

Running Head: EFFECTIVENESS ACROSS THE HIERARCHY

**What Gets You There Won't Keep You There:  
Managerial Behaviors Related to Effectiveness at the Bottom, Middle, and Top**

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Abstract

There is a large and cumulative literature on how the responsibilities of the managerial job change across hierarchical levels in an organization. This research is largely descriptive; empirical tests of its basic propositions are lacking. The authors tested whether and how the behaviors associated with effectiveness vary across hierarchical levels using a set of identical measures in a sample of 2,175 supervisors, middle managers, and executives representing 15 different industries. Multivariate analyses supported the idea that there are dramatic differences in the patterns of behavior associated with effectiveness at the bottom, middle, and top. Moreover, these differences were consistent with the dominant themes in the literature characterizing the changing nature of performance requirements across the hierarchy.

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## Introduction

"I don't really know what it will take to succeed in this new role. But one thing is for sure: what got me here isn't going to keep me here."

Executive coaching client  
(Personal communication, David DeVries, August 2000)

Today's organizations face a new level of pressure, owing largely to changes brought about by technology. The digital age has opened up the capital markets, given investors more power to demand returns, empowered consumers with more information and more choices, and made globalization and global competition a reality. Sources of sustainable competitive advantage are scarce. But one reliable differentiator of which firms flourish and which ones fail is capable management (Barrick, Day, Lord, & Alexander, 1991; Nohria, Joyce, & Roberson, 2003; Waldman, Ramirez, House, & Puranam, 2001).

Until very recently, the development of managers and leaders was not seen as essential to the survival of organizations. The labor pool was teeming and the labor economy was a buyer's market; if talent wasn't available internally, it could readily be purchased from the outside (Chambers, Foulton, Handfield-Jones, Hankin, & Michaels, 1998; Sessa & Campbell, 1997). Those days are all but a faded memory. Demand threatens to exceed supply in today's tight labor market (Bureau of Labor Statistics, 2000). The respected consultancy, McKinsey and Company, claimed there is a "War for Talent" and that managers in particular are in short supply (Chambers et al., 1998). The baby boomers are only beginning to enter retirement, suggesting that there will be even fewer seasoned managers to go around in coming decades. And just a few years ago nearly half of *Fortune* 1,000 companies regarded their leadership capacity as fair to poor while most admitted that their approaches to management training and development were outdated (Csoka, 1997). A 2002 follow up study found evidence of progress—about one-third rated their leadership capacity as excellent or good—but also revealed that the majority of companies still believe they have a long way to go (Barrett & Beeson, 2002).

In the midst of these trends shaping the modern business landscape, it is no surprise that many corporations have made a top priority of establishing integrated systems and processes for developing homegrown managerial talent (Center for Creative Leadership, 2002; Corporate Leadership Council, 2001; Karaevli & Hall, 2003). This work is taking place across the hierarchy—from Chief Executive Officers down to first-line supervisors and individual contributors with managerial potential. It's not just a matter of helping individuals be effective in their current roles; it's also about preparing them to make the transition into positions of greater responsibility. The question of just how to do this is *the* question weighing on talent management professionals. A vital part of the solution rests on an understanding of how the managerial role changes across organizational levels and how the knowledge, skills, abilities, and other characteristics (KSAOs) that lead to success change accordingly.

The primary objective of the current study is to test the hypothesis that the behaviors related to managerial effectiveness are indeed different for jobs at the bottom, middle, and top of the organizational hierarchy. To our knowledge, this study represents the first to use an identical set of measures across a broad range of organizations and industries to empirically test these kinds

of multivariate level differences in the prediction of job performance. Is the freshly minted executive quoted at the opening of this paper alone? Or are there dramatic normative changes in the success formula as you climb the corporate ladder?

### Prior Research

There is a large and cumulative literature on how the responsibilities of the managerial role change as you ascend the hierarchy (see integrative reviews in Hunt, 1991; Zaccaro, 2001). This research is mostly descriptive and based on observing managers at multiple levels or polling incumbents or other subject matter experts (e.g., superiors) about how they spend their time. Three broad generalizations can be made from this research.

First, three distinct levels of management have been identified, where requirements within a level are similar but qualitatively different between levels (Hunt, 1991; D. Katz & Kahn, 1966; Jacobs & Jaques, 1987; Zaccaro, 2001). Second, the nature of work at each level can be distinguished in terms of time horizon (Jacobs & Jaques, 1987), functional activities (D. Katz & Kahn, 1966), primary requisite skills (R.L. Katz, 1955; Mann, 1965), and business responsibilities (Charan, Drotter, & Noel, 2001; Freedman, 1998). Third, managers have difficulty traversing the hierarchy because each transition is said to require adjusting or abandoning previously valued behaviors and habits and learning new skills, values, and perspectives (Charan et al., 2001; Freedman, 1998; D. Katz & Kahn, 1966; McCall, Lombardo, & Morrison, 1988).

### *Three Levels*

Two major streams of research have concluded that most organizations can be characterized by three distinct levels of management. Much of the earlier work in this area culminated in the widely cited systems framework of D. Katz and Kahn (1966). These scholars argued for three basic types of leadership based on the kinds of organizational needs at three distinct hierarchical levels. These needs (and the level at which they occurred) were labeled, from top to bottom, origination of structure (executive), interpolation of structure (middle management), and administration of structure (supervisors; each is further described below).

Jaques' (1976) extension of this work evolved into stratified systems theory (SST; Jacobs & Jaques, 1987), which has inspired a new generation of multilevel theories (see Hunt, 1991; Phillips & Hunt, 1992; Zaccaro, 2001). Jaques distinguished between different hierarchical levels on the basis of the degree of complexity inherent in the tasks required to perform the job. For instance, executive jobs involve the coordination of multiple discrete business units, linking the internal and external environments, and setting strategic direction in a long-term context. By contrast, supervisory jobs take place within a single business unit and a single functional domain, and are largely concerned with only the local internal environment with activities focused on the near term. In SST it is claimed that no more than seven specific levels are needed to adequately characterize differences in complexity across the hierarchy in any organization. Furthermore, these seven narrowly defined levels can be grouped into three higher-order levels: systems, organizational, and production. These distinctions correspond closely to those made by D. Katz and Kahn (1966).

Zaccaro (2001), in a comprehensive review of the literature, noted that while various theories posit between three and seven distinct organizational levels, the cumulative empirical evidence supports only three general domains where the nature of work in jobs within each domain is highly similar 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 the purposes of normative research and cross-organizational comparisons, three general levels seem sufficient. For present purposes, we will refer to the three levels as top (executive), middle (middle management), and bottom (supervisory).

### *Nature of Work at Each Level*

A number of different perspectives have been taken to distinguish the work at the top, middle, and bottom of the hierarchy. Each perspective views a somewhat unique aspect of the performance domain. Taken together, they help define the performance requirements of managers at each level which, in turn, provide clues about consistency and difference in the behaviors related to effectiveness.

*Time horizon.* The major point of distinction in most modern theories of level differences rests upon the concept of complexity. Taking a cue from the notion of requisite variety (Ashby, 1952), the premise is that job complexity increases with organizational level and managerial success hinges on a commensurate level of cognitive complexity. Jaques' notion of *time span of discretion* has been used to operationalize job complexity (Jacobs & Jaques, 1987). The assumption is that more complex jobs entail longer periods of time between action and feedback about the consequences of that action. 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 may learn the consequences of their actions within days or weeks. Top executives, however, may not fully discover the implications of their decisions until years later. Although there is some question about how adequately time span of discretion represents task complexity, it is generally acknowledged that methods for its measurement have proven relatively robust, reliably resulting in the identification of three general hierarchical levels (Hunt, 1991; Zaccaro, 2001). 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 years-plus for executive jobs.

*Functional activities.* Given division of labor and the nature of bureaucracy, the activities carried out at each level of management are also thought to substantively change. The systems model of D. Katz and Kahn (1966) has been influential in the delineation of these functional activities. Recall that they identified three levels of leadership. At the top was what they termed the "origination of structure," defined as the determination of organizational structure and policy. In more recent theories, this has been described as setting strategic direction and creating and maintaining organizational culture (Hunt, 1991). Other major activities of executives include linking the organization to the larger external environment, scanning the external environment for relevant threats and opportunities, building consensus among key stakeholders on strategic imperatives, and securing capital resources (Zaccaro, 2001).

The next level down in D. Katz and Kahn's (1966) model involved "interpolation of structure"—essentially, middle management responsible for translating the big picture into

operating goals, implementing policy, and solving organizational problems in executing the plan. Another major responsibility of middle management is the allocation of resources across functional units. Although middle management was the subject of much criticism of American business practices in the 1980s and early 1990s, authors such as Mintzberg (1980) and Huy (2001) have been supporters, emphasizing the essential role middle managers play in keeping executives in the strategic apex in touch with customer, market, and operational realities. Others have also noted how middle management acts as a nexus for information flow up, down, and throughout an organization (e.g., Kaplan, 1984).

At the lowest level in D. Katz and Kahn's (1966) framework, leadership was seen as administration or "applying existing structure," described as the routine use of standard operating procedures to deal with anticipated problems in execution. Again, the notion of complexity seems relevant: origination of structure amounts to identifying and defining the novel problem of setting direction in an ambiguous context where options seem unbounded whereas the application of existing structure involves selecting from a relatively known set of options to deal with expected problems to achieved predefined results. The key activity played by managers in this lowest level is the supervision and direction of the individuals responsible for carrying out the core day-to-day work of the organization. As part of this role, supervisors must distribute resources and assign specific tasks to the employees and teams who execute the core work.

Zaccaro (2001) makes the interesting observation 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 suggests that the specifics of those roles change with hierarchical level. This is consistent with others who eschew the image of lower-level managers as unthinking doers and executives as reflective thinkers (e.g., Mintzberg, 1980). Thus, while senior executives may set long-term organizational strategy based on trends in the competitive environment, being strategic for a first-line supervisor may be something more like deciding which of several production problems should be a top priority this week. And far from being removed from implementation, some argue that executive positions require a certain indirect involvement in operational details (Kaplan & Kaiser, 2003). This line of thinking suggests that while some roles may be similar across levels, the specific behaviors required to carry them out may in fact be quite different.

*Primary skills.* A somewhat different approach to distinguishing between the three levels of management has involved the identification of the distinct competencies and skills needed at each level. Although this would seem to flow naturally from identifying tasks and functional activities, it actually came first in the chronology of research.

The skills typology of R.L. Katz (1955; see also Mann, 1965) has endured the test of time (despite surprisingly little empirical examination and utilization; Hunt, 1991). This system classifies management skills into three general areas: technical skills—including proficiency with specialized methods, processes, knowledge and techniques; interpersonal skills—including communication, ability to form and maintain relationships, and understanding the feelings and desires of others; and conceptual skills—capacity for analytic and logical thinking, deductive and inductive reasoning, and mentally representing complex information and manipulating that information to form new concepts and anticipate events.

Both R. L. Katz (1955) and Mann (1965) considered effectiveness at each of three levels of management to primarily be a function of one of these three classes of skills. Specifically, technical skills were regarded as most important for supervisors, interpersonal skills for middle managers, and conceptual skills for executives. And although this has become conventional wisdom in the science of management some have argued that interpersonal skills are important at all levels (see Hunt, 1991). Zaccaro (2001) in particular makes a case that interpersonal/social skills are just as critical at the executive level as are conceptual skills.

*Business responsibility.* A final way to describe level differences is from a more pragmatic perspective. This approach corresponds most closely to how different levels of management are distinguished by practitioners and managers themselves (Charan et al., 2001; Freedman, 1998). At the bottom is the supervisory level, the first level at which individuals have responsibility for the performance of others, typically non-managerial employees, but in some cases, other supervisors too. These jobs might range from first line supervisor, section manager, or department manager. They take place within a single functional area (e.g., production, sales, human resources) within one self-contained organization.

Next is the middle management level. The qualitative distinction here is that the position entails coordination between varied functional units. The individuals who report to middle managers also tend to be managers themselves or other highly specialized professionals. A key challenge for managers at this level is that they may be managing individuals with expertise in an area the manager knows relatively little about (Freedman, 1998). Middle managers are also likely to have P&L (profit and loss) responsibilities. Middle managers are responsible for the performance of a division or a self-contained business unit that produces a particular product or service line.

At the top is the executive level. Whereas middle managers coordinate the activities of several different functional areas within one business unit, executives typically are responsible for a portfolio of businesses. Also like middle managers, executives may have relatively little prior experience with some aspects of the industries and markets in which the businesses they run operate. Executives are accountable to key organizational constituents, typically, a board of directors and shareholders in publicly traded firms, owners in the private case, or the government.

*Summary.* Prior descriptive research has taken several perspectives to distinguish three distinct levels of management. Following Hunt's (1991) suggestion, the key to identifying which level a position is in should be less about titles and more focused on the nature of the work. Moreover, fundamental differences in the nature of work at each level should provide the basis for understanding differences in the behaviors required for individual and organizational effectiveness across levels. Table 1 presents a selected summary of how managerial jobs at the bottom, middle, and top differ.

### *Navigating Transitions*

A final generalization about relevant research is related to the alarming failure rates of managers cited by experts. DeVries and Kaiser (2003) summarized the literature on derailment and found that, on average, about half of management selection decisions are estimated to end in

failure and about one-third of high potentials derail before attaining success at their maximum expected level. Further they also reported that the majority of derailment and managerial failures described in the literature occurred after making a key transition, often between one of the three organizational levels described above.

**Table 1. A brief summary of the nature of work at three levels of management.**

Level	Time span	Responsibilities	Functional Activities	Primary Skills
Top ( <i>executive</i> )	Long (10 to 20+ years)	Performance of a corporation or group of businesses	Creation of structure — identify and develop consensus about future, set strategic direction, shape organizational culture to support strategy, coordinate internal and external environment, secure capital resources	Conceptual
Middle ( <i>middle management</i> )	Medium (2 to 5 years)	Performance of multiple functional units or a division	Interpolation of structure — translate strategy and policy into operating goals and timelines, flesh out details of the "big picture," coordinate diverse functional units, serve as communication nexus throughout organization, allocate resources across functions	Interpersonal
Bottom ( <i>supervisory</i> )	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 day-to-day production or service work, distribute resources to individuals or teams	Technical

Why do major level transitions do so many managers in? The consensus among researchers and practitioners in this area is that several factors are at play (see Charan et al., 2001; Freedman, 1998; Lombardo & Eichinger, 2000; Lombardo & McCauley, 1988; McCall & Lombardo, 1983). First, the nature of level differences in job requirements are typically poorly understood by organizations and individuals usually receive little preparation prior to and support during transitions. Second, promotion decisions are often based more on past performance than on potential to succeed in the next job. This is compounded by the fact that lacking certain KSAOs

might not matter at lower levels but these deficiencies become problematic when they are required at higher levels. Finally, the behaviors reinforced by success in prior roles can become liabilities in a more senior role—hence the phrase, "strengths become weaknesses."

Consistent with this view, Kaplan and Kaiser (2003) reported that in their applied research with senior executives they found that many were faulted for excessive reliance on what they called the lower-level skills of forceful interpersonal behaviors and tactical involvement in operational matters. In far shorter supply were the higher-level skills of an empowering, participative style and a strategic orientation. Lombardo and Eichinger (2000) drew similar conclusions from their analysis of competency ratings of executives in a range of industries.

Freedman (1998) noted that each upward transition an individual makes across a managerial career presents discontinuous and unprecedented changes. At each passage, people are confronted by a triple challenge: letting go of anachronistic beliefs and skills, preserving those that continue to be useful, and adopting new perspectives and skills. Coping with these challenges requires adaptive changes in preferred activities, behavior patterns, and style. Freedman (1998) emphasizes that organizational decision makers tend to be naïve about these challenges and, consequently, rather than receiving adequate preparation and support, individuals making upward transitions are often asked to "sink or swim" on their own.

### A Missing Link

The literature reviewed above is suggestive of what it takes to succeed at the bottom, middle, and top of organizations. However, these prescriptions are somewhat speculative. The overwhelming majority of studies have been purely descriptive. There is very little research in this area that is predictive. Virtually no studies have empirically established multivariate patterns of differential validity when a range of KSAOs and behaviors are used to predict individual and organizational effectiveness across levels (Yukl, 1998; Zaccaro, 2001).

This research void is highly problematic. First, it is a questionable article of faith to assume that incumbents can reliably describe the critical aspects of their work. There is tremendous variability in how accurately individuals describe their jobs and what is required in each (Morgeson & Campion, 1997). Furthermore, there tends to be more disagreement than agreement between trained observers' descriptions of the frequency and importance of various activities managers engage in and those managers' own reports (McCall, Morrison, & Hannan, 1978). At the very least, these kinds of descriptions need to be corroborated empirically.

Second, there is a fair degree of inconsistency in the prescriptive literature. 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). As another example, Zaccaro (2001) argued that both conceptual and social skills are central for executive jobs, whereas the seminal work of R. L. Katz (1955) suggested only conceptual skills are primary at the top. Ultimately these are empirical questions that can be settled through predictive nomothetic research.

The present study is a start to filling this empirical gap. Specifically, we report a large sample, quantitative study that uses identical measures to simultaneously examine how the

patterns of behavior associated with managerial effectiveness vary across hierarchical levels.

### Present Study and Hypotheses

Our goals were twofold. First, to determine if the behaviors related to the different performance requirements at the bottom, middle, and top do differentially predict managerial effectiveness. And second: to inform the design of career development planning, management selection systems, and training and development curricula by triangulating with prior research which behaviors matter most at different levels. Thus, we tested three hypotheses derived from the literature. First, we examined whether the patterns of behavior associated with effectiveness were indeed different for supervisors, middle managers, and executives. Second, we looked for discontinuities in how the behaviors associated with effectiveness changed across levels (e.g., negative predictors at one level but positive at another; not related at one level and either positive or negative at an adjacent level, etc.). Finally, we considered whether or not level differences in the prediction of effectiveness were consistent with the themes described in the descriptive literature and summarized in Table 1.

Following the suggestion of others (e.g., Hogan, Curphy, & Hogan, 1994), we chose to use subordinate ratings of behavior to predict superior ratings of overall managerial effectiveness. First, using separate sources eliminates common method bias. Second, subordinates are thought to provide the most accurate ratings of the typical performance of managers (Hogan et al., 1994). And third, although superior's overall evaluations are only one of many indications of effectiveness (Day, 2001; Day & Lord, 1988), they are the most important determinants of salary, promotion, and resource allocation (Bass, 1990; Hogan, 1994; Tsui, 1994). Nonetheless, this criterion only represents individual effectiveness and does not represent organizational effectiveness (e.g., unit productivity, unit climate and morale, collective team efficacy).

### Method

#### *Sample*

This study used an archival multi-rater feedback database lent to us by a leadership training institution. The initial database included ratings for 6,084 target managers based in the U.S. All ratings were completed on the same rating instrument between 1992 and 1997.

*Classification by hierarchical level.* Cases were selected for the study based on our confidence that we could code their organizational level accurately. Participants filled out two biographical forms, one as a general form for registering for a training class, the other on the self-form of the multi-rater instrument; we selected only those who reported consistent levels on both and minimized contamination by leaving out individuals from "in-between" levels. We defined the supervisor, middle manager, and executive levels following conventional standards in the literature, 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). First, we selected individuals for consideration based on their self-reported level descriptions on the two forms. Next, we considered the kinds of functional responsibilities managers reported on the application form. For supervisors, we included only those individuals who reported a single functional area of responsibility. Individuals were classified as middle managers and executives if they indicated

that their jobs spanned multiple functional areas. We next examined mean differences in age, education, and reported salary, expecting these to steadily increase from supervisor, middle management, and executive levels. Finally, we examined differences in sex and race, expecting the samples to become more white and male with increases in organizational level.

Based on these criteria, we were able to classify 2,175 participants (35.7% of the original sample). The majority of those who were not included in the final sample were displaced based on inconsistencies in the self-reported level of management on the two biographical forms. The final sample included ratings for 225 supervisors, 1,457 middle managers, and 493 executives. These targets represented a range of small, medium, and large for-profit, non-profit, and governmental organizations in over fifteen industries. Table 2 provides a contingency table of self-reported managerial levels across the two instruments for this sample.

Differences in age, education, and reported salary were consistent with expectations. Specifically, ANOVA revealed that the mean age and years of education were significantly different across levels ( $ps < .001$ ): for years of age, *Ms* (and *SDs*) were 36.3 (5.8), 42.6 (6.4), and 48.1 (5.9) and for number of years of education, *Ms* (and *SDs*) were 16.7 (2.6), 17.2 (2.3), and 17.6 (2.4) for supervisors, middle managers, and executives, respectively. Median reported salary was also significantly different and ranged from \$50,000 to \$75,000 for supervisors, \$100,000 to \$125,000 for middle managers, and \$125,000 to \$200,000 for executives. Finally, sex and race differences across level were consistent with expectations: for supervisor, middle management, and executive positions, respectively, the percentage of Caucasian managers was 84.2%, 88.9%, and 92.3% and the percentage of men was 65.3%, 73.6%, and 82.9%.

### *Measures*

All measures were ratings gathered using a commercial multi-rater feedback instrument. Ratings were collected under conditions of anonymity and to be used strictly for developmental purposes. In a separate study with a larger sample, we reconfigured the items on this instrument into defensible scales with a series of exploratory factor analyses in a development sample, a content sort by 12 subject matter experts, and finally a test of the measurement model in a validation sample (see description below; see also Craig & Kaiser, 2003; Kaiser & Craig, 2002). The fit for this structure was acceptable in the final validation sample. We used average subordinate ratings on the behavior dimensions to predict superior ratings of overall effectiveness (see Table 3 for scale descriptions). While the dimensions do not exhaustively cover the managerial performance domain (e.g., strategy and vision are conspicuously absent), the seven behavioral dimensions will be familiar to students of management.

### *Procedures*

Performance ratings were collected with an instrument developed from a series of studies about managerial development. The original design of the instrument encompassed three general sections containing a total of 148 items. The three sections covered managerial skills, derailment factors, and overall effectiveness. The items consist of a stem containing a behavioral description and the focal manager is rated on a typical frequency/magnitude Likert-type scale (1 = not at all, 5 = to a very great extent) for the degree to which the item is characteristic of him or her.

**Table 2. Classification of target managers into hierarchical levels.**

		<i>Self-report organizational level Code 2</i>				
<i>Self-report organizational level Code 1</i>	Supervisor	Manager of Smaller Function	Major Functional Manager	General Manager	Executive of small subsidiary	Corporate Officer
First Level Supervisor	225					
Lower Middle Manager						
Upper Middle Manager				1457		
Executive						243
Top						250
	Total	225		1457		493
	<i>Study code</i>	Supervisor		Middle Manager		Executive

Because this study is concerned with differential validity across organizational levels, we examined the construct validity of the measures carefully. This was necessary to minimize the likelihood that poor measurement would obscure the observed results. Confirmatory Factor Analysis (CFA) did not support the measurement model implied by the 22 a priori scales offered by the test publisher. Thus 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 effectiveness scale because factor analysis indicated it was a unidimensional construct ( $\alpha = .93$ ).

*Exploratory analyses.* We conducted a series of iterative exploratory factor analyses (EFAs) of the 132 skills and derailment items using maximum likelihood estimation and oblique rotation methods ( $N = 40,000$  raters—the total available sample was split into a development and validation sample). The initial analysis suggested a seven factor structure adequately represented the data, although several items displayed nontrivial loadings on multiple factors and other items loaded less than .30 on their primary factor. Items that showed cross loading greater than .30 on factors other than their primary loading and those that loaded less than .30 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 better. The result of the EFAs was a seven factor solution with 64 items. The factors were labeled and defined as listed in Table 3.

*Content validity.* To ensure the conceptual meaningfulness of the newly created scales, we asked subject matter experts (SMEs) to sort the 64 items into one and only one category using the category labels and definitions in Table 3. In total, 12 individuals (eight men) 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.

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. A total of nine items were dropped on this basis.

*Confirming the measurement model.* Next, we used CFA to test whether the model derived from the exploratory sample and refined through SME judgment would fit the data in the confirmatory sample ( $N=45,342$  raters: 9.8% self, 39.9% peers, 37.7% direct reports, 12.7% superiors). The CALIS procedure of the SAS System for Windows was used for this stage of the analyses. Listwise deletion of missing data left 32,868 complete cases for use in the CFA.

Because it can be difficult to obtain acceptable fit indices for models with many indicators per factor (Hatcher, 1994), we constructed item parcels for scales with more than six items (Empowerment, Interpersonal Warmth, and Decisive, Action Orientation). Parcels were constructed by averaging responses to adjacent items in groups of three, resulting in a random combination of item trios into parcels. Because the Interpersonal Warmth scale and the Empowerment 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, 30 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, with no commonly reported fit index exceeding .90. An inspection of the modification indices provided by the CALIS procedure suggested that the lack of fit was largely due to the Abrasiveness scale. Specifically, those indicators did not cohere into a single scale, but tended to load on the lower end of the Interpersonal Warmth factor.

**Table 3. Scale names, definitions, number of items, and reliabilities.**

Scale	Definition	<i>k</i>	$\alpha$
<i>Learning Orientation</i>	ability and motivation to quickly learn new material in depth and apply it to work problems.	5	.85
<i>Work-Life Balance</i>	placing an equal value on personal and professional spheres such that neither is compromised.	4	.82
<i>Decisive, Action Orientation</i>	taking bold action, stepping up to tough problems, making quick decisions, and using authority.	12	.89
<i>Empowerment</i>	delegating important tasks to subordinates, using participative decision-making, and developing people.	11	.89
<i>Interpersonal Warmth</i>	getting along, putting others at ease, and building and maintaining harmonious relationships.	13	.93
<i>Abrasiveness</i>	hostility, cynicism, and a tendency to overreact to stress, especially in a way that is aversive to others.	6	.80
<i>Lack of Follow Through</i>	tendency to leave tasks unfinished and to not keep commitments.	4	.79
<i>Overall Effectiveness</i>	Comprised of items that ask how effectively or how well the individual could achieve a series of outcome-oriented objectives (e.g., turnaround a troubled unit).	16	.93

*Note:* Subordinate ratings on the first 7 scales were used to predict superior ratings on the overall effectiveness scale.

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. This model provided an adequate fit to the data with CFI=.90, NNI=.91, NFI=.90, and RMSEA=.05.

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 commercial 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 six retained scales were deemed to achieve this objective.

Finally, although the CFA suggested that the items comprising the Abrasiveness scale did not represent an independent factor, we chose to retain this scale as a separate behavioral measure in our analyses. First, the SME content analysis suggested that individuals familiar with managers make a distinction between Abrasiveness and Interpersonal Warmth, seeing these two

as separate dimensions and not just opposing ends of a bipolar construct. Second, the literature on derailment consistently identifies abrasiveness as a leading cause (Hogan, 1994; Hogan & Hogan, 2001; Lombardo & Eichinger, 2000). Thus, we chose to include Abrasiveness as a seventh dimension of behavior. We were cautious in interpreting results and alert to the possibility that they may be redundant with the Interpersonal Warmth scale.

*Inter-rater agreement and reliability.* James'  $r_{wg(j)}$  index was used to determine the level of inter-rater agreement between multiple raters of the same target (James, Demaree, & Wolf, 1984; 1993). Separate  $r_{wg(j)}$  values were computed for each individual rating target on each of the scales derived in the preceding analyses. Next, the mean  $r_{wg(j)}$  was computed for across targets for each scale. The median level of agreement across the three sources for all scales exceeded minimum acceptable values recommended by James et al. (1993). Given the high level of inter-rater agreement, we felt justified in creating scale scores by averaging the subordinate ratings. We next estimated the reliability of each scale using coefficient alpha. The number of items in each scale and their alpha values are provided in Table 3. Means and standard deviations for these scales for each of the three levels of management are reported in Table 4.

## Results

We first examined differences in the distributions of ratings on the seven dimensions of behavior and overall effectiveness between the three hierarchical levels. Our goal was to ensure equality of variance across the three populations and distributional normality within each population prior to conducting the next set of analyses, which assumes those conditions are met. Levene's (1960) test for equality of variances found no pair-wise comparison to be significant at  $p < .01$ . All distributions were skewed, with the majority of scores falling at the most ostensibly desirable end of the distributions. However, these deviations from distributional normality were no more than is common in management and leadership research (c.f., LeBreton, Burgess, Kaiser, Atchley, & James, 2003). Further, general linear modeling and correlation-based analytic techniques such as multiple regression appear robust to this degree of violation of the normality assumption (Cohen & Cohen, 1983).

We also examined mean differences in ratings across the three levels. We were well aware that this analysis was simply further descriptive research and tells nothing about the question of differential validity. However, the results may be instructive when compared to prior descriptive research in light of the results reported below. We conducted a one-way (hierarchical level) Multiple Analysis of Variance (MANOVA) to test the significance of differences in ratings on the seven behavior scales and the overall effectiveness scale. Results indicated significant multivariate effects,  $F(16, 2165) = 23.48, p < .001, \eta^2 = .08$ . Follow up analyses 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 effects were for Effectiveness ( $\eta^2 = .09$ ) and Empowerment ( $\eta^2 = .03$ ), where scores steadily increased with level, except for a disproportionate increase on Effectiveness going from middle managers to executives. All statistically significant mean differences are noted in Table 4.

### *Hypotheses*

*Differential validity.* We used a modified Analysis of Covariance (ANCOVA) technique to

directly test the primary hypothesis that the relationship between managerial behaviors and effectiveness is different across organizational levels.<sup>1</sup> Specifically, we tested whether there were significant interactions between the seven dimensions of behavior and the categorical organizational level variable in the prediction of overall effectiveness. To accomplish this, we conducted a two-step ANCOVA analysis that is analogous to a hierarchical regression model.

**Table 4. Descriptive statistics for managerial behaviors and effectiveness ratings by level.**

	Supervisors (N = 225)		Middle Managers (N = 1,457)		Executives (N = 493)	
	M	SD	M	SD	M	SD
Learning Orientation	3.91	.46	3.90 <sup>c</sup>	.45	3.99 <sup>c</sup>	.45
Work-Life Balance	3.79 <sup>b</sup>	.60	3.63 <sup>b</sup>	.68	3.70	.64
Decisive, Action Orientation	3.61 <sup>b</sup>	.46	3.68 <sup>c</sup>	.46	3.78 <sup>b,c</sup>	.46
Empowerment	3.62 <sup>c</sup>	.48	3.74 <sup>c</sup>	.44	3.88 <sup>c</sup>	.46
Interpersonal Warmth	3.70	.56	3.68 <sup>b</sup>	.55	3.78 <sup>b</sup>	.54
Abrasiveness	1.93	.58	1.89	.52	1.85	.52
Lack of Follow Through	1.76 <sup>a,b</sup>	.55	1.86 <sup>a</sup>	.54	1.89 <sup>b</sup>	.56
Effectiveness	3.51 <sup>c</sup>	.48	3.65 <sup>c</sup>	.45	3.96 <sup>c</sup>	.47

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

In the first step, all main effect terms, organizational level and the seven behaviors, were entered into the ANCOVA to predict effectiveness. The overall effect was significant and accounted for a sizable proportion of variance in the criterion,  $F(9, 2165) = 103.91, p < .001, \eta^2 = .30$ . Significant main effects were found for both the organizational level variable and for four of the seven behavioral dimensions. In the second step, we entered all two-way interaction terms between organizational level and each of the seven behavior dimensions and tested the incremental contribution they made to the prediction equation. This step of the model resulted in a significant enhancement of prediction,  $F(21, 2153) = 6.31, p < .001, \eta^2 = .06$ . Moreover, all seven interaction effects were significant, with each accounting for near 1% of the variance in overall effectiveness. These interactions indicate differential validity—that is, that the relationship between each of the seven dimensions of behavior and overall effectiveness are indeed different across the supervisory, middle management, and executive levels. Results from this set of analyses are summarized in Table 5.

*Different success formulae.* To interpret the form of differential validity across levels, we conducted three multiple regression analyses using the subordinate ratings on the seven dimensions to predict superior ratings of overall effectiveness separately for supervisors, middle managers, and executives. Those results appear in Table 6.

<sup>1</sup> We thank David V. Day for suggesting this analytic strategy.

Several things are noteworthy. First, the constellation of predictors were effective at predicting superior 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 these seven dimensions of behavior do not exhaustively cover the managerial performance domain, they do represent an appreciable amount of the factors that influence superiors' overall judgments. It is interesting that despite lacking some behaviors described in the literature as uniquely relevant to executives (e.g., strategy, external boundary spanning), the ratings of executive behavior were considerably more valid than the ratings for lower level managers.

**Table 5. Summary of hierarchical ANCOVA model testing for interaction effects with level.**

	<i>F</i>	<i>df</i>	$\eta^2$
<i>Step 1 – test of main effects</i>	103.91 ***	9	.30
Organizational level	99.71 ***	2	
Learning Orientation	123.97 ***	1	
Work-Life Balance	0.29	1	
Decisive, Action Orientation	17.41 ***	1	
Empowerment	2.20	1	
Interpersonal Warmth	6.49 **	1	
Abrasiveness	31.10 ***	1	
Lack of Follow Through	0.18	1	
<i>Step 2 – test of interaction effects</i>	6.31 ***	21	.06
Level x Learning Orientation	12.22 ***	3	
Level x Work-Life Balance	11.60 ***	3	
Level x Decisive, Action Orientation	15.47 ***	3	
Level x Empowerment	8.50 ***	3	
Level x Interpersonal Warmth	4.87 **	3	
Level x Abrasiveness	5.52 ***	3	
Level x Lack of Follow Through	8.60 ***	3	
<i>Full model</i>			.36

Note: \*\*\*  $p < .001$  \*\*  $p < .01$  \*  $p < .05$

The second point worth noting is how differences in the significance, direction, and magnitude of the beta weights generally support the conclusion that the behaviors related to effectiveness do indeed change dramatically across hierarchical levels. There is clear evidence for discontinuities in these changes. Only one dimension of behavior consistently predicted effectiveness across levels, Learning Orientation, which was positively associated with effectiveness at each hierarchical level. Work-Life Balance was a positive predictor for supervisors, non-significant for middle managers, and a negative predictor for executives.

Interpersonal Warmth was a negative predictor for supervisors, but a positive predictor for middle managers and non-significant for executives. However, Abrasiveness was a negative predictor for both supervisors and middle managers, but unrelated to the effectiveness of executives.<sup>2</sup> Lack of Follow Through is surprisingly, albeit slightly, positively related to middle management effectiveness, but negatively related to effectiveness for executives.

**Table 6. Summary of regression models predicting superior ratings of overall effectiveness.**

	Organizational Level			
	Supervisor $\beta$	Middle Manager $\beta$	Executive $\beta$	
Learning Orientation	+.291***	+.193***	+.499***	
Work-Life Balance	+.204***	+.015	-.195***	
Decisive, Action Orientation	+.119	+.207***	-.188***	
Empowerment	-.142	-.118***	+.214***	
Interpersonal Warmth	-.335**	+.170***	+.052	
Abrasiveness	-.518***	-.215***	+.026	
Lack of Follow Through	+.124	+.064*	-.171***	
	$R^2$	.237***	.245***	.388***

Note: \*\*\*  $p < .001$  \*\*  $p < .01$  \*  $p < .05$

The most dramatic discontinuities occur for the two dimensions, Empowerment and Decisive, Action Orientation. Neither was a significant predictor for supervisors. But these roles were completely opposite for middle managers compared to executives: middle manager effectiveness was a function of high Decisiveness and low Empowerment whereas executive effectiveness was characterized by high Empowerment and low Decisiveness.

*Consistency with the literature.* Our third hypothesis predicted that differences in the behaviors associated with effectiveness at the three levels would be consistent with the literature describing differences in the nature of work requirements. Strictly speaking, we didn't test this hypothesis correctly by identifying *a priori* which of the seven behavior dimensions corresponded to which elements in Table 1. However, post hoc comparisons between the regression results in Table 6 and the distinctions made in Table 1 in terms of functional activities and primary skills suggests some degree of consistency.

For executives, the finding of a very strong relationship between Learning Orientation and Effectiveness is consistent with R. L. Katz's (1955) suggestion that conceptual skills are primary at the top. Further, the non-significance of Interpersonal Warmth and Abrasiveness as predictors

<sup>2</sup> The results for Interpersonal Warmth and Abrasiveness for supervisors seem to ratify our decision to investigate these two scales separately despite the CFA results suggesting they were opposite ends of a bi-polar continuum. Specifically, both were negatively related to effectiveness ratings for supervisors, suggesting a certain 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).

suggests that interpersonal skills may not be central to executive effectiveness.<sup>3</sup> The positive role of Empowerment is also consistent with the idea that executives must develop consensus about strategic imperatives with key stakeholders. It is also consistent with the notion that senior jobs are considerably complex, perhaps more so than one person can handle independently (R. J. Campbell, personal communication, 1997). And this may be related to the inverse relationship between Work-Life Balance and executive effectiveness: the hugeness of the role suggests that the work is never done at the end of the day. The deleterious impact of Lack of Follow Through also seems in this spirit—almost suggesting that the buck does indeed stop here, at the top. And consistent with the lengthy time span of work at senior levels, the negative role of Decisive, Action Orientation suggests that some degree of thoughtful reflection is beneficial, or at least that haste in problem solving and decision making is ill-advised.

For middle managers, the finding of a positive role for Interpersonal Warmth and a negative role for Abrasiveness in predicting Effectiveness is consistent with the suggestion that interpersonal skills are primary at this level (R. L. Katz, 1955). And the pattern of high Decisiveness and low Empowerment conveys the image of centralized authority bringing different functional units together in pursuit of a common organizational goal. The slight positive relationship between *Lack of Follow Through* and Effectiveness is puzzling. Coupled with the positive role for Decisive, Action Orientation, this may be an indication that taking the initiative to volunteer for assignments and an eagerness to offer assistance and support to those lower in the organization, even beyond what is possible to deliver on, is looked upon favorably by more senior managers. Admittedly this is purely speculative and stretches beyond the data.

The pattern of relationships between behavior and rated effectiveness for supervisors is less consistent with descriptions of requirements at that level in the literature. In part, this may be due to the limited array of behaviors represented by the seven dimensions. For instance, these dimensions do not seem to bear on technical skills. The positive role for Work-Life Balance may indicate mastery in the ability to get the work done in a reasonable time frame, at least enough so as to have time for life outside of work. This is most likely to be possible in supervisory jobs, which have the least complexity and narrowest scope and scale of responsibilities. The negative role of both Interpersonal Warmth and Abrasiveness is consistent with descriptions of the challenge in making this first hierarchical transition. Specifically, it is claimed that a fundamental psychological difficulty moving from the rank-and-file to management is the requirement of changing one's self-concept from identification with one's peer group to internalizing a company perspective (Charan et al., 2001; Freedman, 1998). The negative link between Effectiveness and Interpersonal Warmth suggests a deleterious impact for fraternization with hourly employees, but the negative role for Abrasiveness suggests that this must be moderated and should not verge into antagonism and condescension.

## Discussion

Taken together, we view the foregoing empirical results as largely supporting the dominant themes in the literature described in the earlier review. The patterns of behavior associated with effectiveness were different at the bottom, middle, and top. And these differences were largely

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<sup>3</sup> We hasten to acknowledge that interpersonal skills represent a complex multidimensional construct of which the present Interpersonal Warmth and Abrasiveness scales are likely to be a deficient representation.

discontinuous, reflecting qualitative, even quantum, changes by level. In general, the particular patterns of behaviors related to effectiveness were consistent with how the cumulative literature depicts the changing nature of performance requirements. At the same time, we do not feel that this general consistency provides unequivocal support for prior research. The rarity of this kind of study involving identical measures across levels and organizations as well as industries may make it tempting to judge prior descriptive work in light of present results. But we urge caution in such comparisons and encourage replication and extension. At the same time, we believe these results do suggest important implications for research and practice.

### *Implications for Theory and Research*

*Career development.* Our results yielded two consistencies. One was the positive association between an active learning orientation and effectiveness across all three levels. This serves to reinforce an observation about career success offered by a pioneer in the field of management: "If there is a magic talent that guarantees success, it's recognizing then learning to do what you don't know how to do" (M. Lombardo, in Lombardo & Eichinger, 2000, p. 58). On this point, it is curious that research on management and leadership has not capitalized more on the advances made in other disciplines concerning learning. For instance, the work of Dweck (1986) on motivational processes in learning has influenced social psychological models of achievement motivation and even models of individual differences related to training outcomes in organizations (e.g., Brett & VandeWalle, 1999). This is a ripe avenue for future research on management development and effectiveness, especially as applied to career success.

The second consistency is only such if we believe the old cliché, the only constant is change. On balance, the behaviors related to effectiveness were profoundly different across levels. This result points to a central role for adaptability in long-term career mobility and ascendancy. It also underscores the role of personal growth and transformation in career development. To that end, theories of management and executive development could be fruitfully bridged to modern models of adult development that emphasize the role of identity transformation (e.g., Kegan, 1994). Recent work by Hall and associates is a promising example (Briscoe & Hall, 2002; Hall, 2002). Explicitly tying this type of research to organizational needs such as talent management and succession planning represents another promising avenue (e.g., see Torbert & Fisher, 1992).

Taken together, the previous two points suggest two *meta-competencies* that may be critically important to managerial career success: learning and adaptability. These two fundamental capabilities would appear to facilitate the development of more specific KSAOs that may change with roles and responsibilities. Learning seems to represent the inner, mental side of the equation whereas adaptability suggests the outer, behavioral aspect. We return to this idea in the section on implications for practice below.

*Predicting outcomes.* Due to the constraints of working with an archival data base, we were limited to only using criteria concerning the perceived effectiveness of individual managers. Knowledge in this area would greatly benefit from future research that considers a broader range of effectiveness criteria, especially both soft and hard criteria that represent organizational effectiveness as well as individual effectiveness (see Day, 2001). Strictly speaking, our results apply to the fate of individuals; the fate of organizations rests on proximal outcomes of

management like unit climate and team processes and more distal outcomes like financial figures tied to valuation (e.g., costs and revenues) and organizational culture.

*Further exploration of distinct levels.* Finally, in future research replicating and extending the present findings, we suggest examining for the possible distinctiveness of additional organizational levels. In the present study, we used prior research as a basis for defining the three levels we examined. However, to the extent that our concern about the lack of predictive research in this area is warranted, it raises the question of whether the behaviors actually related to outcomes may be different for additional levels. For instance, our experience consulting to managers suggests that there may be an important and qualitatively unique level between supervisory and middle management positions as defined here. Specifically, effectively managing a single functional unit may require a distinct profile of KSAOs and behaviors. Again, it is an empirical question—and one that has not been adequately addressed in the literature.<sup>4</sup>

### *Implications for Practice*

*Development.* Our results offer support for a theme that has become popular in recent years amid the constant churn and turmoil that characterizes modern organizations. Specifically, the necessity of having to constantly reinvent yourself seems like a valid notion, particularly as you climb the corporate ladder. There are two implications for practice that flow from this.

First, not all types, methods, and content of management training and development are fit for all managers. There is a very real distinction between the job requirements and thus the KSAOs and behaviors associated with the effectiveness of supervisors, middle managers, and executives. Training professionals responsible for the design of such curricula are well-advised to tailor their programs to fit the particular population they serve. The literature review at the beginning of this paper provides a useful start to defining these unique needs.

Second, there is a useful role for realistic job previews (Popovich & Wanous, 1982) in the career planning process. Given the dramatic change in the behaviors associated with effectiveness across levels, it is likely that not all of the required changes represent a welcomed opportunity. There are very real sacrifices required in accepting a promotion that spans levels. For instance, some individuals may not want to give up a current level of work-life balance, or to move out of a highly specialized functional area of expertise. Full disclosure and consideration of these trade-offs could, theoretically, reduce the failure rate in managerial promotions.

We also note that the principles providing impetus for the current study apply to internal research in organizations. That is, beyond simply polling managers at various levels to describe their work for the purpose of creating job descriptions, level-specific competency models, and so forth, it is instructive to take a final step and ensure that the critical dimensions identified do in fact relate to organizationally valued outcomes.

*Selection.* There are three implications for the selection of managers that flow from our research. First, it is instructive to recognize the folly in basing hiring decisions solely on past performance. To the extent that a new appointment represents a leap across levels, it is likely that success in the new role will require things that have been untested in the individual. We are not

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<sup>4</sup> We thank a former chief executive officer for encouraging us to seriously consider this possibility.

suggesting that track record is not relevant; rather, we are suggesting that track record by itself is deficient. A careful identification of the fundamental changes between the current job and the one being filled can help guide the information search for qualifications. Key things to look for include where strengths can become weaknesses—such as when a successful middle manager noted for decisiveness and a sense of urgency is being considered for an executive job where these may be a liability. Another thing to look for are KSAOs that will be important in the next role, but that were inconsequential in the prior job—like a willingness to trade off more personal time for more time spent working when an individual would transition from middle management to the executive suite.

Of course, sometimes it is advantageous to promote an individual into a job for which she isn't fully capable yet. Such "stretch assignments" can provide a unique developmental opportunity (McCauley, Eastman, & Ohlott, 1995). Key to the success of such a talent management move is ensuring that the individual receives adequate preparation and support to make the transition. Establishing a formal transition plan (see Downey, March, & Berkman, 2001) that identifies potential problems and a range of support mechanisms such as mentoring, learning resources, sources for feedback, etc. can maximize the likelihood of success.

Finally, the two meta-competencies identified above, learning and adaptability, appear to be highly transportable skills that would prove invaluable to any organization's management corps. Moreover, there are some indications that these capabilities are in short supply (Lombardo & Eichinger, 2000). Organizations that excel at acquiring individuals with stand-out strengths in these two areas, especially early in those individuals' careers, will likely have an advantage. For instance, targeted recruitment and selection of younger managers based on these meta-competencies may result in lower failure and derailment rates and a larger pool of internal candidates for more senior positions down the road.

### *Limitations*

Interpretation of the results of this study should be tempered with considerations of its shortcomings. We note three that seem particularly important.

First, as mentioned above, we only examined relationships with individual effectiveness criteria. And although we offered an argument for why superior ratings of overall effectiveness should be taken seriously, we agree that it is not the only criterion for judging effectiveness (cf. Day, 2001). In particular, it is desirable to include measures that represent organizational effectiveness in this type of study. This is especially so since the determinants of individual success are unlikely to be identical to the determinants of organizational success.

Another limitation due to the variables we had available for this study is the limited set of behavioral dimensions. The scales we used were based on convenience and further were derived empirically for present purposes. Although we took great care in developing the scales, there are two limitations. First, because they are not established measures and the items are the proprietary intellectual property of the instrument publisher, the scales cannot be used in future research. Second, the seven dimensions do not exhaustively cover the managerial performance domain. It is difficult to judge how comprehensive this set is. They do seem to represent analogs to the twin pillars of the Ohio State leadership studies, consideration and initiating structure, to some degree

as well as two key factors from the derailment literature, lack of follow through and abrasiveness. Notably absent, however, are scales representing vision, strategic planning, boundary spanning, technical skills, sociopolitical skills, and transformational leadership. As opportunities for replication emerge, it would be advantageous to look to the literature on managerial performance taxonomies in choosing which behaviors to measure. Along these lines, it would also be a contribution if future work tested a priori hypotheses about how various behaviors are differentially related to effectiveness criteria across organizational levels.

A final limitation we note has implications for the generalizability of our results. Because the data were originally collected for use as feedback to be used in an expensive off-site development program, the organizations represented in the data base may not be representative of organizations in the U.S. economy at large. First, only organizations that value learning and development enough to justify the expense of these programs were represented. Second, only organizations that can afford to pay the costs and send managers offsite for a week were represented. It is difficult to articulate how this selectivity may have affected our results. But it does raise the question of how well our results apply to these types of organizations.

### *Coda*

As a parting comment, we'd like to refer back to the executive coaching client quoted at the opening of this paper. The results of this study confirm that this individual isn't alone; the success formula does indeed change dramatically across levels. We've learned that this individual has made a successful transition; he's now in his third year as an executive and is considered successful by the organization (Personal communication, David DeVries, March 2004). Central to his development plan was to become a more enabling and participative leader, making sure to get the full contribution of the people around him and relying less on his own intellect and drive to get things done. He's made progress, but continues to work on his professional growth. He has also accepted that continuous learning is one constant he can count on.

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