

TESTING THE LEADERSHIP PIPELINE

*Do the Behaviors Related to Managerial Effectiveness
Change with Organizational Level?*

Robert B. Kaiser
Kaplan DeVries Inc.

S. Bartholomew Craig
*North Carolina State University
& Kaplan DeVries Inc.*

Darren Overfield
Kaplan DeVries Inc.

Preston Yarborough
*The University of North Carolina
at Greensboro*

Author Notes.

Rob Kaiser is a partner with the executive development and research consultancy, Kaplan DeVries Inc. Bart Craig is an associate professor of psychology at North Carolina State University and an Adjunct Research Scientist with Kaplan DeVries Inc. Darren Overfield is a Senior Associate with Kaplan DeVries Inc. Preston Yarborough is the Assistant Director of Leadership at The University of North Carolina at Greensboro.

A version of this research was presented at the Society for Industrial and Organizational Psychology's 1st annual Leading Edge Consortium fall conference, St. Louis, MO. We are grateful to the Center for Creative Leadership for providing the data used in this study, and we thank Dave Day, David DeVries, and four anonymous reviewers for constructive suggestions on earlier drafts. Inquiries about this research may be directed to Rob Kaiser at Kaplan DeVries Inc., 1903 G Ashwood Court, Greensboro, NC 27455. E-mail may be sent to rkaiser@kaplandevries.com.

Abstract

There is an extensive literature on how the requirements of managerial jobs differ across organizational levels. But past research has largely been *descriptive*; no previously published study has directly tested whether the behaviors that *predict* effectiveness are different at different levels. We tested whether organizational level moderated the relationships between subordinate ratings on seven dimensions of managerial behavior and superior evaluations of overall effectiveness using a set of identical measures in a sample of 2,175 supervisors, middle managers, and executives representing 15 different industries and dozens of organizations based in the U.S. Multivariate analyses revealed significant differences in the pattern of behaviors associated with effectiveness across levels. Many differences were discontinuous (e.g., positive predictors of effectiveness at one level were negative predictors at another) and generally consistent with the dominant themes in the literature characterizing the unique requirements of managerial jobs at different levels.

Introduction

The idea that the performance requirements of managerial jobs vary across hierarchical levels in organizations has a long history. Its roots in the behavioral sciences can be traced to Weber's (1925/1947) seminal theory of organizations and the nature of bureaucracy. Subsequent scholars from R. L. Katz (1955), Mann (1965), D. Katz and Kahn (1978), to Jaques (1989), Day and Lord (1988), and Hunt (1991) have articulated a number of distinctions between jobs at different organizational levels. This notion is also commonly applied in practice. Made popular by General Electric Co. in the 1970s (Mahler & Wrightnour, 1973), the concept of level differences has gained considerable appeal among practitioners in recent years. Popularly known as "the Leadership Pipeline," following a best-selling book by that name (Charan, Drotter, & Noel, 2001), distinct performance requirements for different levels of management are used in systemic approaches to talent development adopted by many organizations (Kaiser, 2005).

There is a noteworthy gap in an otherwise extensive body of research on differences between managerial jobs at different levels. Because job requirements vary with organizational level, it seems logical to infer that the behaviors that constitute effective performance would also differ across levels. But, as Zaccaro (2001) and Yukl (2006) have pointed out, the published literature contains no direct empirical tests of the basic proposition that the behaviors related to managerial effectiveness do indeed vary with level. Nor is there direct evidence for the assumed discontinuities in these differences—for instance, where the same behavior is positively related to effectiveness at one level but negatively related to effectiveness at another level. A recent study by Mumford, Campion, and Morgeson (2007) is representative of this research. They found significant differences in job analytic ratings of positions at different levels (with level operationalized as tenure) but did not directly investigate the differential prediction of effectiveness by level. Thus, although previous research has provided a description of perceived

differences in managerial jobs across levels, this literature could benefit from empirical examination of the implications of those differences.

This article has two goals. First, we summarize the dominant themes in past research characterizing the distinctions among managerial jobs across the hierarchy. This will set the stage for our second goal, a quantitative test of the assumption that the behaviors related to effectiveness are different for jobs at the bottom, middle, and top. This study is the first we know of to use an identical set of measures across a range of organizations to test for differential prediction of managerial effectiveness due to organizational level. We believe such an empirical test is important not only for theoretical reasons but also due to the widespread application of such assumptions in practice: is the current popular fascination with the Leadership Pipeline concept warranted, or is it just another fad lacking an empirical basis?

Summary of Literature

There is a substantial descriptive literature on how managerial roles differ across hierarchical levels in large bureaucratic organizations. Much of this work has been job-analytic, consisting of ethnographic observations of managers at multiple levels (e.g., Luthans, Rosenkrantz, & Hennessey, 1985; Mintzberg, 1980) and polling incumbents about how they spend their time or asking other subject matter experts (e.g., superiors) about what they think is required for effective performance (e.g., Kraut, Pedigo, McKenna, & Dunnette, 1989; Tornow & Pinto, 1976). Complementing these inductive approaches are theoretical formulations of organizations as complex, multilevel systems that require a variety of leadership roles (e.g., D. Katz & Kahn, 1978; Jaques, 1989). Three broad generalizations can be made from these two bodies of research.

First, although organizations vary with regard to the number of levels contained in their hierarchies, at least three distinct levels of management can be identified in most larger

organizations where requirements within a level are similar but qualitatively different across levels (Hunt, 1991; D. Katz & Kahn, 1978; Zaccaro, 2001). Second, the nature of work at each level has been distinguished in terms of time horizon (Jaques, 1989), functional activities (D. Katz & Kahn, 1978), primary requisite skills (R. L. Katz, 1955; Mann, 1965), and organizational responsibilities (Charan et al., 2001; Mahler & Wrightnour, 1973). Third, the leadership development literature suggests that managers frequently have difficulty making upward transitions because such moves require modifying previously reinforced behaviors and learning new skills, values, and perspectives (Charan et al., 2001; Freedman, 1998, 2005; McCall, Lombardo, & Morrison, 1988).

Three Levels

Two streams of inquiry suggest that most large organizations can be characterized by at least three distinct levels of management. The earlier work in this area culminated in the systems framework of D. Katz and Kahn (1978) who argued for three basic types of leadership arising from differing organizational needs at three distinct hierarchical levels. From top to bottom, those needs (and the levels at which they predominate) were creation of structure (executive), interpretation of structure (middle management), and application of structure (supervisors).

Jaques' (1978) extension of this work evolved into stratified systems theory (SST; Jacobs & Jaques, 1987; Jaques, 1989), which has inspired the present generation of multilevel theories (see Hunt, 1991; Osborn, Hunt, & Jauch, 2002; Phillips & Hunt, 1992; Zaccaro, 2001). Jaques distinguished among levels based on the degree of complexity inherent in the tasks required to perform the jobs at each. For instance, executive jobs involve the coordination of multiple discrete business units, linking the internal and external environments, and setting strategic direction in an ill-defined and long-term context. In contrast, supervisory jobs are contained within a single functional unit or domain, and largely concerned with only the local internal

environment and well-defined activities focused on the near term. SST holds that no more than seven specific levels are required to adequately characterize differences in complexity across the hierarchy in any organization. These seven narrowly defined levels can be grouped into three higher-order levels: systems, organizational, and production. This three-level scheme corresponds to the distinctions made by D. Katz and Kahn (1978).

In a comprehensive review of the literature, Zaccaro (2001) noted that while various theories posit between three and seven distinct organizational levels, the cumulative empirical evidence across organizations consistently supports only three general domains where the jobs within each domain are highly similar in terms of the work required but qualitatively distinct between domains. Hunt and Ropo (1995) also point out that for any specific organization, it may be useful to make finer distinctions, but for normative research and cross-organizational comparisons, three levels are often sufficient. Here, we refer to these three levels as bottom (supervisory), middle (middle management), and top (executive).

Nature of Work at Each Level

Several perspectives have distinguished the work at the bottom, middle, and top. Each considers a unique aspect of the performance domain. Taken together, they help define the job requirements of managers at each level which, in turn, are suggestive of continuity and change in the behaviors related to effectiveness.

Time horizon. Contemporary theories of level differences rest upon the concept of complexity. According to Ashby's (1952) principle of requisite variety, job complexity increases with organizational level, and managerial success hinges on a commensurate level of cognitive complexity. Although job complexity has been defined differently by different authors, Jaques' notion of *time span of discretion* has been the dominant method used to operationalize the complexity of managerial jobs at different levels (Hunt, 1991; Jacobs & Jaques, 1987; Jaques,

1978, 1989). Under this definition, it is assumed that longer periods of time between action and its consequences indicate higher job complexity. Thus, the primary way to distinguish levels in SST is by the time frame in which managers must consider their activities. At lower levels, supervisors typically learn the consequences of their actions within days or weeks. Top executives, however, may not discover the effects of their decisions until decades later (e.g., the decision by U.S. automobile executives in the 1970s to lobby government for lenient emission standards rather than invest in greater fuel efficiency). According to Jacobs and Jaques (1987), the time spans for the three organizational levels considered here are three months to two years for supervisory jobs, two to five years (perhaps as high as 10 years) for middle management, and 10 to 20-plus years for executive jobs. Although the exact lengths of the three time frames could be debated, it seems reasonable to accept the general premise that jobs involving longer latencies between behaviors and their consequences place higher cognitive demands on incumbents.

Functional activities. The specific activities carried out at each level of management are also thought to change substantively, with higher-level jobs requiring larger numbers of discrete tasks that are also more varied and less well defined (i.e., greater complexity). The systems model of D. Katz and Kahn (1978) has been influential in the delineation of these functional activities across three levels of leadership. At the top are activities involving what they termed the "origination of structure," defined as the creation of organizational structure and policy. In more recent theories, this has been elaborated to include setting strategic direction and maintaining an organizational culture to support it (Hunt, 1991; Zaccaro, 2001). Other major activities of executives include monitoring the external environment for threats and opportunities, linking the organization to the larger external environment, building consensus among stakeholders on strategic imperatives, and securing capital resources (Kraut et al., 1989; Luthans et al., 1985; Mintzberg, 1980; Zaccaro, 2001). This emphasis on the external

environment is mirrored by how little time executives typically spend directly supervising their subordinates compared to managers at lower levels (Kraut et al., 1989; Tornow & Pinto, 1976).

The next level down in D. Katz and Kahn's (1978) model involved "interpolation of structure"—middle levels of management are responsible for interpreting and communicating strategy and policy that originates at the executive level. This function includes translating the strategic "big picture" into specific operating goals, allocating resources across functional units, and solving organizational coordination problems through cross-functional integration. Although the importance of middle management has been questioned as part of recent trends toward flatter organizational designs, some have argued that it serves an important role. According to these authors, who have tended to use ethnographic and observational methods (e.g., Huy, 2001; Mintzberg, 1980), a more complete examination of middle management reveals the role it plays in developing strategy, securing commitment to overall organizational goals, and helping organization members at lower levels cope with change. For instance, middle managers play an active role in developing strategy by providing executives with feedback from customers, employees, and operational conditions (Huy, 2001; Mintzberg, 1980). Middle managers also spend significant time aligning discrete functional units with the strategic goals of the larger organization and in helping members in different parts of the organization understand, accept, and contribute to change initiatives (Huy, 2001; Tornow & Pinto, 1976). These roles position middle management as a nexus for information flow up, down, and throughout organizations (Kaplan, 1984; Mintzberg, 1980).

In recent years the emotional support role of middle management has gained attention. As globalization, deregulation, downsizing, and technological advances have quickened the pace of change, organization members are reporting increasing anxiety. Because executives tend to be externally focused, it has generally become middle management's role to restore psychological

safety in the workplace, such as by providing support and assurance to employees (Huy, 2002).

At the lowest level in D. Katz and Kahn's (1978) framework, supervisory leadership was described as "applying existing structure," defined as the routine use of standard operating procedures to deal with familiar problems in implementation and execution. Comparing the executive role with the supervisor role reveals differences in job complexity. Whereas executives are tasked with identifying, defining, and addressing the novel problem of setting direction in an ambiguous context where options seem unbounded and goals are not provided, supervisors are tasked with applying an existing structure. Accordingly, supervisors must distribute resources, assign specific tasks, and manage the employees and teams who execute the organization's core work. The application of existing structure involves selecting from a finite set of known options to deal with expected problems in a relatively stable environment to achieve predefined goals (Osborn et al., 2002). In other words, supervisors primarily deal with *technical* problems, while executives confront *adaptive* problems (Heifetz & Laurie, 2001). The key activity of managers at this lowest level is the supervision of employees responsible for carrying out the day-to-day work of the organization (Hill, 1992; Kraut et al., 1989; Tornow & Pinto, 1976).

Zaccaro (2001) observed that managers at all levels must carry out the indirect leadership activities of direction setting and implementation as well as the direct leadership roles involved in interpersonal influence. But he also suggested that the specifics of those roles vary with organizational level, consistent with others who have also disconfirmed stereotypes of lower-level managers as automaton doers and executives as reflective thinkers (e.g., Huy, 2001; Mintzberg, 1980). For example, although executives may set long-term strategy based on trends in the external environment, being "strategic" for a first-line supervisor might mean deciding which of several production problems should be a top priority in a given week. Conversely, some have argued that executive positions require a certain degree of involvement in operations and

tactical problem solving (Kaplan & Kaiser, 2003, 2006). This line of thinking suggests that although some roles may be analogous across levels, the behaviors required to carry them out can be different.

Primary skills. Another way to distinguish among the three levels of management involves the distinct skills needed at each level. The skills typology proposed by R. L. Katz (1955) and recommended by Mann (1965) has been popular for this purpose. This system classifies management skills into three general domains: conceptual skills—proficiency with *ideas*, analytical and logical thinking, deductive and inductive reasoning, systems thinking, and mentally representing complex information and manipulating it to both form integrative concepts and anticipate the consequences of alternative courses of action; human or interpersonal skills—competence with *people* as demonstrated in communication, forming and maintaining relationships, and showing concern for the feelings and desires of others; and technical skills—including proficiency with *things* like specialized methods, processes, knowledge, and techniques.

R. L. Katz (1955) and Mann (1965) suggested that managers at all levels use all three types of skills. But they also argued that the relative importance of each skill domain varied with organizational level, suggesting that a different set of skills was primary at each level. Specifically, technical skills were regarded as most important for supervisors, interpersonal skills for middle managers, and conceptual skills for executives. This is consistent with the functional activities at each level of management, described earlier. That is, technical skills are required for supervisors to solve routine or anticipated problems in production; interpersonal skills are critical for the communication, coordination, and emotional roles of middle management; and conceptual skills are necessary for executives to integrate internal capability with external opportunities to create a vision for strategically positioning the organization in a competitive

environment. Recent job-analytic findings by Mumford et al. (2007), based on incumbent ratings, support the proposition that distinct categories of leadership skills are all important at each level but that their importance varies with organizational level.

Organizational responsibility. A final way to describe level differences is in terms of organizational responsibilities. This method corresponds to how levels are typically distinguished in practice (Charan et al., 2001; Freedman, 1998, 2005; Kates & Downey, 2005). The supervisory level is the lowest one at which incumbents have responsibility for the performance of others, typically nonmanagerial employees (Hill, 1992). These jobs include first-line supervisors and department managers. They typically operate within a single functional area (e.g., production, sales, human resources) inside a single, self-contained organization. The primary responsibility of middle-management is coordination of multiple functions. The individuals who report to middle managers are managers themselves or other highly specialized professionals. A distinguishing characteristic of middle managers is that they frequently oversee the work of others with subject matter expertise in areas about which the middle managers possess little knowledge or experience (Freedman, 1998; Kates & Downey, 2005). Middle managers coordinate and integrate multiple functional areas, and a frequent challenge is to influence people to set aside their local concerns and instead contribute to broader organizational goals. In for-profit organizations, middle managers often have profit and loss responsibilities and are accountable for the performance of a single business unit that offers a particular product or service line.

Whereas middle managers coordinate cross-functional activities within a single business or organizational unit, executives are generally responsible for coordinating a portfolio of businesses or functional units. It is not uncommon for executives to have relatively little prior experience with the organizations, industries, or markets in which they operate (Groysberg,

McLean, & Nohria, 2006; Huy, 2001). Executives are usually accountable to extra-organizational constituents such as boards of directors and shareholders in publicly traded firms, owners in private companies, or politicians in government institutions (Gandossy & Sonnenfeld, 2004).

Summary. Several perspectives have been used to distinguish among three distinct levels of management in large, traditional bureaucratic organizations. Following Hunt's (1991) suggestion, identifying the organizational level of a given managerial job should be less about titles and tenure and more about the nature of the work. Differences in the nature of work at each level provide a basis for understanding how the behaviors required for individual and organizational effectiveness might vary across levels. Table 1 summarizes prior literature on differences between jobs at the bottom, middle, and top.

Insert Table 1 about Here

Navigating Transitions

A third generalization from research on level differences concerns derailment—when promising managers with a successful track record get fired, demoted, or stalled in their career progression (McCall & Lombardo, 1983). J. Hogan, R. Hogan, and Kaiser (in press) and Gentry and Chappelow (2009) summarized the literature on managerial derailment, and each concluded that about half of executive careers ultimately end in failure. Lombardo and Eichniger (2005) estimated that about one-third of managers identified as having "high potential" derail before reaching success at the top. Interestingly, the majority of managerial derailments occur after making an upward transition, often when moving from middle management to the executive level (cf. J. Hogan et al., in press; Kates & Downey, 2005; McCall & Lombardo, 1983).

Several factors appear to make failure more likely during an upward transition. First, level differences in job requirements are often poorly articulated by organizations, and individuals

frequently receive insufficient preparation and support prior to or during a transition (Downey, March, & Berkman, 2001; Freedman, 1998, 2005; J. Hogan et al., in press; Kates & Downey, 2005). Second, promotion decisions are usually based more on past performance than on fit with requirements in the next job. Lacking certain knowledge, skills, abilities, and other characteristics (KSAOs) may be irrelevant to performance at lower levels but when required at higher levels, the deficiencies become problematic (Charan et al., 2001; Lombardo & Eichinger, 2006; McCall & Lombardo, 1983). Third, "strengths become weaknesses" (McCall & Lombardo, p. 11), meaning that the behaviors reinforced by success in prior roles can become liabilities in more senior roles when the behavior is no longer functionally appropriate. Finally, a history of reinforcement can make a particular behavior pattern resistant to modification even after it becomes counterproductive, which Freedman (2005) described as a behavioral addiction and Berglas (2009) referred to as perseveration.

Kaplan and Kaiser (2003, 2006) reported that newly appointed executives were often faulted for excessive use of self-assertive and directive influence methods and over-involvement in technical problems and tactical issues. They also noted that the weaknesses most commonly reported among new executives were the lack of an empowering, participative style and a broad strategic mindset. Lombardo and Eichinger (2000) drew similar conclusions from their analysis of performance ratings for hundreds of executives in a range of industries.

Freedman (1998, 2005) described how upward transitions present managers with discontinuous changes in their job requirements for which they may be ill prepared. At each transition, managers are confronted by at least three separate but related challenges: letting go of anachronistic perspectives, values, and skills; refining those that continue to be useful; and developing new ones. Coping with these challenges requires adaptive changes in preferred activities, behavior patterns, and mental models. Freedman (1998, 2005) suggested that

organizational decision makers tend to underestimate these psychological challenges; consequently, rather than receiving adequate preparation and support, managers making upward transitions are often asked to "sink or swim."

In summary, the difficulties experienced by managers who transition from one level to another illustrate the proposition that specific behaviors may be differentially related to effectiveness at different organizational levels.

Rationale and Goals of the Present Study

The literature reviewed above suggests that the behaviors required for managerial effectiveness may be different at the bottom, middle, and top of organizations. However, little research has tested the resultant implication that organizational level moderates the relationship between managerial behaviors and effectiveness. Others have noted that there have been no published studies that document multivariate patterns of differential validity when a range of performance dimensions are used to predict effectiveness across levels in a variety of organizations (Hunt, 1991; Yukl, 2006; Zaccaro, 2001). Rather, most studies have been descriptive and job analytic, based on observations, interviews, or surveys with incumbents in a single organization (e.g., Kraut et al., 1989).

Rationale

A direct test of the moderating effect of organizational level is important for several reasons. One is that it is questionable to assume that incumbents can reliably describe the critical aspects of their work. How accurately individuals report what is required to do their jobs effectively varies considerably (Morgeson & Campion, 1997). There is also more disagreement than agreement between trained observers' descriptions of the frequency and importance of various managerial activities and those managers' own reports (McCall, Morrison, & Hannan, 1978). Moreover, distinguishing among the activities of managers at different levels is not

necessarily equivalent to identifying differences in the behaviors related to effectiveness at those levels. If as many as half of executives fail or derail (Gentry & Chappelow, 2009; J. Hogan et al., in press), then their daily activities probably do not characterize effective performance.

The descriptive literature is also somewhat inconsistent. For instance, some frameworks describe the importance of delegation and participative skills at the lower levels (Charan et al., 2001), whereas others posit their importance as emerging higher up (Kaplan & Kaiser, 2003, 2006). As another example, Zaccaro (2001) argued that both conceptual and social skills are central for executive jobs, whereas R. L. Katz (1955) and Mann (1965) suggested that conceptual skill is unequivocally the most important aptitude at the top. Further, Mumford et al. (2007) found incumbents' importance ratings for interpersonal and cognitive skills to be the *least* strongly related to organizational level of the four skill types they examined. Given the lack of predictive studies in the literature, these remain open empirical questions.

A finding that specific behaviors are differentially predictive of performance at different organizational levels would have important implications for theory, research, and practice. First, it would support previously untested theoretical propositions about differing job requirements across levels and call into question theories of management that fail to distinguish multiple definitions of effectiveness for different levels. Second, future researchers may need to begin to consider organizational level when they operationalize leadership criteria in their studies (Kaiser, Hogan, & Craig, 2008). Lastly, practitioners involved in the selection and development of managers would have a basis for tailoring their efforts to the particular demands of the levels at which they are working.

Research Questions

The study we report below is a test of propositions implied by the literature on level differences. It is a large sample, multi-organization, multi-industry, quantitative study that uses

identical measures to examine whether the patterns of behavior associated with managerial effectiveness vary across organizational levels. We tested two general propositions derived from the previous literature review. First, we expected that organizational level would moderate the relationship between managerial behaviors and effectiveness. This finding would provide evidence that the behaviors associated with effectiveness are in fact different for supervisors, middle managers, and executives. Second, because of the emphasis in the literature on how performance requirements change with level and how promotion to a higher level requires significant adaptation (Freedman, 1998; 2005; Mahler & Wrightnour, 1973; McCall & Lombardo, 1983), we expected discontinuities in how the relationships between behaviors and effectiveness differed across levels. That is, we expected some behavioral predictors to change sign and significance (e.g., a negative predictor at one level would be positive at another; a nonsignificant predictor at one level would be a significant predictor at another level, etc.).

We did not specify a priori which behaviors we expected to be positive, negative, or nonsignificant predictors at each level. As discussed earlier, previous authors have advanced competing arguments for some of the specific effects. Further, because the data set analyzed was opportunistic, we would not have been able to let existing theory and research fully guide us in the selection of behavioral measures optimized for this specific purpose, even if the literature had provided a consistent set of hypotheses. Rather, we used an archival data set spanning several different organizations that included behavioral ratings, effectiveness criteria, and organizational level—in short, a data set uniquely suited to testing the two broad propositions described above. We do, however, provide a post hoc comparison between our findings and the dominant themes described in the descriptive literature and summarized in Table 1.

Method

Heterosource Design

We used subordinate ratings of managerial behavior to predict superior ratings of overall effectiveness for three reasons. First, using separate sources for predictor and criterion data eliminates the common source bias that plagues much of management and leadership research. Second, subordinates are thought to provide the most accurate ratings of the typical performance of managers (R. Hogan, Curphy, & J. Hogan, 1994). And third, although superiors' overall evaluations are only one of many indications of managerial effectiveness, they are the most important determinants of salary, promotion, and resource allocation (Kaiser et al., 2008; Tsui, 1994). Superior ratings are also the most commonly used performance criteria in organizational research (Murphy & Cleveland, 1995).

Sample

We used an archival multirater feedback database provided by a nonprofit leadership training institution. The database included ratings for target managers based in the U.S. who enrolled in leadership training programs between 1992 and 1999. All ratings were completed on the same rating instrument for the sole purpose of developmental feedback.

Cases were selected from the initial database based on our confidence that we could accurately code their organizational level. Target managers indicated their organizational level on two demographic forms, one as a general form for registering for the training class, the other on the self-rating form of the multirater instrument. These two forms differed as to the response options (and numbers of options) with which participants could describe their level and job functions. As a result it was possible for participants to provide inconsistent information on the two forms, and many did. We took a conservative approach to selecting cases for inclusion in the analyses for two reasons. First, we wanted to minimize construct contamination in the level

variable. And second, we had a fairly large database from which to pull cases, so statistical power was less of a concern. That is, we chose to sacrifice sample size for the sake of increased confidence in the validity of the level variable. Therefore, we selected only those individuals who reported consistent levels on both demographic forms and minimized contamination by excluding individuals from "in-between" levels. We defined the supervisor, middle manager, and executive levels following definitions described above, with particular emphasis on Hunt's (1991) recommendation to use "genotypic" criteria (e.g., nature of work) rather than "phenotypic" criteria (e.g., job titles). For instance, we included in the supervisor category only those individuals who reported a single functional area of responsibility.

Based on these criteria, we were able to classify 2,175 participants as unambiguously residing at one of three organizational levels. The majority of omitted cases were excluded because they either did not report their management level on both forms or because they reported it inconsistently on the two forms. Table 2 provides a contingency table of self-reported managerial levels across the two sources for the sample we selected for inclusion in our analyses.

The final sample included ratings for 225 supervisors, 1,457 middle managers, and 493 executives. They represented a wide range of small, medium, and large for-profit, nonprofit, and governmental organizations in over fifteen industries. Participants were rated by a modal number of five subordinates and one superior (total $N = 9,519$ subordinate and 2,742 superior raters).

Insert Table 2 about Here

As a check on our coding of the organizational level variable, we tested for differences in age, education, reported salary, sex, and race. Consistent with expectations, analysis of variance with Tukey's post hoc tests for all pairwise comparisons revealed that mean age and years of education were significantly different ($p < .001$) across all three levels (except for the difference in number of years of education for middle managers and executives where $p = .02$). For years of

age [$F(2, 2159) = 227.29, p < .001, \eta^2 = .17$], *Ms* (and *SDs*) were 38.3 (5.8), 42.6 (6.4), and 48.1 (5.9) and for number of years of education [$F(2, 2157) = 11.69, p < .001, \eta^2 = .01$], *Ms* (and *SDs*) were 16.6 (2.6), 17.2 (2.3), and 17.5 (2.4) for supervisors, middle managers, and executives, respectively. For the categorical variables, χ^2 tests were used to determine the significance of differences. Reported salary (chosen from the eight arbitrarily defined salary ranges used on the demographic forms) differed significantly across levels with modal values ranging from "\$50,000 to \$75,000" for supervisors, "\$100,000 to \$125,000" for middle managers, and "\$125,000 to \$200,000" for executives [$\chi^2(df = 14, N = 2,114) = 853.54, p < .001$]. Finally, sex and race differences across level were also consistent with expectations: for supervisor, middle management, and executive positions, respectively, the percentage of Caucasian (vs. all other ethnic groups) managers was 84.2%, 88.9%, and 92.3% [$\chi^2(df = 2, N = 2,131) = 10.70, p < .01$] and the percentage of men was 65.3%, 73.6%, and 82.9% [$\chi^2(df = 2, N = 2,169) = 28.94, p < .001$]. Thus, our coding of managers into the three organizational levels yielded demographic differences consistent with those typically found across levels, supporting our coding criteria.

Measures

All measures were ratings gathered using a commercial multirater feedback instrument, collected under conditions of confidentiality and to be used strictly for developmental or research purposes. The instrument contained 148 items covering three general sections: managerial skills, derailment factors, and effectiveness. The items consisted of a stem describing a behavior and a five-point response scale for indicating how well the item described the target manager (e.g., 1 = *not at all*, 5 = *to a very great extent*).

Procedures

Before examining our primary research questions, we evaluated the psychometric

characteristics of the measures. Confirmatory factor analysis (CFA) did not support the measurement model implied by the 22 a priori scales offered by the test publisher. Therefore we sought to reconfigure the item pool in a way that maximized validity in terms of internal structure and content. We did, however, retain the 16-item Overall Effectiveness scale because factor analysis indicated it was a unidimensional construct.

Using the full sample (including those whose organizational level was unclear), we reconfigured the items into psychometrically defensible scales using a series of exploratory factor analyses (EFAs) in a *development* sample, a content sort by 12 subject matter experts, and a confirmatory test of the measurement model in an independent *validation* sample. Below is a description of those steps, which resulted in the scales described in the Appendix.

Exploratory factor analyses. We conducted a series of EFAs of the 132 skills and derailment items in a development sample ($N = 40,000$ raters) using maximum likelihood estimation and oblique rotation methods. The initial analysis suggested that a seven-factor structure adequately represented the data, although several items displayed sizable cross-loadings while some loaded less than .30 on their primary factor. For each iteration, items that showed cross-loading greater than .30 on factors other than their primary loading and items that loaded less than .40 on their primary factor were dropped and another EFA was conducted. This process was repeated until no items showed cross-loadings greater than .30 and all items loaded on one factor at .40 or higher. The result of the EFAs was a seven-factor solution with 64 items.

We interpreted the seven factors in terms of dimensions of managerial behavior discussed in the leadership and management literature (e.g., Bass, 1990; Pearce et al., 2003; Yukl, Gordon, & Taber, 2002). We identified previously documented dimensions that appeared similar to the factors we found (see Appendix). Then we compared conceptual definitions and, where applicable, items used to measure the previously identified dimensions to the items comprising

the factors from our analysis. Specifically, the Learning Agility factor is similar in content to "the willingness and ability to learn new competencies in order to perform under first-time, tough, or different conditions" (Lombardo & Eichinger, 2000, p. 323). Work-life Balance reflects the ability to avoid letting job demands interfere with personal time (Lyness & Judiesch, 2008). The items on the Directive Leadership factor reflect the themes of initiative, assigning tasks, making unilateral decisions, and a sense of urgency, reflecting the themes in Pearce et al.'s (2002) dimension with the same name. Similarly, the Empowering Leadership factor contains the same themes of delegation, encouragement of subordinates to take initiative, participative decision-making, and coaching and mentoring as Pearce et al.'s (2002) dimension with the same name. Like Yukl et al.'s (2002) dimension, the Supportive Leadership factor contains items concerning consideration, sensitivity, emotional support, and interpersonal warmth. The Abrasiveness factor is composed of items concerning hostility, cynicism, overreacting, and abusiveness, similar to how abrasiveness is discussed in the derailment literature (McCall & Lombardo, 1983; R. Hogan, 1994). And finally, the Lack of Follow-through factor concerns leaving projects unfinished, failing to meet commitments and obligations, and the lack of acceptable results common to managers who derail due to poor execution and not delivering on expectations (Bossidy & Charan, 2002).

Content validity. To ensure the conceptual meaningfulness of the new scales and the appropriateness of our mapping of them against existing concepts, we asked subject matter experts (SMEs) to sort each of the 64 items into one and only one of the seven categories using the category/scale labels and definitions in the Appendix. Twelve individuals provided expert judgments. Each had a Ph.D. in either industrial-organizational psychology or organizational behavior. The average age of the SMEs was 49.9 years and the average number of years of experience either consulting to and/or conducting research on managers was 21.4 years. Eight

SMEs were male. We computed the percentage of SMEs who agreed that an item should be on its empirically derived scale. Items that showed less than 75% agreement were dropped to minimize potential construct contamination. Nine of the 64 items were dropped on this basis.

Confirming the measurement model. Next, we used CFA with maximum likelihood estimation to test how well the model that was derived from the exploratory sample and refined through SME judgment fit the data in the holdout sample ($N = 45,342$ raters). The CALIS procedure of the SAS System for Windows (SAS, 1999) was used for this stage of the analyses. Listwise deletion of missing data resulted in 32,868 complete cases in our model tests.

Because it is difficult to obtain acceptable model fit with many indicators per factor (Hatcher, 1994), we reduced the number of indicators by creating item parcels (Bagozzi & Edwards, 1998) for scales with more than six items (Empowering Leadership, Supportive Leadership, and Directive Leadership). Parcels were constructed by averaging responses to adjacent items in groups of three, resulting in a random combination of item trios. Because the Supportive Leadership scale and the Empowering Leadership scale each had a number of items not evenly divisible by three, one parcel on each of those scales was computed as the mean of four items and two items, respectively.

In the first CFA test of the model, 31 indicators were used with each constrained to load only on its intended factor. The seven factors were allowed to covary freely. This model did not provide an acceptable fit to the data. An inspection of the modification indices provided by the CALIS procedure suggested that the lack of fit was largely due to the Abrasiveness items. The modification indices suggested that model fit could be improved by allowing those indicators to load (negatively) on the Supportive Leadership factor.

A second CFA was conducted with the six items from the Abrasiveness scale excluded from the analysis; no other characteristic of the original model was changed.¹ This model, with

25 manifest indicators, six latent factors, and 260 degrees of freedom, provided an acceptable fit to the data. Although the chi-square was significant [$\chi^2(260, N = 32,868) = 46,017.04, p < .001$], suggesting inadequate fit, this statistic is sensitive to sample size and even models known to be acceptable often show a significant chi-square when tested in large samples (Hu & Bentler, 1995). This appears to have been the case here too, as the multiple fit indices recommended by Hu and Bentler all met standards for adequate model fit. Specifically, the standardized root mean square residual (SRMSR; Hu & Bentler) was .07, the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993) was .05, the comparative fit index (CFI; Bentler, 1990) was .91, and the Tucker and Lewis (1973) fit index was .90. Further, the factor loadings for all 25 indicators were significant at $p < .001$. Taken together, we concluded that these results provided evidence for the adequacy of this measurement model.

Theoretical considerations. Although the CFA suggested that the Abrasiveness items did not represent an independent factor, we chose to retain these items as a separate scale in our analyses for two reasons. First, the SME content analysis suggested that individuals familiar with managers view Abrasiveness and Supportive Leadership as separate dimensions and not just opposing ends of a bipolar construct. Second, research on managerial derailment has consistently identified abrasiveness as a leading cause (J. Hogan et al., in press; R. Hogan, 1994; Leslie & Van Velsor, 1996; McCall & Lombardo, 1983). Therefore, we chose to include Abrasiveness as a seventh dimension of behavior but were cautious in interpreting results, alert to the possibility that they may be redundant with results for the Supportive Leadership scale.

Reliability and inter-rater agreement. We estimated the reliability of each scale using coefficient alpha and rater-level item ratings. Scale reliabilities were generally high, ranging from a low of .79 to a high of .93. The number of items in each scale and their alpha values are provided in the Appendix. Prior to aggregating ratings across multiple raters within each target,

we examined inter-rater agreement using the $r_{wg(j)}$ index (James, Demaree, & Wolf, 1984, 1993). Separate $r_{wg(j)}$ values were computed for each individual rating target on each of the scales. Next, the mean $r_{wg(j)}$ was computed across rating targets for each scale. The median level of mean agreement for all scales exceeded .70, with most in the mid-.80s, indicating an acceptable level of agreement according to the criteria provided by James et al. (1993). Thus, aggregating across raters, within rates, was deemed appropriate. Means and standard deviations for the aggregated scale scores for each of the three levels of management are reported in Table 3.

Insert Table 3 about Here

Results

We first examined differences among the three organizational levels in the distributions of *subordinate* ratings on the seven dimensions of behavior and *superior* evaluations of overall effectiveness. Our goal was to ensure equality of variance across the three populations and distributional normality within each population prior to conducting regression analyses. Levene's (1960) test for equality of variances found no pairwise comparison to be significantly different. All distributions were skewed, with the majority of scores falling at the ostensibly desirable end of each scale. However, these deviations from distributional normality were no more than is common in management and leadership research (cf., LeBreton, Burgess, Kaiser, Atchley, & James, 2003). Further, regression analytic techniques are generally considered robust to this degree of violation of the normality assumption (Cohen & Cohen, 1983).

We next examined mean differences in ratings on the seven behavior scales and the Overall Effectiveness scale by conducting a one-way multivariate analysis of variance (MANOVA). Results indicated a significant main effect for organizational level according to Wilks's multivariate criterion ($\lambda = .84$; $p < .001$, $\eta^2 = .08$). Follow up univariate ANOVAs with Tukey tests indicated that most pairwise effects were small according to Cohen's (1988)

interpretive guidelines. Specifically, most $|d|$ values (13 of 21) were less than .2. The largest univariate effects were for Overall Effectiveness ($\eta^2 = .09$) and Empowering Leadership ($\eta^2 = .03$), where scores increased significantly ($p < .001$) with organizational level. All statistically significant mean differences in pairwise comparisons are noted in Table 3.

Research Questions

Moderating effect of level. Our primary research objective was to test the expectation that the pattern of behaviors associated with managerial effectiveness would vary by organizational level. Thus, we expected level to moderate the relationship between the seven dimensions of behavior and effectiveness. To test this empirically, we used moderated multiple regression (MMR; Stone-Romero & Anderson, 1994; Zedeck, 1971).² In an MMR analysis, a moderating effect is indicated by an interaction between a moderator variable (e.g., organizational level) and a predictor variable (e.g., ratings of behavior) that yields incremental validity beyond their main effects (Cohen & Cohen, 1983).

We used a typical MMR procedure involving hierarchical regression analyses. Two dummy-coded variables were computed to reflect the ordinal organizational level variable—for dummy variable 1, supervisors were coded as 1s and all others as 0s; for dummy variable 2, middle managers were coded as 1s and all others as 0s. In the first step of the regression, all main effects for the two dummy-coded organizational-level variables and the seven dimensions of behavior were entered into the model, resulting in a significant prediction of effectiveness, $F(9, 2165) = 103.91, p < .001, R^2 = .30$. In the second step, the 14 interaction effects (i.e., two dummy variables \times seven behaviors = 14 cross-product terms) were entered, and the change in the multiple R was tested for significance. The interaction terms, as a set, added a significant contribution to the prediction of Overall Effectiveness, $F(14, 2151) = 9.90, p < .001, \Delta R^2 = .04$. Moreover, the beta weights for 12 of the 14 interaction terms were significant at $p < .01$. This

indicated a reliable moderating effect for organizational level—the relationships between the dimensions of behavior and effectiveness were indeed different across the supervisor, middle management, and executive levels. Results from the MMR are summarized in Table 4.

Insert Table 4 about Here

Discontinuities in behavior-effectiveness relationships. To interpret how the relationships between the behaviors and effectiveness differed across levels, we conducted three multiple regression analyses using subordinate ratings on the seven behavior dimensions to predict superior ratings of effectiveness separately for supervisors, middle managers, and executives. This step is analogous to using subgroup correlation analyses to interpret MMR results, as is often done when only one predictor and one moderator variable are considered (Stone & Hollenbeck, 1989). Although subgroup analysis techniques are not recommended in the study of moderator effects when the moderator variable is continuous (Stone-Romero & Anderson, 1994), they are considered appropriate for use with categorical moderator variables like the present organizational level variable (Alexander & DeShon, 1994). Results from the separate regressions for each organizational level appear in Table 5.

Insert Table 5 about Here

Several results from the separate regression models are noteworthy. First, the set of behavioral dimensions was effective at predicting superiors' ratings of effectiveness, accounting for 24%, 25%, and 39% of the variance in the criterion for supervisors, middle managers, and executives, respectively. These qualify as large effects (Cohen, 1988) and suggest that although the seven dimensions of behavior may not exhaustively cover the managerial performance domain, they do represent a significant portion of it. Despite the absence of some dimensions thought to be uniquely relevant to executives (e.g., strategy, vision, external boundary spanning), the ratings of executive behaviors were more predictive than the ratings for middle managers and

supervisors.³

The second point worth noting is how differences in the significance, direction, and magnitude of the beta weights support the proposition that the behaviors related to effectiveness vary dramatically across organizational levels. There is clear evidence for discontinuities in these relations. Only one dimension predicted effectiveness in the same direction across all three levels. That dimension was Learning Agility, which was positively associated with effectiveness at each organizational level. Still, the MMR analyses indicated that Learning Agility was a stronger positive predictor for executives than for middle managers and supervisors. Work-Life Balance was a positive predictor for supervisors, nonsignificant for middle managers, and a negative predictor for executives. Supportive Leadership was a negative predictor for supervisors, but a positive predictor for middle managers and nonsignificant for executives. However, Abrasiveness was a negative predictor for both supervisors and middle managers, but unrelated to the effectiveness of executives.⁴ Lack of Follow-through was surprisingly, albeit slightly, positively related to middle management effectiveness, but negatively related for executives.

The most dramatic discontinuities were observed for Empowering Leadership and Directive Leadership. Neither was a statistically significant predictor for supervisors (which may have been a function of the relatively smaller sample of supervisors). But these relations were completely reversed for middle managers compared to executives: middle manager effectiveness was a function of more Directive and less Empowering Leadership whereas executive effectiveness was characterized by more Empowering and less Directive Leadership.

Discussion

The purpose of our analyses was to test the proposition that the patterns of behavior related to managerial effectiveness are different for jobs at the bottom, middle, and top. We

further tested whether these differences across levels were discontinuous (i.e., changed signs and significance levels). We found that the behaviors associated with effectiveness were in fact quite different at the bottom, middle, and top and that these differences were largely discontinuous, reflecting qualitative differences by level. The findings provide empirical support for a fundamental proposition derived from a large body of descriptive research that suggests striking differences in what constitutes effective behavior at successive levels in the hierarchy.

Substantive Differences across Levels

We did not propose specific hypotheses predicting how individual behaviors would be differentially related to effectiveness. Nonetheless, our results can be compared with previous descriptive research. We next discuss our results and identify consistencies with the literature. We also refer to contested theoretical points where the present results are relevant.

Executives. The strong relationship between Learning Agility and Overall Effectiveness is consistent with previous suggestions that job complexity is greatest at the executive level. Therefore, to keep pace with changes in the internal and external environment, the effective executive must be a continual learner. (R. Hogan & Warrenfeltz, 2003; Jaques, 1989; Lombardo & Eichinger, 2000; Zaccaro, 2001). It is also consistent with the emphasis placed by R. L. Katz (1955) and Mann (1965) on conceptual skills at the executive level. Further, the two behaviors most clearly linked with interpersonal skills, Supportive Leadership and Abrasiveness, were not significantly related to executive effectiveness. This supports the claim that conceptual skills are the primary requisite skill at the top (R. L. Katz; Mann).

It is interesting to speculate why neither Supportive Leadership nor Abrasiveness was related to effectiveness at the top. The derailment research has been focused on the senior levels, and it regularly finds that relationship problems are the primary reason executives get fired (e.g., Gentry & Chappelow, 2009; McCall & Lombardo, 1983; Leslie & Van Velsor, 1996).⁵ One

possibility is that there is a distinction between being rated as ineffective and getting fired.

Hollander's (1958) concept of idiosyncrasy credit suggests that standout technical and conceptual skills can make up for interpersonal flaws. It may be that capable strategic executives with weak people skills are seen as effective, but when their strategies prove wrong or results are soft, they have no social support and subsequently get fired (cf. J. Hogan et al., in press).

The literature suggests that decision making at the executive level is made difficult by the complex and ambiguous nature of linking the organization to the external environment in a volatile, long-term competitive context (Hodgson & White, 2001; Jaques, 1989; Osborn et al., 2002). Yet the stakes associated with executive decisions, in terms of organizational performance, put a premium on decision quality (Brousseau, Driver, Hourihan, & Larsson, 2006; Kaiser et al., 2008; Kaiser & R. Hogan, 2007). The negative role of Directive Leadership in executive effectiveness suggests that thoughtful reflection and deliberation may be desirable while haste may be counterproductive (cf. Brousseau et al., 2006; Vroom & Jago, 1988). This result is also consistent with the finding that an overly assertive, domineering style is associated with derailment at the top (J. Hogan et al., in press).

The positive role of Empowering Leadership is theoretically consistent with a number of aspects of the executive leadership role. First, the subordinates of executives are usually experienced professionals themselves and likely expect autonomy (Vecchio & Boatright, 2002). Second, a key activity for executives is developing consensus about strategic imperatives (Zaccaro, 2001; Zaccaro & Klimoski, 2002;); acceptance and commitment are a function of involvement in the decision-making process (Vroom & Jago, 1988). Third, the importance of Empowering Leadership is consistent with the conception of the executive role as highly complex, perhaps more so than one individual can fully manage (Jaques, 1989; Zaccaro & Klimoski). Finally, the external orientation and boundary spanning role emphasized at the top

suggest that executives need to delegate the day-to-day running of the organization to managers below them so the executives can focus on developments outside the organization (Zaccaro).

The inverse relationship between Work-Life Balance and Overall Effectiveness may also be related to the scale, scope, and responsibility of the executive role. The work may never truly be done, and anything less than full devotion to the job may compromise effectiveness.

Similarly, Lack of Follow-through did not emerge as detrimental until the executive level. These findings suggest the proverbial buck stops here, at the top.

Middle managers. The positive role for Supportive Leadership and the negative role for Abrasiveness in predicting effectiveness in the middle are consistent with the idea that interpersonal skills are primary at this level (R. L. Katz, 1955; Mann, 1965). This result also fits with the conception of middle managers as the center of communication networks linking the top and bottom of the organization (Kaplan, 1984; Mintzberg, 1980). These behaviors are also relevant to the important emotional role that middle managers are thought to play in communicating radical change and helping employees cope with it (Huy, 2001, 2002).

The distinct responsibility of middle managers is coordinating and aligning multiple discrete functional units with the overall goals of the organization (D. Katz & Kahn, 1978; Zaccaro, 2001). The pattern of high Directive Leadership and low Empowering Leadership conveys an image of centralized authority limiting the autonomy of functional units and directing them toward a common objective. This pattern also favors quick and approximate decision-making over deliberation and consensus (Vroom & Jago, 1988), making it well suited to the fast-paced and crisis-like context thought to characterize the middle of organizations (Brousseau et al., 2006; Osborn et al., 2002).

The slight positive relationship between Lack of Follow-through and Overall Effectiveness is puzzling. In combination with the positive role for Directive Leadership, this

may be an indication that taking the initiative and continually seeking out responsibility, even beyond what one can reasonably achieve, is looked upon favorably by superiors. The heterogenous sources of the variables examined here may also be relevant. Specifically, it may be that subordinates' perceptions of Lack of Follow-through are related to some third factor that also predicts superiors' ratings of effectiveness (e.g., responsiveness to superiors over subordinates). Of course, this is speculative; further research is needed to better understand this finding.

Supervisors. The pattern of relationships between behavior and effectiveness for supervisors is less consistent with previous descriptions of the nature of work at that level. In part, this may be due to the particular array of behaviors represented by the seven dimensions. For instance, these dimensions examined here do not directly assess technical skills, which are thought to be primary at this level (R. L. Katz, 1955; Mann, 1965). The positive role for Work-Life Balance may reflect mastery in the ability to get the work done in a reasonable time frame. This is most likely to be possible in supervisory jobs, which are the least complex and have the narrowest scope and scale of responsibilities.

The negative role of both Supportive Leadership and Abrasiveness is consistent with descriptions of the psychological difficulty of moving from the rank-and-file to management. This transition is thought to require changing one's self-concept from identification with one's peer group to internalizing an organizational perspective (Charan et al., 2001; Freedman, 1998; Hill, 1992). The negative relationship between Supportive Leadership and Overall Effectiveness suggests a possible deleterious effect for fraternization with employees, but the negative relationship with Abrasiveness suggests similarly deleterious effects if this verges into condescension or antagonism. If one conceives of Supportive Leadership and Abrasiveness as two ends of a single continuum reflecting an interpersonal orientation, then these findings

suggest there is a curvilinear relation where neither too much nor too little is effective, and the “golden mean” between them is optimal (cf. Kaplan & Kaiser, 2003, 2006; Kaiser & Kaplan, 2009).

Implications for Theory and Research

Learning and adaptability. Although the dominant trend across levels in the behaviors related to managerial effectiveness was change and discontinuity, there were two consistent themes in our results. First, Learning Agility was a positive predictor of effectiveness at all three levels. This converges with a growing consensus regarding the centrality of learning in both organizational and individual effectiveness (Lombardo & Eichinger, 2000; Waldman, Berson, & Keller, 2009). It is also consistent with research indicating that the most successful managers are able draw lessons from a variety of challenging job assignments (McCall et al., 1988). The second consistent theme has to do with adaptability. We found that the behaviors related to effectiveness were quite different across levels. This implies that successfully climbing the corporate ladder requires situational awareness, self-regulation, and a wide and flexible behavioral repertoire (Hooijberg, 1996). We propose that the higher-order construct of adaptability may be a key individual difference variable, perhaps even *the* key variable, that allows effective managers to recognize when contingencies change and then modify their behavior accordingly (cf. Kaiser, Lindberg, & Craig, 2007; Kaplan & Kaiser, 2003, 2006; Pulakos, Arad, Donovan, & Plamondon, 2000; Yukl & Lepsinger, 2004; Zaccaro, Gilbert, Thor, & Mumford, 1991).

Learning and adaptability appear to be *metacompetencies*—general capabilities that enable the development of more specific competencies (Briscoe & Hall, 1999; Hall, 2002). Given that these two capabilities were implicated at all three levels, they appear especially important to managerial career success. For instance, learning and adaptability may facilitate the

development of more specific KSAOs that change with roles and responsibilities. Learning seems to represent the cognitive side of the equation, whereas adaptability suggests the behavioral aspect (cf. R. Hogan & Warrenfeltz, 2003). We encourage future researchers to explore the role of learning and adaptability in the development of new skills and competencies as managers progress through the hierarchy.

Switching gears. Our results call attention to a noteworthy adaptation that seems to be required of middle managers transitioning to the executive level. The relationship of effectiveness with Empowering Leadership and with Directive Leadership was reversed at these two organizational levels. This suggests that middle managers must make a significant change in their leadership styles to become effective executives: from leading with a quick and directive style that relies more on one's own capability to a slower, more deliberate style that builds consensus by including others with unique perspectives to achieve a shared understanding of threats, opportunities, and a resulting strategy (Brousseau et al., 2006; Zaccaro & Klimoski, 2002). Previous research suggests this can be a significant challenge for new executives. Leading derailment factors have been found to include micromanaging, failure to build a team, and being overwhelmed by scope and scale (J. Hogan et al., in press; McCall & Lombardo, 1983). Further, executives are frequently criticized in performance assessments for relying too much on a self-assertive, directive style and not making enough use of a more inclusive, empowering style (Kaplan & Kaiser, 2003, 2006).

A similar transition appears to naturally occur in the process of adult development. Several lifespan theories of human growth describe mid-life as a time when healthy adults experience a shift from a self-oriented motivational basis that emphasizes personal mastery and accomplishment to a more generative mode that places greater value on relationships, developing others, and enjoying their successes (Erickson, 1968; Neugarten, 1975). This change in emphasis

was also a key finding in Levinson, Darrow, Klein, Levinson, and McKee's (1978) classic work on aging managers. Therefore, a ripe area for future research may involve how ambitious, egocentric middle managers successfully adapt to become power-sharing executives interested in the development of others and how theories of adult development can facilitate this process. There is also evidence that this developmental process may unfold differently for men and women managers (Lyons, 2002), which is another point to consider in future research.

Considering level. The present results support the notion that the effectiveness of specific managerial behaviors varies with organizational level. Yet theories of management and leadership seldom address the role of organizational level (Day & Lord, 1988; Zaccaro & Klimoski, 2002). Similarly, it is rare for level to be taken into account in basic research (House & Aditya, 1997). Even in studies where level differences are not explicitly examined, it is important for researchers to describe the organizational levels of their sample. A recent meta-analysis on the relationship between intelligence and leadership was unable to test for a moderating effect of level because the samples in the primary studies were not sufficiently described (Judge, Ilies, & Colbert, 2004, footnote 4).

Implications for Practice

Development. Increasingly, organizations are investing in integrated systems for developing managers and leaders at all hierarchical levels (Briscoe & Hall, 1999; Charan et al., 2001; Weik, 2005). Emphasis seems to be shifting from training individuals to be effective in their current jobs to developing them for future roles (Kaiser, 2005; Karaevli & Hall, 2003). Implications for practice arise from the intersection of this trend and research on level differences.

The first implication is that not all types, methods, and content of management training and development are optimal for all managers (Leonard, 2005). Differences exist among the job

requirements, and thus the KSAOs and behaviors associated with effectiveness for supervisors, middle managers, and executives. Training professionals would be well advised to tailor their programs to fit the specific populations they serve. A related implication has to do with the popularity of competency models and 360-degree feedback. These tools are increasingly being used at all levels in organizations (Briscoe & Hall, 1999), posing a dilemma: on one hand, organizations understandably want consistency in the content of these tools; on the other hand, each level of management has its own unique performance requirements. Martineau, Laskow, Moye, and Phillips (2005) recently described a method for reconciling these competing goals in the design of organization-wide competency models and assessment tools that have a common core but are also tailored to include level-specific dimensions.

Finally, although promotion to a job of greater prestige and responsibility might be perceived by managers as desirable, there are certain costs (Freedman, 1998, 2005). For instance, Work-life Balance was a positive predictor of supervisor effectiveness but a negative predictor of executive effectiveness. Personal time appears to be a sacrifice that effective executives make later in their careers. Disclosure and consideration of these kinds of trade-offs for candidates for executive positions might help to reduce the derailment rate in managerial transitions and facilitate these promotions by providing a realistic job preview (Popovich & Wanous, 1982).

Selection. There are also implications for the selection of managers. First, basing promotion decisions on past performance may be tenuous when the new appointment is a leap across levels. We are not suggesting that past performance is irrelevant; but prior performance by itself may be insufficient for predicting performance in the new role (White & DeVries, 1990). Promotions are often used by organizations as rewards for past performance, a practice with obvious appeal to organizational justice perceptions. So it would be unwise to ignore past performance in promotion decisions. But identification of differences between the current job

and the one being filled can provide supplemental information to guide the search for qualifications (J. Hogan et al, in press). Issues to consider include domains where strengths can become weaknesses (Kaplan & Kaiser, 2003, 2006; McCall & Lombardo, 1983)—such as when a successful middle manager noted for assertiveness, decisiveness, and a sense of urgency is being considered for an executive job in which this approach may be a liability. Another subtle consideration is whether there are KSAOs that will be important in the next job but were inconsequential in the prior one (Lombardo & Eichinger, 2006; McCall & Lombardo)—such as a willingness to trade off more personal time when moving from middle management to the executive level.

Of course, sometimes it may be advantageous to promote individuals into jobs for which they are not yet fully competent. So called "stretch assignments" can provide important developmental opportunities (McCauley, Eastman, & Ohlott, 1995). In such cases it would seem important that the individual receive adequate preparation and support to make the transition. Establishing a transition plan that identifies potential problems and a range of support mechanisms such as mentoring, learning resources, sources for feedback, and so on may maximize the likelihood of success (Downey et al., 2001; Freedman, 1998, 2005; J. Hogan et al., in press; Kates & Downey, 2005).

Limitations

At least three limitations of the present study should be noted. First, the behavioral dimensions we used were based on convenience (i.e., availability of a large archival database) and derived empirically rather than theoretically. Although we developed the measures with a rigorous process, they are not without limitations. In particular, the seven dimensions used here as predictors do not exhaustively cover the managerial performance domain or all of the elements in Table 1. They represent behaviors common in the literature, but notably absent are

dimensions like vision, boundary spanning, networking, technical skills, sociopolitical skills, and transformational leadership. It would be advantageous for future research on level differences to select behavioral measures implicated by prior research.

A second limitation concerns our criterion variable. Although superior ratings are commonly used in organizational research, they are not the only measure of effectiveness. Such ratings pertain to the perceived effectiveness of individual managers, what Tsui (1994) referred to as "reputational effectiveness." Although perhaps related, these ratings may not directly correspond to more objective indices of managerial effectiveness such as business results and other unit-level outcomes. Future research would benefit from using a range of organizationally valued criteria to represent managerial effectiveness (cf. Kaiser et al., 2008).

The third limitation is that this sample of organizations may not be representative of all organizations. Only organizations based in the U.S. were included in the study; therefore these results may not generalize across cultures. Second, most of the organizations in the sample could be described as large, traditional bureaucracies with multiple product and service lines. Our results, and indeed the whole literature on level differences, may not apply to smaller, privately-owned, nonprofit, or governmental organizations, or to those that have less clearly defined hierarchical structures and simpler operating models. Finally, because the data were collected for use in relatively expensive off-site leadership development programs, this sample may over-represent organizations that value and can afford learning and development. It is possible, for instance, that the reason why Learning Agility was such a consistent and strong predictor of effectiveness across levels was because the organizations under investigation placed an unusually high value on that behavior.

Conclusion

Despite limitations, this study provides a new type of support for a large job-descriptive

literature on how the performance requirements of managerial jobs change with organizational level. We found empirical evidence for two basic propositions suggested by this body of research: first, the behaviors related to managerial effectiveness did indeed vary with organizational level, and second, those differences were often discontinuous as reflected in changes in sign and significance in the behavior-effectiveness relationships across levels. The popular application of the so-called Leadership Pipeline model (Charan et al., 2001; Kaiser, 2005) in organizations is supported not just by *descriptive* research, but also by *predictive* research accounting for differences in managerial effectiveness at the bottom, middle, and top.

References

- Alexander, R. A., & DeShon, R. P. (1994). Effect of error variance heterogeneity on the power of tests for regression slope differences. *Psychological Bulletin*, *115*, 308-314.
- Ashby, W. R. (1952). *Design for a brain*. New York: John Wiley & Sons, Inc.
- Bagozzi, R. P., & Edwards, J. R. (1998). A general approach for representing constructs in organizational research. *Organizational Research Methods*, *1*, 45-87.
- Bass, B. M. (1990). *Bass and Stogdill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). New York: Free Press.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238-246.
- Berglas, S. (2009). Victims of their own success. In R. B. Kaiser (Ed.), *The perils of accentuating the positive* (pp. 77-96). Tulsa, OK: Hogan Press.
- Bossidy, L., & Charan, R. (2002). *Execution: The discipline of getting things done*. New York: Crown Business.
- Briscoe, J. P., & Hall, D. T. (1999). Grooming and picking leaders using competency frameworks: Do they work? *Organizational Dynamics*, *28*, 37-52.
- Brousseau, K. R., Driver, M. J., Hourihan, G., & Larsson, R. (2006). The seasoned executive's decision-making style. *Harvard Business Review*, *84*(2), 110-121, 165.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park, CA: Sage Publications, Inc.
- Charan, R., Drotter, S., & Noel, J. (2001). *The leadership pipeline: How to build the leadership-powered company*. San Francisco: Jossey-Bass, Inc..
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Day, D. V., & Lord, R. G. (1988). Executive leadership and organizational performance. *Journal of Management*, *14*, 453-464.
- Downey, D., March, T., & Berkman, A. (2001). *Assimilating new leaders: The key to executive retention*. New York: AMACOM.
- Erikson, E. (1968). *Identity: Youth and crisis*. New York: W. W. Norton & Company.

- Freedman, A. (1998). Pathways and crossroads to institutional leadership. *Consulting Psychology Journal*, 50, 131-151.
- Freedman, A. (2005). Swimming upstream: The challenge of managerial promotions. In R. B. Kaiser (Ed.), *Filling the leadership pipeline* (pp. 25-44). Greensboro, NC: Center for Creative Leadership.
- Gandossy, R., & Sonnenfeld, J. (Eds.).(2004). *Leadership and governance from the inside out*. New York: John Wiley & Sons, Inc.
- Gentry, W. A., & Chappelow, C. (2009). Managerial derailment: Weaknesses that can be fixed. In R. B. Kaiser (Ed.), *The perils of accentuating the positive* (pp. 97-114). Tulsa, OK: Hogan Press.
- Groysberg, B., McLean, A. N., & Nohria, N. (2006). Are leaders portable? *Harvard Business Review*, 84(5), 92-100.
- Hall, D. T. (2002). *Careers in and out of organizations*. Thousand Oaks, CA: Sage Publications, Inc.
- Hatcher, L. (1994). *A step-by-step approach to using the SAS system for factor analysis and structural equation modeling*. Cary, NC: SAS Publishing.
- Heifetz, R., & Laurie, D. (2001). The work of leadership. *Harvard Business Review*, 79(11), 131-141.
- Hill, L. (1992). *Becoming a manager*. Boston: Harvard Business School Press.
- Hodgson, P., & White, R. P. (2001). *Relax, it's only uncertainty: Lead the way when the way is changing*. London: Prentice Hall.
- Hogan, J., Hogan, R., & Kaiser, R. B. (in press). Management derailment: Personality assessment and mitigation. In S. Zedeck (Ed.), *American Psychological Association handbook of industrial and organizational psychology*. Washington, DC: American Psychological Association.
- Hogan, R. (1994). Trouble at the top: Causes and consequences of managerial incompetence. *Consulting Psychology Journal*, 46, 9-15.
- Hogan, R., Curphy, G. J., & Hogan, J. (1994). What we know about leadership: Effectiveness and personality. *American Psychologist*, 49, 493-504.
- Hogan, R., & Warrenfeltz, R. (2003). Educating the modern manager. *Academy of Management Learning and Education*, 2, 74-84.
- Hollander, E. P. (1958). Conformity, status, and idiosyncrasy credit. *Psychological Review*, 65, 117-127.

- Hooijberg, R. (1996). A multidirectional approach toward leadership: An extension of the concept of behavioral complexity. *Human Relations, 49*, 917-946.
- Hough, L. M. (1992). The big five personality variables construct confusion: Description versus prediction. *Human Performance, 5*, 139-155.
- House, R. J., & Aditya, R. W. (1997). The social scientific study of leadership: Quo vadis? *Journal of Management, 23*, 409-473.
- Hu, L., & Bentler, P. M. (1995). Evaluating model fit. In Hoyle, R.H. (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 76-99). Thousand Oaks, CA: Sage Publications, Inc.
- Hunt, J. G. (1991). *Leadership: A new synthesis*. Newbury Park, CA: Sage Publications, Inc.
- Hunt, J. G., & Ropo, A. (1995). Multilevel leadership: Grounded theory and mainstream theory applied to the case of General Motors. *Leadership Quarterly, 6*, 379-412.
- Huy, Q. N. (2001). In praise of middle managers. *Harvard Business Review, 79*(8), 72-79. Huy, Q. N. (2002). Emotional balancing of organizational continuity and radical change: The contribution of middle managers. *Administrative Science Quarterly, 47*, 31-69.
- Jacobs, T. O., & Jaques, E. (1987). Leadership in complex systems. In J. Zeidner (Ed.), *Human Productivity Enhancement, Vol. 2. Organizations, personnel, and decision making* (pp. 7-65). New York: Praeger.
- Jaques, E. (1978). *A general theory of bureaucracy*. New York: Halstead Press.
- Jaques, E. (1989). *Requisite organization*. Arlington, VA: Cason Hall.
- James, L. J., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology, 69*, 85-98.
- James, L. J., Demaree, R. G., & Wolf, G. (1993). r_{wg} : An assessment of within-group interrater agreement. *Journal of Applied Psychology, 78*, 306-309.
- Judge, T. A., Ilies, R., & Colbert, A. E. (2004). Intelligence and leadership: A quantitative review and test of theoretical propositions. *Journal of Applied Psychology, 89*, 542-552.
- Kaiser, R. B. (Ed.). (2005). *Filling the leadership pipeline*. Greensboro, NC: Center for Creative Leadership.
- Kaiser, R. B., & Hogan, R. (2007). The dark side of discretion: Leader personality and organizational decline. In R. Hooijberg, J. Hunt, J. Antonakis, & K. Boal (Eds.), *Being there even when you are not: Leading through strategy, structures, and systems: Vol. 4. Monographs in leadership and management* (pp. 177-197). London: JAI Press.
- Kaiser, R. B., Hogan, R., & Craig, S. B. (2008). Leadership and the fate of organizations. *American Psychologist, 63*, 96-110.

- Kaiser, R. B., & Kaplan, R. E. (2009). When strengths run amok. In R. B. Kaiser (Ed.), *The perils of accentuating the positive* (pp. 57-76). Tulsa, OK: Hogan Press.
- Kaiser, R. B., Lindberg, J. T., & Craig, S. B. (2007). Assessing the flexibility of managers: A comparison of methods. *International Journal of Selection and Assessment*, 16, 40-55.
- Kaplan, R. E. (1984). Trade routes: The manager's network of relationships. *Organizational Dynamics*, 13, 37-52.
- Kaplan, R. E., & Kaiser, R. B. (2003). Developing versatile leadership. *MIT Sloan Management Review*, 44(4), 19-26.
- Kaplan, R. E., & Kaiser, R. B. (2006). *The versatile leader: Make the most of your strengths—without overdoing it*. San Francisco: Pfeiffer.
- Karaevli, A., & Hall, D. T. (2003). Growing leaders for turbulent times: Is succession planning up to the challenge? *Organizational Dynamics*, 32, 62-79.
- Kates, A., & Downey, D. (2005). The challenges of general manager transitions. In R. B. Kaiser (Ed.), *Filling the leadership pipeline* (pp. 45-68). Greensboro, NC: Center for Creative Leadership.
- Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations* (2nd ed.). New York: John Wiley & Sons, Inc.
- Katz, R. L. (1955). Skills of an effective administrator. *Harvard Business Review*, 33(1), 33-42.
- Kraut, A. I., Pedigo, P. R., McKenna, D. D., & Dunnette, M. D. (1989). The role of the manager: What's really important in different management jobs. *Academy of Management Executive*, 3, 286-293.
- LeBreton, J. M., Burgess, J. R. D., Kaiser, R. B., Atchley, E. K., & James, L. R. (2003). The restriction of variance hypothesis and interrater reliability and agreement: Are ratings from multiple sources really dissimilar? *Organizational Research Methods*, 6, 78-126.
- Leonard, H. S. (2005). When leadership development fails managers. In R. B. Kaiser (Ed.), *Filling the leadership pipeline* (pp. 69-84). Greensboro, NC: Center for Creative Leadership.
- Leslie, J. B., & Van Velsor, E. (1996). *A look at derailment today*. Greensboro, NC: Center for Creative Leadership.
- Levene, H. (1960). Robust tests for equality of variance. In I. Olkin (Ed.), *Contributions to probability and statistics: Essays in honor of Harold Hotelling* (pp. 278-292). Palo Alto, CA: Stanford University Press.
- Levinson, D., Darrow, D., Klein, E., Levinson, M., & McKee, B. (1978). *The seasons of a man's life*. New York: Ballantine Books.

- Lombardo, M. M., & Eichinger, R. W. (2000). High potentials as high learners. *Human Resource Management, 39*, 321-329.
- Lombardo, M. M., & Eichinger, R. W. (2005). *Preventing derailment: What to do before it's too late*. Greensboro, NC: Center for Creative Leadership.
- Lombardo, M. M., & Eichinger, R. W. (2006). *The leadership machine* (3rd ed.). Minneapolis, MN: Lominger Limited, Inc.
- Luthans, F., Rosenkrantz, S. A., & Hennessey, H. W. (1985). What do successful managers really do? An observation study of managerial activities. *Journal of Applied Behavioral Science, 21*, 255-270.
- Lyness, K. S., & Judiesch, M. K. (2008). Can a manager have a life and a career? International and multisource perspectives on work-life balance and career advancement potential. *Journal of Applied Psychology, 93*, 789-805.
- Lyons, D. (2002). Freer to be me: The development of executives at mid-life. *Consulting Psychology Journal: Practice and Research, 54*, 15-27.
- Mahler, W. F., & Wrightnour, W. F. (1973). *Executive continuity*. Homewood, IL: Dow Jones-Irwin, Inc.
- Mann, F. C. (1965). Toward an understanding of the leadership role in formal organizations. In R. Dubin, G. C. Homans, F. C. Mann, & D. C. Miller (Eds.), *Leadership and productivity* (pp. 68-103). San Francisco, CA: Chandler.
- Martineau, J., Laskow, G., Moye, L., & Phillips, D. (2005). Creating synergy and difference in development: One organization's competencies for three organizational levels. In R. B. Kaiser (Ed.), *Filling the leadership pipeline* (pp. 85-110). Greensboro, NC: Center for Creative Leadership.
- McCall, M. W., Jr., & Lombardo, M. M. (1983). *Off the track: Why and how successful executives get derailed*. Greensboro, NC: Center for Creative Leadership.
- McCall, M. W., Jr., Lombardo, M. M., & Morrison, A. M. (1988). *The lessons of experience: How successful executives develop on the job*. Lexington, MA: Lexington Books.
- McCall, M. W., Jr., Morrison, A. M., & Hannan, R. L. (1978). *Studies of managerial work: Results and methods*. Greensboro, NC: Center for Creative Leadership.
- McCauley, C. D., Eastman, L. J., & Ohlott, P. J. (1995). Linking management selection and development through stretch assignments. *Human Resource Management, 34*, 93-115.
- Mintzberg, H. (1980). *A comprehensive description of managerial work*. Englewood Cliffs, NJ: Prentice-Hall. Morgeson, F. P., & Campion, M. A. (1997). Social and cognitive sources of potential inaccuracy in job analysis. *Journal of Applied Psychology, 82*, 627-655.

- Mumford, T. V., Campion, M. A., & Morgeson, F. P. (2007). The leadership skills strataplex: Leadership skill requirements across organizational levels. *Leadership Quarterly*, *18*, 154-166.
- Murphy, K. R., & Cleveland, J. N. (1995). *Understanding performance appraisal: Social, organizational, and goal-based perspectives*. Thousand Oaks, CA: Sage Publications, Inc.
- Neugarten, B. L. (1975). Adult personality: Toward a psychology of the life cycle. In W. C. Sze (Ed.), *The human life cycle* (pp. 379-394). New York: Jason Aronson.
- Osborn, R., Hunt, J. G., & Jauch, R. (2002). Toward a contextual theory of leadership. *Leadership Quarterly*, *13*, 797-837.
- Pearce, C. L., Sims Jr., H. P., Cox, J. F., Ball, G., Schnell, E., Smith, K. A., & Trevino, L. (2003). Transactors, transformers and beyond: A multi-method development of a theoretical typology of leadership. *Journal of Management Development*, *22*, 273-307.
- Phillips, R. L., & Hunt, J. G. (1992). *Strategic leadership: A multiorganizational-level perspective*. Westport, CT: Quorum.
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, *85*, 612-624.
- Popovich, P., & Wanous, J. P. (1982). The realistic job preview as a persuasive communication. *Academy of Management Review*, *7*, 570-578.
- SAS (1999). *SAS system for Windows* (Release 8.0). Cary, NC: SAS Institute Inc.
- Stone, E. F., & Hollenbeck, J. R. (1989). Clarifying some controversial issues surrounding statistical procedures for detecting moderator variables: Empirical evidence and related matters. *Journal of Applied Psychology*, *74*, 3-10.
- Stone-Romero, E. F., & Anderson, L. E. (1994). Relative power of moderated multiple regression and the comparison of subgroup correlation coefficients for detecting moderating effects. *Journal of Applied Psychology*, *79*, 354-359.
- Tornow, W. W., & Pinto, P. R. (1976). The development of a managerial job taxonomy: A system for describing, classifying, and evaluating executive positions. *Journal of Applied Psychology*, *61*, 410-418.
- Tsui, A. S. (1994). Reputational effectiveness: Toward a mutual responsiveness framework. In B. M. Staw & L. Cummings (Eds.), *Research in Organizational Behavior*, vol. 16 (pp. 257-307). Greenwich, Conn.: JAI Press.
- Tucker, L. R., & Lewis, C. (1973). The reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, *38*, 1-10.

- Vecchio, R. P., & Boatright, K. J. (2002). Preferences for idealized styles of supervision. *Leadership Quarterly*, *13*, 327-342.
- Vroom, V. H., & Jago, A. G. (1988). *The new leadership: Managing participation in organizations*. Upper Saddle River, NJ: Prentice-Hall.
- Waldman, D. A., Berson, Y., & Keller, R. T. (2009). Leadership and organizational learning: Special issue. *Leadership Quarterly*, *20*, 1-53.
- Weber, M. (1947). *The theory of social and economic organization*. (A. M. Henderson & T. Parsons, Trans.). New York: Free Press. (Original work published 1925)
- Weik, P. M. (2005). Building the executive ranks: Current practices in developing future leaders. In R. B. Kaiser (Ed.), *Filling the leadership pipeline* (pp. 7-24). Greensboro, NC: Center for Creative Leadership.
- White, R. P., & DeVries, D. L. (1990). Making the wrong choice: Failure in the selection of senior-level managers. *Issues & Observations*, *10*, 1-6.
- Yukl, G. (2006). *Leadership in organizations* (6th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Yukl, G., Gordon, A., & Taber, T. (2002). A hierarchical taxonomy of leadership behavior: Integrating a half century of behavior research. *Journal of Leadership and Organizational Studies*, *9*, 15-32.
- Yukl, G., & Lepsinger, R. (2004). *Flexible leadership: Creating value by balancing multiple challenges and choices*. San Francisco, CA: Jossey-Bass.
- Zaccaro, S. J. (2001). *The nature of executive leadership*. Washington, DC: American Psychological Association.
- Zaccaro, S. J., Gilbert, J. A., Thor, K. K., & Mumford, M. D. (1991). Leadership and social intelligence: Linking social perceptiveness and behavioral flexibility to leader effectiveness. *Leadership Quarterly*, *2*, 317-342.
- Zaccaro, S. J., & Klimoski, R. J. (2002). The nature of organizational leadership: An introduction. In S. J. Zaccaro & R. J. Klimoski (Eds.), *The nature of organizational leadership* (pp. 3-41). San Francisco: Jossey-Bass.
- Zedeck, S. (1971). Problems with the use of moderator variables. *Psychological Bulletin*, *76*, 295-310.

Footnotes

- ¹ In general, the practice of revising a model and retesting it on the same data risks capitalizing on sampling error and unduly optimizing the model for a specific sample. We believe this concern, although valid, to be less applicable here for several reasons. First, the pattern of loadings was not modified after the first CFA; the only change was the deletion of six indicators and one construct. Second, the large size of the sample reduces the likelihood of substantial sampling error in the data. Finally, determining the "correct" factor structure for the items in the instrument we had available was not an objective of this study. Rather, our purpose was to use the item pool to construct a small number of reasonably sound scales to represent as large a portion of the managerial performance domain as possible. The empirically derived, expertly refined, and confirmed scales we retained seem to achieve this objective.
- ² We thank David V. Day for recommending this analytic strategy.
- ³ We thank an anonymous reviewer for pointing out that this finding may reflect the fact that subordinates of executives may provide more valid ratings than subordinates of middle managers and supervisors.
- ⁴ The results for Supportive Leadership and Abrasiveness seem to ratify our decision to investigate these two scales separately despite the CFA results, which suggested that they may be opposite ends of a bipolar continuum. Specifically, both were negatively related to effectiveness ratings for supervisors, suggesting a certain degree of interpersonal distance is advantageous as long as it doesn't lead to antagonism. The methodological implication here is reminiscent of the distinction between measurement for the purpose of representing a theoretical structure versus the purpose of predicting other variables (e.g., Hough, 1992).
- ⁵ It is worth noting that interpersonal skill is a complex construct, especially when considered in the context of multiple constituents who may have competing expectations (Tsui, 1984). The behavior ratings in our study are from the subordinate perspective. It may be that peer and superior views of interpersonal skills relate differently to effectiveness.

Table 1

Summary of the Nature of Work at Three Organizational Levels

Level	Time span	Responsibilities	Functional Activities	Primary Skills
Top (executive)	Long (10 to 20+ years)	Performance of a corporation or group of businesses	Creation of structure — link organization to external environment, develop consensus about the future, set policy and strategic direction, shape organizational culture to support strategy, secure capital resources	Conceptual
Middle (middle management)	Medium (2 to 5 years)	Performance of multiple functional units or a division	Interpretation of structure — translate strategy and policy into operating plans, coordinate diverse functional units, allocate resources across functions, serve as communication nexus throughout the organization, help employees cope with change	Interpersonal

Table Continues

Bottom (supervisory)	Short (two weeks to 2 years)	Performance of small group or team within a single function	Application of structure — assign tasks, execute operating plans, supervise and direct the day-to-day core work, anticipate and solve production problems, distribute resources to individuals and teams	Technical
-------------------------	------------------------------------	--	--	-----------

Table 2

Classification of Target Managers Into Organizational Levels Based on Two Sources

	Self-reported organizational level 2 (registration form)				
	Manager of smaller function	Major functional manager	General manager	Executive of small subsidiary	Corporate officer
Self-reported organizational level 1 (<i>self</i> form of multirater instrument)	Supervisor				
First level supervisor	225				
Lower middle manager					
Upper middle manager			1457		
Executive					243
Top					250
	Total	225		1457	493
Level classification for study	Supervisor		Middle manager		Executive

Table 3

Descriptive Statistics for Rating of Behaviors and Effectiveness by Organizational Level

Behaviors	<i>Supervisors</i>		<i>Middle managers</i>		<i>Executives</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Learning agility	3.91	.46	3.90 ^c	.45	3.99 ^c	.45
Work-life balance	3.79 ^b	.60	3.63 ^b	.68	3.70	.64
Directive leadership	3.61 ^b	.46	3.68 ^c	.46	3.78 ^{b,c}	.46
Empowering leadership	3.62 ^c	.48	3.74 ^c	.44	3.88 ^c	.46
Supportive leadership	3.70	.56	3.68 ^b	.55	3.78 ^b	.54
Abrasiveness	1.93	.58	1.89	.52	1.85	.52
Lack of follow-through	1.76 ^{a,b}	.55	1.86 ^a	.54	1.89 ^b	.56
Overall effectiveness	3.51 ^c	.48	3.65 ^c	.45	3.96 ^c	.47

Note: Means within rows with the same superscripts are significantly different at $p < .05$ (^a), $p < .01$ (^b), and $p < .001$ (^c). Behaviors rated by subordinates; effectiveness rated by superiors.

Table 4

Moderated Multiple Regression Test for Moderating Effects of Organizational Level

	β	ΔR^2	F
Step 1 – test of main effects		.302	$F(9, 2165) = 103.91^{***}$
Organizational level 1 (Level 1) ¹	-.25 ^{***}		
Organizational level 2 (Level 2) ²	-.26 ^{***}		
Learning agility	.26 ^{***}		
Work-life balance	-.01		
Directive leadership	.10 ^{***}		
Empowering leadership	-.04		
Supportive leadership	.08 [*]		
Abrasiveness	-.18 ^{***}		
Lack of follow-through	.01		
Step 2 – test of interaction effects		.042	$F(14, 2151) = 9.90^{***}$
Level 1 × Learning agility	-.55 [*]		
Level 2 × Learning agility	-1.30 ^{***}		
Level 1 × Work-life balance	.76 ^{***}		
Level 2 × Work-life balance	.57 ^{***}		
Level 1 × Directive leadership	.73 ^{***}		
Level 2 × Directive leadership	1.45 ^{***}		
Level 1 × Empowering leadership	-.85 ^{***}		
Level 2 × Empowering leadership	-1.27 ^{***}		
Level 1 × Supportive leadership	-.80 ^{**}		
Level 2 × Supportive leadership	.35		
Level 1 × Abrasiveness	-.59 ^{***}		
Level 2 × Abrasiveness	-.43 ^{**}		
Level 1 × Lack of follow-through	.30 ^{**}		
Level 2 × Lack of follow-through	.40 ^{***}		
Full model		.344	$F(23, 2151) = 49.03^{***}$

Note: Dummy variables for organizational level are coded ¹supervisor = 1; ²middle manager = 1.

*** $p < .001$ ** $p < .01$ * $p < .05$

Table 5

Separate Regression Models Predicting Overall Effectiveness at Each Organizational Level

	<i>Organizational level</i>		
	Supervisor	Middle manager	Executive
	β	β	β
Learning agility	.29***	.19***	.50***
Work-life balance	.20***	.02	-.20***
Directive leadership	.12	.21***	-.19***
Empowering leadership	-.14	-.12***	.21***
Supportive leadership	-.34**	.17***	.05
Abrasiveness	-.52***	-.22***	.03
Lack of follow-through	.12	.06*	-.17***
Model R	.49***	.50***	.62***

Note: Subordinate ratings of behaviors were used to predict superior ratings of effectiveness.

* $p < .05$ ** $p < .01$ *** $p < .001$

Appendix

Scale Names, Definitions, Sample Items, Number of Items, and Reliabilities

<i>Scale</i>	<i>Definition (Sample item)</i>	<i>k</i>	<i>α</i>
Learning agility	Ability to quickly learn new material in depth and apply it to work problems. (Masters new work unit knowledge necessary to understand how the business works.)	5	.85
Work-life balance	Placing an equal value on personal and professional interests such that neither is compromised. (Acts as if there is more to life than just having a career.)	4	.82
Directive leadership	Showing initiative, assigning tasks, displaying a sense of urgency, and using independent judgment. (Takes charge when trouble comes.)	12	.89
Empowering leadership	Delegating, encouraging initiative, using participative decision making, and developing people. (Is willing to delegate important tasks, not just things he/she doesn't want to do.)	11	.89
Supportive leadership	Showing empathy and concern, putting others at ease, getting along, and taking an interest in others. (Shows interest in the needs, hopes, and dreams of other people.)	13	.93
Abrasiveness	Hostility, cynicism, and a tendency to overreact to stress, especially in a way that is aversive to others. (Has an insensitive, abrasive style.)	6	.80
Lack of follow-through	Leaving tasks unfinished, failing to deliver on commitments. (Does not follow up on promises; lets people dangle.)	4	.79
Overall effectiveness	Comprised of items that ask how effectively the manager could achieve a series of outcome oriented objectives. (Turning around a troubled unit.)	16	.93

Note: Subordinate ratings on the first seven scales were used to predict superior ratings on the Overall Effectiveness scale.