The Pennsylvania State University

The Graduate School

Department of Psychology

IT'S JUST GOOD LEADERSHIP, OR IS IT?

THE ROLE OF BEHAVIORAL RELEVANCE

A Dissertation in

Psychology

by

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Submitted in Partial Fulfillment

of the Requirements

for the Degree of

Doctor of Philosophy

August 2016

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ABSTRACT

The enduring pursuit of leadership theorists is to explain how and why leaders are able to consistently produce high quality outcomes. In response to rapidly evolving workplace environments, a growing stream of research focuses on how leaders adapt. The underlying assumption of these theories is that leaders who apply relevant behaviors in response to rapidly changing contexts are more successful. This paper examines this assumption, providing support that suggests the need to account for the relevance of leader behaviors while also preserving a traditional focus upon the value leaders produce for followers and their organizations. Results from latent profile analysis and hierarchical regression of a large field sample demonstrate the importance of accounting for the unique information provided by diverse rating sources. Evidence suggests followers are best suited to assess interpersonal interactions with leaders, whereas peers are better judges of how the leader contributes value to the organization. Practical applications and recommendations for continuing research are also provided.

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ACKNOWLEDGEMENTS

Shaping this effort into its final form has involved the contributions of many individuals. Portions of this manuscript have been written and discussed at dining room tables and borrowed desks of dear friends and family (whilst enjoying an impressive amount of coffee and epicurean delights). To avoid leaving anyone out, I'd like to begin by expressing a hearty thank you to all!

To my committee, you challenged me in a way that stretched me to achieve something that otherwise would have never been. Susan Mohammed tested my assumptions, questioned my arguments, and guided me to write with clarity and purpose. Without this guidance early in the process, this effort would surely remain as a collection of ideas and diagrams in my notebook. James LeBreton's curiosity and fascination with empirical models and analysis provided valuable insights to test my ideas about leader behavior in organizations. His efforts help build the supporting evidence needed. Christian Brady offered crucial, broad level perspectives related to the everyday challenges of leading an organization, the competing demands for leaders' talents, and posed questions that reflected his expertise as an academic and practitioner. To all of you, thank you!

Rick Jacobs served as my committee chair, advisor, and trusted sounding board. He endured a barrage of incomplete ideas while demonstrating supreme patience amidst countless demands for my time. A mentor in the truest sense, he asked the kinds of questions that led me to discover the next steps. I learned a lot by watching him, and hope to have the opportunity to guide developing minds this same way. I trust the lessons I

have learned from him will contribute to inspiring those that follow in our footsteps. A heartfelt thank you is indeed warranted.

It is equally important to recognize the contributions of Kaiser Leadership Solutions to this study. I am particularly thankful to Robert Kaiser for his willingness to entertain my questions, share his expertise, and provide me with access to a rich dataset.

There are a number of individuals that transcended the boundaries from being professional colleagues to also being true friends. You listened, provided mutual support, and helped keep the challenges of this marathon experience in perspective. Robert "Jeff" Jackson inspired this journey from its infancy. As a trustworthy friend and encouraging mentor he is truly missed. Doug Lindsay helped me discover the right program, introduced me to my future advisor, and was faithful friend, confidante, and respected editor. As a fellow graduate student, Brad Jayne served without equal. I never imagined that it was possible to drink that much coffee, yet we did. Like the steps along the path to completing this graduate experience, we did it one cup at a time. I will forever remember his friendship, his willing spirit to help, and his enduring delight in the ephemeral and inglorious pun. Likewise, I'd like to extend a special thank you to my fellow graduate students, particularly to the occupants of 630 Moore. We lived this experience together— papers and presentations, study sessions, pointless distractions, the occasional rant, the unavoidable woes, and the great challenges we overcame together. To all of you, may you be blessed with the garlands of victory so richly deserved.

For their dedication I owe my family the greatest debt of gratitude. My wife Melissa has blessed me beyond measure. She is my greatest friend, continues to inspire

me, and constantly reminds me of all that truly matters in life. To my little ones, it is truly

an honor to be your father. May you faithfully pursue the truth in whatever paths are

before you. *Psalm 128:3*. Now, onto the next chapter...

It's just good leadership, or is it? The role of behavioral relevance

Introduction

An enduring quality of leadership is that it involves the application of the right behavior in proportion to situational demands. Modern workplaces are increasingly characterized with inescapable qualities of complexity and change (Cascio, 1995; Landy & Conte, 2010; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Uhl-Bien, Marion, & McKelvey, 2007); and so the idea that leaders are the answer to overcoming challenges continues to grow in importance (Hoppe & Bhagat, 2007). Traditional leadership studies assume the presence of routine constraints and thus embrace the use of specific behaviors. However, emerging perspectives suggest the need for leaders that actively apply a variety of behaviors to match evolving constraints. The present effort seeks to expand the understanding of this phenomenon by evaluating how the manifestation and perceived relevance of leader behavior facilitates or impedes desired outcomes.

Researchers have developed a variety of descriptions to explain leaders' active responses to dynamic context. Theories like adaptive, agile, ambidextrous, flexible, and versatile leadership (Heifetz, 1994; Kaiser & Hogan, 2011; Kaiser & Overfield, 2010; Kaplan & Kaiser, 2003b; McKenzie & Aitken, 2012; Northouse, 2015; Rosing, Frese, & Bausch, 2011) are representative of these descriptions. The principle idea conveyed by these theories is that no particular leadership style is best for all situations and that leaders can adapt their behaviors to suit contextual needs. The need for leaders to adapt

behavior is a reaction to the assumption that a match between leader behavior and context produces superior outcomes. Generally speaking adaptive leader behavior can be defined as *an influence process that is based on the application of relevant leader behavior to help others to achieve common goals.* Alternatively stated, adaptive leadership is assumed to be good leadership (Jackson & Lindsay, 2014).

As the key characteristic of adaptive leadership, behaviors that are right for the context are the focal point of the current effort. The concept of leader versatility (Kaiser & Overfield, 2010; Kaplan, 2006; Kaplan & Kaiser, 2003a; 2003b) builds on the idea that the critical quality of adaptation is not simply that leader behavior changes, but rather that behavior and contextual variables dynamically fit together. Kaplan and Kaiser describe dynamic fit in terms of behaviors that are "just right." This is to say that even though leadership effectiveness can be measured in terms of outcomes, it can also be measured at the behavioral level. The benefit of measuring fit at the behavioral level provides the advantage of minimizing measurement error from contextual variables that affect outcomes that are beyond the control of the leader. Thus, measuring if behavior is right for a given context provides a means of measuring behaviors that are in the direct control of the leader. For clarity, behaviors that are right for the context are henceforth designated in terms of "relevance" and "relevant leader behavior."

The relevance of leader behavior is hardly a new concept, though the characteristics of modern work warrant a fresh perspective. Tradition has long connected leader behavior with the context in which it is employed. Examples like contingency theory (Fiedler, 1964), the situational approach (Hersey & Blanchard, 1969), path-goal theory (House, 1971), and the multiple linkage model (Yukl, 1981) suggest that no one

approach to leadership works in all types of situations. As a rule these traditional theories assume a static match between leader and context or substantially constrain the scope of adaptation afforded to the leader (e.g., Vroom-Yetton decision model). The behaviors that work in these static contexts are represented as strengths (Kaplan & Kaiser, 2006). Strengths are behaviors that produce desired outcomes in a given context. At question is whether relevance relates to outcomes in the same way when context is dynamic and allowed to vary.

To address this question empirically, relevance is evaluated in terms of whether others (e.g., peers and followers) perceive relevance in a similar or divergent manner, and whether relevance relates to leader performance as adaptive leadership theories customarily assume. Even so, behavioral relevance has received limited direct empirical attention. The emerging literature on dynamic leader behavior takes a more direct approach, asserting that leaders shape environments and facilitate performance by enhancing coordination, cohesion, and problem solving (Kaiser & Hogan, 2011; Yukl, 2008; Yukl & Mahsud, 2010). Like industrial production systems that seek to eliminate waste while promoting efficiency (e.g., Toyota Production System, Six Sigma, Air Force Smart Operations for the 21st Century, lean manufacturing, and just-in-time systems), leaders are the analogous, go-to solution in modern organizations. The assertion that leaders can promote efficiency in changing contexts has created the need for leadership studies that account for the complexity of behavioral relevance (Kaplan & Kaiser, 2006; Yukl & Mahsud, 2010).

Relevance represents a measurable characteristic of leader behavior. Rather than measuring how well a leader performs a behavior that is assumed to produce superior

outcomes, measures of relevance target the match between a leader's manifest behavior and contextual demands. Traditional assessments of leader behavior rely on Likert scales to measure applicable behaviors. These assessments tell us how well a behavior is performed. However, relevance suggests the need for an assessment that indicates if the behaviors match the context. The concept of this match has been given considerable treatment by Kaplan and Kaiser (2006) in terms of leader versatility. Versatility is a leadership quality that describes leaders who have access to a variety of behavioral options and exercise judgment about which options are most relevant. Building on Kaplan and Kaiser's work, research based on follower perceptions of relevant leader behavior suggests four latent classes of leaders based on follower ratings (Reimer, 2015). Of note, Reimer's observations supported the general assumptions that adaptive leader behavior produces superior outcomes. Leaders within classifications characterized by more overall relevant behavior earned higher ratings of leader effectiveness, team productivity, and team climate. Thus follower-based ratings support the conclusion that relevance has an overarching effect on leadership outcomes as is typically assumed. However, given Reimer's exclusive focus on follower perceptions it is of interest to investigate whether additional rating sources provide similar or contrasting evidence to this assumption.

To further appreciate the idea of relevance the current study investigates how peer ratings contribute to the current understanding. At question is whether follower ratings possess sufficient accuracy to model behavioral relevance and its associated outcomes. Building assumptions using follower data as the primary source of information could lead to erroneous conclusions (Hunter, Bedell-Avers, & Mumford, 2007). This

warning is substantiated by the small effect sizes observed by Reimer (2015) that hint at the possibility that follower-based classifications furnish an incomplete picture of relevant leader behavior. Therefore, the current effort appends the follower-derived model by further incorporating peer ratings. Peers, as well as followers, witness and experience effects from leaders. It is therefore potentially beneficial to account for the diverse perspectives peers provide. This evaluation also provides a systematic way of evaluating whether peers and followers have unique perspectives. Based upon evidence that peer ratings strongly predict future leader success (Kraut, 1975), a model including peer ratings promises to contribute to a deeper understanding of behavioral relevance, test the uniqueness of peer and follower ratings, and address essential questions about how relevance might be framed in future studies.

The current effort also evaluates three competing models of behavioral relevance. Building on Reimer's (2015) research, peer-based latent classes of leaders provide the initial framework to begin expanding the relationship between behavioral relevance and outcomes. This person-centered approach involves the use of latent profile analysis (LPA) to evaluate the effects of versatile leader behavior on outcomes of interest. How we should think about relevance in dimensional terms is uncertain. While latent classes are helpful to interpreting heterogeneous populations (Goodman, 2002), they don't reveal truth in an exact sense. Consequently, the current study also evaluates two competing approaches. The proposed competing models are constructed using a set of behavioral factors and the integrated behaviors using paired factors. The integrated model is based on an unconventional structure that mathematically represents combined effects of the behavioral factors (Kaplan & Kaiser, 2006). In sum, the model based on latent profiles

permits evaluation of relevance as an overarching quality of the leader, where the alternative models provide two variable centered alternatives. In this way, the present effort contributes to the extant literature by systematically evaluating three competing models of relevance. Likewise, the competing models also account for the potentially unique perspectives of rating sources.

Profiles of Relevant Leader Behavior

One key question is whether or not peer ratings duplicate follower ratings or whether they contribute additional information about relevance and its associated outcomes. If peer ratings duplicate follower ratings, this would provide fundamental support for a unidimensional framework for relevance. Previous research investigating this question found that noncorrelational methods of between source analysis generally indicate high agreement between rating sources (LeBreton, Burgess, Kaiser, Atchley, & James, 2003). Specifically, with the high reliability between peer and follower ratings (mean $r_{wg(j)} = .96$), there is reason to believe that peers ratings will be highly similar to follower ratings. Nevertheless, traditional views on multisource feedback are based on the assumption that rating sources provide dissimilar information (Lawler, 1967; Tornow, 1993). Therefore, arguments for the duplication of peer and follower ratings undermine key assumptions that proliferate the leadership literature. If low correlations between rating sources suggest independence, then there should also be concerns about the reliability of the measurement. Alternatively, the high reliabilities between ratings

suggest peers and followers provide unique, incremental contributions. The following

research question formally addresses this issue using a person-centered approach.

Research question 1: Independent of whether peers or followers provide the

ratings, do similar types of leader profiles appear the same following a LPA?

If the resultant peer profiles resemble Reimer's (2015) findings based on follower

ratings, then concepts of adaptive leader behavior in unidimensional terms may be

sufficient. Considering that peers and followers demonstrate high levels of agreement

across the four measured behaviors, there is ample reason to believe that similar profiles

will emerge. The high agreement suggests different rating sources provide unprejudiced

perspectives on the relevance of leader behavior. This position is further supported by

theoretical explanations of adaptive leadership in its various forms that generally point to

adaptability or flexibility as an overarching characteristic of the leader (Heifetz, 1994;

Heifetz, Alexander, & Martin, 2009; McKenzie & Aitken, 2012; Northouse, 2015; Yukl,

2008). In other words, unidimensional models assume that relevant leader behavior is

positively related with leader performance.

In contrast, if the evidence reveals characteristically different profiles between

follower- and peer-sourced ratings, then new questions arise. Differences between

profiles suggest the possibility that even though high agreement exists between ratings,

peers and followers may perceive nuanced differences. It is necessary to determine if the

differences in the profiles reflect a reliability issue in the chosen measurement between

rating sources (unlikely given the high levels of $r_{wg(j)}$ observed), or if peers and followers

contribute incremental validity to predicting performance based on relevant leader

behavior. In the latter case, multisource ratings may be crucial to understanding and

modeling relevance. Despite the high levels of agreement between rating sources, evidence from the leadership literature suggests relevance is nuanced and complex. The case is made below for this possibility. A review of the literature makes the case that there is strong reason to suspect that relevance will be source dependent.

Source dependence

As interdependence in modern workplaces increases, there is reason to believe that rating sources will produce increasingly similar observations of leader behavior. The process of leadership is increasingly described as a shared, interdependent process (Avolio, Walumbwa, & Weber, 2009) where leaders influencing others to accomplish common goals (Northouse, 2015; Yukl, 2013). When treating leadership as a process, common goals provide an overarching structure for dynamic interpersonal interactions between the leader and others (Pearce & Conger, 2003). The presence of common goals suggests a need to understand how work is accomplished through shared rather than formal linkages, where less formal linkages are important to the conduct of leadership within groups (Pearce, Conger, & Locke, 2007). In short, trends towards leadership as a shared, interdependent process would seem to encourage the belief that diminished hierarchical structures should reduce the disparity between peer and follower ratings.

Although shared and interdependent perspectives are distinguishable from traditional, hierarchical explanations of leadership, it may be premature to ignore the role of the latter. The increased interdependence amongst workers has certainly created a diminished emphasis on vertical linkages between leaders and followers (Avolio et al.,

2009; Uhl-Bien et al., 2007). Yet, while interdependent structures suggest a diminished role of vertical linkages, it may be erroneous to treat vertical linkages as irrelevant. The hierarchical structure of organizations and the traditional roles that workers fulfill in the leader-other interface may yet influence how rating sources perceive and value the nature of leader performance. Although many approaches focus attention on the relational aspects of the leader-follower relationship, evidence that higher-level raters assess leaders in terms of performance of the team and organization (Kaiser, Hogan, & Craig, 2008) suggests a competing values structure. In other words, evidence suggests that a rater's position in an organization has an effect on their perceptions of what is relevant. That is to say that hierarchical roles relate to differential perceptions of what constitutes valued and relevant leader behavior. Therefore, as leaders influence outcomes (e.g., organizational climate, well-being of employees, financial performance), raters may differentially value the behaviors that lead to these outcomes.

In a hierarchical structure, it is worthwhile to consider that followers experience leader behavior first-hand. In part, the manner by which followers experience relevance, or a lack thereof, is expected to relate to the emphasis that leaders place on motivating and developing followers (Bass & Riggio, 2006). When followers understand why they must perform a certain task to a particular standard, the leader's efforts accomplish goals while building follower efficacy. To the extent that followers' understanding relates to the leader's development, the leader and followers can subsequently engage more challenging problems and do so willingly (Mumford et al., 2000). When this occurs, evidence shows that followers demonstrate greater daily engagement in work and greater optimism about work (Tims, Bakker, & Xanthopoulou, 2011). Taken together, the

evidence supports the growing appeal in modern work environments for leaders who adapt and apply relevant behaviors. For these reasons, followers are likely in the unique position to provide information about how leaders exercise influence in the pursuit of common goals.

Whereas followers experience leadership, peers are positioned to observe leader behavior as the leader's counterparts where higher-level organizational goals are held in common. This explains why peer perspectives are characteristically different from followers and is corroborated by evidence that future leader success is most strongly predicted by peer ratings (Kraut, 1975). Peer ratings are characterized by perceptions of a leader's capacity for advancement, aggressiveness, and originality. These characteristics are distinct from the interpersonal-based perceptions of followers, and seem to indicate peers appreciate what a leader does in terms of organizational outcomes. In other words, leaders and their peers have more in common than what is shared between a leader and follower. This has important implications considering the idea that while leaders lack direct control over outcomes, they are nonetheless responsible for enabling outcomes (Marion & Uhl-Bien, 2002). Inasmuch as this is true, peers possess similar vantage points to leaders and thus are expected to have a greater appreciation for what a leader is aiming to accomplish, when outcomes fall short of the greater effort extended by the leader, or when outcomes are met in spite of the leader's efforts. In contrast, a prominent research stream suggests that effective leadership involves the creation of effective relationships between leaders and followers (Chang & Johnson, 2010; D'Innocenzo, Mathieu, & Kukenberger, 2014; Graen & Uhl-Bien, 2013; Liden, Wayne, & Stilwell, 1993; Uhl-Bien, 2006). The quality of exchanges between leader and follower lead to favorable

outcomes for the organization. The contrast to be made between peers and followers is simply the idea that followers have first-hand experience of a leader's influence is agreeable, whereas peers appear to have a perspective that enables them to identify when leader's influence is effective, even when outcomes appear at odds with the leader's influence. As an example, peers might be able to detect the maturation of an underperforming team in the absence of objective performance outcomes, even when followers might report low quality exchanges with the leader. So, even though the outcomes achieved may not reflect optimal leader performance, peers may be in the position to appreciate the leader's efforts. If so, the preceding arguments suggest that peers will provide unique information about how leaders influence followers towards organizational goals.

The evidence indicates that followers and peers value the leadership process differentially. The contrast between follower and peer interactions with the leader and suggest that peer and follower observations should be at least partially unique. Followers are expected to value the experiential nature of interactions, whereas peers are expected to have a greater appreciation for how leader behavior is applicable of the outcomes achieved for the organization. Thus, distinctive perspectives are expected to bias raters' evaluations of relevance, that is, what the rater considers to be right behaviors for a given context.

Nonetheless, peer and follower observations are of the same leader and within the same work context. The common features of peer and follower ratings provides reason to expect that peer ratings and follower ratings are not independent (Kenny & Judd, 1996). This is to say peers and followers provide unique and valuable information to

understanding the behavioral relevance displayed by leaders. For followers, the relevance of leader behavior has been shown to positively relate to leader effectiveness (Reimer, 2015), suggesting that followers' perceptions are pertinent to understanding how leaders successfully manage dynamic work context. For the purpose of modeling leader performance, the current effort seeks to add the peer's perspective. Thus, as a shared, interdependent process, peers' perceptions of leader behaviors are expected to describe unique variance in a leader's overall performance, above and beyond followers' perceptions.

Towards an understanding of behavioral relevance

Building upon the findings from the proposed research question and Reimer's (2015) unpublished thesis, the following hypotheses explore the role of leader behavioral relevance in modern work contexts (tentative on the results of the latent profile analysis suggest peer and follower latent profiles diverge). The development of the hypotheses is based on an exploration of pertinent leadership theory. The resulting hypotheses serve the purpose of investigating the dimensional structure of behavioral relevance while simultaneously considering the potentially unique information provided by rating source. Additionally, a third set of explorative hypotheses is offered to suggest how leader performance might be best modeled.

Dimensionality of relevance

Researchers have responded to the dynamic nature of the modern workplace by offering several theories of leader behavior in dynamic contexts. Table 1 provides definitions for five leading explanations. These five explanations reveal the aspirations of researchers to address the complex nature of leadership in modern work contexts. The explanations reveal common as well as competing perspectives about the phenomenon. Accordingly, examining these theories provides helpful insights into building a unified description of how behavioral relevance might be best modeled.

The provided definitions (see Table 1) reveal a general acceptance that the leader-follower relationship is crucial. The descriptions point to the importance of a relational context as the backdrop against which leaders achieve outcomes for the organization. The descriptions of *adaptive leadership* suggests leaders serve to encourage others to confront and solve problems (Heifetz, 1994; Heifetz et al., 2009). *Ambidextrous leadership* (Rosing et al., 2011) reflects a similar focus, where leaders are the means to guiding followers to overcome challenges. Likewise, *agile leadership* (McKenzie & Aitken, 2012) is inclusive of followers, yet also indicates that leaders have broader influence for the organization. While the core purpose of *flexible leadership* (Yukl, 2008) involves organizational performance, the leader-follower interface provides the operational context for this to occur. Finally, *versatile leadership* (Kaplan & Kaiser, 2003a) provides a framework where leader-follower interface coexists with the leader-organizational interface. In sum, comparisons of the theories in Table 1 seem to suggest a fair degree of compatible qualities. Hence, the theories might simply concentrate on different

characteristics of adaptive leadership. If so, it is of potential benefit to consider an overall model for adaptive behavior in terms of behavioral relevance.

Because *versatile leadership* (Kaplan & Kaiser, 2006; 2003b) is accompanied by an assessment tool*,* a more detailed examination of this particular theory is feasible. Underlying the broad concept of versatility are two sets of behaviors. The first set of behaviors consists of *forceful* (completing tasks) and *enabling* (building relationships to further work) behaviors. As defined, these leader-follower behaviors strongly resemble *initiating structure* and *consideration* (Fleishman, 1957; Halpin & Winer, 1957; Judge, Piccolo, & Ilies, 2004). Similar to the focus on organizational outcomes within *flexible leadership* (Yukl, 2008), the second set of behaviors in *versatile leadership* conveys the idea that leadership involves more than the leader-follower relationship. Thus, *strategic* (positioning the organization for the future) and *operational* (focus on the near term) behaviors (Kaplan & Kaiser, 2003a) represent a second dimension of versatile leader behavior. In brief, *strategic* and *operational* behaviors support the perspective that that leadership also involves active planning in order to achieve outcomes. Sooner or later, the study and application of leadership concerns real-world outcomes like organizational success (Kaiser et al., 2008). Consequently, *versatile leadership* serves to model mechanisms that explain how leaders produce value for the organization through the leader-follower interface and through specific actions that support organizational outcomes.

Table 1: Competing explanations for dynamic leader behavior

Place Table Here

Collectively, the terms and definitions in Table 1 support the purpose of the current effort, hinting at the dimensional structure of behavioral relevance by shedding light upon essential components of adaptive leadership. Perhaps simplistically, theories like *adaptive leadership* suggest that adaptive leader behavior is unidimensional. Unidimensional models offer some practical value for broadly describing leadership in dynamic contexts (Northouse, 2015). Yet, as observed by Northouse, the unidimensional descriptions are generally abstract, suggesting that the lack of well-defined factors in unidimensional models is limiting. Therefore, greater specificity suggested by models like *ambidextrous leadership, flexible leadership,* and *versatile leadership* provide hints about the possible dimensional substructure.

Kaplan and Kaiser's model (Kaplan & Kaiser, 2003a; 2006) has several important features that must be reviewed. First, versatile leadership embraces the position that there are two global dimensions of leadership. The first dimension incorporates the give-and-take between task and relationship behaviors. The second dimension involves the tradeoffs between what is important to the organization today versus in the future. Altogether, these dimensions provide a means to measure supporting elements of adaptive behavior. While this contribution is relatively new within the discussion of adaptive leadership, past leadership theorists have engaged in similar efforts. For example, the Vroom-Yetton model of decision making, and the subsequent Vroom-Jago models (Vroom & Jago, 1974; Vroom & Yetton, 1973) illustrate early attempts to handle the presence of competing constraints. Vroom and colleagues took the approach of prescribing decisions based on contextual variables so that leaders could balance task

completion and the relational aspects of the decision processes. In contrast, Kaplan and Kaiser's model of leader versatility takes a descriptive approach and is thus better suited to measuring a broad range of leader actions. Rather than proactively prescribing leader behavior, versatility is achieved when leaders achieve balance between opposing strengths (Kaplan & Kaiser, 2003b). The first set of opposing strengths is *forceful* and *enabling* behaviors. Evidence indicates that the forceful-enabling dimension is positively associated with overall effectiveness ratings for a sample of 79 executive leaders (Kaplan & Kaiser, 2003a). Considering that *forceful* and *enabling* are comparative to initiating structure and consideration, years of evidence (Judge et al., 2004) on the traditional concepts support the conclusion that *forceful* and *enabling* should also relate to leadership outcomes. Thus, there is strong empirical evidence to further understanding of adaptive leader behavior. The second subordinate dimension described by Kaplan and Kaiser consists of organizational-oriented behaviors that account for how leaders manage near- and long-term objectives. Less research has focused on these particular factors, though evidence clearly suggests goals are important to performance (Locke & Latham, 2002). Thus, the aggregation of behaviors that relate to outcomes of interest to followers and the organization provides a unique framework to address the idea of relevance. The advantage of this aggregating quality unifies the key objectives proposed within *adaptive, agile, flexible, and versatile leadership* theories.

The multidimensional structure of *versatile leadership* (Kaplan & Kaiser, 2003a; 2006) permits measurement of specific behavioral factors while also providing structure that suggests that paired behaviors work in a concurrent manner. The concurrent evaluation of behaviors is of particular interest to the notion of behavioral relevance.

Given the similarity of forceful and enabling behaviors to initiating structure and consideration, it is pertinent to consider that task and relational behaviors are not fully orthogonal as is commonly assumed (Bass, 1990; Judge et al., 2004). The lack of independence suggests interplay where manifest behaviors share characteristics of both factors. Thus, it is worthy of consideration that behavioral relevance may share this characteristic. At question is the idea that there are conditions where task-oriented behavior involves relations-oriented characteristics, and vice versa.

The potential of accounting for the concurrent approach provides a means to evaluate the multiple effects any single behavior by the leader may have upon the influence process. Kaplan and Kaiser's (2006) approach echoes early observations of consideration and initiating structure in the Ohio State leadership studies (Fleishman, 1957; Halpin & Winer, 1957). As observed by Halpin and Winer, initiating structure represents a basic function of leadership (i.e., establishes what work needs to be accomplished), whereas consideration serves to facilitate the influence process (i.e., establishes how influence is used to accomplish work). Hence, the dimensional structure suggested by Kaplan and Kaiser is grounded in decades of leadership research, provides a means of measurement based on behavioral factors, and further permits evaluation of behavior in a concurrent manner.

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Figure 1: The "Too Little/Too Much" rating scale

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Contextual dependence of relevance

Behavioral relevance is routinely designed into leadership studies as an underlying assumption. Situational theories generally take the approach that patterns of leadership vary according to situational demands (Fleishman, 1957; Stogdill, 1948). The basic assumption is that leaders produce subpar performance when they are mismatched to the context. However, characterizations of modern work suggest the need to treat relevance as a dynamic phenomenon. While far from dynamic, it is important to acknowledge that many of the situational theories continue to receive considerable attention, particularly those that emphasize that leaders can learn new behaviors to be more effective (Bass, 1990; Northouse, 2015; Yukl, 2013). Again, the need to learn and apply new behaviors relates to the idea of improving performance by applying more relevant behaviors. Thus, a brief review of related theories demonstrates that researchers have long wrestled with the concept of behavioral relevance.

Rudimentary approaches to relevance are based on the assumption that the outcomes of leader behavior depend upon the manifestation of behaviors that are compatible with situational constraints (Fiedler, 1964; 1971). While somewhat incongruent with the notion of dynamic relevant leader behavior, Fiedler suggests leader effectiveness involves placing leaders into favorable situations given a leader's particular leadership style. This assertion gives emphasis to the leader-situation match, thus placing decreased emphasis on the need for leaders to adapt their behaviors across. Yet, not all situational theories rely on a static match between leader and situation. Specifically, the Hersey-Blanchard model, path-goal theory, and the Vroom-Yetton decision model all

describe a process that demands flexibility on the part of the leader. Additionally,

research on leader failure sustains the general premise that relevance is a precursor to

sustaining positive leadership outcomes.

Hersey-Blanchard model

Situational leadership theory (Hersey & Blanchard, 1969) suggests leaders should

adapt their behaviors based on the development level of followers. The initial Hersey-

Blanchard model placed substantial emphasis on task- and relations-oriented behaviors as

essential to understanding leadership performance. Similar to the managerial grid (Blake,

Mouton, & Bidwell, 1962), the authors speculate that high ratings on both behavioral

dimensions are necessary for a leader to be effective. This characteristic resembles the

approach taken by Kaplan and Kaiser (2003b). Bass (1990) asserts that the central

question addressed by the Hersey-Blanchard model is whether leaders should be

consistent or flexible. While the model has received less than conclusive empirical

support, the notion that leaders can adapt behaviors remains intuitively appealing.

Path-goal theory

Like the Hersey-Blanchard model, path-goal theory (House, 1971) is based on the

idea that leaders adapt their behaviors based upon follower characteristics. Instead of

follower developmental level, path-goal theory relies on motivation theory and the match

between the leaders' behaviors, follower characteristics, and the work setting (Northouse,

2015). According to House (1971) the leader strengthens "personal pay-offs to subordinates for work-goal attainment and makes the path to these pay-offs easier to travel by clarifying it, reducing road blocks and pitfalls, and increasing the opportunities for personal satisfaction en route" (p. 324). House's description of what leaders do incorporates all three elements embodied in the proposed definition of versatile leadership. Leadership is an influence process, involves the use of relevant behaviors based on situational constraints, and shares a focus on common goals.

Vroom-Yetton decision model

In addition to the previous discussion on the Vroom-Yetton model (Vroom & Yetton, 1973) , it worth explaining that the model provides an explicitly prescribed decision tree for leaders determine which differential behaviors meet specific contextual qualities. Vroom and Yetton proposed that leaders adjust behaviors along a continuum that requires considering the need for immediate performance and the need for follower acceptance of leader decisions. This continuum prescribes options including autocratic, consultative, and participative behaviors. The model was later expanded to account for delegating behaviors (Vroom & Jago, 1974). To achieve desired outcomes leaders observe and interpret contextual constraints and respond with appropriate behavioral responses. Additionally, leaders decide on behaviors by accounting for the apparent tradeoff between short-term benefits to organization and long-term follower acceptance of the leader's decision. In brief, the decision model offers a prescriptive manner for leaders to achieve suitable outcomes given dynamic situational constraints.

The decision model also illustrates the complexity involved in an adaptive leadership approach. As initially conceptualized, Vroom and Yetton (1973) prescribed a relatively small set of eight situational constraints. Each constraint is marked as a decision point and results in the possibility of eighteen basic behavioral responses by the leader. Furthermore, the behavioral options depend on whether the leader is interacting with an individual or group. The idea that leaders can systematically respond to every situation and accurately follow Vroom and Yetton's prescriptions is questionable. In a study of 165 executives, researchers tested whether leadership behavioral style was contingent upon the leader's perception of subordinates (Sinha & Chowdhary, 1981). Evidence shows that leaders' use of authoritative behaviors is always detrimental to follower efficiency and satisfaction, even when the Vroom-Yetton model prescribes these behaviors. This discrepancy suggests a fundamental difference between what followers value and what the organization values. It is worth noting that this evidence only accounts for followers' perspectives and neglects the perspectives of others vested in the leadership process. Of particular value to the present effort, the Vroom-Yetton model describes a process of adaptive behavior that involves a leader's appraisal of constraints, management of resources, efforts to sustain follower engagement, and the need to achieve tasks.

Leader failure

Evidence from the research on leader failure lends further support to the critical nature of behavioral relevance to the importance of context to the leadership process.

Leader failure has been associated with the manifestation of non-relevant behavior that is generally perceived as wasteful and distracting (McCall & Lombardo, 1983). Roughly seventy percent of employees report that leaders are the worst part of their jobs, with estimates for leader incompetence ranging as high as seventy five percent (R. Hogan & Kaiser, 2005). The prevalence of leader failure and the reported causes suggest the need to account for behavioral relevance. Of note, abusive supervision is estimated to affect 13.6 percent of workers (Tepper, 2007). Thus, an important distinction can and likely should be made between leader incompetence (i.e., the use of non-relevant behavior) and destructive leadership. The fundamental quality of destructive leadership has been described in terms of the outcomes produced (Padilla, Hogan, & Kaiser, 2007; Thoroughgood, Padilla, Hunter, & Tate, 2012). Although unintentional, non-relevant behavior is none-the-less harmful to organizations as the full potential of organizations is inhibited. It is probable that non-relevant behavior exacts a high price on organizational outcomes, particularly in terms of lost opportunities to efficiently achieve outcomes. A recent global survey of 111 human resources executives supports this conclusion. These executives reported that the greatest talent-related issue is a lack of leaders who are prepared for the pace of change in modern organizations (Aon Hewitt, 2015). Collectively, studies on leader failure suggest that non-relevant behavior has detrimental effects upon organizations. Further, these studies signal that behavioral relevance is fundamental to what constitutes good leadership. Surprisingly, measures of leader effectiveness typically overlook direct measures of behavioral relevance in favor of subjective and objective measures of performance.

Summary

This brief review of competing situational approaches illustrates the insufficiency of describing adaptability by proclaiming that no one behavior is best in all situations. The theories collectively reflect a need investigate adaptive behavior directly, and not in the classical sense where relevance is assumed. The questions facing the study and practice of leader behavior in dynamic contexts are thus derived from years of research. Within the frameworks of the Hersey-Blanchard model, path-goal theory, and the Vroom-Yetton decision model, the leader-follower interface is described as the catalyst for adaptation. Importantly, these traditional approaches approximate a more developed perspective shared amongst the five leading explanations for leader behavior. Plainly stated, the leader-follower interface is a ubiquitous quality across both classical and emerging ideas of adaptive leader behavior. Likewise, the discussion on leader failure points to a second catalyst. Simply, leaders are expected to produce value for the organization. This expectation is specifically embraced within *flexible* and *versatile leadership* theories. Therefore, the case can be made that the leader-follower interface and the leader-organization interface are necessary to understanding the perceived relevance of leader behavior for the purpose of achieving desired outcomes.

Hypotheses

The question of the dimensionality of relevance concerns whether individual behaviors, complimentary dimensions, or latent classes function better to predict leader effectiveness. Researchers have long observed the tendency for leaders to overuse task-

oriented behaviors in place of relations-oriented behaviors (Bass, 1990; Kaplan & Kaiser, 2003b; Likert, 1967). Thus, it has long been acknowledged that behavior involves multiple, simultaneous effects, though this idea is typically overlooked. The brief review of five definitions of adaptive leadership (see Table 1) suggests that behavioral relevance might potentially be an overarching concept that explains what differentiates the most successful, competent leaders from the general population of leaders. Early scholars provided somewhat rudimentary support for this assertion in the form of situational leadership theories. As previously detailed, situational theories are limited due to the assumptions made with respect to the emphasis placed on task production that results in relatively stable work context. In light of the general emphasis on production in workplaces of the mid-to-late twentieth century, such assumptions were inevitable (House, 1971; Likert, 1967). In modern work, predicting leader effectiveness is inextricably linked to how relevant leader behavior is and there is a need to consider how it ought to be modeled.

As a process, leadership is complex and consists of iterative as well as interactive processes. Leader behavior is simultaneously the stimulus of the leadership process, and also subject to a vast network comprised of past leader behavior, the nature of various relationships, experiential evidence that certain behaviors work, and evidence that other behaviors do not. Present and future leadership outcomes, therefore, emerge from the interaction of current and past behaviors. As noted by Stogdill (1948) and Fleishman (1957), patterns of leadership vary according to situational demands. Past leader behavior, successful and failed interactions with followers, and perceptions of the current context are just a few of the ways that situational demands vary and leader behavior is

enacted. Research indicates that the strongest effects of leader behavior manifest from interactions of behavioral frequency and mastery (Shipper & White, 1999). To be effective, leaders must demonstrate comprehensive skill and knowledge of what behaviors are needed when. Trait-based evidence indicates that a large percentage of leadership variance is explained by leaders' contextual perceptions and subsequent behavioral adjustment (Kenny & Zaccaro, 1983). Consequently, behavioral relevance presupposes intentional behavioral manifestations that involve the leader's consideration of past events, present context, and anticipated outcomes from behavioral options. The complexity of determining contextual relevance negates the assumptions made within situational explanations based on leader-situation matches. Therefore, the presumption is that context and behavior are progressively related.

Given such evidence, there is reason to expect that models that account for how behaviors work together should outperform additive, independent behavioral factors. In response this effort tests three alternatives. The first alternative is tested via Hypothesis 1a, where individual behavioral factors are modeled as independent and additive. Next, Hypothesis 1b addresses Kaplan and Kaiser's (2006) suggestion that behavioral patterns should be paired as opposing, but complementary dimensions. Thus modeled, relevance on any single behavioral factor is less important than the combined effect of scores when arranged orthogonally on a Cartesian plane. The magnitude of the resultant line is the dimension score and represents the relevance of the paired factors. The third alternative tested in Hypothesis 1c is that all four behavioral scales function together and not simply as complimentary pairs. Therefore, if supported, latent profile analysis is expected to

capture and represent the overall picture of behavioral relevance as a unidimensional construct.

Hypothesis 1a: Peer and follower behavioral scale scores (i.e., forceful, enabling, strategic, and operational) predict supervisor ratings of effectiveness

Hypothesis 1b: Peer and follower complementary dimensions (i.e., forceful-enabling and strategic-operational) predict supervisor ratings of effectiveness over and above behavioral scale scores

Hypothesis 1c: Peer and follower latent classes predict supervisor ratings of effectiveness over and above behavioral scale complementary dimension scores

Between source ratings

The existence of leader-follower and leader-organization catalysts suggests the possibility that multisource ratings may provide incremental value of to understanding behavioral relevance. Yet, as the nature of modern work and leadership evolves, the psychometric value of multisource ratings is under legitimate scrutiny. LeBreton and colleagues (2003) observed minimal distinctiveness in multisource ratings, generally supporting the conclusion that there is little explanatory value in between-source effects for performance. Given the observed interrater reliabilities between peers and followers in the current sample, this may well be the case. Whereas LeBreton and colleagues point to range restriction in measurement, alternative explanations should be considered. For example, modern leadership theory deemphasizes vertical influence in lieu of the ill-defined social structures that underlie formal organizational structures (Uhl-Bien et al.,

2007). In light of this observation, the implied structure suggests that peers and followers may be better organized collectively as coworkers and further undermine the psychometric value of multisource ratings. Alternatively, leadership has also been portrayed as an integration of vertical and shared leadership (Pearce & Barkus, 2004). Pearce and Barkus' observations imply that even when organizational structure suggests leaders are less essential, the essence of what leaders do remains critical.

As the characteristics of work and leaders change, it becomes less certain whether multisource ratings are useful for predicting leader performance. Specifically, theoretical grounds alone indicate that it is debatable whether different rating sources perceive behavioral relevance similarly or dissimilarly. The three frameworks introduced in the first set of hypotheses provide alternative structures for evaluating whether rating sources provide common or unique information about the relevance of leader behavior. As vertical linkages are reduced and the range of leader performance is restricted, there is reason to expect that there will be no differences between information provided between sources. However, fundamental differences between rating sources and their associated characteristics may yet provide unique variance based on ratings sources. Thus, measures of behavioral relevance are expected to vary dependent upon rater perspective. If supported, multisource ratings may prove of value to understanding behavioral relevance.

Hypothesis 2a: Peer-based behavioral scale scores predict supervisor ratings of effectiveness over and above follower-based behavioral scale ratings

Hypothesis 2b: Peer-based complementary behavioral dimension scores predict supervisor ratings of effectiveness over and above follower-based dimension scores

Hypothesis 2c: Peer-based latent classes predict supervisor ratings of effectiveness over and above follower-based classifications

Selective use of between source ratings

The third set of hypotheses serves to evaluate whether rating groups are equally effective at rating leaders. Rating effectiveness can be evaluated by considering variance explained by rating source and rating types. Rating types consist of behavioral ratings (i.e., forceful, enabling, strategic, and operational) and team characteristics (i.e., team productivity and team climate). Because team characteristics are subjective evaluations that capture affective evaluations of the work environment and job processes (Hulin & Judge, 2003), they offer a potentially unique contribution to the relationship between a leader's behavioral profile and the team's performance. In particular, team climate has been described as possessing descriptive, affective, and evaluative characteristics (Patterson et al., 2005). Evidence indicates that raters are capable of intuitive aggregation (Epstein, 1983). Thus, when asked to provide ratings of team climate (i.e., team morale, engagement, and cohesiveness) or team productivity (i.e., overall productivity, the quality of production, and the quantity of production), ratings reflect the functional characteristics of a team in a manner that reduces error variance associated with individual stimuli and events.

Building on the idea that raters may have differential perspectives on behavioral relevance, different rating sources may be more or less effective at providing specific types of ratings (i.e., behavioral relevance, team climate, and team productivity).

Researchers suggest that measuring behavioral relevance involves the evaluation specific forms and patterns of leader behavior (Yukl, 2013; Yukl & Mahsud, 2010). Peers and followers are expected to possess discrete frames of reference that either converge or diverge dependent upon the measure. This is to say that the process of intuitive aggregation between sources may function similarly across some circumstances, yet be different in others. As advocated by Epstein (1983), it is desirable to identify situational variables that are responsible for particular reactions to eliminate spurious, incidental effects. The same may be said of rating sources, where one rating source may provide ratings that are specious compared to another rating source. In other words, the accuracy of behavioral ratings and team characteristics may be more or less accessible based on the rater's perspective. Considering differences in rater perspective is consistent with calls from researchers that advocate for considering diverse ratings sources (Wilderom, Glunk, & Maslowski, 2000). With respect to the current effort, it is of interest to representing the differences resulting from hierarchical or professional differences between followers and peers.

For the purpose of the present effort, the important characteristic of leader behavior is not that it changes as context changes. Rather, the critical point is whether leaders adjust behavior in a relevant manner. Accordingly, there is need to consider that raters may perceive and assess relevance and associated outcomes differentially. The multidimensional nature of leader behavior suggests that relevance is contingent upon situational variables that are subject to rater-induced bias. Because peers conceivably share greater proximity to both the leader's perspective and the organization's goals and values, peers are expected to be more effective at rating leader performance through

aggregated team characteristics (i.e., team productivity and team climate). In contrast, followers may be in a better position to rate interpersonal measures of behavioral relevance (i.e., forceful, enabling, strategic, and operational behaviors). This concept is evaluated by evaluating the variance explained both within and between rating sources for contextual and interpersonal ratings.

Hypothesis 3a: Peer-based team characteristic ratings will predict supervisor ratings of effectiveness over and above peer-based behavioral relevance measures

Hypothesis 3b: Follower-based team characteristic ratings will predict supervisor ratings of effectiveness over and above follower-based behavioral relevance measures

Hypothesis 3c: Follower-based behavioral relevance measures and peer-based team characteristic ratings additively predict supervisor ratings of effectiveness

Hypothesis 3d: Peer-based behavioral relevance measures and follower-based team characteristics ratings additively predict supervisor ratings of effectiveness

Hypothesis 3e: The model using follower-based behavioral relevance measures and peer-based team characteristic ratings (3c) will predict supervisor ratings of effectiveness better than the model using peer-based behavioral relevance measures and follower-based team characteristics (3d)

Method

Data collection

The researcher was provided access to a worldwide sample of leaders data that was collected by a consulting firm for the purposes of providing developmental feedback to leaders on versatility. The targeted leaders facilitated the collection of multisource data by nominating a variety of coworkers, especially those with whom they have a good deal of work history and experience (Kaiser, Overfield, & Kaplan, 2010). Facilitators are directed to request that participating leaders nominating coworkers with whom they a range of relationships, not just the ones where the relationship is perceived as highly favorable. This instruction provides protections against generating an incomplete picture of leader behavior. A portion of the sample used in this study has been previously used in publication (Kaiser, LeBreton, & Hogan, 2013) and in an unpublished thesis (Reimer, 2015). Ratings by subordinates, peers, and supervisors were collected.

Participants

The leaders included in this study worked full-time in North America. Inclusion criteria were created to improve the comparability of leaders of the sample. Ratings provided by peer and followers who reported "not much" opportunity to observe the leader, or who knew the leader "hardly at all" were excluded. Furthermore, to avoid conceptual or methodological challenges associated with dyad research (Moreland,

2010), only leaders with three or more peer and three or more follower ratings were included in the final sample.

The inclusion criteria resulted in a sample of 3,816 leader participants for the latent profile analysis (28% female, 2% missing). For the regression analyses, leaders without supervisor ratings were removed from the sample, resulting in a sample of 3,456 leaders. Sampled leaders worked for 92 public, private, and government organizations (this information was not available for 1,557 leaders). On average, followers worked for 3.95 years (SD = 2.98) with the leaders. Peers worked with leaders for an average of 4.62 years (SD = 3.46). The leaders' supervisors worked with leaders for an average of 4.79 years (SD = 4.27).

Descriptive information about the leaders follows. The mean age of leaders included in this study was 44.83 years ($SD = 7.74$). Sampled leaders served in various leadership roles for an average of 14.13 years ($SD = 8.26$). The typical leader served in their current leadership role for 3.83 years ($SD = 3.78$). The sample consisted of leaders working across organizational levels: 5.7% senior executives, 8.1% other executives, 24.2% general managers, 25.3% functional heads, 12.5% middle managers, 10.4% supervisors, with 14.7% serving in other leadership roles.

Measures

The Leadership Versatility Index (LVI)

The LVI is a multi-rater feedback instrument that is electronically administered and scored. The instrument consists of forty eight behavioral items and takes

approximately fifteen minutes to complete (Kaiser et al., 2010). Respondents provide

criterion-referenced ratings based on the typical behaviors manifested by the leader. LVI

items reflect a four-factor structure of forceful, enabling, strategic, and operational

behaviors (see Table 2 for LVI definitions). Behavioral ratings are recorded on a

patented, nine-point scale. Ratings span from "much to little" to "much to much," with

relevant leader behaviors at the midpoint (see Figure 1). Evidence supports the LVI as a

reliable and valid measure (Kaiser & Hogan, 2011).

Table 2: Definitions for LVI behavioral scales
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Given the continual interactive process between leader, others, and situations,

there is need to measure the stability of relevance across time and situations. Single

incidents of behavior have low temporal reliability (Epstein, 1979; 1983), thus suggesting

the potential role of aggregating behavior over situations. Epstein (1983) found that raters

demonstrate similar reliability when producing multiple single ratings for subsequent

aggregation as compared to providing a single rating where raters report across multiple

occasions. Therefore, it is reasonable to expect raters to observe leaders over multiple

situations and effectively provide information about how well leaders manifest relevant

behavior.

Behavioral scores on the LVI are recorded at the scale level (i.e., forceful,

enabling, strategic, and operational), however, Kaplan and Kaiser (2006) argue that

paired, opposing behaviors form complementary dimensions that better capture the

tradeoffs that more accurately reflect versatile behavior. Dimension scores are calculated

by plotting complementary behaviors (i.e., forceful with enabling, and strategic with operational) on a Cartesian plane. The dimension score is the calculated length of the resultant line between the plotted point and the origin.

Criterion measures

Criterion measures were collected concurrently with the LVI behavioral items. In addition to the 48 behavioral items on the LVI, seven additional items are used to assess overall leader effectiveness, team effectiveness, and team climate. To minimize measurement error (P. M. Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), predictor and criterion variables are obtained from different sources for all of the proposed regression hypotheses.

The criterion measure for leader effectiveness is a rating provided by the leader's immediate supervisor. Supervisors provide a score of leader effectiveness using an open response format. The instructions direct supervisors to rate leaders on a ten-point scale where "5" is described as "adequate" and "10" is "outstanding. The use of decimals was encouraged. Supervisor's ratings of leader effectiveness are used as the criterion measure at the leader-network level in the proposed model. As a single-item criterion, this method of data collection provides parsimony and ease of administration for a task that supervisors routinely accomplish (i.e., performance evaluation). Unfortunately, objective performance measures are not available for the sampled leaders.

Hypotheses 3a through 3e use peer and follower ratings of team effectiveness. Team effectiveness is an aggregate of three-items ($\alpha = .83$). These items are measured on a five-point Likert scale where "1" represents "unacceptably low" performance and "5"

represents "extraordinarily high" performance. Raters were instructed to "rate the

productivity of the team that the person you are rating is directly responsible for" with

items for overall effectiveness, the quantity of team output, and quality of team output.

Hypotheses 3a through 3d also use peer and follower ratings of team

climate. Team climate is an aggregate measure of three items ($\alpha = .84$) on a five-point

Likert scale. Low ratings represent problems (e.g., the team "doesn't work well

together"). High ratings indicate a positive work environment (e.g., the team "works well

together"). Raters were instructed to "Please rate the vitality of the team that the person

you are rating is directly responsible for" with individual items for morale, engagement,

and cohesion.

Procedure

Latent profile analysis

Latent profile analysis (LPA) is used to derive latent classes of leaders based on

rater assessment of the relevance of leader behavior. To accomplish the LPA, MCLUST

version 5.0.2 (Fraley & Raftery, 2002; Fraley, Raftery, Murphy, & Scrucca, 2012) was

used in the R environment (R Core Team, 2014). Within-source ratings (i.e., peer or

follower) were aggregated based upon the four LVI behavioral scales. Latent profiles are

derived from the aggregated ratings, with separate classifications developed for each

rating source. The best model (i.e., the model that best represents the "true" number of

latent profiles) was selected by comparing Bayesian Information Criterion (BIC) values

(Schwarz, 1978). BIC is a penalized log-likelihood criterion used to assess the relative fit between potential models. Thus, BIC offers an empirical solution to identify the model with the best fit.

Hierarchical regression analysis

Following the extraction and interpretation of latent classes using follower and peer sourced data of leader behavior, the proposed hypotheses were tested using hierarchical regression. Regression was conducted in the R environment (R Core Team, 2014) using the R package *stats* (R Core Team, 2014). To fit linear models, the *lm* function was selected (Chambers, 1992; Wilkinson & Rogers, 1973).

Results

Detailed descriptions of the selected measures follow. For bivariate correlations of select measures, see Table 3.

Table 3: Bivariate correlations for LVI ratings by source and criterion measures
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Leader classifications

To test the existence of latent profiles for leaders based on peer-sourced ratings of behavioral relevance, a range of cluster solutions (from one to nine) were generated and compared. The selection of the true model was based on BIC values (Nylund, Asparouhov, & Muthén, 2007). BIC values indicated a five-cluster solution provided the

best fit for the sample using peer-based ratings of behavior. This result supplies initial

support for the research question that there are multiple types of leaders based on peer

ratings of behavioral relevance (see Table 4). For the sake of comparison, follower-

sourced leader ratings were generated following the same procedure. Based on BIC

values, a four-cluster solution provides the best fit for follower-sourced data. Table 5 and

Figure 3 provide the results for follower-based LPA models. These results generally

replicate the results from Reimer's (2015) unpublished thesis, with only minor variations

in mean levels of behaviors observed as a result of a slightly different sample. Overall,

results indicate that peers and followers perceive a different number of latent classes and

that these classes function differentially with respect to supervisor ratings of

effectiveness. Details for the observed peer- and follower-based clusters follow.

Table 4: Comparison of peer-based LPA models based BIC criterion
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Figure 2: Profiles of five latent classes based on peer ratings of a leader's forceful,
enabling, strategic, and operational behaviors.

Table 5: Comparison of follower-based LPA models based BIC criterion
Place Table Here

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Figure 3: Profiles of four latent classes based on follower ratings of a leader's forceful,
enabling, strategic, and operational behaviors.

Peer-based clusters

The order of the peer-derived cluster solutions reflects the overall relevance of leader behavior inclusive of all four behavioral scales. Overall relevance is calculated from the sum of the absolute values of the four measured behavioral scales. For clusters 1 through 5, the absolute sums of relevance ratings are .34, .63, .89, .90, and 1.87 respectively. Thus, on average, the leaders in cluster 1 are perceived as generally using the most relevant behaviors, whereas on average, the leaders in cluster 5 were perceived as using the least relevant behaviors.

Within cluster 1, relevance based on behavioral means indicates the greatest overall achievement of relevance, yet these leaders do not necessarily exhibit the best behavioral relevance at the scale level. In support of the broad idea that the most versatile leaders outperform others, leaders in cluster 1 demonstrate the highest mean levels of effectiveness as reported by immediate supervisors (*Mean Effectiveness* = 8.22). Leaders in cluster 1 account for 22% of the sample.

Leaders in cluster 2 are perceived by peers as demonstrating slightly diminished overall relevant behavior as compared to leaders in cluster 1. Compared to cluster 1, peers perceive leaders in cluster 2 as overusing forceful behaviors while sharply underusing enabling behaviors. Accompanying the overall decrease in behavioral relevance, there is an observable decline in supervisor-level reported leader effectiveness (*Mean Effectiveness* = 7.98). Leaders in cluster 2 account for 30% of the sample.

In cluster 3, there is a noticeable drop in overall relevance as perceived by peers. Notably, leaders in cluster 3 are perceived as displaying the most relevant forceful behaviors. Yet, compared to leaders in the first two clusters, the relevance of forceful behaviors is eclipsed by diminished perceptions of enabling and strategic behaviors. The

decreased relevance co-occurs with an additional reduction in overall leader effectiveness (*Mean Effectiveness* = 7.62). Leaders in cluster 3 account for 29% of the sample.

For leaders in cluster 4, there is hardly a difference in observed overall relevance compared to cluster 3. Compared to all of the other clusters, leaders in cluster 4 demonstrate the most relevant enabling and operational behaviors. Yet, leaders in cluster 4 are perceived as greatly underusing forceful behaviors. Additionally, with respect to the first four clusters, peers perceive leaders in cluster 4 as displaying the underuse of strategic behaviors. Surprisingly, while the overall relevance of leaders in cluster 4 is less than the preceding three clusters, mean effectiveness ratings appear on par with cluster 2 (*Mean Effectiveness* = 7.91), indicating a discrepancy in the way peers perceive behavioral relevance and team performance compared to followers. Leaders in cluster 4 make up 15% of the sample.

Peers perceive that leaders in cluster 5 manifest the least overall relevant behavior. Compared to the other four categories, peers perceive that these leaders grossly overuse forceful behaviors. Enabling, strategic, and operational behaviors are the least relevant compared to the other categories. Observed mean supervisor ratings of leader effectiveness are the lowest of all five identified clusters (*Mean Effectiveness* = 7.13). The leaders in cluster 5 make up 3% of the sample.

Follower-based clusters

Follower-derived clusters closely replicate the findings of Reimer's (2015) unpublished thesis. Ordering the clusters based on the overall relevance perceived by followers is accompanied by a reduction in overall effectiveness ratings. For clusters 1

through 4, the absolute sums of relevance ratings are 0.20, 0.53, 0.96, and 2.16

respectively. Thus, leaders in cluster 1 are perceived as generally using the most relevant

behaviors, whereas leaders in cluster 4 manifest the least. Effectiveness ratings for

clusters 1 to 4 are 8.13, 8.02, 7.70, and 7.02 respectively. Leader representation in

clusters 1 through 4 is 13%, 52%, 31%, and 4% respectively.

Hypotheses testing

Dimensionality

The first set of hypotheses (i.e., Hypotheses 1a, 1b, and 1c) was constructed to

provide evidence on the dimensionality of leader relevance (see Table 6). Hypotheses

informed the development of models to predict supervisor ratings of effectiveness based

upon individual behavioral scales, complimentary behavioral dimensions, and latent

classes of leader behavior. Hypothesis 1a was supported, indicating that peer and

follower behavioral scale scores explained 8.6% of the variance in supervisor ratings of

effectiveness ($R^2 = .09$, $F(8, 3447) = 40.37$, $p < .001$). Peer ratings of forceful ($\beta = .11$, p

$< .001$), enabling ($\beta = .11$, $p < .001$), strategic ($\beta = .16$, $p < .001$), and operational ($\beta =$

$.10$, $p < .001$) behaviors were each uniquely related to supervisor ratings of leader

effectiveness. Follower ratings of enabling ($\beta = .11$, $p < .001$), strategic ($\beta = .16$, $p <$

$.001$), and operational ($\beta = .11$, $p < .001$) behaviors were each uniquely related to

supervisor ratings of leader effectiveness.

Hypothesis 1b was also supported, indicating that peer and follower behavioral

complimentary dimension scores explained supervisor ratings of effectiveness above and

beyond scale-based ratings ($\Delta R^2 = .02$, $F(12, 3443) = 35.08$, $p < .001$). Controlling for behavioral scale ratings, dimension scores significantly predict supervisor ratings of effectiveness ($F(4, 3448) = 22.52$, $p < .001$) indicating that complimentary pairs of peer- and follower-rated leader behavior predict supervisor ratings of effectiveness better than individual behavioral factors. Peer-based forceful-enabling ($\beta = .10$, $p < .001$) and strategic-operational ($\beta = .10$, $p < .001$) dimensions predicted supervisor ratings of effectiveness. Likewise, follower-based forceful-enabling ($\beta = .09$, $p < .001$) and strategic-operational ($\beta = .07$, $p = .009$) dimensions predicted supervisor ratings of effectiveness.

Hypothesis 1c was not supported. The model including peer- and follower-based latent classes significantly predicted supervisor ratings of effectiveness ($R^2 = .11$, $F(19, 3436) = 22.26$, $p < .001$), however controlling for scale and dimension ratings suggests the latent classes were not significant predictors of supervisor ratings of effectiveness ($\Delta R^2 = .00$, $F(7, 3444) = 1.55$, $p = .15$).

Table 6: Hierarchical regression analysis for dimensional models predicting supervisor ratings of effectiveness

Place Table Here

Between source agreement

The second set of hypotheses addresses whether peer and follower rating sources provide duplicate or unique information about the relevance of leader behavior. Separate hierarchical regression analyses were conducted to predict overall leader effectiveness between follower- and peer-based behavioral scales (i.e., forceful, enabling, strategic, and

operational), complimentary behavioral (i.e., forceful-enabling and strategic-operational)

dimensions, and latent classes of leader behavior. Complete results are available in Table

7. Hypothesis 2a, that peer and follower observations of individual behaviors additively

predict supervisor ratings of effectiveness over and above peer or follower ratings is

supported. Follower scale scores explained 4.1% of the variance in supervisor ratings of

effectiveness ($R^2 = .04$, $F(4, 3451) = 36.91$, $p < .001$). Combined follower and peer

behavioral scale scores explained 8.4% of the variance in supervisor ratings of

effectiveness ($\Delta R^2 = .05$, $F(8, 3447) = 40.37$, $p < .001$). Follower-based scale scores of

enabling ($\beta = .11$, $p < .001$), strategic ($\beta = .07$, $p < .001$), and operational ($\beta = .07$, $p <$

$.001$) behaviors significantly predicted supervisor ratings of leader effectiveness. Peer

ratings of forceful ($\beta = .11$, $p < .001$), enabling ($\beta = .11$, $p < .001$), strategic ($\beta = .16$, $p <$

$.001$), and operational ($\beta = .10$, $p < .001$) behaviors significantly predicted supervisor

effectiveness ratings.

Table 7: Hierarchical regression analysis for between source behavioral scales predicting
supervisor ratings of effectiveness

Place Table Here

Similarly, hypothesis 2b is supported, indicating that peer and follower dimension

scores predict supervisor ratings of leader effectiveness. Complete results are available in

Table 8. Follower dimensions scores explained 5.0% of the variance in supervisor ratings

of effectiveness ($R^2 = .05$, $F(2, 3453) = 91.43$, $p < .001$). The model that combined

follower and peer behavioral scale scores explained 9.8% of the variance in supervisor

ratings of leader effectiveness ($\Delta R^2 = .05$, $F(4, 3451) = 40.37$, $p < .001$). Follower-based

dimension scores of forceful-enabling (β = .11, p < .001) and strategic-operational (β = .11, p < .001) significantly predicted supervisor ratings of leader effectiveness. Peer ratings of forceful-enabling (β = .09, p < .001) and strategic-operational (β = .17, p < .001) significantly predicted supervisor ratings of leader effectiveness. Controlling for follower-based dimension scores, peer-based dimension scores significantly contribute to predicting supervisor ratings of leader effectiveness (F(2, 3454) = 92.27, p < .001).

Table 8: Hierarchical regression analysis for between source dimension scores predicting supervisor ratings of effectiveness

Place Table Here

Hypothesis 2c is also supported, indicating that peer and follower latent classes predict supervisor ratings of leader effectiveness (see Table 9). Follower-based latent classes explained 4.4% of the variance in supervisor ratings of leader effectiveness (R^2 = .04, F(3, 3452) = 53.44, p < .001). The model that combined follower and peer latent classes explained 8.1% of the variance in supervisor ratings of leader effectiveness (ΔR^2 = .08, F(7, 3448) = 43.49, p < .001). Controlling for follower-based latent profiles, peer-based dimension scores significantly contribute to predicting supervisor ratings of leader effectiveness (F(4, 3456) = 34.51, p < .001).

Table 9: Hierarchical regression analysis for between source latent class membership predicting supervisor ratings of effectiveness

Place Table Here

Modeling performance

The third set of hypotheses addresses the idea that not all rating sources are equally effective as raters of leader performance (see Table 10). Hierarchical regression analysis was conducted to predict overall leader effectiveness based on within-source interpersonal ratings (i.e., forceful-enabling, strategic-operational) and contextual ratings (i.e., team productivity and team climate). Hypotheses 3a tested whether peer-based contextual ratings will predict supervisor ratings of effectiveness over and above peer-based interpersonal measures. Hypothesis 3a is supported ($R^2 = .07$, $F(2, 3454) = 135.00$, $p < .001$), indicating that peer-based measures of productivity and climate predict supervisor ratings of effectiveness over and above peer-based complementary dimension scores. Peer behavioral dimension scores explained 6.6% of the variance in supervisor ratings of leader effectiveness ($\Delta R^2 = .06$, $F(2, 3423) = 121.093$, $p < .001$), whereas combined behavioral dimension scores and contextual ratings explained 13.4% of the variance in supervisor ratings of effectiveness ($R^2 = .13$, $F(4, 3421) = 132.10$, $p < .001$). Entering the variables in the regression in reverse suggests that 12% of the variance is explained by the contextual ratings ($R^2 = .13$, $F(4, 3422) = 243.12$, $p < .001$). Thus peer-based interpersonal and contextual scores both contribute significantly to the prediction, with contextual scores outperforming the complimentary dimension scores.

Table 10: Hierarchical regression analysis for within source peer ratings predicting supervisor ratings of effectiveness

Place Table Here

Hypotheses 3b tested whether follower-based contextual ratings predict supervisor ratings of effectiveness over and above follower-based interpersonal measures

(see Table 11). Hypothesis 3b is supported (R^2 = .06, $F(2, 3454)$ = 135.00, p < .001), indicating that follower-based measures of productivity and climate predict supervisor ratings of effectiveness over and above ratings on the paired complementary dimension scores. Of note, follower behavioral dimension scores explained 5.1% of the variance in supervisor ratings of effectiveness (R^2 = .05, $F(2, 3430)$ = 91.27, p < .001), whereas combined behavioral dimension scores and contextual ratings explained 6.3% of the variance in supervisor ratings of effectiveness (ΔR^2 = .01, $F(4, 3428)$ = 57.69, p < .001). While the contextual scores contribute significantly to the prediction, behavioral dimensions explain more variance than the contextual scores for followers.

Table 11: Hierarchical regression analysis for within source follower ratings predicting supervisor ratings of effectiveness

Place Table Here

Hypotheses 3c and 3d (see Table 12) tested whether between source ratings of interpersonal and contextual ratings would explain supervisor ratings of leader effectiveness. Hypothesis 3c, that follower-based interpersonal measures and peer-based contextual measures additively predict supervisor ratings of effectiveness was supported; this combination of scores explained 15.1% of the variance in supervisor ratings of effectiveness (R^2 = .15, $F(4, 3421)$ = 151.698, p < .001). Hypothesis 3d, that peer-based interpersonal measures and follower-based contextual measures additively predict supervisor ratings of effectiveness was also supported; this combination of scores explained 9.8% of the variance in supervisor ratings of effectiveness (R^2 = .10, $F(4, 3428)$ = 93.49, p < .001). For Hypothesis 3c and 3d, respective R^2 values (.15 and .10), AIC values (10,191.6 and 10,411.56), and BIC values (10,228.43 and 10,448.41) collectively

suggest the model described by Hypotheses 3c outperforms the 3d, and thus providing support for Hypothesis 3e. This indicates peer contextual ratings and follower interpersonal ratings represent a potentially optimal combination of ratings for predicting supervisor ratings of effectiveness for this sample.

Table 12: Hierarchical regression analysis for between source ratings predicting supervisor ratings of effectiveness

<div align="center">Place Table Here</div>

Discussion

The purpose of this effort was to investigate the concept of relevant leader behavior and answers questions concerning how relevance is best conceptualized and measured. Traditional explanations of dynamic leader behavior have investigated trait-based explanations and typically adopted unidimensional descriptions of what makes a leader adaptive or flexible. Accordingly, leaders were thought of as possessing different degrees of adaptability along a single continuum. The alternative explanation explored in this study begins with the acknowledgement that it is not enough that a leader adapts their behavior, rather adaptive behavior must occur in synchrony with situational constraints, which includes the perceptions of others in the workplace. Thus, what matters is that leader behavior is perceived as relevant. To investigate this possibility, it was necessary to identify similarities and differences between peer and follower perceptions of relevant leader behavior.

The latent profile analyses of peer and follower ratings of leader versatility provided the backdrop for the remainder of the study. As expected, the peer and follower ratings resulted in the extraction of a different number of latent classes, and the resultant profiles indicate characteristic differences between the way peers and followers rate the same leaders and the relevance of their behaviors. Both peer and follower latent classes contain versatile categories where leaders demonstrate the most overall relevant behavior. In general, this observation supports the idea that as leaders manifest relevance across workplace behaviors, there is an accompanying effect in increased performance. However, there is a richer story to tell than simply asserting that versatility and/or relevance make a leader better. Interpretation of the resultant classes revealed that relevance imparts an overall characteristic that supersedes the manifestation of relevance at a subdimensional level for singular behaviors. Further, subdimensional behaviors appear to provide useful information that suggests that behavioral are best interpreted with respect to the other behaviors. Thus, while the latent profiles were useful for forming initial ideas, this person-centered form of measurement was less informative than variable centered approaches based upon the behavioral scales and the complimentary behavioral dimensions for the purposes of understanding relevance.

The observed differences between peer and follower latent classes resulted in the formulation of three broad groups of hypotheses concerning how relevance should be conceptualized with respect to its components, variance between sources, and how this variance might apply to modeling performance. Overall, the results support Kaplan and Kaiser's (2006) concept of creating behavioral dimensions of opposing, but complementary behaviors. Furthermore, the variance explained by peers and followers

generally suggests that for behavioral relevance, rating sources evaluate target leaders differently. Finally, for the present sample, it appears that as peers aggregate observed leader behavior they are most efficient at rating the leader in connection with the leader's team, the team's climate, and the team's productivity. For followers, results suggest greater rating acuity when aggregating leader behavior based on the interpersonal nature of leadership. In sum, the proposed hypotheses were largely supported, providing considerable support for the arguments made herein.

Dimensionality of Leader Behavioral Relevance

The results of the tested hypotheses suggest that it is pertinent to think of leader behavior in terms of relevance, and not simply in terms of dynamic change. Observations across the identified latent classes indicate overall relevance is insufficient to model leader performance. The idea of overall versatility seems to hold true for follower-based classifications. However, peer-based classifications and overall versatility function differently using peer observations.

The differences between peer and follower classifications indicate a clear need to dissect leader behavior appropriately. While each approach provided some value to modeling leader performance, the results indicate that behavioral relevance is best modeled as a multidimensional phenomenon. Future research is needed to determine if the forceful-enabling and strategic-operational scores accurately represent the dimensional space. What is clear, however, is that these dimensions outperform individual behaviors and the behaviors as a collective set. It is possible that the

dimensional approach to modeling behavioral relevance increases the sensitivity to detecting subtle differences in performance, thus increasing the psychometric qualities of the ratings.

Multisource Ratings and Behavioral Relevance

Results of this study further suggest that the use of multisource instruments for the purposes of assessing dynamic, relevant leader behavior is not only helpful, but also critical. Results demonstrate that peers and followers tend to explain unique variance across all three approaches to model behavioral relevance. Followers and peers have unique and important perspectives on leader behavior, how it affects them, and how it affects the organization. For the purposes of this study, tested alternatives included behavioral factors, behavioral dimensions, and latent classes. Despite the decreasing emphasis in modern workplaces on hierarchies and increasing emphasis on leadership as a shared phenomenon, traditional hierarchical structures and associated effects appear to be at play. This idea is supported by the repeated observation that peer and follower ratings explained unique variance when predicting leader performance. The results consistently indicate between-source differences and suggest a likely psychometric benefit to collecting behavioral relevance data using multisource data. Future research should examine how these ratings and measurement procedures relate to objective indicators of performance in addition to the subjective ratings used to complete this study.

Rater Efficacy

The results of the third set of hypotheses serve as a reminder that the differences between multisource ratings are potentially more complex than simple discrepancies created by unique vantage points. The characteristic differences and variance explained in the third set of hypotheses illustrate differences in the rating sources differentially assess leader behavior. As hypothesized, even though observing the same behaviors, peers demonstrate greater efficacy with respect to rating how leader behavior produces value for the organization. For the purpose of this effort, this value was represented in terms of how the leader is responsible for the team's climate and productivity. Future research should further explore other beneficial constructs such as organizational commitment, job satisfaction, decreases in turnover, and the like. Even though followers might be expected to possess greater first-hand knowledge of their immediate work environment in terms of productivity and climate, this effort illustrates that followers appear to process leadership in terms of the interpersonal interactions experienced with the leader. Future research should further attend to these observations, and carefully consider the questions provided to different rating sources. Given the time and cost associated with most multisource instruments, greater attention is needed to understand how rating sources differ in their frames of reference and how this information can and should inform the nature of ratings gathered from different sources.

Practical Significance

The notion of leader behavioral relevance suggests a level of complexity that many modern measures are ill designed to capture. It seems prudent, therefore, to embrace the cognitive complexity these findings suggest. In light of the evidence provided by this study, measuring simple, stereotyped leader behaviors appears generally outmoded. To capture the complexity of leadership phenomena, evidence suggests it is necessary to consider how behavioral factors relate to one another and how rating sources provide unique perspectives based on differing value schemas. As the nature of work becomes increasingly complex, a similar transformation is needed in our measurement approaches, particularly as these ratings are used to inform practice. In particular, the results make it plan that relevance is measurable in ways that relate specifically to leader effectiveness. Furthermore, this observation points to the value of interventions to help leaders understand the value they add through interpersonal as well as to organizational outcomes.

<div align="center">

Conclusion

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The results of this effort demonstrate an important shift that is taking place in modern work and the need to model leadership in a way that reflects this complexity. The evidence provided illustrates the unique perspectives that rating sources have with respect to what constitutes relevant leader behavior. The evidence suggests that peers and followers have different experiences with leaders, and therefore provide important information about the relevance of leader behavior. Furthermore, these varying

perspectives provide organizations with important indicators about what their leaders value interpersonally and for the organization. This provides a useful opportunity for organizations to provide useful feedback to leaders. Additionally, this suggests an occasion for leaders and organizations to produce superior outcomes together.

The overall conclusion to be made of this study is that adaptive leader behavior is a reality. Not only is it observable from multiple perspectives, it can be assessed and is related to important organizational outcomes. Furthermore, relevance is best modeled when accounting for the relationships that exist between behaviors, and not simply measuring and modeling performance using individual behaviors alone. As advocated by Kaplan and Kaiser (2003, 2006), this study highlights the limitations of typical leadership studies that overlook imbalances in leader behavior and subsequent effects on leader effectiveness. The evidence herein makes the case for modeling leader behavior in terms of relevance, accounting for relevance in terms of complimentary behaviors, and considering the unique perspectives that multisource ratings have in this pursuit. Thus, the present effort demonstrates the utility of understanding the characteristics of relevant leader behavior.

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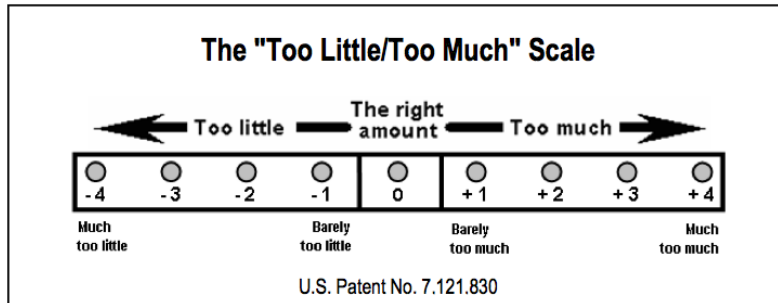
http://doi.org/10.1037/a0019835

Appendix A

Figures

Figure 1. The "Too Little/Too Much" rating scale. Reproduced from R. B. Kaiser, D. V. Overfield, and R. E. Kaplan, 2010, *Leadership Versatility Index®* version 3.0: Facilitator's Guide, Greensboro, NC. Kaplan DeVries Inc. Copyright 2010 by Kaplan DeVries Inc. Used with permission from the publisher.
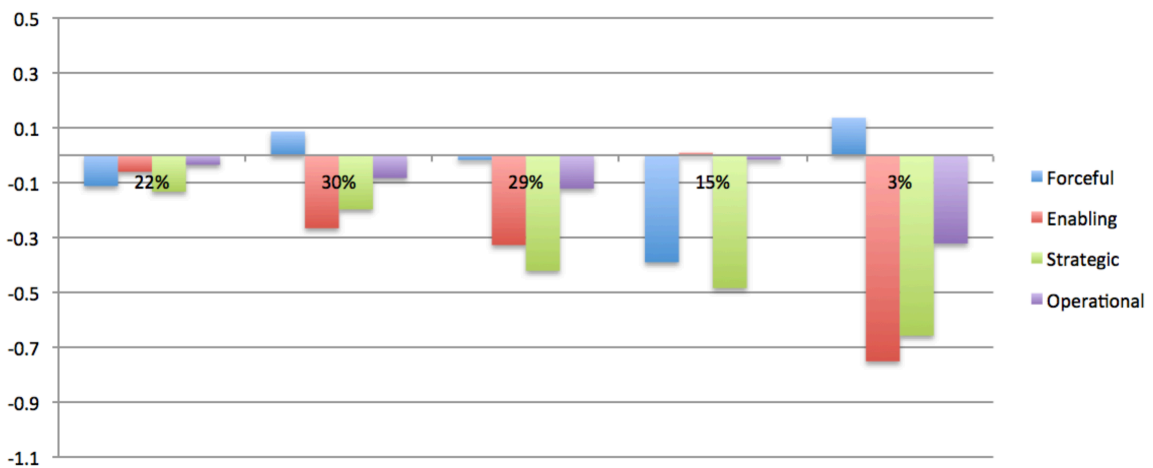
Figure 2. Profiles of five latent classes based on peer ratings of leaders' forceful, enabling, strategic, and operational behaviors; cluster membership indicated by reported percentages (N = 3,330)
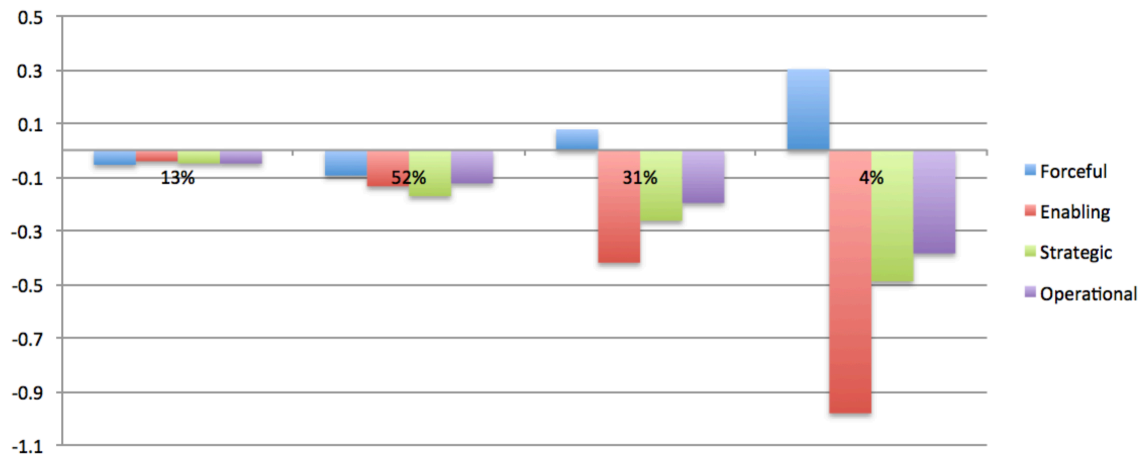
Figure 3. Profiles of four latent classes based on follower ratings of leaders' forceful, enabling, strategic, and operational behaviors; cluster membership is indicated by reported percentages (N = 3,330)

Appendix B

Tables

Table 1

Competing explanations for leading change

| Term	Merriam-Webster's Definition[1]	Scholars' Definition	Underlying Dimensions	Objective
Adaptive leadership	*adaptive*: showing or having a capacity for or tendency toward adaptation	"The practice of mobilizing people to tackle tough challenges and thrive." (Heifetz et al., 2009, p. 14)	1) Perspective taking behaviors 2) Identification of adaptive challenges 3) Distress regulation 4) Maintain disciplined attention 5) Participative/enabling behaviors 6) Protect voices from below	Encourage others to confront and solve problems and challenges
Agile leadership	*agile*: able to move quickly and easily	"The quality of distributed leadership; the judgment and agility of leaders in sensing, communicating and coordinating in ways that carry others with them." (McKenzie & Aitken, 2012, p. 329)	1) Embracing inconsistencies	Create conditions for knowldege, sharing, learning, engagement, and collaboration
Ambidextrous leadership	*ambidextrous*: able to use both hands equally well	"The ability to foster both explorative and exploitative behaviors in followers by increasing or reducing variance in their behavior and flexibly switching between those behaviors…ambidextrous leaders support their followers in the attempt to be ambidextrous." (Rosing et al., 2011, p. 957)	1) Explorative behavior 2) Exploitive behavior	Leadership for innovation
Flexible leadership	*flexible*: easily changed; able to change or to do different things	"Explains how…leaders can influence the financial performance of a business organization" where, "performance determinants are influenced by the decisions and actions of a firm's leaders," and "performance determinants can be enhanced by relevant task-oriented, relations-oriented, and change-oriented leadership behaviors." (Yukl, 2008, pp. 708-709, 711)	1) Task-oriented behavior 2) Relations-oriented behavior 3) Change-oriented behavior	Influence financial performance through efficiency, adaptation, and human capital
Versatile leadership	*versatile*: able to do many different things	"Capability on both sides of the duality[2] as well as the ability to judge which approach is most appropriate for the situation" (Kaplan & Kaiser, 2003, p. 18)	1) Forceful vs. Enabling behaviors 2) Strategic vs. Operational behaviors	Reduce exesses in leader behavior to improve effectiveness

Footnotes:

1. Simple definitions retrieved from Merriam-Webster.com

2. Duality refers to the traditional two-dimension approach to leadership (e.g., task and relationship, autocratic and participative). For a more complete treatment of this issue see Kaplan & Kaiser's *Rethinking a classic distinction in leadership* (2003)

Table 2.

Definitions for LVI behavioral scales

Forceful		Enabling	
Taking the lead for pushing and performance		Creating conditions for others to lead and contribute	
Takes charge		Empowers	
	In control		Empowers people
	Assumes authority		Gives people room
	Gives direction		Hands-off
	Steps in		Trusts people
Declares		Listens	
	Decisive		Participative
	Takes stand		Relies on input
	Speaks up		Open to influence
	Doesn't back down easily		Receptive to pushback
Pushes		Supports	
	Pushes people hard		Shows appreciation
	Expects a lot		Treats people well
	Direct when dissatisfied		Sensitive to people's feelings
	Holds people accountable		Gives the benefit of the doubt

Strategic		Operational	
Positioning the organization for the future		Focusing the organization for the near term	
Direction		Execution	
	Future-oriented		Short-term focus
	Thinks strategically		Tactical
	Big-picture perspective		Attention to detail
	Anticipates change		Follows up
Growth		Efficiency	
	Aggressive about growth		Conservative about risk
	Launches many changes		Practical about change
	Makes bold moves		Incremental change
	Entrepreneurial		Efficient
Innovation		Order	
	Questions the status quo		Goes by the book
	Embraces change		Stays with the tried and true
	Open to new ideas		Organized
	Encourages innovation		Process-oriented

Table 3.

Bivariate correlations

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. Experience	-																
2. Tenure	0.12	-															
3. Leader effectiveness (supervisor)	0.03	0.01	-														
4. Team performance (leader)	0.06	0.10	0.11	-													
5. Team climate (followers)	-0.05	0.05	0.19	0.20	-												
6. Forceful (peers)	0.05	0.03	0.05	0.08	-0.05	-											
7. Enabling (peers)	-0.04	-0.08	0.09	-0.05	0.09	-0.68	-										
8. Strategic (peers)	-0.02	-0.11	0.16	0.01	0.03	0.36	-0.01	-									
9. Operational (peers)	0.02	0.03	0.09	0.01	0.02	0.02	0.02	-0.27	-								
10. Forceful (followers)	0.02	-0.02	-0.03	0.02	-0.07	0.49	-0.40	0.15	0.04	-							
11. Enabling (followers)	-0.03	-0.02	0.14	0.05	0.38	-0.35	0.38	-0.06	-0.04	-0.62	-						
12. Strategic (followers)	0.00	-0.09	0.11	0.06	0.25	0.22	-0.11	0.29	-0.11	0.30	0.12	-					
13. Operational (followers)	-0.01	0.00	0.11	-0.03	0.14	0.00	0.01	-0.13	0.34	0.18	0.02	-0.11	-				
14. Forceful-Enabling (peers)	-0.04	-0.02	0.19	0.06	0.48	-0.19	0.24	0.00	-0.02	-0.39	0.75	0.23	0.07	-			
15. Strategic-Operational (peers)	-0.02	-0.05	0.20	0.06	0.42	0.07	0.01	0.09	0.13	0.11	0.32	0.59	0.37	0.49	-		
16. Forceful-Enabling (followers)	-0.05	-0.07	0.20	0.00	0.10	-0.26	0.54	0.21	0.09	-0.15	0.20	0.00	0.05	0.25	0.09	-	
17. Strategic-Operational (followers)	-0.02	-0.12	0.23	0.02	0.07	0.23	0.14	0.72	0.10	0.10	-0.02	0.18	0.05	0.04	0.18	0.42	-

Note: **bold** indicates p < .05; ***bold italics*** indicates p < .01

Table 4.

Comparison of peer-based LPA models based on BIC criterion

Model	Hypothesis	LL	n	df	BIC
A.	1 cluster	-6451.72	3816	14	-13018.90
B.	2 clusters	-4561.72	3816	20	-9288.38
C.	3 clusters	-4300.24	3816	26	-8814.90
D.	4 clusters	-4250.36	3816	32	-8764.61
E.	**5 clusters**	**-4224.70**	**3816**	**38**	**-8762.78**
F	6 clusters	-4201.48	3816	44	-8765.84

Note: Models assume ellipsoidal shapes with equal sizes and orientations. Values in bold indicate optimal cluster solution. *LL* log-likelihood, *BIC* Bayesian information criterion

Table 5.

Comparison of follower-based LPA models based on BIC criterion

Model	Hypothesis	LL	n	df	BIC
A.	1 cluster	-5412.43	3816	14	-10940.31
B.	2 clusters	-2659.17	3816	20	-5483.28
C.	3 clusters	-2224.37	3816	26	-4663.16
D.	**4 clusters**	**-2056.77**	**3816**	**32**	**-4377.43**
E.	5 clusters	-2034.10	3816	38	-4381.58
F.	6 clusters	-2017.61	3816	44	-4398.08

Note: Model A is ellipsoidal, multivariate normal. Models B through F assume ellipsoidal shapes with equal sizes and orientations. Values in bold indicate optimal cluster solution. *LL* log-likelihood, *BIC* Bayesian information criterion

Table 6

Hierarchical regression analysis for dimensional models predicting supervisor ratings of effectiveness

Predictor	Scale-based model						Complimentary dimensions-based model						Latent class-based model					
	SS	B	SE B	β	R²	ΔR²	SS	B	SE B	β	R²	ΔR²	SS	B	SE B	β	R²	ΔR²
Step 1					0.09 ***						0.11 ***	0.02 ***					0.11 ***	0.00
Forceful (Peer)	18.91 ***	0.22	0.06	0.11			15.14 ***	0.20	0.06	0.10			16.63 ***	0.21	0.06	0.10		
Forceful (Follower)	2.28	-0.08	0.06	-0.04			2.82	-0.09	0.06	-0.04			2.42	-0.09	0.06	-0.04		
Enabling (Peer)	25.23 ***	0.31	0.07	0.11			3.01	0.12	0.08	0.04			2.64	0.11	0.08	0.04		
Enabling (Follower)	26.48 ***	0.32	0.07	0.11			0.55	0.06	0.09	0.02			0.13	0.03	0.09	0.01		
Strategic (Peer)	74.75 ***	0.46	0.06	0.16			4.07	0.16	0.09	0.05			4.10	0.16	0.09	0.06		
Strategic (Follower)	16.78 ***	0.25	0.07	0.07			0.55	0.06	0.09	0.02			1.01	0.08	0.09	0.02		
Operational (Peer)	37.97 ***	0.37	0.07	0.10			9.31 **	0.20	0.07	0.06			9.16 **	0.20	0.07	0.06		
Operational (Follower)	40.19 ***	0.40	0.07	0.11			9.97 **	0.23	0.08	0.06			8.83 **	0.22	0.08	0.06		
Step 2																		
Forceful-Enabling (Peer)							23.12 ***	1.37	0.31	0.10			18.27 ***	1.40	0.36	0.10		
Forceful-Enabling (Follower)							13.87 ***	1.32	0.39	0.09			4.22	0.84	0.45	0.06		
Strategic-Operational (Peer)							15.78 ***	1.80	0.50	0.10			9.89 **	1.80	0.63	0.10		
Strategic-Operational (Follower)							8.25 **	1.41	0.54	0.07			1.74	0.75	0.62	0.04		
Step 3																		
Category 2 (Peer)													1.21	-0.06	0.06	-0.02		
Category 3 (Peer)													0.61	-0.06	0.08	-0.02		
Category 4 (Peer)													0.04	0.01	0.07	0.00		
Category 5 (Peer)													0.15	0.07	0.19	0.01		
Category 2 (Follower)													0.24	0.03	0.06	0.01		
Category 3 (Follower)													0.93	-0.08	0.09	-0.03		
Category 4 (Follower)													4.88 *	-0.38	0.19	-0.07		

Note: * $p < .05$. ** $p < .01$. *** $p < .001$; due to large sample size R² and adjusted R² are identical

Table 7

Hierarchical regression analysis for between source behavioral scales predicting supervisor ratings of effectiveness

Predictor		Model 1					Model 2					
	SS	B	$SE\ B$	β	R^2		SS	B	$SE\ B$	β	R^2	ΔR^2
Step 1					0.04 ***						0.09 ***	0.05 ***
Forceful (Follower)	0.55	-0.04	0.06	-0.02			2.28	-0.08	0.06	-0.04		
Enabling (Follower)	27.08 ***	0.32	0.07	0.11			26.48 ***	0.32	0.07	0.11		
Strategic (Follower)	43.37 ***	0.39	0.07	0.12			16.78 ***	0.25	0.07	0.07		
Operational (Follower)	59.81 ***	0.46	0.07	0.12			40.19 ***	0.40	0.07	0.11		
Step 2												
Forceful (Peer)							18.91 ***	0.22	0.06	0.11		
Enabling (Peer)							25.23 ***	0.31	0.07	0.11		
Strategic (Peer)							74.75 ***	0.46	0.06	0.16		
Operational (Peer)							37.97 ***	0.37	0.07	0.10		

Note: * $p < .05$. ** $p < .01$. *** $p < .001$; due to large sample size R^2 and adjusted R^2 are identical

Table 8

Hierarchical regression analysis for between source dimension scores predicting supervisor ratings of effectiveness

Predictor		Model 1					Model 2					
	SS	B	$SE\ B$	β	R^2		SS	B	$SE\ B$	β	R^2	ΔR^2
Step 1					0.05 ***						0.10 ***	0.05 ***
Forceful-Enabling (Follower)	50.30 ***	1.68	0.27	0.12			35.99 ***	1.49	0.27	0.11		
Strategic-Operational (Follower)	68.87 ***	2.73	0.37	0.14			39.31 ***	2.12	0.37	0.11		
Step 2												
Forceful-Enabling (Peer)							26.96 ***	1.27	0.27	0.09		
Strategic-Operational (Peer)							107.08 ***	3.02	0.32	0.17		

Note: * $p < .05$. ** $p < .01$. *** $p < .001$; due to large sample size R^2 and adjusted R^2 are identical

Table 9

Hierarchical regression analysis for between source latent class membership predicting supervisor ratings of effectiveness

Predictor		Model 1					Model 2					
	SS	B	$SE\ B$	β	R^2		SS	B	$SE\ B$	β	R^2	ΔR^2
Step 1					0.04 ***						0.08 ***	0.04 ***
Category 2 (Follower)	4.62	-0.11	0.06	-0.05			2.56	-0.09	0.06	-0.04		
Category 3 (Follower)	57.70 ***	-0.43	0.06	-0.17			34.56 ***	-0.34	0.06	-0.13		
Category 4 (Follower)	138.08 ***	-1.12	0.11	-0.20			104.09 ***	-0.98	0.11	-0.17		
Step 2												
Category 2 (Peer)							12.40 **	-0.17	0.05	-0.07		
Category 3 (Peer)							106.44 ***	-0.50	0.05	-0.20		
Category 4 (Peer)							26.80 ***	-0.29	0.06	-0.09		
Category 5 (Peer)							90.23 ***	-0.96	0.11	-0.15		

Note: * $p < .05$. ** $p < .01$. *** $p < .001$; due to large sample size R^2 and adjusted R^2 are identical

Table 10

Hierarchical regression analysis for within source peer ratings predicting supervisor ratings of effectiveness

Predictor		Model 1					Model 2				
	SS	B	SE B	β	R²	SS	B	SE B	β	R²	Δ R²
Step 1					0.07 ***					0.13 ***	0.06 ***
Forceful-Enabling (Peer)	55.31 ***	1.73	0.26	0.12		6.38 *	0.63	0.27	0.04		
Strategic-Operational (Peer)	126.55 ***	3.26	0.32	0.18		24.67 ***	1.52	0.33	0.09		
Step 2											
Team Productivity (Peer)						85.36 ***	0.41	0.05	0.18		
Team Climate (Peer)						52.25 ***	0.30	0.05	0.15		

Note: * *p* < .05. ** *p* < .01. *** *p* < .001; *due to large sample size R² and adjusted R² are identical*

Table 11

Hierarchical regression analysis for within source follower ratings predicting supervisor ratings of effectiveness

Predictor		Model 1					Model 2				
	SS	B	SE B	β	R²	SS	B	SE B	β	R²	Δ R²
Step 1					0.05 ***					0.06 ***	0.01 ***
Forceful-Enabling (Follower)	50.30 ***	1.73	0.27	0.12		26.08 ***	1.31	0.29	0.09		
Strategic-Operational (Follower)	68.87 ***	2.72	0.37	0.14		29.72 ***	1.90	0.39	0.10		
Step 2											
Team Productivity (Follower)						24.28 ***	0.24	0.05	0.10		
Team Climate (Follower)						3.60	0.08	0.05	0.04		

Note: * *p* < .05. ** *p* < .01. *** *p* < .001; *due to large sample size R² and adjusted R² are identical*

Table 12

Hierarchical regression analysis for between source ratings predicting supervisor ratings of effectiveness

Predictor	SS		B	SE B	β	R²	AIC	BIC
Model 1: Peer context & Follower interpersonal						0.15 ***	10191.60	10228.43
Forceful-Enabling (Follower)	25.90	***	1.24	0.26	0.09			
Strategic-Operational (Follower)	38.04	***	2.05	0.36	0.11			
Team Productivity (Peer)	129.41	***	0.49	0.05	0.22			
Team Climate (Peer)	46.54	***	0.28	0.04	0.13			
Model 2: Follower context & Peer interpersonal						0.10 ***	10411.56	10448.41
Forceful-Enabling (Peer)	46.76	***	1.60	0.26	0.11			
Strategic-Operational (Peer)	103.42	***	2.91	0.32	0.17			
Team Productivity (Follower)	28.21	***	0.25	0.05	0.10			
Team Climate (Follower)	25.80	***	0.20	0.04	0.10			

Note: * *p* < .05. ** *p* < .01. *** *p* < .001; *due to large sample size R² and adjusted R² are identical*

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