchanges. *Journal of Applied Psychology*, 78(4), 662-674.

- London, M., Larsen, H. H., & Thisted, L. N. (1999). Relationships between feedback and self-development. *Group & Organization Management*, 24(1), 5-27.
- London, M., & Smither, J. W. (1995). Can multi-source feedback change perceptions of goal accomplishment, self-evaluation, and performance-related outcomes? Theory-based applications and directions for research. *Personnel Psychology*, 48, 803-839.
- MacGregor, D. (1960). *The human side of enterprise*. New York: McGraw Hill.
- Mandell, M. M. (1956). Supervisory characteristics and ratings: A summary of recent research. *Personnel Psychology*, 32, 435-440.
- Manz, C. C., & Sims, H. P., Jr. (1987). Beyond imitation: Complex behavioral and affective linkages resulting from exposure to leadership training models. *Journal of Applied Psychology*, 71, 571-578.
- McCall, M. W., Jr., Lombardo, M. M., & Morrison, A. M. (1988). *The lessons of experiences: How successful executives develop on the job*. Lexington, MA: Lexington Books.
- McCauley, C. D., Moxley, R. S., & Van Velsor, E. (1998). *The Center for Creative Leadership handbook of leadership development*. San Francisco: Jossey-Bass.
- McDaniel, M. A. (1986). *The evaluation of a causal model of job performance: The interrelationships of general mental ability, job experience, and job performance*. Unpublished doctoral dissertation, The George Washington University, Washington, DC.
- McDaniel, M. A., Schmidt, F. L., & Hunter, J. E. (1988). Job experience correlates of job performance. *Journal of Applied Psychology*, 73(2), 327-330.

- McGovern, J., Lindemann, M., Vergara, M., Murphy, S., Barker, L., & Warrenfeltz, R. (2001). Maximizing the impact of executive coaching: Behavioral change, organizational outcomes, and return on investment. *The Manchester Review*, 6(1) 3-11.
- Methot, L. L., Williams, W. L., Cummings, A., Bradshaw, B. (1996). Measuring the effects of a manager-supervisor training program through the generalized performance of managers, supervisors, front-line staff and clients in a human service setting. *Journal of Organizational Behavior Management*, 16(2) 3-25.
- Misumi, R. (1985). *Leadership in Japanese organizations*. New York: Harper & Row.
- Mount, M. K. (1984). Psychometric properties of subordinate ratings of managerial performance. *Personnel Psychology*, 37, 687-702.
- Murphy, K. R. (1989). Is the relationship between cognitive ability and job performance stable over time? *Human Performance*, 2, 183-200.
- Murphy, K. R., & Cleveland, J. N. (1995). *Understanding performance appraisal: Social, organizational, and goal based perspective*. Thousand Oaks, CA: Sage.
- Noe, R. A. (1988). An investigation of the determinants of successful assigned mentoring relationships. *Personnel Psychology*, 41, 457-479.
- Noe, R. A. (1988). Women and mentoring: A review and research agenda. *Academy of Management Review*, 13(1), 65-78.
- Noe, R. A. (1991). Mentoring relationships for employee development. In J. W. Jones, B. D. Steffy, & D. W. Bray (Eds.), *Applying psychology in business: The handbook for*

- managers and human resource professionals* (pp. 475-482). Lexington, MA: D. C. Heath & Company.
- Noe, R. A., & Thomas, D. A. (1989). An investigation of the determinants of successful assigned mentoring relationships. *Personnel Psychology*, *41*(3) 457-479.
- Northouse, P. G. (1997). *Leadership: Theory and practice*. Thousand Oaks, CA: Sage Publications, Inc.
- Nowack, K. M. (1992). Self-assessment and rater-assessment as a dimension of management development. *Human Resource Development Quarterly*, *3*(2), 141-155.
- Oakes, D. W., Ferris, G. R., Martocchio, J. J., Buckley, M. R., & Broach, D. (2001). Cognitive ability and personality predictors of training program skill acquisition and job performance. *Journal of Business and Psychology*, *15*(4), 523-548.
- Oldham, G. R. (1976). The motivational strategies used by supervisors: Relationships to effectiveness indicators. *Organizational Behavior and Human Performance*, *15*, 66-86.
- Olian, J. D., Carroll, S. J., Giannantonio, C. M., & Feren, D. B. (1988). What do protégés look for in a mentor? Results of three experimental studies. *Journal of Vocational Behavior*, *33*(1), 15-37.
- Olivero, G., Bane, K. D., & Kopelman, R. E. (1997). Executive coaching as a transfer of training tool: Effects on productivity in a public agency. *Public Personnel Management*, *26*(4), 461-469
- Ouchi, W. G., & Macguire, M. A. (1975). Operational control: Two functions. *Administrative Science Quarterly*, *20*, 559-569.

- Peterson, D. B. (1996). Executive coaching at work: The art of one-on-one change. *Consulting Psychology Journal: Practice and Research*, 48, 78-86.
- Pfeffer, J., & Davis-Blake, A. D. (1986). Administrative succession and organizational performance: How administrator experience mediates the succession effect. *Academy of Management Journal*, 29(1), 72-82.
- Podsakoff, P. M., & MacKenzie, S. R. (1995). An examination of substitutes for leadership within levels of analysis framework. *Leadership Quarterly*, 6(3), 289-228.
- Podsakoff, P. M., MacKenzie, S. R., & Fetter, R. (1993). Substitutes for leadership and the management of professionals. *Leadership Quarterly*, 4(1), 1-44.
- Podsakoff, P. M., & Schriesheim, C. A. (1985). Leader reward and punishment behaviors: A methodological and substantive review. In B. Staw & L. L. Cummings (Eds.), *Research in organizational behavior*. San Francisco: Jossey Bass.
- Podsakoff, P. M., Todor, W. D., Grover, R. A., & Huber, V. L. (1984). Situational moderators of leader reward behavior and punishment behaviors: Fact or fiction? *Organizational Behavior and Human Performance*, 34, 21-63.
- Podsakoff, P. M., Todor, W. D., & Skov, R. (1982). Effects of leader contingent and noncontingent reward and punishment behaviors on subordinate performance and satisfaction. *Academy of Management Journal*, 25(4), 810-821.
- Prue, D. M., & Fairbank, J. A. (1981). Performance feedback in organizational behavior management: A review. *Journal of Organizational Behavior Management*, 3, 1-16.

- Prue, D. M., Frederiksen, L. W., & Bacon, A. (1978). Organizational behavior management: An annotated bibliography. *Journal of Organizational Behavior Management, 1*, 216-257.
- Pullins, E. B., & Fine, L. M. (2002). How the performance of mentoring activities affects the mentor's job outcomes. *Journal of Personal Selling & Sales Management, 4*, 259-271.
- Ragins, B. R., & Cotton, J. L. (1999). Mentor functions and outcomes: A comparison of men and women in formal and informal mentoring relationships. *Journal of Applied Psychology, 84*(4), 529-550.
- Rich, G. A. (1997). The sales manager as a role model: Effects on trust, job satisfaction, and performance of salespeople. *Journal of the Academy of Marketing Science, 25*(4), 319-328.
- Riggio, R. E., & Cole, E. J. (1992). Agreement between subordinate and superior ratings of supervisory performance and effects on self and subordinate job satisfaction. *Journal of Occupational and Organizational Psychology, 65*(2), 151-158.
- Rosse, J. G., & Kraut, A. I. (1983). Reconsidering the vertical dyad linkage model of leadership. *Journal of Occupational Psychology, 56*(1), 63-71.
- Rothstein, H. R. (1990). Interrater reliability of job performance ratings: Growth to asymptote level with increasing opportunity to observe. *Journal of Applied Psychology, 75*, 322-327.
- Russell, C. J. (2001). A longitudinal study of top-level executive performance. *Journal of Applied Psychology, 86*(4), 560-573.

- Salam, S., Cox, J. F., & Sims, H. P., Jr. (1997). In the eye of the beholder: How leadership relates to 360-degree performance ratings. *Group & Organization Management*, 22(2), 185-209.
- Salas, E., & Cannon-Bowers, J. A. (2001). The science of training: A decade of progress. *Annual Review of Psychology*, 52, 471-499.
- Scandura, T. A. (1992). Mentorship and career mobility: An empirical investigation. *Journal of Organizational Behavior*, 13, 169-174.
- Scandura, T. A., & Schriesheim, C. A. (1994). Leader-member exchange and supervisor career mentoring as complementary constructs in leadership research. *Academy of Management Journal*, 37(6), 1588-1602.
- Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, 124(2), 262-274.
- Schmidt, F. L., Hunter, J. E., Outerbridge, A. N., & Goff, S. (1988). The joint relation of experience and ability with job performance: A test of three hypotheses. *Journal of Applied Psychology*, 73(1), 46-57.
- Schneider, B. (1987). The people make the place. *Personnel Psychology*, 40, 437-453.
- Schneider, D. E., & Bayroll, A. G. (1953). The relationship between rater characteristics and validity of ratings. *Journal of Applied Psychology*, 37, 278-280.
- Schneider, W., & Shiffrin, R. M. (1977). Controlled and automatic human information processing: I. Detection, search and attention. *Psychological Review*, 84(1), 1-66.

- Schockett, M. R., & Haring-Hidore, M. (1985). Factor analytic support for psychosocial and vocational mentoring functions. *Psychological Reports, 57*(2), 627-630.
- Schriesheim, C. A., & Kerr, S. (1974). Psychometric properties of the Ohio State leadership scales. *Psychological Bulletin, 81*, 756-765.
- Seltzer, J., & Bass, B. M. (1990). Transformational leadership: Beyond initiation and consideration. *Journal of Management, 16*(4), 693-703.
- Shamir, B. (1995). Social distance and charisma: Theoretical notes and exploratory study. *Leadership Quarterly, 6*, 19-47.
- Shamir, B., House, R. J., & Arthur, M. B. (1993). The Motivational Effects of Charismatic Leadership: A Self-Concept Based Theory. *Organization Science, 4*(4), 577-594.
- Shamir, B., & Howell, J. M. (1999). Organizational and contextual influences on the emergence and effectiveness of charismatic leadership. *Leadership Quarterly, 10*(2), 257-283.
- Shaw, J. B., & Fisher, C. D. (1986). *Supervisor-subordinate agreement on performance feedback: A field study* (ONR Tech. Rep. No. 7). College Station, TX: Texas A & M University, Department of Management.
- Shipper, F., & Davy, J. (2002). A model and investigation of managerial skills, employees' attitudes, and managerial performance. *The Leadership Quarterly, 13*, 95-120.
- Shipper, F. (1991). Mastery and frequency of managerial behaviors relative to subunit effectiveness. *Human Relations, 44*(4), 371-388.
- Shipper, F. P., & Neck, C. P. (1990). Subordinates observations: Feedback for management development. *Human Resource Development Quarterly, 1*(4), 371-384.

- Shipper, F., & White, C. S. (1999). Mastery, frequency and interaction of managerial behaviors relative to subunit effectiveness. *Human Relations*, 52(1), 49-66.
- Sims, H. P. (1977). The leader as manager of reinforcement contingencies: An empirical example and a model. In J. G. Hunt & L. L. Larson (Eds.), *Leadership: The cutting edge* (pp. 121- 137). Carbondale, IL: Southern Illinois University Press.
- Sims, H. P., Jr. (1980). Further thoughts on punishment in organizations. *Academy of Management Review*, 5, 133-138.
- Sims, H. P., Jr. & Szilagyi, A. D. (1975). Leader reward behavior and subordinate satisfaction and performance. *Organizational Behavior and Human Performance*, 14, 426-438.
- Skinner, B. F. (1953). *Science and Human Behavior*. New York: Macmillan.
- Smith, J. E., Carson, K. P., & Alexander, R. A. (1984). Leadership: It can make a difference. *Academy of Management Journal*, 27(4), 765-776.
- Stajkovic, A. D., & Luthans, F. (2001). Differential engagement effects of incentive motivators on work performance. *Academy of Management Journal*, 44, 580-590.
- Stajkovic, A. D., & Luthans, F. (2003). Behavioral management and task performance in organizations: Conceptual background, meta-analysis, and test of alternative models. *Personnel Psychology*, 56, 155-194.
- Smith, J. E., Carson, K. P., & Alexander, R. A. (1984). Leadership: It can make a difference. *The Academy of Management Journal*, 27, 765-776.
- Stogdill, R. M. (1950). Leadership, membership, and organization. *Psychological Bulletin*, 47, 1-14.

- Stogdill, R. M. (1955). Interactions among superiors and subordinates. *Sociometry*, *18*, 552-557.
- Stokes, G. S., Mumford, M. D., & Owens, W. A. (1989). Life history prototypes in the study of human individuality. *Journal of Personality*, *57*(2), 509-545.
- Stone, D. L., Gueutal, H. G., & MacIntosh, B. (1984). The effects of feedback sequence and expertise of rater on perceived feedback accuracy. *Personnel Psychology*, *37*, 487-506.
- Stordeur, S., Vandenberghe, C., & D'hoore, W. (2000). Leadership styles across hierarchical levels in nursing departments. *Nursing Research*, *49*(1), 37-43.
- Szilagyi, A. D. (1980). Causal inferences between leader reward behavior and subordinate performance, absenteeism, and work satisfaction. *Journal of Occupational Psychology*, *3*, 195-204.
- Taylor, P. J., Russ-Eft, D. F., & Chan, D. W. L. (2005). A meta-analytic review of behavior modeling training. *Journal of Applied Psychology*, *90*(4), 692-709.
- Terborg, J. R. (1977). Validation and extension of an individual differences model of work performance. *Organizational Behavior and Human Performance*, *18*, 188-216.
- The Conference Board, (1999, January). *The CEO Challenge: Top Marketplace and Management Issues 2001* (Rep. No. R-1286-01-RR). New York, NY: Melissa Berman.
- Thomas, A. (1988). Does leadership make a difference to organizational performance? *Administrative Science Quarterly*, *33*, 388-400.

- Tichy, N. M., & Ulrich, D. O. (1984). The leadership challenge: The call for the transformational leader. *Sloan Management Review*, 26, 59-68.
- Turban, D. B., & Dougherty, T. W. (1994). Role of protégé personality in receipt of mentoring and career success. *Academy of Management Journal*, 37, 688-702.
- Van Velsor, E., & Leslie, J. B. (1991). *Feedback to managers, volume I: A guide to evaluating multi-rater feedback instruments*. Greensboro, NC: Center for Creative Leadership.
- Vancil, R. (1987). *Passing the baton*. Boston, MA: Harvard University Press.
- Varma, A., Farias, G., & Stroh, L. K. (1999). Relationship between a low-performing supervisor and a high-performing subordinate: Does supervisor performance level impact subordinate ratings? *Current Topics in Management*, 4, 101-111.
- Vecchio, R. P. (1982). Cognitive resource theory: Issues for specifying a test of the theory. *Journal of Applied Psychology*, 77(3), 375-376.
- Vecchio, R. P., & Gobdel, B. C. (1984). The vertical dyad linkage model of leadership: Problems and prospects. *Organizational Behavior & Human Performance*, 34(1), 5-20.
- Viswesvaran, C. (1996, April). *Modeling job performance: Is there a general factor?* Paper presented at the annual conference of the Society for Industrial and Organizational Psychology, San Diego, CA.
- Viswesvaran, C., Ones, D. S., & Schmidt, F. L. (1996). Comparative analysis of the reliability of job performance ratings. *Journal of Applied Psychology*, 81, 557-574.

- Vroom, V. H. (1966). A comparison of static and dynamic correlational methods in the study of organizations. *Organizational Behavior and Human Performance*, 1(1), 55-70.
- Vygotsky, L. S. (1978). *Mind in society: the development of higher psychological process*. Cambridge, MA: Harvard University Press.
- Wakabayashi, M., & Graen, G. B. (1984). The Japanese career progress study: A 7-year follow-up. *Journal of Applied Psychology*, 69(4), 603-614.
- Wakabayashi, M., Graen, G., & Graen, M. (1988). Japanese management progress: Mobility into middle management. *Journal of Applied Psychology*, 73(2), 217-227.
- Waldman, D. A., & Yammarino, F. J. (1999). CEO charismatic leadership: Levels-of-management and levels-of-analysis effects. *The Academy of Management Review*, 24(2), 266-285.
- Wayne, S. J., & Ferris, G. R. (1990). Influence tactics, affect and exchange quality in supervisor<sup>^</sup>subordinate interactions: A laboratory experiment and field study. *Journal of Applied Psychology*, 75(5), 487-499.
- Wayne, S. J., Liden, R. C., Graf, I. K., & Ferris, G. R. (1997). The role of upward influence tactics in human resource decisions. *Personnel Psychology*, 50, 979-1006.
- Wayne, S. J., Liden, R. C., Kraimer, M. L., & Graf, I. K. (1999). The role of human capital, motivation and supervisor sponsorship in predicting career success. *Journal of Organizational Behavior*, 20(5), 577-595.

- Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, 40, 82-111.
- Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer-Verlag.
- Werner, J. M. (1994). Dimensions that make a difference: Examining the impact of in-role and extra-role behaviors on supervisory ratings. *Journal of Applied Psychology*, 79(1), 98-107.
- Wexley, K. N., & Nemeroff, W. F. (1975). Effectiveness of positive reinforcement and goal setting as methods of management development. *Journal of Applied Psychology*, 60, 46-450.
- Wexley, K. N., & Baldwin, T. T. (1986). Post training strategies for facilitating positive transfer: An empirical investigation. *Academy of Management Journal*, 29, 503-520.
- Whitely, W. T., & Coetsier, P. (1993). The relationship of career mentoring to early career outcomes. *Organizational Studies*, 14(3), 419-441.
- Wilbur, J. (1987). Does mentoring breed success? *Training and Development Journal*, 4(11), 38-47.
- Yammarino, F. J., & Bass, B. M. (1990). Transformational leadership and multiple levels of analysis. *Human Relations*, 43(10), 975-995.
- Yukl, G. (1989). Managerial leadership: a review of theory and research. *Journal of Management*, 15(2), 251-289.

Yukl, G. (2002). *Leadership in Organizations* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

APPENDICES

## Leadership Standards Assessment (LSA)

### Envision Scale

1. Anticipates future customer needs
2. Generates breakthrough ideas –developing new products, processes, etc.
3. Thinks in terms of the big picture - how the pieces fit together
4. Comes up with a vision for the future, a view of how things might be different
5. Develops strategies and a long-term plan for translating the vision into reality
6. Questions assumptions and conventional thinking. Challenges tradition, existing business models, etc.
7. Makes bold moves, takes risks – chooses to appropriately invest resources aggressively

### Energize Scale

8. Sustains high energy, positive attitude in the face of difficult challenges
9. Uses personal leadership and influence to motivate people
10. Empowers people and gives them room to do their jobs
11. Recognizes and rewards people’s contributions. Helps them feel valued.
12. Develops talent- for example, by coaching people or by providing them with challenging work
13. Rallies people around common goals. Builds team spirit.
14. Builds a strong, cohesive team working with everyone’s personalities and ambitions.

### Edge Scale

15. Challenges individuals to do their best – sets stretch goals.
16. Holds people accountable – takes action when their performance does not meet expectations
17. Decisive. Reaches closure in a timely fashion on difficult or complex problems
18. Makes tough calls when an individual, team or initiative isn’t performing well.

### Execute Scale

21. Achieves superior short-term results. Makes the numbers.
22. Delivers on commitments to customers.
23. Keeps promises to other employees- meets deadlines and delivers
24. Is productive personally. Gets a lot done.
25. Creates rigorous operating plans complete with goals, accountabilities, timetables and measures that link to strategy
26. Keeps the organization focused on executing the plan and meeting key short-term objectives

### Ethics Scale

27. Tells the truth. Honest.
28. Puts the organization’s interests ahead of his/her personal ambitions.

Diagram 1.

*Research Design*

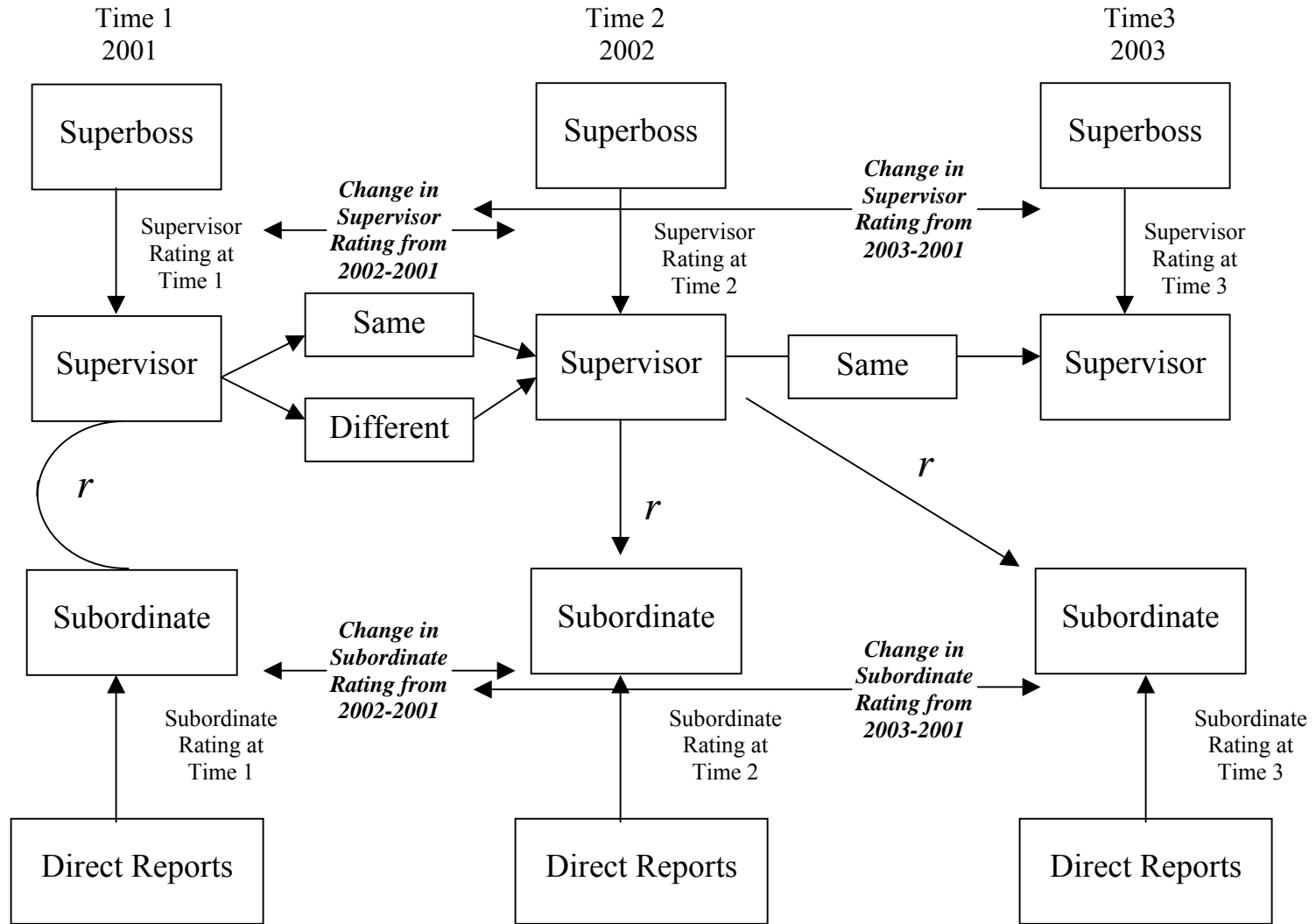


Table 1.

*Descriptive Statistics for Dimensions of Boss Performance in 2001*

Scale	M	SD	1	2	3	4	5
Envision	2.67	.55	1.0				
Energize	2.68	.46	.53**	1.0			
Edge	2.57	.54	.58**	.63**	1.0		
Execute	2.77	.56	.62**	.62**	.76**	1.0	
Ethics	3.27	.52	.37**	.33**	.27**	.33**	1.0

Note. N = 311. *M* = Mean; *SD* = standard deviation. Intercorrelations are presented on the diagonal.

\*\**p*. < .01.

Table 2.

*Descriptive Statistics for Dimensions of Subordinate Performance in 2001*

Scale	<i>M</i>	<i>SD</i>	1	2	3	4	5
Envision	2.30	.44	1.0	.			
Energize	2.32	.45	.67**	1.0			
Edge	2.32	.43	.63**	.56**	1.0		
Execute	2.49	.40	.67**	.65**	.73**	1.0	
Ethics	3.04	.45	.36**	.52**	.32**	.51**	1.0

Note. N = 307. *M* = Mean; *SD* = standard deviation. Intercorrelations are presented on the diagonal.

\*\**p*. < .01.

Table 3.

*Intercorrelations of Supervisor Overall Performance with Subordinate Overall Performance*

	Superior Overall Performance in 2001	Superior Overall Performance in 2002	Superior Overall Performance in 2003
Subordinate Overall Performance in 2001	.07	.09	-.07
Subordinate Overall Performance in 2002	.06	.14**	.01
Subordinate Overall Performance in 2003	.12*	.11*	.03

N = 302,311

\*p. &lt; .10.

\*\*p. &lt; .05.

\*\*\*p. &lt; .01.

Table 4.

*Intercorrelations between Dimensions of Subordinate Performance in 2001 with Dimensions of Supervisor Performance in 2001*

Superior Performance	Envision	Energize	Edge	Execute	Ethics
Subordinate Performance					
Envision	.10	.07	.02	.09	.09
Energize	.10	.08	.04	.09	.03
Edge	.01	.03	.00	.06	.02
Execute	.01	.02	.00	.08	.02
Ethics	.01	.01	-.02	.05	.03

\*p.<.05.

\*\*p.<.01.

N = 307

Table 5.

*Intercorrelations of Dimensions Subordinate Performance in 2002 with Dimensions of Supervisor Performance in 2002*

Superior Performance	Envision	Energize	Edge	Execute	Ethics
Subordinate Performance					
Envision	.09	.08	.04	.08	.03
Energize	.03	.07	.04	.10	.03
Edge	.04	.12*	.11*	.13*	.10
Execute	.06	.14*	.14*	.15**	.08
Ethics	.08	.14*	.08	.16**	.09

\*p.<.05.

\*\*p.<.01.

N = 307

Table 6.

*Intercorrelations of Dimensions Subordinate Performance in 2003 with Dimensions of Supervisor Performance in 2003*

Superior Performance	Envision	Energize	Edge	Execute	Ethics
Subordinate Performance					
Envision	.04	.06	-.04	.07	-.02
Energize	.02	.04	-.01	.05	.03
Edge	.01	.03	-.03	.01	-.04
Execute	.03	.06	.02	.10	.01
Ethics	.01	.01	-.04	.06	.06

\*p.<.05.

\*\*p.<.01.

N = 307

Table 7.

*Intercorrelations of Differences in Subordinate Performance from 2001-2002 with Differences in Performance of Different Superiors from 2001-2002*

Superior Performance	$\Delta$ Overall	$\Delta$ Envision	$\Delta$ Energize	$\Delta$ Edge	$\Delta$ Execute	$\Delta$ Ethics
Subordinate Performance						
$\Delta$ Overall	.05	-.03	.02	.11	.10	-.03
$\Delta$ Envision	.06	-.02	.05	.09	.10	.01
$\Delta$ Energize	.04	.00	-.02	.10	.10	-.02
$\Delta$ Edge	-.08	-.10	-.10	-.03	-.02	-.08
$\Delta$ Execute	.07	-.02	.05	.16	.08	.00
$\Delta$ Ethics	.10	.03	.09	.15	.15	-.03

\* $p$ . < .10.

N = 100

Table 8.

*Intercorrelations of Differences in Subordinate Performance from 2001-2002 with Differences in Performance of the Same Superior from 2001-2002*

Superior Performance	$\Delta$ Overall	$\Delta$ Envision	$\Delta$ Energize	$\Delta$ Edge	$\Delta$ Execute	$\Delta$ Ethics
Subordinate Performance						
$\Delta$ Overall	.00	-.01	.07	-.02	.01	-.03
$\Delta$ Envision	-.01	-.02	.02	-.05	.00	.02
$\Delta$ Energize	-.04	-.07	.07	-.02	.00	-.08
$\Delta$ Edge	.05	.00	.10	.03	.02	.01
$\Delta$ Execute	-.04	-.01	.01	-.07	-.01	-.02
$\Delta$ Ethics	.04	.05	.09	.03	.03	-.04

\* $p$ . < .10.

N = 212

Table 9.

*Intercorrelations of Differences in Subordinate Performance from 2001-2003 with Differences in Performance of Different Superiors from 2001-2002*

Superior Performance	$\Delta$ Overall	$\Delta$ Envision	$\Delta$ Energize	$\Delta$ Edge	$\Delta$ Execute	$\Delta$ Ethics
Subordinate Performance						
$\Delta$ Overall	.00	.08	.03	.00	-.01	-.11
$\Delta$ Envision	.03	.00	.13	.01	.02	-.03
$\Delta$ Energize	.00	.05	.01	.04	-.02	-.09
$\Delta$ Edge	-.08	.09	-.08	-.10	-.10	-.10
$\Delta$ Execute	-.04	.04	.00	.00	-.05	-.15
$\Delta$ Ethics	.06	.13	.07	.05	.08	-.08

\* $p$ . < .10.

Table 10.

*Regression Analysis for Predicting Change in Dimensions of Subordinate Performance from 2001-2002 with Changes in Dimensions of Supervisor Performance from 2001-2002*

Predictor	B	T	Adj R <sup>2</sup>	F	df
Criterion: Change in Subordinate Envision Performance from 2001-2002					
Model			-0.025	0.56	5, 86
Change in Supervisor Envision Performance from 2001-2002	-.14	-1.34			
Change in Supervisor Energize Performance from 2001-2002	-.01	-.11			
Change in Supervisor Edge Performance from 2001-2002	.06	0.56			
Change in Supervisor Execute Performance from 2001-2002	.12	1.03			
Change in Supervisor Ethics Performance from 2001-2002	-.01	-0.16			
Predictor	B	T	Adj R <sup>2</sup>	F	df
Criterion: Change in Subordinate Energize Performance from 2001-2002					
Model			-0.018	0.68	5, 86
Change in Supervisor Envision Performance from 2001-2002	-.12	-1.03			
Change in Supervisor Energize Performance from 2001-2002	-.11	-1.02			
Change in Supervisor Edge Performance from 2001-2002	.11	0.98			
Change in Supervisor Execute Performance from 2001-2002	.12	0.98			
Change in Supervisor Ethics Performance from 2001-2002	-.01	-0.15			

Table 10 (continued).

Predictor	B	T	Adg R <sup>2</sup>	F	df
Criterion: Change in Subordinate Edge Performance from 2001-2002					
Model			-0.030	0.48	5, 86
Change in Supervisor Envision Performance from 2001-2002	-.14	-1.11			
Change in Supervisor Energize Performance from 2001-2002	-.08	-0.73			
Change in Supervisor Edge Performance from 2001-2002	.05	0.46			
Change in Supervisor Execute Performance from 2001-2002	.09	0.69			
Change in Supervisor Ethics Performance from 2001-2002	-.03	-0.42			
Predictor	B	T	Adg R <sup>2</sup>	F	df
Criterion: Change in Subordinate Execute Performance from 2001-2002					
Model			0.003	1.05	5, 86
Change in Supervisor Envision Performance from 2001-2002	-.17	-1.50			
Change in Supervisor Energize Performance from 2001-2002	-.04	-0.34			
Change in Supervisor Edge Performance from 2001-2002	.20	1.80			
Change in Supervisor Execute Performance from 2001-2002	.04	0.31			
Change in Supervisor Ethics Performance from 2001-2002	-.03	-0.37			

Table 10 (continued).

Predictor	B	T	Adg R <sup>2</sup>	F	df
Criterion: Change in Subordinate Ethics Performance from 2001-2002					
Model			-0.005	0.91	5, 86
Change in Supervisor Envision Performance from 2001-2002	-.14	-1.18			
Change in Supervisor Energize Performance from 2001-2002	.01	0.09			
Change in Supervisor Edge Performance from 2001-2002	.10	0.90			
Change in Supervisor Execute Performance from 2001-2002	.13	1.01			
Change in Supervisor Ethics Performance from 2001-2002	-.08	-0.84			

Table 11.

*Regression Analysis for Predicting Change in Dimensions of Subordinate Performance from 2001-2003 with Changes in Dimensions of Supervisor Performance from 2001-2002*

Predictor	B	T	Adg R <sup>2</sup>	F	df
Criterion: Change in Subordinate Envision Performance from 2001-2003					
Model			-0.019	0.66	5, 86
Change in Supervisor Envision Performance from 2001-2002	.00	-0.03			
Change in Supervisor Energize Performance from 2001-2002	.19	1.76			
Change in Supervisor Edge Performance from 2001-2002	-.06	-0.55			
Change in Supervisor Execute Performance from 2001-2002	-.02	-0.18			
Change in Supervisor Ethics Performance from 2001-2002	-.08	-0.93			
Predictor	B	T	Adg R <sup>2</sup>	F	df
Criterion: Change in Subordinate Energize Performance from 2001-2003					
Model			-0.034	0.40	5, 85
Change in Supervisor Envision Performance from 2001-2002	.08	0.64			
Change in Supervisor Energize Performance from 2001-2002	.04	0.32			
Change in Supervisor Edge Performance from 2001-2002	.06	0.51			
Change in Supervisor Execute Performance from 2001-2002	-.09	-0.73			
Change in Supervisor Ethics Performance from 2001-2002	-.09	-1.02			

Table 11 (continued).

Predictor	B	T	Adg R <sup>2</sup>	F	df
Criterion: Change in Subordinate Edge Performance from 2001-2003					
Model			0.006	1.11	5, 85
Change in Supervisor Envision Performance from 2001-2002	.22	2.06*			
Change in Supervisor Energize Performance from 2001-2002	.02	0.19			
Change in Supervisor Edge Performance from 2001-2002	-.09	-0.84			
Change in Supervisor Execute Performance from 2001-2002	-.11	-0.96			
Change in Supervisor Ethics Performance from 2001-2002	-.05	-0.56			
Predictor	B	T	Adg R <sup>2</sup>	F	df
Criterion: Change in Subordinate Execute Performance from 2001-2003					
Model			-0.015	0.73	5, 85
Change in Supervisor Envision Performance from 2001-2002	.10	0.80			
Change in Supervisor Energize Performance from 2001-2002	.07	0.62			
Change in Supervisor Edge Performance from 2001-2002	.03	0.25			
Change in Supervisor Execute Performance from 2001-2002	-.11	-0.80			
Change in Supervisor Ethics Performance from 2001-2002	-.15	-1.57			

Table 11 (continued).

Predictor	B	T	Adg R <sup>2</sup>	F	df
Criterion: Change in Subordinate Ethics Performance from 2001-2003					
Model			-0.018	0.68	5, 85
Change in Supervisor Envision Performance from 2001-2002	.13	1.00			
Change in Supervisor Energize Performance from 2001-2002	.10	0.78			
Change in Supervisor Edge Performance from 2001-2002	-.05	-0.40			
Change in Supervisor Execute Performance from 2001-2002	.02	0.12			
Change in Supervisor Ethics Performance from 2001-2002	-.13	-1.30			

Table 12.

*Cross-lagged Panel Correlation Technique and Dynamic Correlation Analysis of Supervisor Performance and Subordinate Performance over Time*

---

Supervisor Overall Performance	2002	2003
Subordinate Overall Performance in 2002	.14	.00
Subordinate Overall Performance in 2003	.03	-.02

---

N = 99

\*p. < .05.