AN EXAMINATION OF EXECUTIVE LEADERSHIP EFFECTIVENESS USING CONSTRUCTIVE DEVELOPMENTAL THEORY

by

LAUREN SINGER HARRIS

(Under the Direction of Karl Kuhnert)

ABSTRACT

Researchers examine a Constructive Developmental (CD) view of leadership development. While past research has found that upper level executives tend to possess higher leadership levels, there exists a lack of empirical research examining the relationship of CD leadership theory with actual performance ratings. This study examines the relationship of CD theory as applied to the study of leadership and utilizes a robust measure of leadership effectiveness, a 360-degree feedback instrument. The study investigates as to whether leadership developmental level (LDL) predicts leadership effectiveness, and specifically which types of rating sources differentiate leaders at different LDLs, as well as which rater sources more effectively predict LDL. Finally, the analysis includes a discussion of the implications for selection and leadership development.

INDEX WORDS: Constructive Developmental Theory, Leadership Effectiveness, Leadership, Executive Leadership, Leadership Development, 360-Degree Feedback

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LAUREN SINGER HARRIS

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LAUREN SINGER HARRIS

Major Professor: Karl Kuhnert

Committee: Kecia Thomas
Rob Mahan

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
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DEDICATION

To Brian, my everything, I love you!

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CHAPTER 1

INTRODUCTION

The study of leadership plays an undeniably central role in a variety of disciplines including psychology, management, sociology, public administration, political science, and educational administration. Researchers also admit that with the increase of publications regarding the subject comes the difficulty of integrating such prolific yet diverse findings (Church, 1998; Yukl & Van Fleet, 1992). One of the biggest criticisms is that the empirical studies to date on leadership effectiveness yield contradictory or inconclusive results. Often, leadership theories deal only with a partial set of variables relevant to the subject (Yukl, 1989). Much confusion about leadership has precipitated from the disparity of approaches and the absence of broader theories to integrate findings from differing points of view (Yukl & Van Fleet, 1992). While all of the theories discussed below add some level of value to this expansive and important field, the researcher proposes focusing on an alternative theory, constructive developmental theory, to help understand how leaders develop over their life span.

A Brief Review of the History of Leadership

A multitude of definitions and conclusions regarding leadership already exist. (Bass, 1990; Yukl & Van Fleet, 1992). The goal of this paper, however, is not simply to summarize previous findings regarding leadership effectiveness. We present here only a brief summary of each theory to lay a foundation before proceeding to the true focus of this study. In interviews with researchers in the field such as Walt Tornow, Allan Church (1998) compiled a list of conclusions on leadership, of which we list the most pertinent below.

First, leadership is personal. Leaders distinguish themselves from non-leaders through individual differences such as traits, personality, and behavior. Early researchers such as Galton (1869) and James (1880) focused on what is known as trait theory (Bass, 1990; Holland & Offerman 1990). The fundamental concept is that all leaders possess certain characteristics that make them effective. The notion of which particular traits predict effectiveness, however, has evolved over the years. An extension of trait theory coined "Humanistic/Charismatic/Transformational" theories (Eigel, 1998) incorporated the interaction of traits with situational elements, yet maintained more emphasis on leader traits. Humanistic theories involved the consideration of democratic ideals and individuality when defining leadership (Bass, 1990). Some theories in the 1970's and 1980's began to focus on the effect of charisma on leader effectiveness (House, 1977), while others developed theories of transformational leadership (Bass, 1985; Burns, 1978; Kuhnert & Lewis, 1987). A combination of both charismatic and humanistic theories along with adult development theory, transformational leadership attempts to explain a "relationship of mutual stimulation and elevation that converts followers into leaders and may convert leaders into moral agents" (Burns, 1978, p. 4).

The behavioral approach to leadership emerged as another leader specific theory, emphasizing what leaders actually do on the job as well as how specific types of leadership behaviors are related to leader effectiveness (Yukl & Van Fleet, 1992). Major lines of research here include the description of typical patterns of managerial activities, the classification of leadership behaviors into taxonomies of behavior categories, and the identification of behaviors related to leadership effectiveness criteria. The very essence of this line of thought is the focus

on content such as specific activities, actions, or behaviors in predicting effectiveness (Eigel, 1998).

Leadership literature explores an additional theory that involves the use of power and influence as a source of effectiveness. The power possessed by a leader is important in not only influencing subordinates, but also in influencing other people such as superiors and peers within the organization, and even those outside the organization such as clients or suppliers (Yukl & Van Fleet, 1992). This line of research often deals with the identification of different types of power, an understanding of how people gain and lose power, an understanding of how different types and amounts of power are related to effectiveness, as well as a comprehension of how influence behavior is related to leadership effectiveness. The most popular taxonomy in understanding various forms of power are the five types of power (legitimate, reward, coercive, expert, and referent) posited by French and Raven (1959). While power is fundamental in the concept of leadership (Bass, 1990; Yukl & Van Fleet, 1992) and provides a unique insight into leader effectiveness, researchers have not exhaustively explored this theory, and there are limitations to simply operationalizing power. Researchers therefore have suggested other theories regarding leader effectiveness.

Second, leadership is contextual. In addition or perhaps contrary to personal characteristics or trait theories, the context or situation in which an interaction plays out affects who might emerge as a leader (Bass, 1990). More specifically, a style of leadership that works in one situation may not work in another. Shortly after the challenge of trait theory to situational theory, researchers began to intertwine the two theories and developed a new line of research, concluding that together, traits, situational assessments, and their interaction are all paramount. The focus here not only incorporates the behavior of the leader, but also encompasses the

characteristics of the follower (Stogdill, 1948). This intertwined theory and more modern contingency theories are all based on the assumption that different traits and behaviors will be effective in different situations. All of these theories contain situational moderator variables, where the same behavior or trait pattern might not prove to be useful in all situations (Yukl & Van Fleet, 1992). The limitation is often the complexity in operationalizing such moderators. In addition, managers might find difficulty applying these theories to their jobs (Yukl & Van Fleet, 1992). More specifically, the limitations of this theory and others revolve around the necessity for more specificity of content in already content laden theories (Eigel, 1998).

This brief summary of various leadership theories might invite inquiry as to which theory or approach should be used to successfully measure leadership effectiveness. It is evident that potential inconsistencies have and will continue to arise using varying approaches to predict effectiveness. Perhaps the perfect combination of traits, behaviors, and contexts will never fully explain why leaders are effective. Past research has proposed that perhaps it is not what leaders do or who they are that matters, but rather how leaders understand what they do and who they are (Eigel, 1998; Kuhnert, 1994; Eigel & Kuhnert, 2005.). This brings us to an important point that does not involve content (e.g.-what a leader does), but focuses more on meaning, that is, how a leader draws conclusions about him/herself in relation to others and events.

Leadership is a process. Leadership is more than the leader and the situation (Church, 1998). Previous research has taken an alternative approach to identifying leadership effectiveness by looking at leadership as a social meaning-making process which occurs in groups of people who are engaged in some activity together (Drath & Palus, 1994). This constructivist view of leadership challenges the assumptions of the prior theories mentioned above, and posit "that it is not the content of a behavior or leadership style that matters, that is *what* is actually done or

believed, but rather *how* one epistemologically makes sense of the content of the behavior or leadership style that makes a difference" (Eigel, 1998; p. 27). Perhaps examining how leaders construct meaning out of particular situations and encounters can help us better understand why some leaders are effective and why others are not. To date, the content approaches to the study of leadership have left both researchers and managers questioning how they might predict effectiveness, as well as whom they might select or promote within an organization. This study uses the construct approach (in lieu of the content approach), often referred to as the constructivist approach, and even more specifically a particular branch coined constructive developmental (CD) theory, to identify those people that might be more effective, and should be selected or promoted for a particular leadership position.

Constructive/Developmental Theory

Within the realm of developmental psychology, researchers have investigated an individual's capacity to respond and make meaning of a situation as well as to recognize the demands placed on him or her (Kegan, 1994; Kohlberg, 1981). Rooke and Torbert's (1998), as well as Kuhnert and Lewis' (1987) research, examine a person's capacity to effectively respond to complex situations, which falls under the idiom of constructive/developmental theory.

An alternative, construct-oriented theory might help to explain leadership effectiveness and effectively supplement the more measurable, empirical, or content-oriented theories recently discussed. Robert Kegan (1982, 1994) describes constructive developmental theory as the process by which humans construct a subjective understanding of the world that shapes their experiences, instead of directly experiencing or perceiving an objective or real world as theorized by James Gibson (Gibson, 1979). Thus, CD theory runs contrary to Gibson's theory of direct perception Patterns develop in which a person progresses from a simplistic to a more complex

mode of understanding. In addition, this paradigm expands in adulthood, where people become more capable of reflecting and understanding both personal and interpersonal worlds (Kuhnert & Lewis, 1987).

Kegan (1982, 1994) distinguishes between two personality structures, further shedding light on the nature of CD theory. Understanding comes about through the use of two structures: subject and object. "Subject" denotes the structure in which people create their experiences. This structure serves as the basis for human understanding and is often seen as invisible. It is the lens through which people view a world filled with various personal experiences, but remain unaware of and unable to examine that very same lens (Kuhnert & Lewis, 1987). By interacting with the environment and attempting to make sense of the situation, a person elevates to a higher level in which occurs a new way of viewing the world (Kegan, 1982; Kuhnert & Lewis, 1987). Now, what was subject in a previous stage becomes object in the next stage of development. Here, the individual is capable of seeing what was previously invisible and utilize this information within his or her personal experience. This model of adult development therefore suggests constructive development is an invariant hierarchical trajectory (Hayes, 1994), a concept more easily understood by defining each level of development through which an individual can progress.

Leadership Development Level

Eigel and Kuhnert (2005) have applied constructive developmental theory more specifically to the study of leadership. The term Leadership Development Level (LDL) explains the various stages of this model. LDL is the "measurable capacity to understand ourselves, others, and our situations" (Eigel & Kuhnert, 2005;p.359). Alternating periods of stability within each leadership level and growth toward the next level characterize the progression through the developmental trajectory. As leaders analyze various experiences, and recognize that new

experiences might contradict their current way of understanding themselves, they can utilize these contradictions to fuel development to the next level. Therefore, responses to these contradictions can help individuals find more effective ways of understanding their experiences through knowing, processing, deciding, and relating differently at each stage (Eigel & Kuhnert, 2005). To effectively comprehend the difference between each LDL, researchers have grouped the characteristics of the developmental progression into three areas: intrapersonal, interpersonal, and cognitive (Eigel & Kuhnert, 2005; Kegan, 1982; Kegan, 1994). Therefore, throughout adult development and leadership development, individuals will move from an externally defined understanding of themselves to an internally defined understanding of themselves in the intrapersonal realm, from self-focus to other-focus in the interpersonal realm, and from simplicity to complexity in the cognitive realm.

LDL, in adulthood, comprises four levels. Development is unidirectional and invariant, so that one moves from one level to the next without skipping levels, and one cannot regress from a higher level to a lower level. The levels individuals progress through are the same. The rate of development and location on the trajectory where many individuals' development stalls, however, differs from person to person.

Again, LDL is the capacity to understand oneself, others, and the world. It is not simply what we know (content), but how we know what we know (construct) that defines leadership level. In order to move forward, it is necessary to use this "lens" to filter one's experience (Kuhnert & Lewis, 1987; Kuhnert, 1994). How one knows what he or she knows determines at what LDL he or she exists. We provide a more detailed description below to further enhance understanding of the nature of each level,.

LDL Description

Level 2

LDL 2 is the least sophisticated level of development; leaders understand the world in an extremely simplistic manner. At this level, leaders view the world in a very concrete way, seeing situations as black and white, win or lose. They are unable to recognize the shades of gray or subtleties of most situations. Leaders are not able to consider the alternatives, nor are they able to see others' perspectives. Opinions that differ from individuals at LDL 2 are often seen as simply wrong. Leaders do not integrate these opinions because they have not developed the ability to weigh the importance of others' opinions against their own. This type of leadership obviously might prove extremely detrimental to an organization. Without the ability to integrate the input of his or her followers, a leader is surely to fail. LDL 2 leaders operate by an unbending set of rules they expect others to follow. In addition, leaders at this level focus exclusively on their own needs, are committed to winning at all costs, and have difficulty maintaining relationships, due to a lack of trust on the part of their followers. Leaders at this level have not been found effective, and less than ten percent of leaders in organizations today reside at this level (Eigel, 1998; Kegan, 1994).

Level 3

At LDL 3, leaders are capable of recognizing others' viewpoints. Leaders can recognize the limitations of LDL 2 rationale, because they can now take a perspective on the lower level sense making, as this type of rationale has become object. Leaders at this level are better equipped to see the shades of gray and understand you cannot win all of the time. Here, others' perspectives are internalized, empathized, and often adopted (Eigel & Kuhnert, 2005). One can see why leaders at this level might be more effective, as acknowledging the ideas of others is

paramount to increasing success within the organization. There are, however, drawbacks to being at this level of development, because leaders still depend on input from outside sources to make decisions. The opinions of others matter more, and leaders potentially risk making decisions by depending on others who may not have the appropriate expertise to solve a particular problem. Often, leaders cannot rely on the guidance of others, but must turn within to seek answers or to solve the problem. Leaders are defined by their relationships, and must maintain them in order to preserve their identity. While leaders at this stage are capable of making decisions, they may not own their decisions in the same way as an LDL 4 or LDL 5 leader (Eigel & Kuhnert, 2005). The focus on relationships that defines this level serves as the lens that the leader cannot see, therefore it serves as the subject of LDL 3.

Level 4

The source of understanding comes from within at LDL 4. LDL 4 leaders are characterized by their independence and their ability to relinquish ties with outside sources in order to make effective decisions. Outside sources are still taken into consideration, but the leader has the ability to analyze these objectively and sees them as only one side or source to be factored into decisions. Everything previously described as being subject in lower LDLs, has now become object. Therefore, an LDL 4 leader has the ability to see the lens through which he or she previously looked while at LDL 3. Leaders at this level can use all of this information, including the understanding of traditional rules, winning and losing, the perspectives of others, and the input from outside sources to create a more complex understanding of the world (Eigel & Kuhnert, 2005). These previous experiences help leaders create their own point of view, which is instrumental in developing a vision for the organization. Researchers have suggested leaders at

this level hold a more transformational style of leadership (Kuhnert & Lewis, 1987). This is where effective leadership truly begins.

Level 5

Leaders at their very best occupy LDL 5. Very few leaders, however, have reached this level of leadership. Past research has shown approximately five to eight percent of adults in the general population, between the ages of 40 and 60 would be considered LDL 5 leaders (Eigel, 1998; Kegan, 1994). This level is characterized by a paradigm shift; leaders at this level have an entirely new and different way of understanding the world. Leaders are capable of standing back, taking perspective on, and objectively evaluating the paradigms that defined them at LDL 4. A paradigm at LDL 4 would be considered a leader's stereotypical way of seeing things. At LDL 5, leaders are open to the influence of others' paradigms. Therefore, they have the ability to see into a situation and themselves at the same time. Leaders at this level are characterized as being open to internal reports on their performance (e.g.-360 degree feedback), their likes and dislikes, and the impact they have on their followers (Eigel & Kuhnert, 2005). Leaders are characterized as being grounded in their values, while being open to the opinions and experiences of others. They are capable of integrating their vision with other people's visions, all while by being guided by a core set of values or principles. It is this ability to take on others' perspectives or "walk in other people's shoes" that characterizes leaders at this level and makes them the most effective in organizations (Eigel, 1998).

From the descriptions above, one might deduce leaders at the highest LDLs will be the most effective in complex organizational environments. Knowing themselves, their followers, and their environment at the highest levels should help leaders produce effective solutions in the workplace (Eigel & Kuhnert, 2005). While much has been published discussing this theory, the

empirical research on executives is sparse. Eigel (1998) found that the LDL scores of top-level executives were markedly higher than individuals in the normal population. The purpose of the present study, however, is to expand this finding by examining if LDL is predictive of executive performance.

360-Degree Feedback

Some describe leadership effectiveness as being in the "eyes of the beholder" (Church, 1998; p. 3). Evaluating leadership effectiveness can prove to be quite difficult due to the complexity of organizational success indicators, the difficulty in obtaining such information, and external factors which are often beyond the leader's control (Church, 1998). Therefore, some suggest a 360-degree feedback can serve as a proxy measure for leadership effectiveness, because it provides us with a well-rounded measure of performance (Hogan, Curphy, & Hogan, 1994). Around 90 percent of Fortune 1000 firms use some form of 360-degree feedback, otherwise known as multi-rater feedback, multi-source assessment, multi-source feedback, upward feedback, 360-degree feedback assessment, and full-circle evaluation (Atwater & Waldman, 1998b; Church, 1995; Dyer, 2001).[1] Nearly all Fortune 500 companies use or intended to use this type of feedback in some way (London & Smither, 1995). The concept of measurement through multiple sources and perspectives has become vital to an organization in terms of performance assessment. This type of assessment is labeled 360-degree, because ratings are anonymously collected from the entire circle of people that work with the individual being rated, including supervisors, subordinates, peers, and customers. A self rating also is often included in the assessment. Such rating systems are frequently used in executive, management and leadership development programs as well as in the formal appraisal process for purposes

[1] To preserve continuity, the researcher will refer to the term 360-degree feedback throughout the remainder of this paper.

including promotion, compensation, succession planning, and other administrative purposes. (Atwater & Waldman, 1998b; Borman, 1997; Church & Waclawski, 1998). The primary goal of 360-degree feedback is to increase an individual's awareness of him/herself in order that improvements may be made as to how, in a variety of situations, the leader relates to and deals with those rating him or her (Atwater & Waldman, 1998a). This foundation of enhancing self-awareness can help individuals focus on their strengths as well as the areas that need improvement (Allan, Rogelberg, & Waclawski, 2000). In addition, this type of data, gathered from multiple perspectives, is considered more comprehensive than data gathered from only one source (Dyer, 2001). This more comprehensive measure more reliably predicts effective leadership, because the measure of effectiveness comes from multiple sources. While research has indicated leaders at higher LDLs are more effective (usually LDL 4 or LDL 5) due to the positions they hold in their organizations (Eigel, 1998; Eigel & Kuhnert, 2005), researchers have yet to determine which specific LDL best differentiates between higher and lower performing leaders.

> ***H1****: More effective leaders, measured by higher LDL, will have higher 360-degree feedback ratings across all raters.*

It is important to not only look at effectiveness ratings in aggregate form (all raters together), but also to examine if LDL significantly predicts effectiveness by separating ratings by rater source. The transition from LDL 3 to LDL 4 is considered one of the most significant shifts in development. It is this transition where the individual moves from an externally defined understanding of themselves to an internally defined understanding of themselves in the intrapersonal realm, from self-focus to other-focus in the interpersonal realm, and from simplicity to complexity in the cognitive realm. More importantly, it is the transition from LDL 3

to LDL 4 where we see the move from a transactional leadership style to a transformational leadership style (Kuhnert & Lewis, 1987). Therefore, it is important to examine if differences do occur between less effective (LDL 2 & LDL 3) and more effective (LDL 4 & LDL 5) leaders.

H2: *More effective leaders, measured by higher LDL, will have higher 360-degree feedback ratings as rated by superiors, peers, subordinates, and themselves.*

It would also be beneficial to examine which specific leadership competencies LDL predicts. Therefore, we will conduct an exploratory investigation as to which specific leadership competencies LDL predicts.

P1: *Does a predictive relationship exist between LDL and 360-degree feedback ratings via the eight leadership competencies of Personal Grounding, Contextual Grounding, Creating a Compelling Vision, Inspiring Commitment, Cultivating Talent, Catalyzing Teams, Leading Change, and Managing Performance?*

An assumption underlying the use of 360-degree feedback is that ratings from different organizational levels provide unique perspectives. In general, researchers have suggested a number of reasons why differences may exist among raters overall. Lack of interrater agreement not only may result from random error, but also perhaps from lack of construct validity, different calibrations of the rating scales used, different true scores, cognitive constraints, affective issues, differences in rater goals and appraisal purposes, and informational differences among raters (Wise, 1997). Many of these issues are method driven and are more of a concern with those whose interest lies in psychometrics. One important statistical finding to note, however, is that interrater agreement within organizational levels has been found to be higher than agreement across levels (Borman, 1997). A level of consistency exists within sources but not across

sources, so a need to investigate these differences further is a priority. Therefore, we must examine all sources that comprise the 360-degree rating as a proxy for leadership effectiveness.

For the purposes of this study, informational differences among raters will create the foundation and support the theory that perhaps not all rating sources are similar, and some rating sources might be more effective in representing the construct of leadership effectiveness. Past research has investigated how 360-degree feedback surveys were used to predict executive performance (Sala & Dwight, 2002). Raters at different organizational levels are exposed to different aspects of the leader's performance, so intuitively one would expect those that have more exposure or contact with the person they are rating could and would rate that person more accurately because they have acquired more information.

A variety of informational disparities exist among raters which in turn may lead to rating variations. Different raters may have varying conceptions of the ratee's job responsibilities and distinct perspectives as to how the job should be performed (Campbell & Lee; Harris & Schaunbroeck, 1988). In addition, varying levels of importance might be assigned to different components of the ratee's job (Bretz, Milkovich, & Read, 1992; Harris & Schaunbroeck, 1988; Schneier, 1977). Finally, the fact that raters have the chance to observe different aspects of performance is reflected in the observed disparity between raters (Borman, 1974; Borman, 1997). Raters simply vary in the opportunity they have to observe the ratee's performance (Campbell & Lee, 1988; Harris & Schaubroeck, 1988; Schneier, 1977). A lack of simple contact between rater and ratee can prove to be an issue as well (Pollack & Pollack, 1996). These informational variations might indicate that different rating sources capture distinct aspects of the ratee's overall performance (Lance, Teachout, & Donnelly, 1992), or that distinct facets of the

ratee's performance are weighted differently by each rater or aggregated rater group in arriving at an overall effectiveness score.

In order to more specifically understand dissimilarities among raters, we must address the distinctions between rating sources. A long history of research has demonstrated the problematic nature of self-evaluation. Specifically, self-ratings (of behavior, personality, or skills) suffer from inflation, unreliability, and bias (Yammarino & Atwater, 1997). While this type of bias might be psychologically healthy, it may not serve as the most accurate representation of leadership effectiveness, because ratings may prove higher than they ought to be. In addition, research has shown only moderate correlations between self and supervisor ratings, as well as self and peer ratings. Sala (2003) also found that higher level employees are more likely to have an inflated view of their performance and less congruence with the perceptions of others who know them and work with them. The implication is that self ratings might not be the most accurate method of assessing performance (Harris and Schaunbroeck, 1988). Therefore, the bulk of the research has examined rater sources that might better predict performance, or in this case, leadership effectiveness.

One must not only consider the empirical limitations associated with self assessments, but also the limitations that exist within the context of the constructive developmental theory. Recall that the structure people use when creating their experiences is considered "subject." It is not until an individual develops from one stage to the next, that the person is capable of understanding what was once invisible (at the previous stage), now termed "object." In other words, the lens through which people view the world filled with various experiences in the workplace remains invisible to that person until they develop to a higher level. For this reason, a self-assessment of one's leadership effectiveness might be obscured by the lens they use to make

sense of their surroundings. Therefore, we must consider alternative sources as better predictors of effectiveness.

Sala and Dwight (2002) found that managers' (superiors) and direct reports' (subordinates) feedback was most strongly related to job performance. A meta-analysis conducted by Harris and Schaunbroeck (1988) found relatively high correlations between peer and supervisor ratings, indicating that perhaps ratings from these two sources are very similar. Ratings from supervisors might not be any different than peer ratings. Church (2000) found significantly high correlations between supervisor, subordinate, and peer ratings. That is, higher performing managers were rated significantly more positively by their coworkers (i.e., subordinates and peers) as well as their supervisors, compared to their lower performing colleagues. Perhaps these individuals are better equipped to assess various competencies found to be related to job performance. Very little research, however, has supported the use of customer ratings as a source of information for an individual's evaluation. Pollack and Pollack (1996) warn researchers and practitioners that customers are better at evaluating products and services, not individuals. Any one employee has few customers, which leads to concerns about the reliability and validity of the data. Since the subjects in this study are top level executives, they may not have any direct contact with customers at all. If there are customers, they often do not get a chance to see the work of the employee, just a final product.

We now return to investigating the predictive validity of various rater sources grounded in the constructive developmental framework. Leaders grow through an increasingly better understanding of who they are and how others see themselves. This level of understanding, as well as contradictions in understanding which may serve as either catalysts or retardants to development, come from experiences which leaders often acquire over time. LDL development

occurs throughout the course of a leader's life. Exposure to experiences with the potential to contradict current ways of understanding vary with age. There is a greater variety of LDL's found in the 30-60-year age group than those that are younger (Eigel & Kuhnert, 2005). We can also assume that subordinates often are younger than their superiors and likewise, superiors are superiors because they have experienced more than their direct reports. This experience often derives from the amount of time spent in the workplace, and we may therefore posit that superiors are often at higher LDLs than their subordinates and are perhaps at the same level as their peers, who might be of similar age and/or level of experience. Therefore, those that are younger and less experienced may not have had the opportunity to use their experiences and the contradictions that stem from those experiences to push them to a higher LDL. Such circumstance may give rise to a discrepancy between the rater and ratee's lens. A leader may be capable of understanding and utilizing information within his or her personal experience to be effective, that he or she once was not able to use because of its transparency. What was once subject is now object for that leader, but that same information is not yet object for the subordinate. The subordinate therefore does not have the opportunity to use this information to elevate his understanding in complex situations. The superior's object, however, may be the leader's (or individual being evaluated in this study) subject. The superior has had the experience and information to aid in his/her understanding of the actions of those subordinate to him/her. Despite the discrepancy of lenses here, the superior still has the ability to use the information from lower levels to guide his understanding of the situation, and may be more capable of understanding the effectiveness of the individual leaders we are currently examining. Finally, peers may often be at the same LDL, as their sources of understanding are equivalent ,and they create their understanding of the world in a similar fashion. They are capable of understanding

each other and rating each other's effectiveness because their understanding comes from the same place.

Taking into consideration the empirical research on multi-source ratings, as well as the conceptual framework on constructive developmental theory, some rater sources may be more capable of predicting LDL than others.

H3: *Ratings by superiors of leadership effectiveness are the most predictive of LDL, followed by peers, subordinates, and self ratings.*

This study aims to examine the relationship between constructive developmental theory, as it is applied to leadership development, and an actual measure of leadership effectiveness. More specifically, an empirical study is paramount to maintain that LDL truly predicts leadership effectiveness as measured by 360-degree feedback.

CHAPTER 2

METHOD

Participants

Data for the following study is based on the LDL and 360-degree feedback scores of management executives from a variety of industries, including telecommunications, finance, and non-profit, who have participated in an executive development program run by a local consulting firm in Atlanta, GA. This extensive program consists of multiple sessions conducted by a trained psychologist or business professional, aimed at increasing self-awareness and overall development in a leadership role. Assessments conducted in the program include the 360-degree feedback appraisal carried out as part of the development program. Executives received additional, ongoing coaching assessments that included a CD interview and subsequent feedback. It is in this interview, conducted by a trained Industrial/Organizational Psychologist, where LDL is determined.

Forty one executives participated in this study. Sixty three percent of participants were male and 37% were female. Age ranged from 34 to 64 with an average of 46 (S.D. =7.41). While participants in this study did not disclose their ethnicity, researchers identified approximately 25% of participants as being of minority status. Participants held their respective positions as the following levels: 15% as officers, 5% as presidents, 29% as directors, 44% as vice-presidents, and 7% as managers. Many past research studies, especially dissertations, have used a semi-structured interview with approximately 13 to 42 participants, with the average being 25 participants (Binner, 1991; Dixon, 1986; Eigel, 1998; Lahey, 1986); therefore the researcher feels the sample size to be adequate.

Interview

The CD subject-object interview was used to assess the constructive developmental level of each participant. Each semi-structured interview took approximately one hour. The interviewer, a trained Industrial/Organizational Psychologist, used five index cards with words (success, conflict, change, important, and strong stand/commitment) that elicited experiences upper level executives and other managers might face in leading their organizations. The goal of the interview was to stimulate ideas and conversations that revolve around situations encountered in the workplace. Each interview was tape-recorded and transcribed. The interviewer scored responses according to how the leader stated his/her responses, and more specifically what lens they used. The goal was not to score the interview on what the respondent stated, but how he or she had come to understand whatever experience he/she was talking about. The psychologist gave an overall LDL rating to each subject. Traditionally, such interviews are scored using 20 distinct scores (five distinctions for each of the four levels). With such a small sample, however, using this process would result in very little variability between levels. Therefore, interviews were scored either as a two/three (often seen as ineffective) or a four/five (often seen as effective). In addition, a second Industrial/Organizational Psychologist, trained in scoring the subject-object interview reviewed the transcripts. We used this method to maintain an acceptable level of interrater reliability. In addition, construct validity for the semi-structured interview technique has been established over a number of research studies (Colby & Kohlberg, 1987; Lahey, 1988).

A consulting group developed the 360-degree feedback instrument *360° Multi-Rater Feedback Assessment* (HCG, 2002) specifically for the previously mentioned executive development program. The instrument contains descriptions of 46 behaviors and characteristics

considered to be critical leadership competencies. Each description represents one item. Examples of such items include sensitivity and consideration, decisiveness, visionary thinking, and self confidence, which all are lumped into eight broader categories or constructs (Personal Grounding, Contextual Grounding, Creating a Compelling Vision, Inspiring Commitment, Catalyzing Teams, Cultivating and Retaining Talent, Leading Change, and Managing Performance). Each manager rated him/herself on each competency using a 5-point Likert scale (where five represents outstanding and one represents poor), as did his/her superiors, subordinates, peers, and customers. The individuals that participated in this study have limited contact with customers, however, due to their high positions in the organizational hierarchy. Therefore, customer ratings may not provide an accurate assessment of performance and were not used for analysis.

Research has reported 360-degree ratings were more lenient, more susceptible to halo, less differentiating, less reliable, and less valid when used for evaluative purposes instead of developmental purposes (Farh, Cannella, & Bedeian, 1991). Since this instrument was designed and utilized for developmental purposes, we are confident in the reliability of the instrument. Coefficient alpha for the 360-degree instrument is .98.

Procedure

We kept responses for the 360-degree feedback instrument confidential and reported them in aggregate by averaging responses. We collected a minimum of three raters per rater source, as this has been noted as the standard practice in both research and practice, before the report could be printed. (Sederburg & Rogelberg, 1998). There is an exception for superior ratings, as often upper level executives only have one superior above them, as well as the self rating.

While some of the 360-degree feedback instruments were completed prior to the CD interview and others were conducted after, at no time did the person who was responsible for conducting the interviews privy to the information or leadership scores assessed on the 360-feedback instrument. This way leadership effectiveness ratings did not bias the interviewers ability to score the CD interview transcript.

Analyses

Correlations play a large role in statistical testing and assessing the degree of particular relationships. Due to the fact that LDLs are structured in a nonvariant hierarchical manner, similar to being rank-ordered, Kendall's tau correlations were calculated for LDLs and 360-degree feedback ratings of leadership effectiveness. We selected this method because it provides the advantage of a study that has a small to moderate sample (Ardnt, Turvey, & Andreasen, 1999). Therefore, we can better justify using the F-distribution in our analysis. Kendall's tau correlations were calculated to examine not only the relationships between LDL and 360-degree feedback scores, but also the relationships of different raters' (e.g.-superior, subordinate, peer, and self) assessment of leader's overall leadership effectiveness.

To assess how well LDL predicts leadership effectiveness, bivariate linear regressions were run between LDL and the overall feedback rating for each executive. Reliabilities for the 360-degree feedback form were calculated using data from a larger database of executives (N=3,525). In addition, we ran the same analyses between each leadership competency subscale. In order to identify which source for rating leadership effectiveness was most predictive of LDL, we conducted a stepwise hierarchical multiple regression analyses based on CD theory and previous empirical studies.

CHAPTER 3

RESULTS

Table 1 presents a table of sub-scale reliabilities with example items for the 360-degree feedback measure. Table 2 presents the Kendall's tau correlations between LDL and average 360-degree feedback score by rater source. As expected, LDL was significantly and positively related to not only the overall effectiveness rating but also to each individual rater source. In addition, correlations among mean ratings from different rater sources were calculated. Superior ratings were related to subordinate ratings ($r=.29$, $p<.01$), peer ratings ($r=.32$, $p<.01$), and self ratings ($r=.23$, $p<.05$). Subordinate ratings were related to peer ratings ($r=.26$, $p<.05$) but not self ratings ($r=.11$, $p=.16$). Peer ratings were related to self ratings ($r=.26$, $p<.05$). Correlations between rater sources including the lower correlations between self ratings and ratings from other sources all mirrored Conway and Huffcut's meta-analytic results (1997).

We conducted a bivariate linear regression analysis to evaluate the prediction of overall 360-degree feedback scores using LDL, $F(1, 39) = 9.39$, $p=.004$. Therefore, hypothesis 1 is supported. In order to assess whether LDL is predictive of leadership effectiveness using particular source ratings, we also conducted separate bivariate linear regressions for each rater source. Table 3 provides a comparison of rater sources indicating that LDL significantly predicted leadership effectiveness via superior $F(1,36)=6.66$, $p=.01$, peer $F(1,35)=5.52$, $p=.03$, and self $F(1,37)=5.07$, $p=.03$ ratings. Subordinate ratings were not found to be significant $F(1, 38) = 2.66$, $p=11$. By examining the means along with the β coefficients (or slopes of the regression equation), one can see which rater sources might be better at differentiating leaders at

different levels. Figure 1 provides a pictorial representation depicting an increase in mean feedback ratings from LDL 3 to LDL 4 for all rater sources. As previously mentioned, all rater sources were significant except for subordinate ratings. Hypothesis 2, therefore, was only partially supported. While we expected that LDL would be predictive of leadership effectiveness using superior, subordinate, peer, and self ratings, all but subordinate ratings were significant. It is important to note, however, that the means were higher across all rating sources for LDL 4's then LDL 3's.

We examined ,via bivariate linear regression, the predictive relationships between LDL and 360-degree feedback ratings separated by competency (subscale) in an exploratory manner. LDL significantly predicted effectiveness related to *Managing Performance* $F(1,39)=4.09$, $p=.05$, *Leading Change* $F(1,39)=10.69$, $p=.002$, *Catalyzing Teams* $F(1,39)=10.01$, $p=.003$, *Cultivating Talent* $F(1,39)=11.56$, $p=.002$, *Inspiring Commitment* $F(1,39)=11.32$, $p=.002$, *Creating Vision* $F(1,39)=9.19$, $p=.004$, and *Personal Grounding* $F(1,39)=6.08$, $p=.02$. LDL did not significantly predict effectiveness via *Contextual Grounding* $F(1, 39) =3.35$, $p=.08$.

Finally, we ran a hierarchical multiple regression with superior ratings of effectiveness entered at Step 1, peer ratings at Step 2, subordinate ratings at Step 3, and self ratings at Step 4. Despite the fact that age has been theoretically linked to LDL development, we found no significant correlation , and therefore it was not necessary to control for this factor in the analysis. Table 4 shows that superior ratings $F(1,32)=5.92$, $p=.02$ significantly predicts LDL with $R^2=.16$. Peer, self, and subordinate effectiveness ratings do not significantly account for any predictive validity above and beyond superior ratings. No significant change in R^2 exists (see Table 4). It is important to note, however, that the overall model with superior and peer ratings

Step 2 was significant $F(2, 31) = 4.30$, $p = .02$. The remaining two models, however, were not significant: Step 3 $F(3,30) = 2.79$, $p = .06$ and Step 4 $F(4,29) = 2.32$, $p = .08$.

Table 1
Competency reliabilities, definitions and examples for the 360-degree feedback evaluation

Leadership Competency	Sub-scale Reliability	Definition	Example
Managing Performance (N=7)	.86	• Establishes clear goals and priorities. Creates project plans and processes to achieve results. Is dependable and decisive. Monitors progress and addresses setbacks. Holds people accountable for outcomes.	• Gets results, accomplishes objectives, and sees projects to completion. • Makes clear-cut decisions without unnecessary delay, even in tough situations.
Leading Change (N=7)	.88	• Takes initiative to challenge the status quo and supports organizational innovation. Is adaptable.	• Challenges the status quo, supports fresh perspectives, tries out new approaches and enlists support for change initiatives. • Identifies sources of resistance to change and effectively deals with them before they undermine change initiatives.
Catalyzing Teams (N=6)	.82	• Fosters communication, cooperation, and trust. Supports teamwork by facilitating conflict resolution & negotiating winning outcomes. Is approachable. Works effectively with people of diverse backgrounds and different areas of the organization.	• Models and encourages teamwork by fostering cooperation, communications, trust, shared goals, interdependency, and mutual accountability and support. • Works effectively with other groups and functions, shares information across the enterprise, and considers the impact of decisions on other departments and groups.

Table 1 cont.
Competency reliabilities, definitions and examples for the 360-degree feedback evaluation

Leadership Competency	Sub-scale Reliability	Definition	Example
Cultivating and Retaining Talent (N=6)	.78	• Identifies and develops the talent of the organization by providing challenging and empowering work opportunities; coaches others to improve performance; supports others in achieving high standards. Treats others with respect.	• Sets challenging goals and high standards of excellence, while refusing to accept mediocre or substandard performance. • Recognizes, praises, and rewards others for good performance.
Inspiring Commitment (N=5)	.79	• Effects support for organizational goals through high standards of personal conduct. Demonstrates dedication and enthusiasm. Creates a positive and inspiring impression. Places organizational activities into a broader context.	• Consistently sets a standard of dedication, hard work, energy and commitment. • Gives others within the organization hope and inspiration by displaying optimism, energy, confidence, enthusiasm, determination and commitment, especially in tough times.
Creating a Compelling Vision (N=4)	.80	• Thinks strategically about the future. Provides an appealing, credible image of the workgroup/organization's direction. Effectively communicates the desired future state and generates support for its implementation.	• Personally generates new or improved ideas, approaches, products or solutions. • Thinks strategically, creates an ongoing, dynamic strategic planning process, and communicates the organizations long-term direction.

Table 1 cont.

Competency reliabilities, definitions and examples for the 360-degree feedback evaluation

Leadership Competency	Sub-scale Reliability	Definition	Example
Contextual Grounding (N=4)	.74	• Maintains an accurate and realistic awareness of events and trends inside the organization and within the larger context in which it operates. Is open to receiving new information and shares information with others.	• Openly shares information with colleagues, keeping them in the loop about plans, activities, objectives, recent developments, and progress toward goals. • Is alert to events and trends within the organization and considers how they might influence the long-term performance of the organization.
Personal Grounding (N=7)	.81	• Maintains emotional balance and realistic positive perspective. Is confident, genuine, and appropriately assertive. Copes well with stress and is resilient in the face of challenges.	• Solicits and is open to feedback and differing ideas and views. Avoids intimidation or domination, and welcomes suggestions. • Is sincere, genuine, open and direct with others. Has no hidden agenda.

360° Multi-Rater Feedback Assessment (HCG, 2002)

Table 2
Means, standard deviations, and intercorrelations among LDL and mean 360-degree feedback scores by rater source.

Variable	*N*	*M*	*SD*	1	2	3	4	5	6	7
1. LD Level	41	3.61	.49	—						
2. Age	37	46	7.41	.20	—					
3. All	41	3.80	.39	.44**	.184	—				
4. Superior	38	3.90	.52	.27*	-.016	.52**	—			
5. Subordinate	40	3.90	.51	.26*	.031	.66**	.29**	—		
6. Peer	37	3.77	.31	.31*	.344**	.49**	.32**	.26*	—	
7. Self	39	3.61	.42	.24*	.326**	.31**	.23*	.11	.26*	—

*p < .05, p** < .01 one-tailed.

Table 3
Comparison of descriptive statistics, β, t-value, F, p-value, and R^2 by rater source.

	Superior	**Subordinate**	**Peer**	**Self**	**All**
M_3	3.65	3.63	3.64	3.44	3.59
SD_3	.70	.56	.22	.27	.35
M_4	4.06	3.90	3.87	3.73	3.93
SD_4	.28	.46	.33	.46	.35
df	37	39	36	38	40
β	.42	.27	.23	.29	.35
t-statistic	2.58	1.63	2.35	2.25	3.06
F	6.66	2.66	5.52	5.07	9.39
p-value	.014*	.11	.03*	.03*	.004**
R^2	.16	.07	.14	.12	.19

Figure Caption

Figure 1. Mean feedback ratings of leaders at LDL 3 and LDL 4 by rater source.

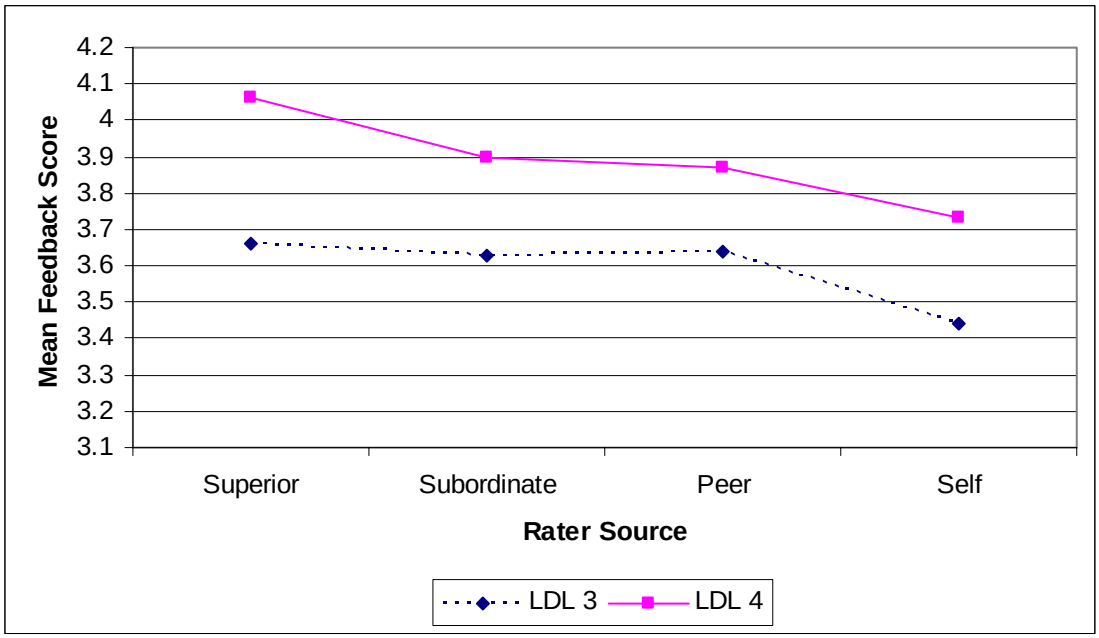
4.2
4.1
4
3.9
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.1
Mean Feedback Score
Superior
Subordinate
Peer
Self
Rater Source
LDL 3
LDL 4

Table 4
Hierarchical regression analyses predicting LDL.

Predictor	*B*	*SE B*	B
Step 1: R^2=.16*			
Superior	.37	.15	.40*
Step 2: Δ R^2=.06			
Superior	.29	.16	.30
Peer	.41	.27	.26
Step 3: Δ R^2=.001			
Superior	.28	.18	.29
Peer	.41	.28	.26
Subordinate	.03	.18	.03
Step 4: Δ R^2=.02			
Superior	.26	.18	.27
Peer	.29	.30	.18
Subordinate	.02	.18	.02
Self	.21	.22	.18

*$p < .05$, **$p < .01$.

CHAPTER 4

DISCUSSION

Prior to the development of the current study, the research applying constructive-developmental theory to the study of leadership has been rich both in theory and qualitative empiricism, yet deficient in a quantitative domain. Researchers' calls to examine the relationship between LDL and behavioral measures of performance, via 360-degree feedback ratings, (Eigel & Kuhnert, 2005) have been answered. The goal of this study was to not only examine the relationship between LDL and leadership effectiveness, but also to identify which rater's assessment of leadership effectiveness most likely differentiates low performers from high performers, as well as to identify which rater's assessment of leadership effectiveness most strongly predicts LDL.

A strong positive relationship not only exists between LDL and leadership effectiveness ratings overall, but also exists between LDL and effectiveness as rated by specific rater sources, including superior, peer, and self ratings. While LDL did not significantly predict effectiveness as measured by subordinates, an overall increase of effectiveness ratings was demonstrated between LDL 3 and LDL 4. While further research needs to be conducted to identify if self ratings are significantly lower than all other ratings, we did identify that the mean feedback scores as rated by oneself were lower than all other raters. This finding is contrary to previous research of inflated effectiveness ratings as measured by oneself. Sala (2003) provides one explanation in the fact that self-awareness is positively associated with managerial performance. Therefore, higher level managers might possess a better understanding of themselves. Also, the individuals that participated in this executive development program may be described as a

sample of leaders trying to be better leaders, and therefore are not willing to simply inflate their scores.

In addition, LDL predicted leadership effectiveness as measured by a number of leadership competencies. In fact, LDL predicted leadership effectiveness as measured by leadership competencies that are more concrete such as managing performance, cultivating and retaining talent, inspiring commitment, and catalyzing teams. More promising, however, is the ability of LDL to predict such competencies as leading change, creating a compelling vision, and personal grounding. Leading change is characterized by the ability to challenge the status quo, and leaders at higher levels are not defined by outside relationships. Effective leaders acquire their source of understanding from within and have the ability to relinquish ties with outside sources in order to make effective decisions. Therefore, the ability to stand up to challenges, obstacles, or an individual's dissent, in order to change the organization for the better, is more likely with leaders at LDL 4 and 5. The fact that LDL was predictive of effectiveness related to emotional balance and resilience in the face of challenge associated with Personal Grounding (Hagberg, 2002) is consistent with the fact that leaders as higher levels are not defined by relationships which can often create emotional upheaval. In addition, resilience is extremely important in a time where organizations are constantly evolving. Leaders at higher levels are able to deal with conflict more comfortably and have been found to handle people's resistance to change more effectively (Rooke & Torbert, 2005). The implication here is that these individuals serve as effective change agents. Rooke and Torbert's (1998) research confirms that leaders at such high levels have succeeded in generating one or more organizational transformations, where their companies' profitability, market share, and reputation all improved. Equally important, LDL was found to be predictive of a leader's ability to Create a Compelling Vision, where one

thinks strategically about the future. Effectiveness in this domain is very similar to leaders who have the ability constantly renew and reinvent not only themselves but also the organization as a whole. This type of leader is capable of attending to immediate and pressing issues but also envision long-term goals (Rooke & Torbert, 2005). While LDL did not significantly predict effectiveness as measured by Contextual Grounding or the ability to understand the organization within a broader context, we feel that with an increase in sample size, we would achieve significant results. At the same time, this finding is not surprising because those high in Coxtextual Grounding maintain an accurate and realistic awareness of the organization and tend to share information with others. Leaders at LDL 3 are more likely to pay more attention to the context than leaders at higher levels. LDL 3's are more likely to be "slaves" to the situation. Openness to receiving and sharing information was a major aspect assessed with this construct. Since the majority of people rating an individual at such a high level in the organization are either peers or subordinates, perhaps their level of development is below that of the individual being rated. Therefore, individuals at higher levels may come off as wishy-washy to those at lower levels and might not be capable of understanding and subsequently evaluating leaders that are self-authoring their way of understanding.

This is portrayed even more clearly with the fact that only superior and peer ratings of effectiveness predicted LDL. Peer ratings, however, did not provide any incremental validity beyond superior ratings. These findings are not surprising when we return to the fact that perhaps peers, subordinates, and the individual themselves cannot identify or understand the level of "meaning making" of which a person is capable, unless they are leading from a level of equal or greater magnitude. This confirms our hypothesis that superiors are capable of predicting LDL

best due to age and experience, while peers may do as well but not any better than superiors. Subordinates often have less experience and therefore the discrepancy of lenses is present.

The implications for leadership development are far reaching. Perhaps the most effective leaders are operating at a place where they organize their experiences at a level of complexity far greater than that of their subordinates and even peers. We cannot forget that leaders at the highest levels can still use former ways of organizing their experiences to relate to others. Therefore, in order to develop leaders, we need to educate them on how to communicate and reach individuals at their level and at levels below them.

It is vital for effective leaders to provide a context for all interested parties including the leader, where together a vision, mission, and purpose can be collectively upheld (Kegan, 1994). Potentially, followers may not understand an individual's way of leading, as they may have a different construction of what a leader should be or do. A person at LDL 3 will appreciate the leader who constantly provides praise, because it will make him feel good about himself. That very same person may not understand or appreciate the individual who leads at more effective levels such as LDL 4 and LDL 5. While these leaders value relationships, they look beyond outside and create meaning within. They are focused on achieving something greater for themselves, the organization, and society as a whole. Followers may not have the capacity to understand them and therefore may rate them lower in various leadership competencies.

This study is one of the first to provide a framework for understanding leadership development from the leader's perspective and not simply define leadership by a leader's traits or abilities. More importantly, this study has demonstrated the essential link between developmental levels and leadership effectiveness. This is simply the beginning in understanding the link between LDL and effectiveness from the point of view of the individual. Opportunities

for continued research in this area are diverse, as much research has focused on traits, competencies, and the situational determinants of effectiveness (Leonard, 2003), or what we have previously described as "content" all the while neglecting the meaning making process or "construct."

Implications for Future Research & Practice

Future research should focus on examining the incremental validity of LDL above and beyond such cognitive and personality traits found to be linked to successful leadership such as: cognitive ability, activity level, initiative, assertiveness, aggressiveness, competitiveness, dominance, ascendance, emotional balance, tolerance for stress, self-control, self-efficacy, enthusiasm, and extraversion (Bass, 1990; Lord, DeVader & Allinger, 1986).

In addition, one cannot neglect the effects of one's environment or the leadership context is understanding effectiveness. One may posit that it is not so much the effects of leadership and environment that are important to investigate, as different people have the potential to create different meaning from the same environment. It is important, however, to identify environments that promote development, as effectiveness in particular environments might be dependent on the LDL of the individual. Kuhnert and Eigel (2005) suggest that each individual at a particular LDL will be effective in a particular environment according to the way they make meaning of situations. LDL 2s are not very effective in general; LDL 3s are effective in routine environments. LDL 4s are probably most effective in novel environments, while LDL 5s might be most effective in dynamic environments. Taking this information into account, it may be worthwhile to further investigate the type of environment or organizational culture the individual works in to examine the moderating role it plays in predicting effectiveness. Furthermore, the suggestion that individuals might be more effective in a particular environment begs the

question: What happens if leaders make the transition from one level to the next, but the organization or environment remains the same? At this point, the leader may be capable of constructing meaning that is more advanced than many others working in the organization. In addition, the overall environment might be structured in a way that stagnates individual development. Therefore, it is critical not only to think of leadership development from an individual perspective, but also to think about it from an organizational perspective. This might be accomplished by involving more than just a couple of high potentials in the leadership development process. Improving the way the organization as a whole functions by involving individuals from cross-sections of the organization might not only further develop individuals but also lead to a larger organizational transformation (Leonard & Goff, 2003). While the subjects in this particular study are employed at a variety of organizations, it may prove interesting to examine the effects of individuals undergoing the CD interview and feedback process, along with a 360-degree feedback measure, in one organization and try to examine the significant positive impact the process may have on the organization as a whole. Leonard & Goff (2003) measured the impact of a leadership development program by assessing change within one organization using a pre-test, post-test design measuring the organization's functioning in a number of areas including strategy, innovation and risk taking, and adapting to change.

One must also consider additional issues associated with 360-degree feedback measure, including the fact that informational differences are most likely to occur among different rater sources. Therefore, it might prove worthwhile to more specifically identify information to which each rater might have closer access. Borman (1974) found that different sources generate different dimension in job analysis, also suggesting that behavior on some dimensions is observed by some sources but not by others. Other researchers have argued the need for further

research examining what types of dimensions are best rated by each source as a means to understand why rater sources provide a level of incremental validity in the first place (Conway, Lombardo, & Sanders, 2001).

Since each executive manages others, their subordinates and supervisors might be the best source of information regarding delegation, communication, and leadership skills. Peers, on the other hand, may be in the best position to evaluate such skills as teamwork, decision-making, and technical capability. Finally, customers have been suggested to be the best source of input on quality of work and service orientation (Pollack & Pollack, 1996). In addition, the research specifically examining the types of leadership competencies raters might be most capable of evaluating is limited. Therefore, future research should be aimed at identifying the relationship between LDL and leadership effectiveness as measured by 360-degree feedback ratings, by looking more specifically at each rater's capacity to evaluate particular leadership competencies. Researchers should also focus on investigating the relationship between LDL of the follower with the LDL of the leader, as well as the composition of different LDLs people might have and its effect on team functioning. This is extremely important since many organizations are become much flatter with regards to organizational structure. Another interesting aspect to investigate is the open-ended comments often supplied in a 360-degree feedback review. Perhaps this information could be scorable and provide a clearer picture as to where a person is leading from. One of the most important next steps, however, is to obtain other performance measures such as individual, team, and overall firm performance measures. Examining the relationship between LDL and more objective measures of performance will only help to extend the already promising research in this area.

Limitations

Several limitations of this study must be addressed in order to improve research involving an executive sample as well as the measures for validating the emerging theory of LDL. First, it should be noted that the sample for this study was quite small. As previously mentioned, the sample size was actually larger than other research involving the CD interview. The difference here, however, is that in order to conduct a hierarchical regression that results in significance and has sufficient power, one should at least follow Wampold and Freund's (1987) recommendation of a 10:1, N to *p* ratio.

The small sample also has caused us to dichotomize LDL as either LDL 3s (ineffective) or LDL 4s (effective), when in reality the constructive developmental trajectory is a continuum of development. In effect, we have characterized the effectiveness of individuals that are stable at LDL 3 or LDL 4, when in reality, many are in a transitional state where they might use both methodologies to make meaning of their world. Artificially dichotomizing variables may also attenuate correlations with their true value, thereby causing a downward distortion in the mean correlation (Cohen, 1983). Increasing the sample size so that we increase variability across levels should remedy this problem.

The other drawbacks of such a small and specific sample is the focus on a very specific population. First, the very nature of our sample or individuals whose organizations have tapped them as high potential leaders maybe more effective than other individuals in general. Therefore this sample may have been restricted due to our sample selection process, thus creating range restriction (Sackett & Yang, 2000). Second, the majority of participants were male (63%), which is consistent with reports that 64.8% of officials and managers in the private sector in 2003 were male (Equal Employment Opportunity Commission, 2003). While participants in this study did

not disclose their ethnicity, researchers identified approximately 25% of participants as being of minority status. This is somewhat consistent with the U.S. Office of Personnel Management's findings that only 13.6% of senior paid government jobs were held by minorities in 2002 (U.S. Office of Personnel Management, 2002). The composition of the sample is similar to that of the general population of executives or senior paid officials, therefore generalizations may be applied to organizational executives. The sample, however, is sparse in women and minority representation, and therefore we cannot make such generalizations about these particular groups. We cannot neglect the staggering discrepancy in representation of a variety of groups in executive positions, but we can see promise in the fact that representative samples of minorities are being exposed to leadership development opportunities, which should aid in the elimination of the glass ceiling. Additional research, however, should seek to understand how minority identity development interacts with constructive development by using matched samples. An examination of gender differences at each LDL, especially at LDL 3, in which one is defined by his/her relationships, may prove to be quite informative.

Conclusion

We have demonstrated the utility of the CD interview, as we are now able to see the link between LDL and effectiveness. The key to making this process effective, however, is not simply assigning individuals with an LDL score, but making them aware of how they see the world. While researchers are not exactly sure what "triggers" the move from one level to the next, we can only hope that awareness of the meaning-making process will aid in development. Eigel and Kuhnert (2005) believe that the triggers for development are those that have meaning from that person's LDL and the transition from level to level will be dependent on the individual's readiness and willingness for development. That being said, establishing

opportunities for growth and specifically challenging individuals at each level to strive toward particular goals in their own development may likely serve as a "trigger." LDL 2s should be challenged toward discovering generosity. LDL 3s should be challenged toward discovering themselves. Finally, LDL 4s should be challenged toward discovering how to make a difference. (Eigel & Kuhnert, 2005). It is only when we are able to develop leaders to these higher levels, that we will see true change in individuals, teams, organizations, and society as a whole.

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