Trait-Based Perspectives of Leadership

Stephen J. Zaccaro George Mason University

The trait-based perspective of leadership has a long but checkered history. Trait approaches dominated the initial decades of scientific leadership research. Later, they were disdained for their inability to offer clear distinctions between leaders and nonleaders and for their failure to account for situational variance in leadership behavior. Recently, driven by greater conceptual, methodological, and statistical sophistication, such approaches have again risen to prominence. However, their contributions are likely to remain limited unless leadership researchers who adopt this perspective address several fundamental issues. The author argues that combinations of traits and attributes, integrated in conceptually meaningful ways, are more likely to predict leadership than additive or independent contributions of several single traits. Furthermore, a defining core of these dominant leader trait patterns reflects a stable tendency to lead in different ways across disparate organizational domains. Finally, the author summarizes a multistage model that specifies some leader traits as having more distal influences on leadership processes and performance, whereas others have more proximal effects that are integrated with, and influenced by, situational parameters.

Keywords: trait-based leadership, leadership theories

he quantitative analysis of leadership dates back perhaps to Galton's (1869) Hereditary Genius. Galton emphasized two basic points that have come to form, and sometimes misinform, popular notions of leadership. The first point defined leadership as a unique property of extraordinary individuals whose decisions are capable of sometimes radically changing the streams of history (see also Carlyle, 1849). This point remains a most persistent view of leadership in the popular literature; in many best-selling books, authors seek to explain leadership by describing the transformational influences of certain individuals. The second point grounds the unique attributes of such individuals in their inherited or genetic makeup. Galton (1869) argued that the personal qualities defining effective leadership were naturally endowed, passed from generation to generation. The practical implication of this view, of course, is that leadership quality is immutable and, therefore, not amenable to developmental interventions.

This perspective guided the preponderance of leadership research into the 20th century until the late 1940s and early 1950s. Then, on the basis of some important reviews (Stogdill, 1948; Mann, 1959), many researchers discarded trait-based leadership approaches as being insufficient to explain leadership and leader effectiveness. This rejection was widespread and long lasting, and it echoed in most of the major social and industrial and organizational psychology textbooks for the next 30–40 years (e.g., Baron & Byrne, 1987; Blum & Naylor, 1956; Ghiselli & Brown, 1955; Muchinsky, 1983; Secord & Backman, 1974).

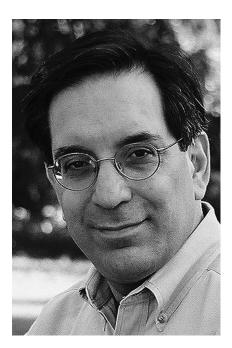
In the 1980s, research emerged that directly challenged the purported empirical basis for the rejection of leader trait models (Kenny & Zaccaro, 1983; Lord, De Vader, & Alliger, 1986). Also, models of charismatic and transformational leadership rose to prominence in the leadership literature. These models, while recognizing the important role of the situation in leadership, pointed once again to the extraordinary qualities of individuals as determinants of their effectiveness (House, 1977, 1988). More recently, a number of studies have linked personality variables and other stable personal attributes to leader effectiveness, providing a substantial empirical foundation for the argument that traits do matter in the prediction of leader effectiveness (e.g., Judge, Bono, Ilies, & Gerhardt, 2002; Peterson, Smith, Martorana, & Owens, 2003; see Zaccaro, Kemp, & Bader, 2004, for a review). Thus, traits have reemerged in the lexicon of scientific leadership research.

In this article, I argue for four critical points that need to be considered in models and theories positing leader traits and attributes as explaining significant amounts of variance in leadership. First, such frameworks cannot be limited in their elucidation of central leader attributes. Many research efforts focus their attention on small sets of individual differences that should predict leadership. Although other efforts do provide long lists of key leader attributes, they are rarely organized in a coherent and meaningful conceptual construction. Leadership represents complex patterns of behavior, likely explained, in part, by multiple leader attributes, and trait approaches to leadership need to reflect this reality (Yukl, 2006; Zaccaro et al., 2004).

A second point concerns the integration of leader attributes. Rarely do studies consider how the joint combinations of particular leader characteristics influence leadership behavior (Yukl, 2006; Zaccaro, 2001; Zaccaro et al.,

Some material in this article is based on previous work by the author (Zaccaro, Kemp, & Bader, 2004).

Correspondence concerning this article should be addressed to Stephen J. Zaccaro, Department of Psychology, MSN3F5, George Mason University, 4400 University Drive, Fairfax, VA 22030. E-mail: szaccaro@gmu.edu



Stephen J. Zaccaro

2004). Likewise, leader attributes may exhibit curvilinear relationships with outcomes. Speculations on such combinations and relationships have been around for a long time. For example, Moss (1931) suggested that cognitive ability without social competence could not greatly affect leadership performance. Stogdill's (1948) review of leader attributes indicated that the influence of leader intelligence was delimited by the level of intelligence exhibited by the average group member. Along this line, Ghiselli (1963) reported a curvilinear relationship between intelligence and performance, with leaders who had very high or low intelligence being less effective. Fleishman and Harris (1962) demonstrated curvilinear influences of initiating structure and consideration (considered to be stable leadership styles; see Harris & Fleishman, 1955, and Fleishman & Peters, 1962) on employee grievances and turnover. However, most conceptual models posit only additive or linear effects of leader attributes on leadership criteria. Leader attributes likely exhibit complex multiplicative and curvilinear relationships with leadership outcomes, and trait conceptualizations of leadership need to reflect this complexity.

A third point is that trait and attribute approaches must consider and account for the situation as a corresponding source of significant variance in leadership. The literature abounds in trait-by-situation models of leadership, perhaps the most prominent being Fiedler's contingency models (1964, 1971; Fiedler & Garcia, 1987). These models led many to agree with Stogdill's (1948) statement that "persons who are leaders in one situation may not necessarily be leaders in other situations" (p. 65). Yet, both empirical research (e.g., Ferentinos, 1996; Kenny & Zaccaro, 1983; Zaccaro, Foti, & Kenny, 1991) and reports in the popular literature support the premise that individual leaders can be

effective across situations demanding very different leadership approaches. The situation is critical in explaining variance in leadership behavior; however, it may not be as critical in explaining differences between leaders and non-leaders. Trait perspectives of leadership need to account for the role of situational variance.

Finally, leader individual differences may differ in their relative stability or malleability over time and in the degree to which they are specific to particular situations. Several researchers have noted the distinction between traitlike individual differences (e.g., cognitive ability, personality) and statelike individual differences (e.g., selfefficacy, task skills) (Ackerman & Humphreys, 1990; Chen, Gully, Whiteman, & Kilcullen, 2000; Hough & Schneider, 1996; Kanfer, 1990, 1992). This distinction suggests that some leader attributes will be more stable and cross situational in their influences, whereas others will be more situationally bound (indicating another important role for the leadership situation). More important, stable or traitlike individual differences may predict the level of statelike attributes that can be attained and exhibited by the leader (e.g., cognitive ability influences task-specific selfefficacy; Chen et al., 2000; Kanfer, 1990, 1992). Models positing such relationships suggest that traitlike individual differences act more distally on performance through their influence on more proximal attributes (Chen et al., 2000; Kanfer, 1990, 1992; Zaccaro et al., 2004). Accordingly, trait perspectives of leadership need to consider how leader attributes may differ in their sensitivity to situational factors and their proximity, in cause, to leadership behavior.

In the remainder of this article, I present some ideas around these points. I begin with a definition of *leader trait* that is broader, in some respects, than some more traditional definitions that limit this term to personality attributes (Zaccaro et al., 2004). Then, I recount the historical ebb and flow of the leadership trait perspective and conclude by summarizing a model that incorporates several of the issues and themes just elucidated.

The Meaning of Leader Traits

Early in the leadership scientific research tradition, traits were understood to be innate or heritable qualities of the individual. No doubt influenced by Galton's (1869) work, most early researchers considered leader traits to be immutable properties that were present at the birth of a future leader. This perspective shifted, however, in the first half of the 20th century to include all relatively enduring qualities that distinguished leaders from nonleaders (Kirkpatrick & Locke, 1991). Indeed, Bird's (1940) summary of leader traits included accuracy in work, knowledge of human nature, and moral habits. Stogdill's (1948) review cited decisiveness in judgment, speech fluency, interpersonal skills, and administrative abilities as stable leader qualities.

Reflecting this shift away from traits as purely heritable qualities, *leader traits* can be defined as relatively coherent and integrated patterns of personal characteristics, reflecting a range of individual differences, that foster consistent leadership effectiveness across a variety of group and organizational situations (see the definition by

Zaccaro et al., 2004, p. 104). This definition has three key components. First, leader traits are not to be considered in isolation but rather as integrated constellations of attributes that influence leadership performance. As noted earlier, researchers in most prior leader trait studies took predominantly univariate approaches to uncover the differences between leaders and nonleaders, or they focused on the independent contributions of each in a small set of personal qualities. Behavior, especially complex forms such as leadership, rarely can be grounded in so few personal determinants. Understanding leadership requires a focus not only on multiple personal attributes but also on how these attributes work together to influence performance (Yukl & Van Fleet, 1992; Zaccaro et al., 2004).

A second component in this definition of leader traits concerns the inclusiveness of a variety of personal qualities that promote stability in leader effectiveness. Traits have traditionally referred to personality attributes. However, in line with most modern leader trait perspectives, the qualities that differentiate leaders from nonleaders are far ranging and include not only personality attributes but also motives, values, cognitive abilities, social and problemsolving skills, and expertise. The emphasis in this definition is on the variety of individual differences that predict leader effectiveness. This approach is similar to the one adopted by Yukl (2006), who defined traits in terms of leader effectiveness and included personality, motives, needs, and values in his definition. Although he contrasted traits and skills, the latter were defined (p. 181) as having both experiential and inherited foundations as well as operating at both general (e.g., intelligence, interpersonal abilities) and specific (persuasion and verbal skills) levels.

Admittedly, this emphasis may blur important distinctions among personality, skills, competencies, and expertise. However, later in this article, I summarize a model of leader attributes and effectiveness (Zaccaro et al., 2004) that, in turn, sharpens these distinctions, placing them in causal correspondence to one another. Also, although some personality theorists challenged such an expansion of the trait concept (Pervin, 1994), others embraced it (Cattell, 1965; Guilford, 1975). The defining element of leader traits, here, refers to the range of qualities that can consistently and reliably differentiate leaders from nonleaders and, consequently, can serve as the basis for leader assessment, selection, training, and development.

Note that leader traits are defined in reference to leader effectiveness. This follows from functional approaches to leadership that define leadership in terms of organizational problem-solving activities (Fleishman et al., 1991; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Zaccaro et al., 2000). Accordingly, Mumford, Zaccaro, Harding, et al. (2000) specified a number of individual differences that promoted effective leader problem solving. Such an approach implicitly assumes congruence between leader effectiveness and leader emergence or, more broadly, leader role occupancy. One can argue that the individual differences promoting effectiveness also should promote leader emergence. Hogan, Curphy, & Hogan (1994) stated that "research on leader emergence

and leader effectiveness identifies the factors associated with someone being perceived as leaderlike" (p. 496). The attributes that contribute to effectiveness presumably should be encoded as part of follower-leader prototypes that form the basis for leader role nominations (Lord & Maher, 1991). Indeed, researchers in several studies have demonstrated significant overlap in the components of these prototypes and many listings of individual differences proposed as contributing to leader effectiveness (e.g., intelligence, dominance; cf. Keeney & Marchioro, 1998; Lord et al., 1986). However, Judge et al. (2002) found that although extraversion and openness exhibited effect sizes that were consistent with and similar to those of leader effectiveness and emergence, other personality attributes exhibited inconsistent relationships with these two sets of leadership criteria. Also, Luthans (1988) contrasted managers who were successful, as evidenced by rapid promotion rates, with managers who were effective, as defined by unit performance and subordinate motivation. This comparison, although not perfectly analogous to the distinction between leader emergence and effectiveness, does suggest differences between these two criteria that may correspond to differences in predictive individual differences.

The question of whether the leader attributes predicting leader emergence differ significantly from those predicting leader effectiveness represents an important issue for future research. Judge et al.'s (2002) meta-analysis of personality attributes and leadership suggests both consistency and differences in personal attributes; however, there is not yet an overarching conceptual framework that elucidates the common and unique characterological predictors of different leadership criteria and how these alternate criteria relate to one another. For the purposes of the present analysis, the aforementioned definition of leader traits does not vary across distinctions in leadership criteria.

The third component in this definition of leader traits specifies leader attributes as relatively enduring, producing cross-situational stability in leadership performance. Crosssituational consistency, or coherence (James & Mazerolle, 2002), is, of course, a central element of most personality trait approaches (Funder, 2001). However, most personality theorists, and certainly leadership researchers, accept that actual behavior varies considerably across situations. This variability has been the crux for pure situational or person-situation models in personality theory. A review and summary of this argument and its potential resolution is beyond the scope of this paper (see Funder, 2001; Funder & Oser, 1983). However, similar observations and arguments fueled the rise of situational and contingency models in leadership research. Yet, some of the same observations and arguments offered by theorists to counter the premises of situational models in personality also apply to situational leadership models and, accordingly, buttress leader trait models. For example, several researchers have noted that earlier statistical estimates of the low predictability of leader traits were inaccurate (Judge et al., 2002; Keeney & Marchioro, 1998; Lord et al., 1986). Also, observations of low cross-situational stability in leader emergence have not been supported in other experimental studies (Ferentinos,

1996; Zaccaro, Foti, & Kenny, 1991) or in reanalyses of the earlier research cited as evidence for situational specificity (Kenny & Zaccaro, 1983).

The offered definition of leader traits rests on the characteristics that distinguish effective leaders from nonleaders. An interesting question that has not received much attention in the research literature pertains to the qualities that distinguish effective leaders from other high-performing individuals. Effective leadership represents one form of high performance. The inherently social nature of leadership (Yukl, 2006; Zaccaro, 2004) may be the key factor that contrasts this form from other forms of high performance. Successful and effective leadership means, fundamentally, influencing others by establishing a direction for collective effort and managing, shaping, and developing the collective activities in accordance with this direction (Jacobs & Jaques, 1991; Zaccaro, 2001). Accordingly, the specification of corresponding leader traits and individual differences should be more grounded in social dynamics that characterize this form of high performance than other forms that derive from the more solitary endeavors of the performer. This specification does not argue, however, that effective leadership as high performance is completely distinct from other forms of high performance; effective problem-solving processes are likely to be important precursors of all types of achievement effectiveness, including leadership (Mumford, Zaccaro, Harding, et al., 2000; Zaccaro et al., 2000). The question of distinctions and commonalities between leadership as a form of high performance and other forms of successful achievement represents an interesting and important challenge for future research.

The enduring quality of leader attributes does not mean that they are immutable. Some leader attributes, particularly those described earlier as statelike, can be altered substantially through maturation, experience, and targeted training interventions. Indeed, the acquisition of leader skills and expertise occurs mostly through experience and training and often exhibits a constant evolution in effective leaders. However, other attributes, more traditionally traitlike in nature, are not likely to be as malleable. These differences point, again, to the situation as an important determinant of leadership growth and performance.

The Role of Situation

Although, in this article, I argue for renewed consideration of leader traits as important sources of variance in leader effectiveness, I do not, by any means, wish to minimize the importance of the leader's situation. Despite considerable research during a period of about 50 years, however, the role of the situation for the leader stills needs some clarity. Specifically, three arguments can be posed regarding the leader's situation (see the exchange of letters between Robert Sternberg and Victor Vroom [Sternberg & Vroom, 2002] that discuss related and broader issues regarding leader individual differences and leadership situations). First, as noted above, some individual differences exhibit strong cross-situational influences in their effects on performance, whereas others are more situationally related.

For example, leadership skills and expertise are likely to be more closely bound and constrained by situational requirements. Individuals with particular kinds of skills and expertise can, indeed, be leaders in one situation but not in others that require very different knowledge and technical skill sets. However, note that general or more cross-situational traits are likely to act as precursors to the development and attained level of particular skills and expertise. Accordingly, their influences on leader effectiveness are likely to be more distal, although still significant. Situational determinants become more salient for those leader attributes that are more proximal to performance.

The second argument regarding the leader situation reflects the crucial distinction between who the leader is and what the leader does to be effective (cf. Sternberg & Vroom, 2002). The behavioral acts that leaders need to display to perform effectively will vary widely across different situations. However, the same individuals can and do serve as leaders across situations that entail different performance requirements, and they do so effectively (Kenny & Zaccaro, 1983; Zaccaro, Foti, & Kenny, 1991). Leader effectiveness reflects, fundamentally, an ability to respond appropriately across different dynamic organizational requirements (Zaccaro, Gilbert, Thor, & Mumford, 1991). To do so, leaders need to be able to display an array of different approaches and styles to leadership. The crucial question then becomes whether leaders are capable of displaying significant behavioral variability; if not, then, indeed, persons can be leaders only in specific situations that are commensurate with their mix of attributes. However, several prominent leadership theories and models, including some situational perspectives, can accept as part of their basic premises both leader constancy and behavioral variability (e.g., Dansereau, Graen, & Haga, 1975; Hersey & Blanchard, 1969; House, 1971; Vroom & Yetton, 1973). Further, Hooijberg and colleagues (Hooijberg, 1996; Hooijberg & Quinn, 1992) argued that effective leaders have an expansive behavioral repertoire and can effectively apply the appropriate responses to different situations (see also Zaccaro, Gilbert, et al. 1991; Zaccaro, 2002). These studies support the argument that contextual parameters determine leadership behavior but may play less of a role in determining the leader role occupant.

The third argument about the leader situation follows from the second argument and, actually, refers to the specification of leader traits relative to situational dynamism. Most prominent and traditional treatments of leader traits assume behavioral constancy, that is, a trait presumably reflects a behavior pattern that remains stable across different types of situations. Recently, however, researchers have argued for traits and attributes of the leader that promote an ability to adapt and change one's behavior as the situation changes. These attributes include cognitive complexity, cognitive flexibility, metacognitive skills, social intelligence, emotional intelligence, adaptability, open-

¹ I want to acknowledge and thank an anonymous reviewer for raising this point.

ness, and tolerance for ambiguity (Boal & Whitehead, 1992; Kozlowski, Gully, Salas, & Cannon-Bowers, 1996; McCrae & Costa, 1987, 1990; Ployhart & Bliese, 2006; Streufert & Swezey, 1986; Zaccaro, 2001, 2002). These characteristics are enduring qualities of the leader, that is, traits that foster behavioral variability in response to situational variability. This point of view can account for both the importance of situational parameters as the primary source of variance in leadership behavior (i.e., what the leader does) and the importance of traits as the primary source of variance in leader role occupancy (i.e., who the leader is).

The Ebb and Flow of the Leader Trait Perspective

These views of leader traits and the leader situation have evolved from several earlier perspectives of leadership. Although the rise and fall (and rise, again) of leader traits often has been described in stark terms in most textbooks, the reality of their prominence in leadership research is more ambiguous (Day & Zaccaro, 2007). The decline in the popularity and esteem of the leader trait perspective is, perhaps, most traceable to Stogdill's (1948) review. After surveying research from 1904 to 1947, he stated, "The evidence suggests that leadership is a relation that exists between persons in a social situation, and that persons who are leaders in one situation may not necessarily be leaders in other situations" (p. 65). This statement (along with reviews by Bird, 1940, Jenkins, 1947, and Mann, 1959) has been cited ubiquitously as sounding the death knell for the leader trait perspective. Indeed, during the next 30 years, many textbooks disclaimed that leaders were different from followers in their personal attributes. Consider these examples:

Under one set of circumstances an individual will be a good leader and under others he will be a poor one. (Ghiselli & Brown, 1955, p. 47)

The conclusion . . . that leaders do not differ from followers in clear and easily recognized ways, remains valid. (Baron & Byrne, 1987, p. 405)

These observations prompted the movement to a more situational view of leadership. Some frameworks offered contingency models, emphasizing the interaction between traits and situations (Fiedler, 1964, 1971; Fiedler & Garcia, 1987), whereas others stressed primarily the leadership situation (e.g., House, 1971; Vroom & Yetton, 1973). However, Stogdill's (1948) next sentences, which appear in the same paragraph as his famous quote and have never been cited as far I know, stated the following:

Must it then be assumed that leadership is entirely incidental, haphazard, and unpredictable? Not at all. The very studies which provide the strongest arguments for the situational nature of leadership also supply the strongest evidence that leadership patterns as well as non-leadership patterns of behavior are persistent and relatively stable. (p. 65)

Accordingly, Stogdill, in his 1948 review and in his updated review (1974; see also a further update by Bass,

1990), listed several personal qualities that distinguish the "average person who occupies a position of leadership" from "the average member of his group" (Stogdill, 1948, p. 63). So do most of the other oft-cited reviews of leader qualities, such as the review in which Mann (1959) stated that "a number of relationships between an individual's personality and his leadership status in groups appear to be well established" (p. 252). However, these nuances and observations were lost in the shifting zeitgeist to situationism and interactionism in the 1950s and 1960s. This shift cannot be considered to have been entirely data driven. Although the observed associations between leader attributes and leadership criteria were not impressive, neither were they negligible, especially given the strong likelihood that their sizes were attenuated by a host of measurement errors and biases (Gibb, 1954; Zaccaro et al., 2004). Indeed, subsequent meta-analyses of leader characteristics and personality that were designed to correct for some of these attenuating factors consistently demonstrated significant effects (Day, Schleicher, Unckless, & Hiller, 2002; Judge et al., 2002; Keeney & Marchioro, 1998; Lord et al., 1986).

What about Stogdill's (1948) assertion that persons can be leaders in one situation but not necessarily in others? The premise of situational constancy in leader role occupancy was tested in a series of rotation design studies (Kenny & Zaccaro, 1983) in which aspects of the situation, such as group membership or group task, are altered, with situational variations presumably calling for different leader performance requirements. Team members are then evaluated on indices of leader emergence. Several early studies (Barnlund, 1962; Bell & French, 1950; Borgatta, Couch, & Bales, 1954; Carter & Nixon, 1949; Gibb, 1947) concluded, on the basis of their results, that leader emergence was indeed situationally grounded: Leaders in one situation did not tend to emerge in other situations. However, as in earlier leader attribute studies, both methodological and measurement issues attenuated the magnitude of these effects, as well. For example, all of these studies, with the exception of Barnlund (1962), failed to vary both group membership and group task, rendering them inadequate tests of the situational constancy argument. Regarding the Barnlund (1962) study, in which authors used the more complete design, Kenny and Zaccaro (1983) reexamined the data from this study using more sophisticated statistical models. They found that, contrary to Barnlund's (1962) original conclusions, between 49% and 82% of the variance in leader emergence could be attributed to properties of the leader. In other more recent studies, researchers reported similar conclusions from rotation designs that also varied task and group membership (Ferentinos, 1996; Zaccaro, Foti, & Kenny, 1991). Simply put, persons who emerge as leaders in one situation also emerge as leaders in qualitatively different situations.

Stogdill's (1948) review, although cited as evidence against leader traits, contained conclusions supporting an individual difference argument, as did Mann's (1959) study. In the subsequent meta-analyses of these earlier studies (e.g., Lord et al, 1986), and in the results of the

rotations design studies, researchers suggested that the earlier data on leader traits and outcomes were stronger than stated in most interpretations. Yet, in contravention to these findings, the shift in the leadership literature to a more situational or interactionist approach to leadership was fairly ubiquitous, certainly more than warranted by the data. Why was the shift to an alternate view so pervasive and long lasting in mainstream leadership literature? Day and Zaccaro (2007) argued that this changing zeitgeist in leadership research reflected the growing focus on leadership by social psychologists during the mid 1930s to the late 1940s. Led by Lewin's classic premise that behavior derives from person and environment factors, social psychologists emphasized the context as the predominant impetus for understanding most behavior. This orientation became applied to leadership.

The emergence of situational perspective in leadership studies dates from the research programs occurring at Ohio State University and the University of Michigan, and both programs reflected the influence of this social psychological perspective. For example, Ed Fleishman, one of the major contributors to the Ohio State University program, noted that Lewin's classic study of leadership climate (Lewin, Lippitt, & White, 1939) greatly influenced his own dissertation (also a classic; E. A. Fleishman, personal communication, April 14, 2003). The suggestion of this focus to Fleishman came from John Hemphill, who, during his graduate career, was, in turn, mentored by a social psychologist. The University of Michigan program also reflected this perspective through the leadership studies of Daniel Katz (Katz, Maccoby, Gurin, & Floor, 1951; Katz, Maccoby, & Morse, 1950) as well as the Institute of Social Research, which was attended by several of Lewin's students.

Although the prevailing zeitgeist in the leadership literature from 1950 to 1980 was predominantly situational, individual differences still were evident in several research lines,

particularly in the practices of industrial psychologists. This research tended to take place with organizational managers using advancement and promotion as criteria. Research by Miner (1978) and McClelland and Boyatzis (1982) provided evidence linking motivational traits to managerial advancement and effectiveness. Bray, Campbell, and Grant (1974) conducted longitudinal research linking attributes such as achievement motivation, interpersonal skills, intelligence, and administrative skills to levels of attained positions 20 years later. Looking at failure to advance, McCall and Lombardo (1983) identified managerial attributes that derailed rising executives from attaining high positions.

In these and other studies (e.g., Bentz, 1967; Boyatzis, 1982), researchers provided substantial empirical evidence that supported trait-based leadership perspectives. However, with some exceptions, this research tradition tended to be atheoretical, without a systematic conceptual framework that explained how or why particular leader attributes were to be associated with targeted leadership criteria. This lack may have diminished the potential influence of the attributes on the stream of leadership thought. Indeed, the paucity of conceptual models relating leader characterological attributes to leadership processes and outcomes has been an early and ongoing problem (Zaccaro et al., 2004). These models need to specify how different leader attributes operate in joint or multiplicative ways to affect leadership outcomes as well as to provide mediating mechanisms by which such attributes exert influence.

A Model of Leader Traits and Leadership

Zaccaro et al. (2004) offered a model of how leader attributes influence indicators of leader performance. This model, shown in Figure 1, is based on other models of

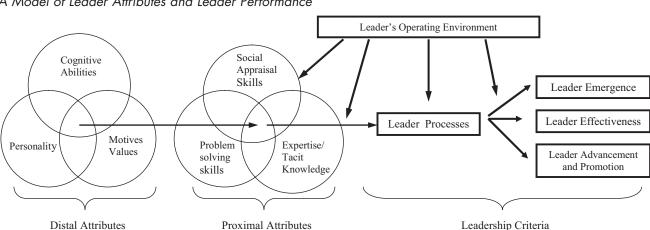


Figure 1A Model of Leader Attributes and Leader Performance

Note. From "Leader Traits and Attributes," by S. J. Zaccaro, C. Kemp, & P. Bader, 2004, in J. Antonakis, A. T. Cianciolo, and R. J. Sternberg (Eds.), The Nature of Leadership (p. 122), Thousand Oaks, CA: Sage. Copyright 2004 by Sage Publications. Reprinted with permission.

leader individual differences and performance (Mumford, Zaccaro, Harding, Fleishman, & Reiter-Palmon, 1993; Mumford, Zaccaro, Harding, et al., 2000) and rests on several tested premises about leader traits. The first premise argues that leadership emerges from the combined influence of multiple traits. However, although many recent studies have taken a multivariate approach to maximize explained variance in leadership (e.g., Connelly et al., 2000; Hammerschmidt & Jennings, 1992; Judge et al., 2002), few studies have taken an integrated approach to describe how multiple traits are combined in optimal ways to jointly influence leadership. Zaccaro (2001) argued that effective executive leadership derived from an integrated set of cognitive abilities, social capabilities, and dispositional tendencies, with each set of traits contributing to the influence of the other. For example, although leaders may have the cognitive ability to derive complex mental representations of their operational environment, a low tolerance for ambiguity or low need for achievement may mitigate the leader's use of such abilities to solve organizational problems. Likewise, high intelligence that can be useful in problem construction and solution generation will be useless for leader effectiveness if the leader also does not have the social capacities to implement generated solutions.

In several recent studies, researchers have offered some evidence for the efficacy of this trait pattern approach to leadership (Bader, Zaccaro, & Kemp, 2004; Kemp, Zaccaro, Jordan, & Flippo, 2004; Smith & Foti, 1998). Kemp et al. (2004) assessed metacognition, tolerance for ambiguity, and social intelligence in military officers and found that rated performance on a 3-day decision-making simulation was stronger for officers who exhibited high levels of all three attributes. Officers who displayed lower scores on one or two of these attributes performed no more effectively than did officers who were low on all three attributes. Similar trait pattern findings in which researchers used different leader attributes have been reported by Bader et al. (2004) and Smith and Foti (1998).

A related line of research refers to leader types. Although this research has been limited in number, in some studies researchers have demonstrated how different combinations or patterns of individual differences influence leadership. McCaulley (1990) examined distinctions among the 16 types composing the Myers-Briggs Type Indicator (Myers, 1962; Myers & McCaulley, 1985) across levels of successful and unsuccessful leaders. Using these data, Zaccaro (2001) noted that intuitive/thinking types were somewhat more prevalent at higher organizational levels (Jacobs & Jaques, 1991). Bray et al. (1974) associated differences in leader types with career tendencies to embrace new experiences and learn from them. Mumford et al. (2000) identified seven different leader types among Army officers. Three of the types were more characteristic of upper level officers, whereas differences in problemsolving skills and patterns of career development were discerned across the seven types. In these studies, researchers argue for a more sustained focus on leader types. For example, are there generic leader types that (a) are exhibited consistently across different organizational contexts and (b) demonstrate consistent relationships with leadership criteria across these contexts? Also, what are the dynamics and conceptual connections that bind different characteristics to particular types, and how do these connections relate, conceptually, to leadership criteria? The studies to date suggest that future efforts at examining and addressing these and other related questions can provide a promising frontier in research on leader traits and attributes.

The model in Figure 1 defines several integrated sets of leader attributes, including cognitive capacities, personality or dispositional qualities, motives and values, problem-solving skills, social capacities, and tacit knowledge (Mumford, Zaccaro, Harding, et al., 2000). Reviews by Bass (1990), Zaccaro (2001), Zaccaro et al. (2004), and Yukl (2006) have specified the particular attributes that belong in each of these sets. For example, cognitive capacities include general intelligence, cognitive complexity, and creativity. Dispositional attributes include adaptability, extroversion, risk propensity, and openness. Motives and values include need for socialized power, need for achievement, and motivation to lead. Social capacities include social and emotional intelligence as well as persuasion and negotiation skills. Problem-solving skills include metacognition, problem construction and solution generation, and self-regulation skills. This list is by no means exhaustive; readers are referred to the references noted previously in this paragraph for more extensive treatments of specific leader attributes.

As noted previously, some of these characteristics are more situationally bound than others. For example, the weighted contributions of certain leadership skills vary across different situations. Likewise, expertise and tacit knowledge are even more strongly linked to situational performance requirements. Nonetheless, several cognitive, social, and dispositional variables will exert a constant, stable, and significant influence on leadership, relatively independent of situational influences (see reviews by Bass, 1990; Zaccaro, 2001; Zaccaro et al., 2004; see also meta-analyses by Judge & Bono, 2000; Judge et al., 2002; Lord et al., 1986).

Another premise of the model in Figure 1 argues that leader traits differ in their proximal influence on leadership. This model is a multistage one in which certain distal attributes serve as more universal precursors for the growth and development of more situationally bound and proximal personal characteristics (Ackerman & Humphreys, 1990; Barrick, Mitchell, & Stewart, 2003; Chen et al., 2000; Hough & Schneider, 1996; Kanfer, 1990, 1992; Mumford, Zaccaro, Harding, et al., 2000). These attributes serve as foundational or basic qualities that promote core effectiveness across most generic leadership situations. Proximal traits include attributes such as problem-solving skills, social appraisal and interaction skills, and knowledge. The leader trait model specifies the proximal traits as precursors to leadership processes that, in turn, predict leadership outcomes. Situational influences help determine the weighted contribution of particular skills (Yukl, 2006). For example, changes in performance requirements across organizational levels will alter the importance or contribution of particular traits and trait patterns (Hunt, 1991; Zaccaro, 2001). Likewise, certain group parameters (such as cohesion and collective expertise) and certain organizational variables (such as degree of formalization, types of structure, and support for innovation) can inhibit or constrain the practice of leadership, regardless of particular leader qualities (Kerr & Jermier, 1978). Situational influences, then, moderate (a) the effects of specific proximal attributes (e.g., expertise) on leadership processes and (b) the effects of processes on leadership outcomes (Zaccaro et al., 2004). The quality and level of these proximal skills, however, are fundamentally defined by more universal distal traits.

This model, then, integrates situational influences into a framework that remains grounded in the stable individual differences distinguishing leaders from nonleaders. However, as noted previously, the role of the leader's situation and of situation moderators remains ambiguous. In future studies, researchers need to disentangle the importance of context as a factor in the relationships between leader attributes and performance. Although Fiedler's (1964, 1971) contingency model provided an important perspective on this issue, Zaccaro and Klimoski (2001) defined the leadership context in broader terms. They argued that theories of organizational leadership need to specify more clearly how context shapes the performance requirements for leaders and how attributes of leaders promote consistent effectiveness across varying organizational requirements.

Leader Traits and Leader Development

The model in Figure 1 describes how leader traits and attributes shape subsequent leader performance and other leadership criteria. As expected, the relationship is not simple or direct. The influences of distal attributes are mediated by proximal attributes, whereas the effects of the latter are mediated by leadership processes and are moderated by aspects of the leader's operating environment. Note that distal attributes provide the foundation for the emergence and growth of proximal attributes as well as the level of their display by leaders. This is a complex model of leader attributes and performance, and many of its proposed categorical linkages have received limited tests. Accordingly, in future studies, researchers need to focus on expanding and testing parts of this model.

The model in Figure 1 suggests several implications for leader development. Distal or foundational attributes are likely to be relatively immune to most typical leader development interventions. These interventions emphasize proximal attributes such as skills and requisite behavior patterns. Systematic and long-term interventions may have some impact on distal attributes: For example, the Army leader development system has a career-long perspective that emphasizes different courses and operational assignments as a leader ascends the organizational ranks. However, the question remains open (and is an important focus for future research) as to whether such a system can, indeed, foster changes in fundamental qualities such as

cognitive complexity, social intelligence, and openness to experience.

Because distal attributes tend to be relatively immutable, most companies are likely to assess a candidate's readiness for leader development on the basis of his or her level of attainment on such qualities (Zaccaro, Wood, & Herman, 2006). However, subsequent interventions will tend to focus on development and change in particular skills, competencies, and expertise, which are defined as contributors to effective leadership in future anticipated roles. That is, proximal attributes, such as these qualities, are more malleable and susceptible to sustained and systematic intervention. Recent treatises (Day, 2000; Day, Zaccaro, & Halpin, 2004; McCauley & Van Velsor, 2004; Mumford, Marks, Connelly, Zaccaro, & Reiter-Palmon, 2000; Zaccaro & Banks, 2004; Zaccaro et al., 2006) speak more fully to the role of development in shaping growth in leader attributes and leadership capacity. Different types of developmental assignments, particularly those that stretch the existing expertise and capabilities of the leader (McCauley, Eastman, & Ohlott, 1995; Ohlott, 2004), will have varying effects on different sets of leader skills. The timing of these assignments, relative to emerging leader performance requirements, also will determine their efficacy in shaping the development of particular leader attributes (Mumford, Zaccaro, Johnson, et al., 2000; Zaccaro et al., 2006). These propositions remain important issues for future research on leader traits. Specifically, researchers need to do more empirical studies to examine precisely how different developmental interventions promote growth in particular leader qualities and what training strategies are most suited for particular sets of proximal leader attributes.

In this article, I have discussed leader traits primarily as precursors to leader effectiveness. However, certain personal attributes promote how leaders learn and grow from experience. Indeed, Tesluk and Jacobs (1998) defined several means by which individual differences can influence experiencebased development. Traits such as openness to experience and risk tolerance can determine the likelihood that individuals will approach and accept developmental or stretching assignments. Also, cognitive and motivational attributes, such as metacognitive skills, self-regulation skills, mastery motives, and learning goal orientation, may influence how much knowledge and information a leader derives from his or her experience. Along this line, Banks, Bader, Fleming, Zaccaro, and Barber (2001) reported that developmental work experiences resulted in tacit knowledge gains in Army officers only when they had the requisite metacognitive skills and cognitive complexity to interpret the lessons offered by such experiences. Thus, traits and attributes are important not only for the leader's present effectiveness but also for acquiring, from training and experience, the kinds of more situationally based and proximal skills that are likely to predict effectiveness in future contexts that reflect more complex performance requirements (Mumford, Marks, et al., 2000; Zaccaro et al., 2006).

Conclusion

I have made five arguments in this article. First, the prior rejection of trait-based approaches was not sufficiently founded on empirical bedrock. Second, a substantial and growing empirical research base argues for traits that are significant precursors of leadership effectiveness. Third, combinations of traits and attributes, integrated in conceptually meaningful ways, are more likely to predict leadership than are independent contributions of multiple traits. Fourth, dominant leader trait patterns are likely to be those that reflect an individual's stable tendency to lead in different ways across disparate organizational domains. Finally, some leader traits have more distal influences on leadership processes and performance, whereas others have more immediate effects that are integrated with, and influenced by, situational parameters.

Despite the long history of the trait-based approach and its recent resurgence, a consensus about the role of leader traits, the magnitude and mechanisms of their influence, and the determining role of leadership situations has remained elusive. In the arguments offered here, I mean to provide a basis for more conceptually driven and sophisticated research. Throughout this article, I have offered a number of possible future directions. Such research, paired with the methodological and statistical innovations that, in part, fueled the resurgence in the study of leader traits, may provide the means of defining the basis for the extraordinary qualities of effective leaders.

REFERENCES

- Ackerman, P., & Humphreys, L. G. (1990). Individual differences theory in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 1, pp. 223–282). Palo Alto, CA: Consulting Psychologists Press.
- Bader, P. K., Zaccaro, S. J., & Kemp, C. F. (2004, April). Predicting leader adaptability with leader trait patterns. Poster presented at the 19th annual meeting of the Society for Industrial and Organizational Psychology, Chicago.
- Banks, D., Bader, P., Fleming, P., Zaccaro, S. J., & Barber, H. (2001, April). Leader adaptability: The role of work experiences and individual differences. Paper presented at the 16th annual meeting of the Society for Industrial and Organizational Psychology, San Diego, CA.
- Barnlund, D. C. (1962). Consistency of emergent leadership in groups with changing tasks and members. *Speech Monographs*, 29, 45–52.
- Baron, R. A., & Byrne, D. (1987). Social psychology: Understanding human interaction (5th ed.). Boston: Allyn & Bacon.
- Barrick, M. R., Mitchell, T. R., & Stewart, G. L. (2003). Situational and motivational influences on trait–behavior relationships. In M. R. Barrick & A. M. Ryan (Eds.), *Personality and work: Reconsidering the* role of personality in organizations (pp. 60–82). San Francisco: Jossey-Bass.
- Bass, B. M. (1990). Bass and Stogdill's handbook of leadership: Theory, research, and managerial applications (3rd ed.). New York: Free Press.
- Bell, G. B., & French, R. L. (1950). Consistency of individual leadership position in small groups of varying membership. *Journal of Abnormal* and Social Psychology, 45, 764–767.
- Bentz, V. J. (1967). The Sears experience in the investigation, description, and prediction of executive behavior. In F. R. Wickert & D. E. Mc-Farland (Eds.), *Measuring executive effectiveness* (pp. 147–206). New York: Appleton-Century-Crofts.
- Bird, C. (1940). Social psychology. New York: Appleton-Century.
- Blum, M. L., & Naylor, J. C. (1956). Industrial psychology: Its theoretical and social foundations. New York: Harper & Row.
- Boal, K., & Whitehead, C. J. (1992). A critique and extension of the stratified systems theory perspective. In R. L. Phillips & J. G. Hunt (Eds.), Strategic leadership: A multi-organizational perspective (pp. 237–255). Westport, CT: Quorum Books.
- Borgatta, E. F., Couch, A. S., & Bales, R. F. (1954). Some findings

- relevant to the great man theory of leadership. *American Sociological Review*, 19, 755–759.
- Boyatzis, R. R. (1982). The competent manager: A model for effective performance. New York: Wiley.
- Bray, D. W., Campbell, R. J., & Grant, D. L. (1974). Formative years in business: A long term AT&T study of managerial lives. New York: Wilev.
- Carlyle, T. (1849). On heroes, hero-worship, and the heroic in history. Boston: Houghton-Mifflin.
- Carter, L. F., & Nixon, M. (1949). An investigation of the relationship between four criteria of leadership ability for three different tasks. *The Journal of Psychology*, 27, 245–261.
- Cattell, R. B. (1965). *The scientific analysis of personality*. Baltimore: Penguin.
- Chen, G., Gully, S. M., Whiteman, J., & Kilcullen, R. N. (2000). Examination of relationships among trait-like individual differences, state-like individual differences, and learning performance. *Journal of Applied Psychology*, 85, 835–847.
- Connelly, M. S., Gilbert, J. A., Zaccaro, S. J., Threlfall, K. V., Marks, M. A., & Mumford, M. D. (2000). Cognitive and temperament predictors of organizational leadership. *Leadership Quarterly*, 11, 65–86.
- Dansereau, F., Jr., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior* and Human Performance, 13, 46–78.
- Day, D. V. (2000). Leadership development: A review in context. Leadership Quarterly, 11, 581–613.
- Day, D. V., Schleicher, D. J., Unckless, A. L., & Hiller, N. J. (2002). Self-monitoring personality at work: A meta-analytic investigation of construct validity. *Journal of Applied Psychology*, 87, 390–401.
- Day, D. V., & Zaccaro, S. J. (2007). Leadership: A critical historical analysis of the influence of leader traits. In L. L. Koppes (Ed.), Historical perspectives in industrial and organizational psychology (pp. 383–405). Mahwah, NJ: Erlbaum.
- Day, D. V., Zaccaro, S. J., & Halpin, S. M. (Eds.). (2004). Leader development for transforming organizations: Growing leaders for tomorrow. Mahwah, NJ: Erlbaum.
- Ferentinos, C. H. (1996). Linking social intelligence and leadership: An investigation of leaders' situational responsiveness under conditions of changing group tasks and membership. Dissertation Abstracts International. B: The Physical Sciences & Engineering, 57(4B), 2920.
- Fiedler, F. E. (1964). A contingency model of leadership effectiveness. In
 L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 1, pp. 149–190). New York: Academic Press.
- Fiedler, F. E. (1971). Validation and extension of the contingency model of leadership effectiveness. A review of the empirical findings. *Psy*chological Bulletin, 76, 128–148.
- Fiedler, F. E., & Garcia, J. E. (1987). New approaches to effective leadership: Cognitive resources and organizational performance. New York: Wiley.
- Fleishman, E. A., & Harris, E. F. (1962). Patterns of leadership behavior related to employee grievances and turnover. *Personnel Psychology*, 15, 43–56.
- Fleishman, E. A., Mumford, M. D., Zaccaro, S. J., Levin, K. Y., Korotkin, A. L., & Hein, M. B. (1991). Taxonomic efforts in the description of leader behavior: A synthesis and functional interpretation. *Leadership Quarterly*, 2, 245–287.
- Fleishman, E. A., & Peters, D. R. (1962). Interpersonal values, leadership attitudes, and managerial success. *Personnel Psychology*, 15, 127–143.
- Funder, D. C. (2001). The personality puzzle (2nd ed.). New York: Norton.
- Funder, D. C., & Oser, D. J. (1983). Behavior as a function of the situation. *Journal of Personality and Social Psychology*, 44, 107–112.
 Galton, F. (1869). *Hereditary genius*. New York: Appleton.
- Ghiselli, E. E. (1963). Intelligence and managerial success. *Psychological Reports*, 12, 898.
- Ghiselli, E. E., & Brown, C. W. (1955). Personnel and industrial psychology (2nd ed.). Columbus, OH: McGraw-Hill.
- Gibb, C. A. (1947). The principles and traits of leadership. *Journal of Abnormal & Social Psychology*, 4, 267–284.
- Gibb, C. A. (1954). Leadership. In G. Lindzey (Ed.), Handbook of social psychology (Vol. 2, pp. 877–920). Cambridge, MA: Addison-Wesley.

- Guilford, J. P. (1975). Factors and factors of personality. Psychological Bulletin, 82, 802–814.
- Hammerschmidt, P. K., & Jennings, A. C. (1992). The impact of personality characteristics on leadership effectiveness ratings. In K. E. Clark, M. B. Clark, & D. P. Campbell (Eds.), *Impact of leadership* (pp. 469–475). Greensboro, NC: Center for Creative Leadership.
- Harris, E. F., & Fleishman, E. A. (1955). Human relations training and the stability of leadership patterns. *Journal of Applied Psychology*, 39, 20–35.
- Hersey, P., & Blanchard, K. H. (1969). Management of organizational behavior. Englewood Cliffs, NJ: Prentice-Hall.
- Hogan, R., Curphy, G. J., & Hogan, J. (1994). What we know about leadership: Effectiveness and personality. *American Psychologist*, 49, 403–504
- Hooijberg, R. (1996). A multidirectional approach toward leadership: An extension of the concept of behavioral complexity. *Human Relations*, 49, 917–946.
- Hooijberg, R., & Quinn, R. E. (1992). Behavioral complexity and the development of effective managers. In R. L. Phillips & J. G. Hunt (Eds.), Strategic leadership: A multi-organizational level perspective (pp. 161–176). Westport, CT: Quorum.
- Hough, L. M., & Schneider, R. J. (1996). Personality traits, taxonomies, and applications in organizations. In K. R. Murphy (Ed.), *Individual differences and behavior in organizations* (pp. 31–88). San Francisco: Jossey-Bass.
- House, R. J. (1971). A path goal theory of leader effectiveness. Administrative Science Quarterly, 16, 321–339.
- House, R. J. (1977). A 1976 theory of charismatic leadership. In J. G.
 Hunt & L. Larson (Eds.), *Leadership: The cutting edge* (pp.189–207).
 Carbondale, IL: Southern Illinois University Press.
- House, R. J. (1988). Power and personality in organizations. Research in Organizational Behavior, 10, 305–357.
- Hunt, J. G. (1991). Leadership: A new synthesis. Newbury Park, CA: Sage.
- Jacobs, T. O., & Jaques, E. (1990). Military executive leadership. In K. E.
 Clark & M. B. Clark (Eds.), *Measures of leadership* (pp. 281–295).
 Greensboro, NC: Center for Creative Leadership.
- James, L. R., & Mazerolle, M. D. (2002). Personality in work organizations. Thousand, Oaks, CA: Sage.
- Jenkins, W. O. (1947). A review of leadership studies with particular reference to military problems. *Psychological Bulletin*, 44, 54–79.
- Judge, T. A., & Bono, J. E. (2000). Five-factor model of personality and transformational leadership. *Journal of Applied Psychology*, 85, 751– 765
- Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, 87, 765–780.
- Kanfer, R. (1990). Motivation theory and industrial and organizational psychology. In M. D. Dunnette & L. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 1, pp. 75–170). Palo Alto, CA: Consulting Psychologists Press.
- Kanfer, R. (1992). Work motivation: New directions in theory and research. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (Vol. 7, pp. 1–53). New York: Wiley.
- Katz, D., Maccoby, N., Gurin, G., & Floor, L. (1951). Productivity, supervision, and morale among railroad workers. Ann Arbor, MI: Institute for Social Research.
- Katz, D., Maccoby, N., & Morse, N. (1950). Productivity, supervision, and morale in an office situation. Ann Arbor, MI: Institute for Social Research.
- Keeney, M. J., & Marchioro, C. A. (1998, April). A meta-analytic review of the traits associated with leadership emergence: An extension of Lord, De Vader, and Alliger (1986). Paper presented at the 13th annual meeting of the Society for Industrial and Organizational Psychology, Dallas, TX.
- Kemp, C. F., Zaccaro, S. J., Jordan, M., & Flippo, S. (2004, April). Cognitive, social, and dispositional influences on leader adaptability. Poster presented at the 19th annual meeting of the Society for Industrial and Organizational Psychology, Chicago.
- Kenny, D. A., & Zaccaro, S. J. (1983). An estimate of variance due to traits in leadership. *Journal of Applied Psychology*, 68, 678–685.

- Kerr, S., & Jermier, J. M. (1978). Substitutes for leadership. Organizational Behavior and Human Performance, 22, 375–403.
- Kirkpatrick, S. A., & Locke, E. A. (1991). Leadership: Do traits matter? Academy of Management Executive, 5, 48–60.
- Kozlowski, S. W. J., Gully, S. M., Salas, E., & Cannon-Bowers, J. A. (1996). Team leadership and development: Theory, principles, and guidelines for training leaders and teams. In M. M. Beyerlein, D. Johnson, & S. T. Beyerlein (Eds.), Advances in interdisciplinary studies of work teams: Team leadership (Vol. 3, pp. 253–291). Greenwich, CT: JAI Press.
- Lewin, K., Lippitt, R., & White, R. K. (1939). Patterns of aggressive behavior in experimentally created social climates. *Journal of Social Psychology*, 10, 271–299.
- Lord, R. G., De Vader, C. L., & Alliger, G. M. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. *Journal of Applied Psychology*, 71, 402–410.
- Lord, R. G., & Maher, K. J. (1991). Leadership and information processing: Linking perceptions and performance. Boston: Unwin-Hyman.
- Luthans, F. (1988). Successful vs. effective real managers. Academy of Management Executive, 2, 127–132.
- Mann, R. D. (1959). A review of the relationship between personality and performance in small groups. *Psychological Bulletin*, 56, 241–270.
- McCall, M. W., Jr., & Lombardo, M. M. (1983). Off the track: Why and how successful executives get derailed. Greensboro, NC: Center for Creative Leadership.
- McCauley, C. D., & Van Velsor, E. (Eds.). (2004). *Handbook of leader-ship development* (2nd ed.). San Francisco: Jossey-Bass.
- McCauley, C. D., Eastman, L. J., & Ohlott, P. J. (1995). Linking management selection and development through stretch assignments. *Human Resource Management*, 43, 93–115.
- McCaulley, M. H. (1990). The Myers-Briggs Type Indicator and leadership. In K. E. Clark & M. B. Clark (Eds.), *Measures of leadership* (pp. 381–418). West Orange, NJ: Leadership Library of America.
- McClelland, D. C., & Boyatzis, R. E. (1982). Leadership motive pattern and long-term success in management. *Journal of Applied Psychology*, 67, 737–743.
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality* and Social Psychology, 52, 81–90.
- McCrae, R. R., & Costa, P. T., Jr. (1990). *Personality in adulthood*. New York: Guilford Press.
- Miner, J. B. (1978). Twenty years of research on role motivation theory of managerial effectiveness. *Personnel Psychology*, 31, 739–760.
- Moss, F. A. (1931). Preliminary report of a study of social intelligence and executive ability. *Public Personnel Studies*, 9, 2–9.
- Muchinsky, P. M. (1983). Psychology applied to work. Homewood, IL: Dorsey Press.
- Mumford, M. D., Marks, M. A., Connelly, M. S., Zaccaro, S. J., & Reiter-Palmon, R. (2000). Development of leadership skills: Experience and timing. *Leadership Quarterly*, 11, 87–114.
- Mumford, M. D., Zaccaro, S. J., Harding, F. D., Fleishman, E. A., & Reiter-Palmon, R. (1993). Cognitive and temperament predictors of executive ability: Principles for developing leadership capacity. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.
- Mumford, M. D., Zaccaro, S. J., Harding, F. D., Jacobs, T. O., & Fleishman, E. A. (2000). Leadership skills for a changing world: Solving complex social problems. *Leadership Quarterly*, 11, 11–35.
- Mumford, M. D., Zaccaro, S. J., Johnson, J. R., Diana, M., Gilbert, J. A., & Threlfall, K. V. (2000). Patterns of leader characteristics: Implications for performance and development. *Leadership Quarterly*, 11, 115–133.
- Myers, I. B. (1962). The Myers-Briggs Type Indicator. Palo Alto, CA: Consulting Psychologists Press.
- Myers, I. B., & McCaulley, M. H. (1985). Manual: A guide to the development and use of the Myers-Briggs Type Indicator. Palo Alto, CA: Consulting Psychologists Press.
- Ohlott, P. (2004). Job assignments. In C. D. McCauley & E. Van Velsor (Eds.), The Center for Creative Leadership handbook of leadership development (pp. 151–182). San Francisco: Wiley.

- Pervin, L. A. (1994). A critical analysis of current trait theory. *Psychological Inquiry*, 5, 103–113.
- Peterson, R. S., Smith, D. B., Martorana, P. V., & Owens, P. D. (2003). The impact of chief executive personality in top management team dynamics: One mechanism by which leadership affects organizational performance. *Journal of Applied Psychology*, 88, 795–808.
- Ployhart, R. E., & Bliese, P. D. (2006). Individual ADAPTability (I-ADAPT) theory: Conceptualizing the antecedents, consequences, and measurement of individual differences in adaptability. In S. Burke, L. Pierce, & E. Salas (Eds.), Understanding adaptability: A prerequisite for effective performance within complex environments (pp. 3–39). St. Louis, MO: Elsevier Science.
- Secord, P. F., & Backman, C. W. (1974). Social psychology (2nd ed.). New York: McGraw-Hill.
- Smith, J. A., & Foti, R. J. (1998). A pattern approach to the study of leader emergence. *Leadership Quarterly*, 9, 147–160.
- Sternberg, R. J., & Vroom, V. (2002). The person versus the situation in leadership. *The Leadership Quarterly*, 13, 301–323.
- Stogdill, R. M. (1948). Personal factors associated with leadership: A survey of the literature. *Journal of Psychology*, 25, 35–71.
- Stogdill, R. M. (1974). *Handbook of leadership* (1st ed.) New York: Free Press.
- Streufert, S., & Swezey, R. W. (1986). Complexity, managers, and organizations. Orlando, FL: Academic Press.
- Tesluk, P. E., & Jacobs, R. R. (1998). Toward an integrated model of work experience. *Personnel Psychology*, 51, 321–355.
- Vroom, V. H., & Yetton, P. W. (1973). Leadership and decision-making. Pittsburgh, PA: University of Pittsburgh Press.
- Yukl, G. A. (2006). Leadership in organizations (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Yukl, G. A., & Van Fleet, D. D. (1992). Theory and research on leadership in organizations. In M. Dunnette & L. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 3, pp. 142–197). Palo Alto, CA: Consulting Psychologists Press.
- Zaccaro, S. J. (2001). The nature of executive leadership: A conceptual

- and empirical analysis of success. Washington, DC: American Psychological Association.
- Zaccaro, S. J. (2002). Organizational leadership and social intelligence. In R. Riggio (Ed.), *Multiple intelligences and leadership* (pp. 29–54). Mahwah. NJ: Erlbaum.
- Zaccaro, S. J. (2004). Leadership. In C. Peterson & M. E. P. Seligman (Eds.), Character strengths and virtues (pp. 413–428). Oxford, England, and Washington, DC: Oxford University Press and American Psychological Association.
- Zaccaro, S. J., & Banks, D. (2004). Leader visioning and adaptability: Bridging the gap between research and practice on developing the ability to manage change. *Human Resource Management Journal*, 43, 367–380
- Zaccaro, S. J., Foti, R. J., & Kenny, D. A. (1991). Self-monitoring and trait-based variance in leadership: An investigation of leader flexibility across multiple group situations. *Journal of Applied Psychology*, 76, 308–315
- 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, 317–331.
- Zaccaro, S. J., Kemp, C., & Bader, P. (2004). Leader traits and attributes. In J. Antonakis, A. T. Cianciolo, and R. J. Sternberg (Eds.), *The nature of leadership* (pp. 101–124). Thousand Oaks, CA: Sage.
- Zaccaro, S. J., & Klimoski, R. (2001). The nature of organizational leadership. In S. J. Zaccaro & R. Klimoski (Eds.), The nature of organizational leadership: Understanding the performance imperatives confronting today's leaders (pp. 3–41). San Francisco: Jossey-Bass.
- Zaccaro, S. J., Mumford, M. D., Connelly, M. S., Marks, M. A., Gilbert, J. A., & Threlfall, V. (2000). The assessment of leader problem-solving capabilities. *Leadership Quarterly*, 11, 37–64.
- Zaccaro, S. J., Wood, G., & Herman, J. (2006). Developing the adaptive and global leader: HRM strategies within a career-long perspective. In R. J. Burke & C. L. Cooper (Eds.), *The human resources revolution:* Why putting people first matters (pp. 277–302). Amsterdam: Elsevier.