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Do Intelligent Leaders Differentiate Exchange Relationships Intelligently? A Functional Leadership Approach to Leader-Member Exchange Differentiation

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The burgeoning literature on leader–member exchange (LMX) differentiation indicates that differentiating LMX relationships within groups has both benefits and costs when it comes to group effectiveness. Although some clarity is emerging surrounding the null total effect of LMX differentiation on group performance, we still know little about how leaders themselves shape the differentiation process. In this article, we extend theory to suggest that some leaders may differentiate more effectively than others. Drawing from functional leadership theory, we first identify a potential approach available to leaders likely to enhance their functional effectiveness—strategically investing in and developing stronger social exchange relationships with subordinates who can best help them fulfill the task functions (via task performance-based differentiation) and group maintenance functions (via contextual performance-based differentiation) specified within functional leadership theory. Embedding this potential approach within the ability–motivation–opportunity framework, we then develop a theory for which leaders are best positioned to recognize and pursue strategic relationship development this way. Specifically, we posit that leaders with stronger cognitive abilities (*g*) are more likely to recognize the value of such an approach, and those high in core self-evaluation are more likely to believe in their capabilities to successfully process, execute on, and persist with the approach. The results from two studies—a multisource study of leaders and team members in newly formed teams as well as a preregistered online vignette study using a sample of current and former supervisors—largely supported our predictions.

Keywords: leader–member exchange differentiation, ability–motivation–opportunity framework, functional leadership, intelligence, core self-evaluation

The notion that leaders develop differentiated relationships with employees is a pillar of leader–member exchange (LMX) theory (Liden et al., 1997). Specifically, LMX theory proposes that leaders invest additional personal resources (e.g., information, influence, and development opportunities; Graen & Scandura, 1987; Wilson et al., 2010) in and develop stronger social exchange relationships with a select set rather than all employees. These chosen employees then reciprocate in that social exchange relationship by contributing their personal resources toward helping the leader achieve their work-group goals (Dansereau et al., 1975; Graen, 1976; Graen & Cashman, 1975). Supporting these core tenets, research shows that 80%–90% of work units are differentiated in terms of LMX quality (Graen & Cashman, 1975; Liden & Graen, 1980).

When it comes to the implied byproduct of developing high LMX relationships—that is, LMX differentiation (the variability in LMX relationships within a specific group; Liden et al., 2006)—a recent meta-analysis showed that it impacts group performance in two competing ways, resulting in a null net effect (Yu et al., 2018). On the one hand, it directly benefits performance by enhancing the efficiency of the leader's allocation of resources, as investing in a select set of social exchange relationships makes better use of the leader's limited personal resources in achieving group goals. On the

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other hand, it indirectly hinders performance through its negative impact on the group's attitudes and processes that facilitate group success. Though Yu et al. (2018) provide some clarity for the mixed effects of LMX differentiation on group performance (for a review, see Anand et al., 2015), research still does not speak to how leaders may shape the differentiation process to allow the benefits of LMX differentiation to outweigh its costs.

One way to address this issue is to look more closely at *how* leaders differentiate LMX across their followers. Indeed, leaders use various bases (e.g., performance, compatibility, and trust, or even personal prejudices) when deciding in whom to invest their personal resources (Chen et al., 2018; Matta & Van Dyne, 2020). It stands to reason that the criteria upon which the leader relies to differentiate may allow for the benefits of LMX differentiation to be maximized (i.e., efficient leader resource utilization) and the costs to be minimized (i.e., divisive group attitudes and processes), resulting in higher group performance. A related way to address this issue is to look more closely at *which leaders* differentiate LMX in performance-enhancing ways. Indeed, certain leaders may be naturally inclined to differentiate in ways that boost collective performance (Liden et al., 1997). However, as reviews of this literature have noted, "hardly any attention has been paid to the drivers of LMX differentiation … [especially] what drives the differences between leaders" (Anand et al., 2015, p. 287).

In this article, we integrate tenets of functional leadership theory within the ability–motivation–opportunity framework to develop theory that elucidates how leaders differentiate LMX in a manner conducive to team performance as well as which leaders are most likely to do so successfully. Beginning with "how," we first shed light on a potential approach available to leaders as they develop relationships with their employees. Drawing on functional leadership theory (Fleishman et al., 1991; Hackman & Walton, 1986; McGrath, 1962; Morgeson et al., 2010), we propose that leaders can enhance their functional effectiveness by investing in and building stronger social exchange relationships with employees equipped to assist them in completing the task and group maintenance functions critical to team performance. Indeed, although functional leadership theory explicitly notes that the leader's role is simply to ensure all critical functions are fulfilled—not necessarily to perform those functions personally (Hackman & Walton, 1986, p. 22; see also Burke et al., 2006)—the idea that leaders may rely on subordinates to assist them in fulfilling leadership functions has been almost entirely overlooked in the literature. Thus, we provide a new and unconsidered potential approach through which leaders can achieve that end—via strategic employee relationship formation.

Although executing on a functional approach to LMX differentiation clarifies a potential means by which leaders may enhance their functional effectiveness, the ability–motivation–opportunity framework (Blumberg & Pringle, 1982; Jiang et al., 2012; Kim et al., 2016; MacInnis et al., 1991; MacInnis & Jaworski, 1989; Reinholt et al., 2011) suggests that successful information processing and execution requires not only that the opportunity exists (that the leader and team member context makes a functional approach to LMX differentiation possible), but also that it be (a) successfully recognized as well as (b) approached with sufficient willingness and self-assurance to be appropriately processed and acted upon. Thus, turning to the question of which leaders may be naturally inclined to "take on" a functional approach to LMX differentiation, we propose that leaders with stronger cognitive abilities (*g*) and higher core self-evaluation (CSE) are particularly equipped and likely to do so. Specifically, we posit leaders high in *g* are more likely to recognize the value afforded by a functional approach to differentiation (Fleishman et al., 1991; Gottfredson, 1997), and those high in CSE are more likely to believe in their capacity to successfully process, execute on, and persist with this approach (Bono & Colbert, 2005; Judge, Erez, & Bono, 1998; Judge & Hurst, 2007). We test these predictions across two studies—a multisource study of leaders and team members in newly formed teams and a preregistered online vignette study featuring a sample of experienced supervisors.

Our work contributes to theory and practice in several ways. First, we demonstrate the utility of applying a functional leadership lens to the LMX differentiation phenomenon. While functional leadership theory provides a theoretical lens for prescribing how leaders can go about facilitating team performance (i.e., by fulfilling task and group maintenance functions), this literature has largely focused on how leaders themselves fulfill these functions and overlooked the notion that they may rely on others to help attain this end. Conversely, while the LMX literature supplies a descriptive account of what leaders can do to enhance the utilization of resources within groups (i.e., differentiate LMX), it ignores the functions leaders need to complete. By developing theory for a functional approach to LMX differentiation, we highlight an approach available to leaders to fulfill their demanding functions in groups despite having limited resources. Specifically, we position task and contextual performance-based differentiation as ways for leaders to strategically use relational resources to fulfill the task and group maintenance functions specified within functional leadership theory (Hackman & Walton, 1986; McGrath, 1962).

Second, we extend nascent work on the bases of LMX differentiation. While prior work acknowledges that some leaders do differentiate LMX based on performance and that doing so may alleviate the deleterious effects of differentiation on some group attitudes and processes (Chen et al., 2018; Matta & Van Dyne, 2020), we are the first to articulate and demonstrate the way these concepts come together to impact group performance. Interestingly, in addition to generally demonstrating that a functional approach to LMX differentiation is performance-enhancing for the team, supplementary analyses also reveal that some forms of performance-based differentiation enhance group performance by mitigating the attitudinal costs linked to differentiation (task performance-based), while others enhance the direct benefits tied to differentiation despite having minimal effects on group attitudes (contextual performance-based). Thus, we speak to how leaders may strategically navigate the differentiation process to maximize the benefits and minimize the costs for group performance (Anand et al., 2015; Yu et al., 2018). We note this is particularly critical given that a primary lingering issue in the LMX differentiation literature is the competing and mixed effects of LMX differentiation on *group performance* (Anand et al., 2015; Erdogan & Bauer, 2015).

Finally, by embedding the functional approach to LMX differentiation as an outcome within the ability–motivation–opportunity framework, we advance the literature by introducing the first predictors of performance-based differentiation—leader *g* and CSE. Doing so answers calls to illuminate drivers of the way leaders differentiate (Anand et al., 2015) and contributes to the broader literature on *g* and leadership by explicating *how*, *why*, and *when* leader *g* impacts group performance via LMX differentiation

bases. Indeed, although there is some consensus that *g* matters for leadership (Judge et al., 2004), the effect sizes are smaller than what scholars have historically assumed (Lord et al., 2017), the mechanisms that underlie these linkages are unclear (Tuncdogan et al., 2017), and the magnitude of the associations is often conditional (Antonakis et al., 2017; Fiedler, 1964, 2002). We develop and test theory that speaks to each of these limitations, providing LMX differentiation criteria as a resource utilization mechanism that links *g* with leader outcomes (how and why) and introducing CSE as a boundary condition (when).

Theory and Hypotheses

Ability–Motivation–Opportunity Framework

Although we suggest that strategic LMX differentiation provides leaders with the potential for enhanced group performance, the ability–motivation–opportunity framework (Blumberg & Pringle, 1982; Jiang et al., 2012; Kim et al., 2016; MacInnis et al., 1991; MacInnis & Jaworski, 1989; Reinholt et al., 2011) highlights three ingredients as necessary for successful information processing and ultimate execution of such an approach: (a) opportunity— the contextual circumstances exist that offer the potential to process information and execute, (b) ability—the proficiencies to appropriately interpret information and recognize those circumstances exist, and (c) motivation—the willingness and self-assurance to sufficiently process that information and carry through on execution. Highlighting the utility of this framework, the simultaneous co-occurrence of these three elements has been demonstrated to successfully impact the implementation of human resource management practices (e.g., Jiang et al., 2012; Kim et al., 2016), facilitation of knowledge transfer (e.g., Chang et al., 2012; Reinholt et al., 2011), utilization of expertise (e.g., Hong & Gajendran, 2018), and engagement with entrepreneurial opportunities (e.g., Grégoire & Shepherd, 2012).

In the sections that follow, we integrate each of the key ingredients from the ability–motivation–opportunity framework to the context of leader strategic relationship formation. First, we highlight that the relationship development aspect of leadership creates a contextual circumstance where leaders have the potential to invest in and utilize relational resources strategically. That is, we reveal that leaders have the *opportunity* to utilize subordinates to help them fulfill the leadership functions specified within functional leadership theory (which functional leadership theory posits will enhance group performance; Hackman & Walton, 1986; McGrath, 1962). Given the inherent opportunity to uptake this approach within most leadership contexts, we zero in on the ability and motivation components of the framework to elucidate which leaders are most likely to successfully process and execute on such an approach. In terms of *ability*, we identify *g* as providing leaders with the social problem-solving abilities necessary to recognize the value provided by strategic relationship formation (Fleishman et al., 1991; Gottfredson, 1997). In regard to *motivation*, we posit CSE provides leaders with the self-assurance and motivational capacity to believe in their capabilities to successfully process, execute on, and persist with such an approach (given that high CSE individuals have the self-assurance to appraise opportunities with enhanced intensity and pursue them with greater persistence; Bono & Colbert, 2005; Judge, Erez, & Bono, 1998; Judge & Hurst, 2007). In short, the ability–motivation–opportunity framework first helps spotlight strategic LMX differentiation as an approach that is—in *theory*—available to leaders to enhance their functional effectiveness (i.e., the leadership context provides the potential to take on such an approach) and then guides our overarching model for which leaders are—in *practice*—most likely to take advantage of this approach (i.e., which leaders have the ability and motivation to process and execute on it). Before proceeding, we explicate and expand on what exactly strategic LMX differentiation entails and why certain approaches to LMX differentiation may be more functionally effective than others. To do this, we draw from functional leadership theory in the section that follows.

A Functional Leadership Approach to LMX Differentiation

The crux of functional leadership theory is that the effectiveness of any leader hinges on the leader being able to ensure all task and group maintenance functions are adequately completed (Burke et al., 2006; Hackman & Walton, 1986; McGrath, 1962). In the words of Hackman and Walton (1986, p. 76):

> The key assertion in the functional approach to leadership is this: "The leader's main job is to do, or get done, whatever is not being adequately handled for group needs." (McGrath, 1962, p. 5). If a leader manages, by whatever means, to ensure that all functions critical to both task accomplishment and group maintenance are adequately taken care of, then the leader has done his or her job well.

As we develop theory outlining the utility afforded by a functional approach to LMX differentiation, three aspects of functional leadership theory are particularly critical to our theoretical development. The theory: (a) specifies the primary role of the leader is to ensure the completion of group functions (Fleishman et al., 1991; Hackman & Walton, 1986; McGrath, 1962; Morgeson et al., 2010), (b) broadly categorizes these group functions into two subsets—task (functions that directly impact the accomplishment of tasks) and group maintenance (nontask functions that create value by influencing the maintenance of the group as a social system; Burke et al., 2006; Hackman & Walton, 1986; McGrath, 1962), and (c) explicitly highlights the leader does not have to complete them personally (Burke et al., 2006; Hackman & Walton, 1986).

In terms of (a) and (b), research has progressed in line with functional leadership theory's idea that the most effective leaders are those who cover all such functions. However, point (c) is often overlooked. Indeed, despite the theory's idea that "the behavioral requirement for the leader is to ensure that critical functions are fulfilled," Hackman and Walton (1986, p. 22, emphasis in original) explicitly noted that "this does *not* mean that the leader must handle them personally." Still, scholars have largely assumed leaders fulfill key functions one way—themselves. With this as a backdrop, we suggest leaders have the potential to complete task and group maintenance functions by strategically building stronger relationships with subordinates best equipped to assist them in fulfilling those functions (and, as a result, enhance workgroup functioning). Indeed, the core premise of the LMX literature is that when leaders develop stronger social exchange relationships with a select set of employees, those employees reciprocate in that social exchange relationship by contributing their personal resources toward helping the leader achieve their workgroup goals (Dansereau et al., 1975; Graen, 1976; Graen & Cashman, 1975). Thus, the contextual circumstances exist (i.e., opportunity) for leaders to strategically invest in and develop

stronger social exchange relationships with subordinates who can best help them fulfill task and group maintenance functions. We suggest two direct indicators of an employee's ability to assist in completing task and group maintenance functions are their level of task and contextual performance, respectively.

Developing stronger LMXs with high task performers (i.e., *task performance-based differentiation*) is one way to maximize the coverage of task functions within the group. Within functional leadership theory, task functions are defined as functions that directly impact the accomplishment of tasks within the group and include functions such as "stepping in" to perform the team task and providing task-relevant resources for the team (Hackman & Walton, 1986; Morgeson et al., 2010). Thus, leaders have the *potential* opportunity to enhance the completion of task functions by developing strategic relationships with employees who have proven themselves able to help fulfill those functions. Given that task performance is defined as the proficiency with which an employee carries out task activities that contribute to the organization's technical core—including behaviors such as transforming raw materials into goods and services as well as providing needed materials and services (Borman & Motowidlo, 1993, 1997)—high task performers are uniquely equipped in this regard. Rather than indiscriminately allocating LMX resources (e.g., information, latitude, and decision influence; Graen & Scandura, 1987) within workgroups, task performance-based LMX differentiation channels leader resources to high task performers who are better equipped to reciprocate those leader investments in the social exchange relationship by fulfilling the task functions conducive to unit performance.

In a related vein, developing stronger LMXs with high contextual performers (i.e., *contextual performance-based differentiation*) should provide a leader with social exchange partners who are well suited to assist with group maintenance functions. Group maintenance functions are outlined in functional leadership theory as "nontask" functions that create value by influencing the maintenance of the group as a social system and include functions such as (a) maintaining and enhancing group members' relations with one another and (b) taking initiative and exerting additional effort to aid in group decision making (Hackman & Walton, 1986; Schutz, 1961). Thus, leaders have the potential opportunity to enhance group maintenance function coverage by developing strategic relations with employees who have proven themselves able to help fulfill those functions. Given the defining quality of contextual performance "is that it be 'non-task,' or more to the point, that it contribute to the maintenance and/or enhancement of the context of work" (Organ, 1997, p. 90), these subordinate behaviors serve as a precise indicator of such a competency. Indeed, contextual performance behaviors include both acts of interpersonal facilitation (cooperative, considerate, and helpful acts that assist coworkers' performance) and job dedication (self-disciplined, motivated acts such as working hard, taking initiative, and following rules to support organizational objectives; Van Scotter & Motowidlo, 1996). Returning to the examples of group maintenance functions described above, members who (a) support and assist their coworkers (interpersonal facilitation) and (b) take initiative to solve problems (job dedication) have shown a capacity for (a) maintaining and enhancing group members relations with one another and (b) taking initiative and exerting additional effort to aid in group decision making (Hackman & Walton, 1986; Schutz, 1961).[1] Thus, leaders may direct LMX resources (e.g., information, latitude, and decision influence; Graen & Scandura, 1987) to high contextual performers who are better equipped to reciprocate those leader investments in the social exchange relationship by fulfilling the group maintenance functions conducive to unit performance.

Taken together, engaging in task and contextual performance-based differentiation provides leaders with the potential to more efficiently cover task and group maintenance functions, which functional leadership theory posits will enhance group performance (Hackman & Walton, 1986; McGrath, 1962). Moreover, we highlight that such a strategy is likely to enhance the benefits and minimize the costs of LMX differentiation. Beginning with benefits, LMX differentiation directly strengthens performance by enhancing the efficiency of the leader's allocation of resources (presumably because they provide resources to social exchange partners that make better use of those resources; Yu et al., 2018). This is likely to be especially true when differentiation is based on performance, as leaders are able to ensure that members who are most useful to the unit get the resources they need to facilitate group success while also incentivizing these members to sustain their effort (Graen & Scandura, 1987; Graen & Uhl-Bien, 1995). Indeed, given that task and contextual performance are inextricably linked with individual and group performance across performance metrics (N. P. Podsakoff et al., 2009, 2014), providing greater LMX resources (e.g., information, latitude, and decision influence; Graen & Scandura, 1987) to top task and contextual performers is an "efficient" resource investment.

At the same time, we expect task and contextual performance-based differentiation will not incur the typical costs linked to LMX differentiation. Research has shown that differentiation often has a negative impact on the group attitudes and processes that underlie group performance (Yu et al., 2018). For instance, differences in LMX quality within groups can be viewed as unfair, hampering the attitudes members have toward their group (Erdogan & Bauer, 2010; Hooper & Martin, 2008; Sherony & Green, 2002). However, this may not always be the case. Indeed, recent theoretical work reasoned that LMX differentiation based on performance-related inputs is more likely to be viewed as justified, earned, equitable, and fair, resulting in a positive rather than a negative impact on group attitudes (Matta & Van Dyne, 2020)—a notion supported by empirical work showing that differentiation based on task and

[1] Both group maintenance functions and contextual performance were introduced to their respective literatures to capture aspects of leadership and employee performance that create value to the organization—not by directly impacting the accomplishment of tasks within the group but—by enhancing or maintaining the social context in which task accomplishment is embedded (Hackman & Walton, 1986; LePine et al., 2002; Motowidlo, 2000; Schutz, 1961). Moreover, they both include a broad array of potential functions and behaviors. Two common themes among these "nontask" aspects of leadership and employee behavior that maintain or enhance the group as a social system are (a) leader functions/employee behaviors that facilitate group harmony and (b) leader functions/employee behaviors that reflect a motivation or initiative to go above and beyond for the common good. Indeed, these two themes live not only in the definitions of (a) interpersonal facilitation and (b) job dedication but also in specific examples of group maintenance functions specified by Schutz (1961) and later referenced by Hackman and Walton (1986). For instance, examples of group maintenance functions include both (a) maintaining and enhancing group members' relations with one another and (b) taking initiative and engaging in motivated action in a variety of ways—such as taking initiative to establish and maintain sufficient contact between one's workgroup and outside groups as well as exerting effort to aid in group decision making.

citizenship performance buffered the deleterious effects of differentiation on group cohesion and group proactivity (Chen et al., 2018). Taken together, we propose that performance-based differentiation provides leaders with the potential to enhance group performance because such an approach ensures maximum coverage of task and group maintenance functions (Hackman & Walton, 1986; McGrath, 1962), maximizing the proposed benefits of differentiation while minimizing its costs.

Hypothesis 1: Task performance-based LMX differentiation is positively associated with group performance.

Hypothesis 2: Contextual performance-based LMX differentiation is positively associated with group performance.

Leader Traits That Manifest in Ability and Motivation to Strategically Differentiate

As argued above, a functional approach to LMX differentiation—that is, differentiating based on task and contextual performance—allows leaders to enhance their functional effectiveness and thereby group performance. However, just because the circumstances that make a functional approach to LMX differentiation possible exist does not mean they will be recognized and capitalized on. As such, we draw from the ability–motivation–opportunity framework to develop theory that speaks to *which* leaders are most likely to take on such an approach. Indeed, the framework provides a conceptual anchor to identify traits likely to provide leaders with the ability to recognize that these circumstances exist and the motivation to process and capitalize on them—that is, the other active ingredients necessary for execution.

Beginning with ability, recognizing the utility afforded by functional leader approaches (in our context, a functional approach to strategic relationship formation) requires the ability to social problem solve. Indeed, in their functional leadership meta-analysis, Burke et al. (2006, p. 289) noted, "Under this approach, team leadership can be described as a dynamic process of social problem solving." Likewise, Mumford et al.'s (2000, p. 26) application of the theory noted that "leadership ultimately depends on one's capability to formulate and implement solutions to complex (i.e., novel, ill-defined) social problems." Driving this point home, Zaccaro et al.'s (2001, p. 454) review of functional leadership theory argued that, at its core, "This perspective defines leadership as social problem solving." When it comes to traits that reflect an ability to social problem solve and recognize the potential in a functional approach, *g*—defined as "the ability to reason, solve problems, think abstractly, and acquire knowledge" (Gottfredson, 1997, p. 93)—is especially pertinent. In fact, neurological research has even directly linked general intelligence to enhanced activation in areas of the brain associated with social problem solving (Barbey et al., 2014). Given the above, it is perhaps unsurprising reviews of functional leadership theory have explicitly suggested that because functional leadership theory "underscores the role of social problem solving in leadership, one might expect intelligence to represent an important, albeit not a sole, determinant of leader performance" (Fleishman et al., 1991, p. 275).

Beyond the broad need to social problem solve when applying functional leader approaches, a functional approach to LMX differentiation specifically requires the ability to social problem solve in at least two additional ways—both of which should be facilitated by *g*. First, in line with the ability–motivation–opportunity framework (Blumberg & Pringle, 1982; Jiang et al., 2012; MacInnis et al., 1991; MacInnis & Jaworski, 1989), leaders need to first and foremost recognize the utility available in strategic relational development. Leader *g* is likely to be uniquely beneficial in this regard. Indeed, research supports the idea that high *g* individuals tend to more quickly pick up on what needs to be accomplished in groups and develop effective systems to achieve those ends (LePine et al., 1997). Second, leaders need to strategically recognize the correct employees (in our context, high task and contextual performers) in whom to invest their personal resources (Liden et al., 1997). Leader *g* is also critical in this regard, given that *g* is one of the best predictors of strategic thinking, trumping competing predictors such as work experience and personality traits (Dragoni et al., 2011). Thus, we predict that *g* provides leaders with the social problem-solving ability to recognize and process the potential utility afforded by task and contextual performance-based differentiation. Moreover, taken together with Hypotheses 1 and 2, we propose that leader *g* is positively related to group performance via performance-based differentiation.

Hypothesis 3: Leader *g* is positively associated with (a) task performance-based differentiation and (b) contextual performance-based differentiation.

Hypothesis 4: Leader *g* is indirectly positively associated with group performance via (a) task performance-based differentiation and (b) contextual performance-based differentiation.

Turning to motivation to use one's abilities and capitalize on potential circumstances, pursuing—and persevering with—functional leader approaches requires both intensity and persistence on the part of leaders. Indeed, applications of functional leadership approaches require both a willingness and persistence on the part of leaders to (a) tackle difficult, challenging organizational problems, (b) exercise their influence, and (c) demonstrate social commitment (Fleishman et al., 1991; Mumford et al., 2000). For this reason, it is perhaps unsurprising that functional leadership theory explicitly outlines that functional approaches require "an intentional goal-oriented act on the part of the individual" (Fleishman et al., 1991, p. 258), which is akin to positing that these approaches require motivation (Carver & Scheier, 1981; Locke & Latham, 1990, 2002). In terms of characteristics that encompass a person's willingness to carry through (i.e., motivation), CSE is a trait that embodies these features. CSE is defined as an individual's basic, fundamental appraisal of one's own worthiness, effectiveness, and capability as a person (indicated by one's self-esteem, generalized self-efficacy, emotional stability, and locus of control; Judge et al., 1997, 2003; Judge, Locke, et al., 1998). Moreover, critical to our theorizing, CSE is often likened to one's trait motivational capacity due to its tendency to both (a) enhance intensity by magnifying "the extent to which one views a given circumstance as beneficial" (Judge & Hurst, 2007, p. 1214) and (b) deepen the drive to capitalize on opportunities and persist until they bear fruit (Bono & Colbert, 2005; Judge, Erez, & Bono, 1998; Judge & Hurst, 2007).

In addition to the broad need for intensity and persistence when applying functional leader approaches, acting on a functional approach to LMX differentiation (once recognized—i.e., high *g*)

requires motivational capacity in several ways—all of which are promoted by CSE. As highlighted in several seminal works in the LMX literature, *differentiating effectively* is effortful and requires careful information processing and self-assurance to ensure this differentiation does result in enhanced workgroup functioning (Dansereau et al., 1975; Graen, 1976; Graen & Cashman, 1975). Indeed, not only does doing so require that leaders (a) carefully manage their personal resources, (b) identify and provide a disproportionate amount of time and energy to a select few who can perform critical functions in the workgroup, and (c) maintain this disproportionate attention over time (Dansereau et al., 1975), but it also requires (d) effort and motivation to focus on aspects of subordinates relevant to assisting fulfill leadership functions rather than succumbing to one's own concerns or biases (Graen, 1976). Thus, leaders must have sufficient self-assurance and motivation to carefully process information, strategically invest resources in high task and contextual performers, persist in their application of this approach, and suppress their own concerns or biases over time—each of which is effortful and taxing experiences requiring motivational resources (Johnson et al., 2017). Leader CSE is uniquely helpful in providing this self-assurance and motivational capacity. Indeed, research supports the idea that high CSE individuals more positively appraise and process information (Judge, Erez, & Bono, 1998; Judge et al., 1997), pursue as well as attain their identified goals (Judge et al., 2005), persist in their pursuit of opportunities as well as in the face of setbacks (Erez & Judge, 2001; Judge et al., 1997), and more effectively self-regulate to capitalize on their advantages (e.g., Johnson et al., 2008; Judge & Hurst, 2007). In sum, we predict that CSE provides leaders with the self-assurance and motivation to believe in their capabilities to process, execute on, and persist with differentiation based on task and contextual performance (once recognized by ability).

Returning to the ability–motivation–opportunity framework, when it comes to the ingredients for successful processing and execution, the framework highlights that the "model that appears to fit best is interactive" (Blumberg & Pringle, 1982, p. 565). That is, within contexts that provide a potential opportunity (i.e., in leader and team member contexts that make a functional approach to LMX differentiation possible), the effects of ability (i.e., leader *g*) are enhanced by the copresence of motivation (i.e., leader CSE). Indeed, although recognition of the value in strategic relationship formation afforded by one's ability is a key first step that should begin to "move the needle" toward more effective differentiation, leaders still need the self-assurance and motivational capacity to believe they are capable of executing on and persisting with this approach. As an illustrative example, when a leader has the cognitive ability to recognize that they could utilize subordinate relationships strategically to fulfill task and group maintenance functions but is not assured in themselves that they could ultimately execute this approach effectively, the utility afforded by this recognition (flowing from ability) is likely to be squandered. Indirectly supporting this argument, research shows that individuals high in CSE are more likely to believe in, act on, and realize their ability-based advantages (Judge et al., 2005; Judge & Hurst, 2007, 2008). Thus, we propose that the effects of leader *g* on performance-based differentiation and ultimately group performance (via performance-based differentiation) are strengthened when leaders are dispositionally more motivated—and self-assured in their capabilities—to act on and persist with their approach (i.e., when leaders have higher CSE).

Hypothesis 5: Leader *g* and CSE interact to predict (a) task performance-based differentiation and (b) contextual performance-based differentiation, such that the positive relationships between g and performance-based differentiation are stronger when leader CSE is high and weaker when low.

Hypothesis 6: Leader *g* and CSE interact to indirectly predict group performance via (a) task performance-based differentiation and (b) contextual performance-based differentiation, such that the positive indirect relationships between *g* and group performance are stronger when leader CSE is high and weaker when low.

Overview of Studies

We test our hypotheses in two complementary studies with different strengths to maximize the quality of inferences that can be drawn from this research. In Study 1, we test our hypotheses with multisource data from leaders and team members in newly formed teams. This study provides the opportunity to examine the phenomenon over the initial stages of leader–team member development (overcoming a primary limitation of most LMX development research; Erdogan & Bauer, 2015; Nahrgang & Seo, 2015). Additionally, our use of an experiential leadership class consisting of MBA team leaders overseeing teams of undergraduate seniors allows us to track the development of LMX relationships that might occur in a field environment (e.g., leader recruitment and selection of team members; hierarchical differentiation in knowledge, skills, and abilities between leaders and followers) while providing some of the control afforded in a lab environment (e.g., similar team sizes, identical training and information, simulations held constant across teams, objective team performance metric).

To further unpack the recognition of the value afforded by performance-based differentiation as well as the self-assurance to believe in one's capacity to successfully process, execute on, and persist with the approach that we theorize flow from leader *g* and CSE, we also conducted a preregistered online vignette study with current and former supervisors. In Study 2, within the context of initial information processing and opportunity recognition (in line with the fact that the ability–motivation–opportunity framework is uniquely pertinent to the way in which individuals process information upon exposure to an opportunity; Kim et al., 2016; MacInnis et al., 1991; MacInnis & Jaworski, 1989), we examine the effects of leader *g* and CSE on behavioral indicators of choosing to invest in more strategic differentiation bases (i.e., task and contextual performance) relative to less strategic ones (i.e., liking and similarity). Study 2 provides a constructive replication of the effects of leader *g* and CSE on performance-based differentiation in a design that removes extraneous noise by holding all factors constant other than the subordinate's defining characteristics (i.e., task performance, contextual performance, liking, and similarity), utilizes different measurement sources for all focal constructs (an intelligence test, a scale measure of CSE, and a behavioral assessment of performance-based differentiation), and assesses the initial LMX-related resource decision-making processes of leaders (i.e., captures initial information processing at the time of opportunity recognition). We also

follow-up Study 2 with three supplemental studies (one correlational field study and two additional preregistered online experiments) to further unpack the leader opportunity recognition we theorize underlies the effects of leader *g* and examine the tenability of several assumptions in our theorizing.[2]

Transparency and Openness

For both studies, we describe our sampling plan, all data exclusions, all manipulations, and all measures in the study, and we adhere to the *Journal of Applied Psychology* methodological checklist. All data, analysis code, and research materials for both studies are available on request from the first author. Data were analyzed using Mplus 8.3 for Study 1 and SPSS Version 27 for Study 2. The study design and analysis for Study 1 were not preregistered. The multisource data of leaders and team members engaged in the Leadership Development Simulation (LDS) used in Study 1 was part of a broader data collection effort and shares observations with C. I. C. Farh et al. (2017). The design and analysis for Study 2 (https://aspredicted.org/N7R_RM2) were preregistered. We include all supplemental studies and appendices as additional online material posted on the website of the Center for Open Science at https://osf.io/vz45p/?view_only=8ffb8a188ede42cab7643e112fd77293.

Study 1

Study 1: Method

Sample and Design

One difficulty in studying the LMX differentiation process is that it unfolds over time during the initial stages of relationships. Moreover, "a key limitation of past research has been the cross-section designs and examining established instead of new dyads" (Erdogan & Bauer, 2015, p. 415). With this in mind, we collected data over the first several months of newly formed relationships between leaders and team members using an experiential team and leadership class at a large university. This experiential class included work in project teams over a 4-month period, with teams consisting of one MBA leader who oversaw four to five undergraduate seniors in their teams (for more detail on the nature of the teams and how they were brought together, see appendix A in additional online material). Leaders selected and recruited their followers early in the semester, and teams remained intact for 15 weeks, allowing time for LMX to develop between leaders and each member. Our data represent 41 teams and 220 participants (41 MBA leaders; 179 seniors). Average team size was 4.4 members, average team member age was 22 years ($SD = 3.0$ years), and 51% were male. Average leader age was 29 years ($SD = 4.7$ years), and 55% were male.

Teams participated in a series of information-intensive team tasks through the LDS—a computer-based simulation that was developed by a large research university in tandem with the U.S. Air Force to test the effects of leadership and team dynamics on team performance (e.g., C. I. C. Farh et al., 2017; Lanaj et al., 2013). At four time points over the course of the semester, teams completed LDS simulations lasting approximately 90 min each. We provide complete details on the nature of the task, team member and leadership roles and responsibilities, and the team performance metric in appendix A in additional online material. This setting was ideal for examining the utility afforded by a functional approach to LMX differentiation because (a) team members' task and contextual performance were particularly relevant, (b) leaders played a critical role in terms of task and group maintenance functions, (c) leaders had access to and could differentially allocate resources—creating an opportunity to develop stronger social exchange relationships with subordinates able to fulfill task and group maintenance functions, and (d) the simulation provided a construct valid operationalization of team performance that allowed for "apples to apples" performance comparisons across teams. For these reasons, research interested in task and contextual performance behaviors (e.g., DeRue & Morgeson, 2007), the development of LMX quality (e.g., Nahrgang et al., 2009), and team performance (e.g., DeRue et al., 2008) has utilized this simulation and a similar context. This data collection was deemed exempt per Michigan State University's institutional review board (the data were collected for course purposes and were used afterward for research with consent).

Measures and Analyses

Table 1 provides details about the conceptualization, measure/operationalization used, reliability information, and measurement source as well as timing for each construct.[3,4] Table 2 provides the control variables and their justifications (we note our results are unchanged with or without their inclusion). All scale items were rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Our hypotheses were tested using path analysis in Mplus 8.3. Due to the relatively small team-level sample size in Study 1 and the statistical factors attenuating the detection of interactive effects in this context (Murphy & Russell, 2017), we flag results (with a †) for $p < .10$ (which would indicate support for a one-tail test) but utilize the $p < .05$ cutoff to determine support for our hypotheses. Given our sample size and desire to minimize Type I errors (Hayes & Scharkow, 2013; Preacher & Selig, 2012), we employed a parametric bootstrap (i.e., Monte Carlo confidence intervals). For moderated effects, we report simple slopes at ±1 *SD* and the region of significance using the Johnson–Neyman technique (D. J. Bauer & Curran, 2005; Lin, 2020). For moderated indirect effects, we provide confidence intervals for the difference in indirect effects (Hayes, 2015).

We conducted a multilevel confirmatory factor analysis on constructs captured with scale measures: leader CSE, follower task and contextual (modeled as a higher order construct composed of interpersonal facilitation and job dedication) performance, LMX

[2] A pilot study consisting of multiwave field data from leaders reporting *g* and CSE (T1), contextual performance (T2), and LMX and group performance (T3) also provided generally consistent results with those reported in our studies (see supplemental material in additional online material: https://osf.io/vz45p/?view_only=8ffb8a188ede42cab7643e112fd77293).

[3] In line with Chen et al. (2018), we measured employee performance behaviors from the leader and LMX quality from the follower. In addition to being most closely aligned with our theorizing (i.e., leaders developing high LMX with employees they view as high performers), these are the recommended measurement sources given that they minimize self-serving biases (Allen et al., 2000; Ashford, 1989; Graen & Scandura, 1987; Scandura et al., 1986).

[4] We conceptualize teams that had no within-group variance on either (task/contextual) performance and/or follower-rated LMX (i.e., an undefined within-group correlation) as having no performance-based differentiation (and coded them as zero). All hypothesis tests are supported if these observations are treated as missing (detailed results available upon request from Fadel K. Matta).

Table 1
Measures Used in the Study 1

Variable	Conceptual definition	Measure/operationalization and source	Sample item	Reliability	Measurement source (and measurement timing)
Leader cognitive ability (*g*)	General mental ability—five facets of general intelligence (i.e., verbal, quantitative, reasoning, spatial, and perceptual abilities)	Wonderlic Personnel Test Wonderlic (2002)			Leader *(pre-LDS)*
Leader core self-evaluation (CSE)	A person's basic, fundamental appraisal of his/her worthiness, effectiveness, and capability as a person—indicated by self-esteem, generalized self-efficacy, emotional stability, and locus of control	Core Self-Evaluations Scale Judge et al. (2003)	I am confident that I get the success I deserve in life	.83	Leader *(pre-LDS)*
Leader–member exchange (LMX)	Quality of the exchange relationship—ranging from low quality exchanges based purely on the employment contract to high-quality exchanges that are supplemented by various personal resources	LMX-7 adapted to fit our context Liden et al. (1993)	This team leader and I have an extremely effective working relationship	.94	Follower *(post-LDS—LMX quality developed over the course of simulations)*
Task performance	The proficiency with which an employee carries out task activities that contribute to the organization's technical core, including transforming raw materials into goods and services as well as providing needed materials and services	Four-item Task Performance measure Liden et al. (1993)	Overall, I feel that this team member has been effectively fulfilling his or her roles and responsibilities.	.94	Leader *(post-LDS—task performance behaviors over the course of simulations)*
Contextual performance	An aggregate set of interpersonal and volitional behaviors that support the social and motivational context in which the task activities and processes of all group members are accomplished, including both interpersonal facilitation as well as job dedication	13-item Contextual Performance measure DeRue and Morgeson (2007)	This team member helps others on the team without being asked.	.93	Leader *(post-LDS—contextual performance behaviors over the course of simulations)*
Task performance-based differentiation	Extent to which stronger LMX quality is developed with high task performers within the group	Within-group correlation between leader-rated task performance and member-rated LMX quality Chen et al. (2018)			Leader/follower *(post-LDS—development of task performance-based differentiation over the course of simulations)*
Contextual performance-based differentiation	Extent to which stronger LMX quality is developed with high contextual performers within the group	Within-group correlation between leader-rated contextual performance and member-rated LMX quality Chen et al. (2018)			Leader/follower *(post-LDS—development of contextual performance-based differentiation over the course of simulations)*
Objective team performance	Extent to which a team accomplishes its collective goals. In our context, the collective goal was to accrue as many points as possible by engaging enemy targets and avoiding losses (i.e., destroyed friendly targets and base attacks by the enemy)	Objective LDS Performance. For past use, see Davison et al. (2012); de Vries et al. (2016); DeRue et al. (2008); Firth et al. (2015); Lanaj et al. (2018); Lanaj et al. (2013); Porck et al. (2019)			Objective *(LDS—objective performance during LDS)*
Group attitudes *(supplemental)*	The extent to which team members have a favorable response to the appraisal of their experience within their group	Three-item measure from Team Diagnostic Survey (TDS) Wageman et al. (2005)	Generally speaking, I am very satisfied with this team.	.79	Team members *(post-LDS—group attitudes over the course of simulations)*

Note. LDS = leadership development simulation.

Table 2
Study 1: Control Variable Conceptual Support, Information, and Supporting Evidence

Variable	Conceptual support for control	Measure/operationalization and source	Supporting evidence and/or past precedent
Mean LMX	Levels of LMX quality exhibit a positive meta-analytic association with group performance	Mean level of LMX in the team	Yu et al. (2018) Chen et al. (2018)
LMX differentiation	Isolate the effects of performance-based differentiation rather than the potentially confounding effects of the absolute level of LMX differentiation in the team	Standard deviation of LMX scores in the team	Chen et al. (2018)
Mean cognitive ability (*g*)	Rule out the potential for our effects to be driven by high g leaders simply selecting high g followers	Mean level of cognitive ability in the team	Devine and Philips (2001)
Mean performance behavior (task and contextual)	Rule out the potential for our effects to be driven by the average levels of performance behaviors	Mean level of (task/contextual) performance behavior in the team	Chen et al. (2018)
Variability in performance behavior (task and contextual)	Isolate the effects of performance-based differentiation rather than the potentially confounding effects of the amount of variability in performance behaviors within the team	Standard deviation of (task/contextual) performance behavior in the team	Chen et al. (2018)

Note. Results of all hypothesis tests are unchanged with and without these control variables. Additionally, although not anticipated, we note that year exhibited a significant effect on group performance. Following reviewer advice, we include it as a control. As with our other controls, we note that the results of hypothesis tests are unchanged with and without its inclusion. LMX = leader–member exchange.

quality, and group attitudes (for supplemental purposes). Due to having a larger number of parameters than clusters, we created item parcels for each construct in order to improve the item-to-sample size (and item-to-cluster) ratio (Williams et al., 2009; Williams & O'Boyle, 2008) using the distributed uniqueness technique (Hall et al., 1999). Results revealed our multilevel confirmatory factor analysis fit the data well, $\chi^2(176) = 214.67$, $p = .02$; comparative fit index = .982; root-mean-square error of approximation = .035; standardized root-mean-square residual$_{within}$ = .064; standardized root-mean-square residual$_{between}$ = .089, with significant loadings for all item parcels at both the individual and team levels of analysis ($p < .01$).[5]

Study 1: Results

Descriptive statistics and correlations are presented in Table 3. Results of our path analysis are presented in Table 4 and Figure 1. Hypotheses 1 and 2 predicted that task and contextual performance-based differentiation are positively associated with group performance. Supporting Hypotheses 1 and 2, teams in which LMX quality was more closely linked to task ($\beta = .27$, $p = .03$), and contextual performance ($\beta = .40$, $p = .01$) performed better in the simulation.

Hypotheses 3 and 4 predicted that leader *g* is positively associated with task and contextual performance-based differentiation and group performance via task and contextual performance-based differentiation. In support of Hypotheses 3 and 4, leader *g* was positively associated with task ($\beta = .41$, $p = .01$) and contextual ($\beta = .56$, $p = .00$) performance-based differentiation and was indirectly related to group performance via task (indirect effect = .11, CI [.005, .262]) and contextual (indirect effect = .22, CI [.050, .443]) performance-based differentiation (see Table 5).

Hypotheses 5 and 6 predicted that leader *g* and CSE interact to predict task and contextual performance-based differentiation and group performance via task and contextual performance-based differentiation, such that the relations between *g* and outcomes are stronger when CSE is high. Largely supporting Hypothesis 5, the interaction between leader *g* and CSE in predicting task performance-based differentiation was marginal ($\beta = .27$, $p = .09$, see Figure 2) and contextual performance-based differentiation was significant ($\beta = .39$, $p = .01$, see Figure 3). Results of Johnson–Neyman tests revealed the relationship between *g* and task performance-based differentiation was significant when CSE was higher than .38 *SD* below the mean (and not significant when lower than .38 *SD* below the mean) and the relationship between *g* and contextual performance-based differentiation was significant when CSE was higher than .70 *SD* below the mean (and not significant when lower than .70 *SD* below the mean). These results align with our ability–motivation–opportunity theorizing—specifically, insufficient motivation (CSE dropping below these thresholds) neutralizes execution on a functional approach to differentiation, even when leaders have the ability to recognize it (high *g*). Providing partial support for Hypothesis 6, moderated mediation was not supported via task performance-based differentiation (difference in indirect effect = .14, CI [−.027, .412]; see Table 5) but was supported via contextual performance-based differentiation (difference in indirect effect = .31, CI [.047, .679]).

Study 1: Supplemental Analyses

Analyses pertaining to (a) the development of performance-based differentiation over time using multiple assessments of the constructs (appendix B in additional online material) and (b) group attitudes as an outcome of performance-based differentiation and

[5] This model fit the data better than all alternative models, including models in which contextual performance was not modeled as a higher order construct (detailed results available upon request from Fadel K. Matta).

Table 3
Study 1: Means, Standard Deviations, and Correlations Among Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Leader cognitive ability	28.34	5.38	—												
2. Leader core self-evaluation	3.98	0.47	.28	(.83)											
3. Task performance-based differentiation	0.25	0.50	.20	−.09	—										
4. Contextual performance-based differentiation	0.18	0.58	.37*	.02	.59*	—									
5. Objective team performance	150.21	33.83	.37*	.34*	.45*	.50*	—								
6. Mean LMX	4.31	0.39	.40*	.45*	−.12	.03	.34*	—							
7. LMX differentiation	0.48	0.29	−.03	−.11	.25	.22	−.09	−.32*	—						
8. Mean task performance	4.24	0.57	−.01	.03	.16	.19	.28	.20	−.01	—					
9. Variability in task performance	0.53	0.42	−.15	−.05	.09	.04	−.10	−.15	.08	−.47*	—				
10. Mean contextual performance	4.20	0.55	.10	.22	.00	.20	.24	.42*	.08	.56*	−.22	—			
11. Variability in contextual performance	0.32	0.24	.02	−.02	.07	−.14	.08	−.35*	.01	−.34*	.53*	−.53*	—		
12. Mean cognitive ability	24.49	3.00	.22	.20	−.02	.24	.19	.31*	−.08	.23	−.24	.24	−.33*	—	
13. Group attitudes (supplemental)	4.21	0.52	.17	.37*	.21	.10	.46*	.61*	−.26	.37*	−.13	.30	−.27	.38*	(.79)

Note. $N = 41$ teams made up of 179 individuals. LMX = leader–member exchange.
* $p < .05$.

mediator of the effects of performance-based differentiation on team performance (appendix C in additional online material) are included in our appendices in additional online material (the link is included in the Transparency and Openness section). We briefly summarize the core takeaways here. Beginning with the development of performance-based differentiation over time, our exploratory analyses revealed that prior assessments of performance behaviors spurred the subsequent development of LMX quality and that LMX quality had not yet stabilized at previous assessments of the construct. This corresponds directly with our theorizing that leaders use task and contextual performance behaviors to differentiate LMX quality within groups and that this was playing out over the timespan we examined.

In terms of group attitudes, our exploratory analyses showed that task and contextual performance-based differentiation influence group performance in somewhat different ways. Specifically, contextual performance-based differentiation directly impacts group performance (even though this has little impact on group attitudes), whereas task performance-based differentiation results in enhanced group attitudes that indirectly increase group performance. In other words, when it comes to group performance, we provide suggestive

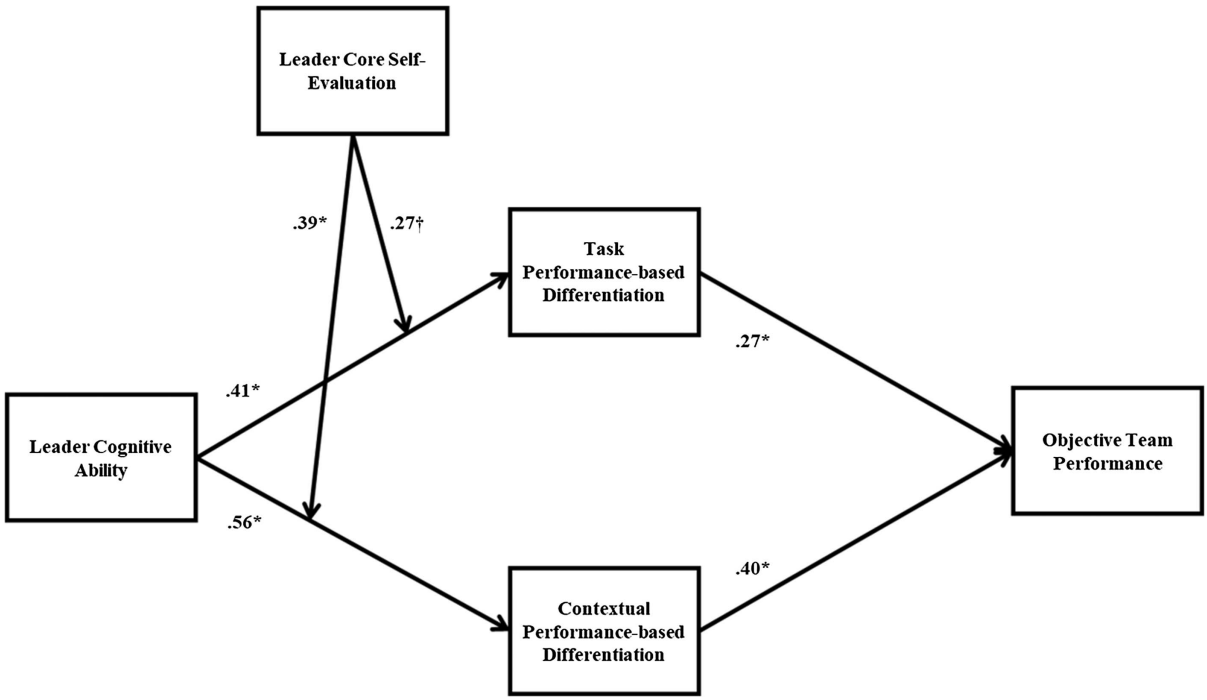
Table 4
Results of Path Analysis Testing Study 1 Hypotheses

Variable	Task performance-based differentiation	Contextual performance-based differentiation	Objective team performance
Controls			
Mean LMX	−.11 (.18)	−.13 (.17)	.34* (.14)
LMX differentiation	.22 (.15)	.20 (.13)	−.14 (.11)
Mean cognitive ability	.01 (.15)	.22† (.13)	.09 (.11)
Controls for each performance type			
Mean task performance	.19 (.15)		−.04 (.17)
Variability in task performance	.08 (.15)		−.31* (.14)
Mean contextual performance		.19 (.14)	.16 (.15)
Variability in contextual performance		−.07 (.14)	.51* (.15)
Predictors			
Leader cognitive ability	**.41* (.16)**	**.56* (.14)**	−.16 (.14)
Leader core self-evaluation	−.11 (.16)	−.10 (.14)	.16 (.11)
Leader Cognitive Ability × Core Self-Evaluation	**.27† (.16)**	**.39* (.14)**	−.14 (.12)
Mediators			
Task performance-based differentiation			**.27* (.12)**
Contextual performance-based differentiation			**.40* (.14)**
Variance explained			
R^2	23.1%	39.0%	66.8%

Note. $N = 41$ teams made up of 179 individuals. Bolded parameters are those relevant to our hypotheses and those visually depicted in Figure 1. Although not anticipated, we note that year exhibited a significant effect on group performance. Following reviewer advice, we control for year as a continuous predictor of team performance ($\beta = .27$, $p = .02$). We note that the results of hypothesis tests are unchanged with and without the inclusion of all control variables (as well as if year is dummy coded). Standardized parameters reported. LMX = leader–member exchange.
† $p < .10$. * $p < .05$.

Figure 1

Study 1: Results of Path Analysis for Hypothesized Pathways



Note. $N = 41$ teams made up of 179 individual.
† $p < .10$. * $p < .05$.

evidence that contextual performance-based differentiation enhances the benefits of LMX differentiation (i.e., the efficiency of the leader's allocation of personal resources—which is captured in the direct effect on group performance; Yu et al., 2018), whereas task performance-based differentiation minimized the costs (i.e., deleterious effects on group attitudes—which is captured in the indirect effect on group performance via group attitudes; Yu et al., 2018).[6]

Study 1: Discussion

Study 1 largely supported our proposed model by demonstrating (a) performance-based differentiation provides a means by which leaders can enhance their functional effectiveness when it comes to group performance, and (b) leaders high in *g* and CSE are most likely to successfully process, execute on, and persist with that approach. Study 1 also featured several strengths. For instance, our sample included newly formed project teams, and data were collected over the early stages of leader–team member development. Moreover, our design allowed us to pair the benefits of a field design (e.g., leader recruitment and selection of team members; hierarchical differentiation in knowledge, skills, and abilities between leaders and followers) with some of the control afforded by a lab design (e.g., similar team sizes; identical training and information; simulations held constant across teams; objective team performance metric).

Nonetheless, the study was also limited in some ways. For instance, although the setting was fieldlike, the participants themselves were MBA leaders and senior undergraduate team members. Thus, it remains an open question as to whether differentiation approaches might differ in a sample with more extensive leadership experiences. Additionally, our integration of the functional approach to LMX differentiation as an outcome within the ability–motivation–opportunity framework suggests that high *g* leaders are more likely to recognize the utility available in such an approach. That said, it is difficult to tease out such recognition in correlational data (e.g., our Study 1 or a traditional field study; Aguinis & Vandenberg, 2014; Shadish et al., 2002). Finally, although our results show that high *g* leaders (especially when paired with high CSE) are more likely to rely on functional bases to differentiate LMX quality, it remains an open question as to whether low *g* leaders may be more likely to rely on less

[6] We also conducted two additional supplemental analyses. First, given we recoded teams invariant on either LMX and/or task/contextual performance as zero performance-based differentiation, we reanalyzed our data removing these teams from the analyses. The results of this analysis provided full support for all of our hypotheses (i.e., Hypotheses 5 and 6 were fully supported). Second, we reanalyzed our data replacing contextual performance-based differentiation with each of its subfacets (i.e., interpersonal facilitation-based differentiation in one analysis and job dedication-based differentiation in another). In both cases, the effects were weakened and largely unsupported when contextual performance was not treated as an aggregate multidimensional construct. This is unsurprising given (a) the definitional, conceptual, and operational parallels between group maintenance functions and contextual performance as a whole (see footnote 1) and (b) the fact that "specific homogenous measures are construct deficient with regards to the general, overall factor they tap into" (Ones & Viswesvaran, 1996, p. 662) because they contain excessive specific dimension variance that should be regarded as measurement error to the higher order construct and lack construct-relevant variance from the other specific dimensions (for discussions, see Hogan & Roberts, 1996; Judge & Kammeyer-Mueller, 2012; Law et al., 1998; Li et al., 2019).

Table 5
Study 1: Tests of Mediation and Moderated Mediation

Indirect pathways linking *g* to group performance	Indirect effect	95% confidence interval
Task performance-based differentiation		
Mediation via task performance-based differentiation		
g → task performance-based differentiation → group performance	**.11***	**[.005, .262]**
Moderated mediation via task performance-based differentiation		
Indirect effect at high CSE	.18*	[.010, .438]
Indirect effect at low CSE	.04	[−.065, .165]
Difference in indirect effect at high and low CSE	**.14**	**[−.027, .412]**
Contextual performance-based differentiation		
Mediation via contextual performance-based differentiation		
g → contextual performance-based differentiation → group performance	**.22***	**[.050, .443]**
Moderated mediation via contextual performance-based differentiation		
Indirect effect at high CSE	.37*	[.087, .740]
Indirect effect at low CSE	.07	[−.059, .231]
Difference in indirect Effect at high and low CSE	**.31***	**[.047, .679]**

Note. CSE = core self-evaluation. Bolded parameters are those relevant to our hypotheses.
* $p < .05$.

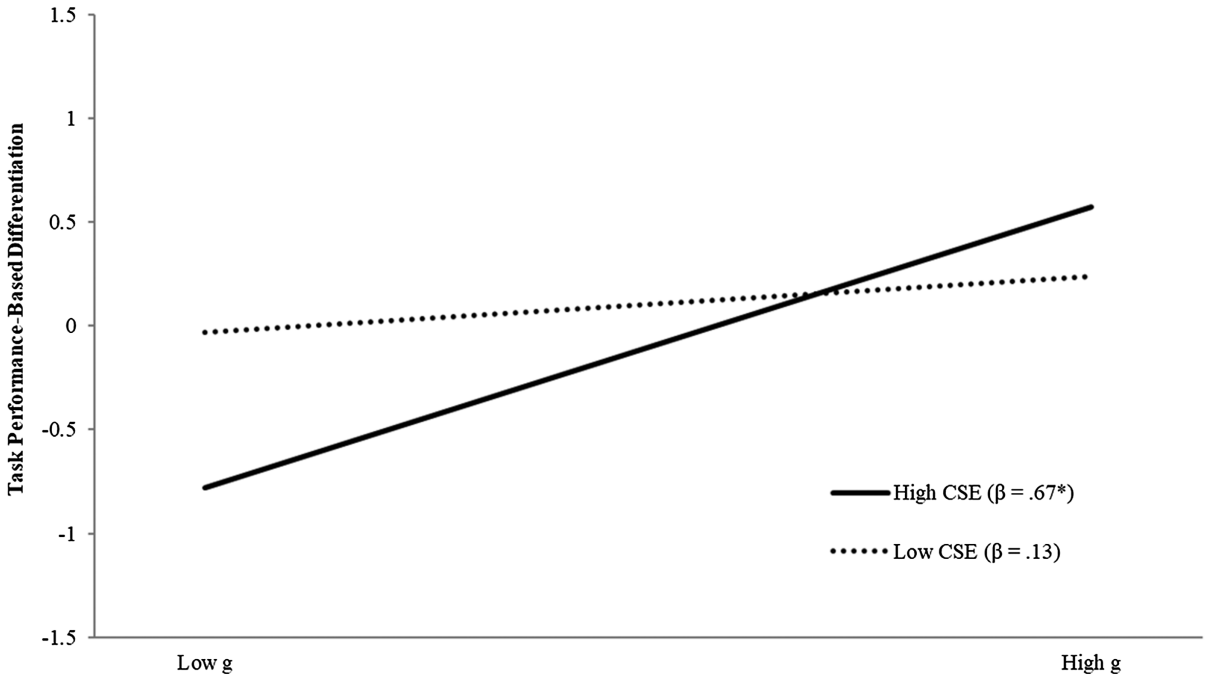
optimal bases by comparison. Thus, we designed Study 2 to complement Study 1. Using a preregistered online vignette design and a sample of experienced leaders, we attempted to replicate the effects of leader *g* and CSE on performance-based differentiation (a) within the context of initial information processing and opportunity recognition; (b) using a design that modeled and/or directly assessed the ability, motivation, and opportunity components of our theorizing; and (c) utilizing a differentiation operationalization that directly contrasted task and contextual performance-based differentiation against less optimal bases.

Study 2

Study 2: Method

We targeted current and former supervisors to participate in our online vignette study through an online survey platform, Prolific Academic. Our screening criteria only allowed current and former supervisors who were currently employed, 18 years or older, and located in the United States to enter the study. The design and analyses were preregistered at https://aspredicted.org/N7R_RM2. As outlined in our preregistration (and based on a priori power analysis),

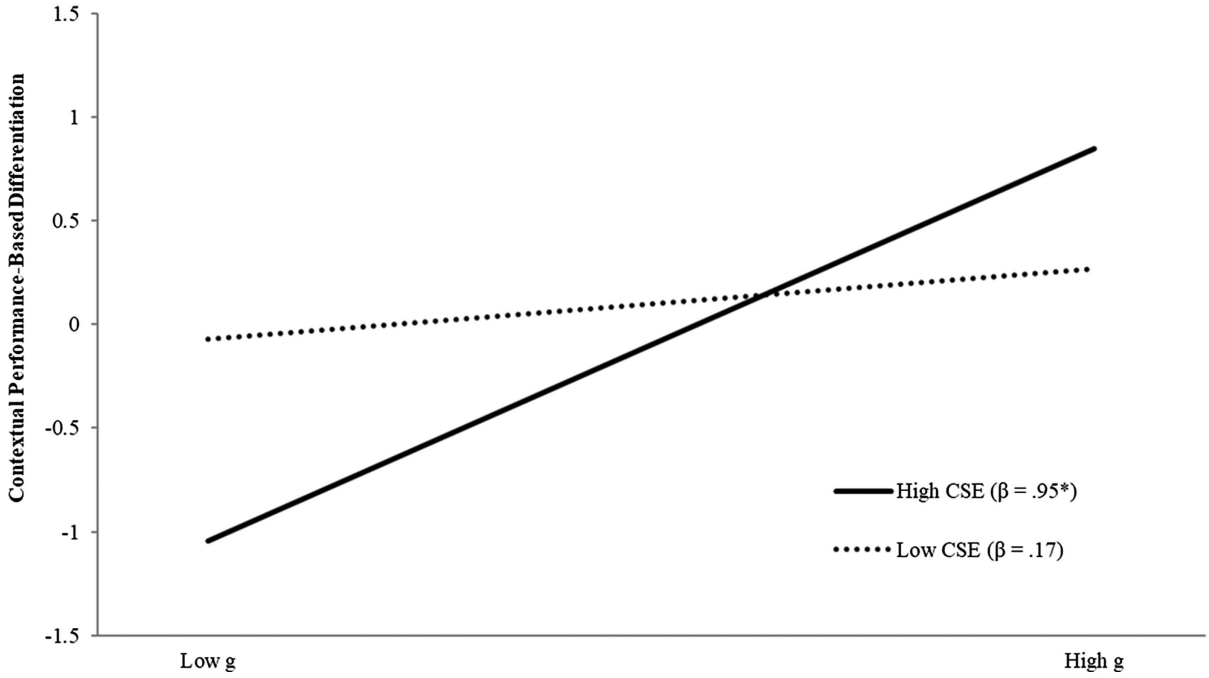
Figure 2
Study 1: Interaction of Leader g and CSE Predicting Task Performance-Based Differentiation



Note. CSE = core self-evaluation.
* $p < .05$.

Figure 3

Study 1: Interaction of Leader g and CSE Predicting Contextual Performance-Based Differentiation



Note. CSE = core self-evaluation.
* $p < .05$.

we recruited 130 supervisor participants. Average age was 39.8 years ($SD = 11.68$), and the majority of the sample was male (60%). These supervisors averaged interacting with their employees 4.4 hr per day ($SD = 2.16$). Ethnicities included Caucasian (76.9%), African American (7.7%), Asian/Pacific Islander (5.4%), Hispanic/Latino (3.8%), American Indian/Alaskan Native (1.5%), and other (4.6%).

Given the ability–motivation–opportunity framework is particularly germane to the way in which individuals process information upon exposure to an opportunity (Kim et al., 2016; MacInnis et al., 1991; MacInnis & Jaworski, 1989), we explicitly model these information processing dynamics in the online vignette study. To set up the *opportunity* outlined in our theorizing (i.e., the leader and team member context makes a functional approach to LMX differentiation possible), we created a scenario designed to place participants "in the shoes" of a leader in a typical organization (the full scenario is presented in Table 6; for similar, see Baer et al., 2021) and followed this scenario with a "leadership exercise" wherein they needed to make decisions about allocating their scarce, LMX-related personal resources (i.e., support, attention, insider information, autonomy, and opportunities for influence and growth) across four hypothetical subordinates—keeping in mind that a leader's goal is to maximize performance as well as hold the team together.

We designed the "leadership exercise" aspect of the study to align closely with the *opportunity* component of our theorizing as well as to parallel our Study 1 empirical test. First, we designed the "leadership exercise" decision-making context to mirror the role-taking phase of LMX development (i.e., the sampling phase; Graen & Scandura, 1987), whereby leaders select a subset of employees to invest additional personal resources in and assess member reactions to determine the potential for further development into a high-quality exchange. Indeed, given our interest in examining LMX differentiation decision making within the context of initial information processing (in line with the ability–motivation–opportunity framework; Kim et al., 2016; MacInnis et al., 1991; MacInnis & Jaworski, 1989), we focused on how leaders initiate the differentiation of LMX quality—that is, by differentially allocating their personal resources across their subordinates. Second, we held the amount of LMX differentiation constant at high levels by requiring them to decide in whom to invest their LMX-related personal resources in rank order. This aligns with (a) our theorizing focusing on *how* leaders differentiate (i.e., the basis of LMX differentiation) rather than *whether* leaders differentiate (i.e., the amount of LMX differentiation), (b) best practice recommendations to maximize variance in the phenomenon in these types of designs (Diener et al., 2022; Kerlinger, 1986), and (c) the analytics in Study 1 (which control for the amount of LMX differentiation in the workgroup).[7]

Within this initial LMX differentiation information processing context, we then isolated *how* participants chose to differentiate (holding the amount of differentiation constant), providing them the opportunity to differentiate more/less in line with a functional

[7] The use of rank ordering made choices mutually exclusive—which aligns with our conceptualization of bases of LMX differentiation as well as the empirical approach in Study 1. Indeed, the criteria upon which LMX differentiation is based conceptually (empirically) represent how closely that specific base is tied to LMX quality (within-group correlation) accounting for how much differentiation is occurring (controlling for the amount of LMX differentiation).

Table 6
Vignette Scenario Used in Study 2

Scenario (held constant across participants)
You are a leader of a small team at a high-intensity consulting firm. Within your team, you manage four (4) direct subordinates.
All of the employees in the workgroup value the resources that you can provide as a leader. The valuable resources you are able to provide include your support, attention, and inside information as well as the extent to which you provide each employee with the ability to influence workgroup decisions, autonomy to complete their work how they like, and assignment of tasks with opportunities for professional growth and development.
As you have gained experience as a manager, however, you have come to realize that you only have so much time and energy in a week to invest these resources in your four (4) subordinates. For example, you only have so many hours in a week to provide support, attention, and insider information to employees. Additionally, there are a limited amount of opportunities for influence, autonomy, and growth and development at your disposal. Keep in mind, however, that because the team is small, other members will likely be able to observe the resources you award to each subordinate.
With the above in mind, your task in this study is to choose how to allocate your resource investments across each of your four (4) subordinates.

Note. Scenario followed by a page that presents four subordinate biographies from Table 7. The biographies were created to match the established bases leaders can use to differentiate LMX quality (i.e., task performance, contextual performance, liking, and similarity; T. N. Bauer & Green, 1996; Chen et al., 2018; Liden et al., 1993; Matta & Van Dyne, 2020). LMX = leader–member exchange.

approach. Specifically, in line with the idea that some leaders may invest resources in and develop stronger social exchange relationships with high task/contextual performers whereas others may forge stronger relations with employees that they like and with whom they get along, we manipulated the biographies of the four subordinates to match the established bases leaders typically use to differentiate LMX quality (i.e., task performance, contextual performance, liking, and similarity; T. N. Bauer & Green, 1996; Chen et al., 2018; Liden et al., 1993; Matta & Van Dyne, 2020). The biographies presented drew from established scales for task performance (J.-L. Farh et al., 1991), contextual performance (DeRue & Morgeson, 2007), liking (Wayne & Ferris, 1990), and similarity (Wayne & Liden, 1995), and were presented in randomized order across participants (the full biographies are presented in Table 7). The biographies were the only information provided to participants prior to them deciding in whom to invest their LMX-related personal resources (e.g., insider information, development opportunities, decision latitude).[8]

Performance-based differentiation (our outcome) was operationalized using participants' behavioral choices (i.e., their allocation of personal resources across the four subordinates) during the leader resource allocation task (rather than asking them to rate perceptions on a Likert scale, which could raise concerns over common method bias; P. M. Podsakoff et al., 2003). Specifically, we created continuous and dichotomous indicators of task and contextual performance-based differentiation. For our continuous variable, we scored each base (4 for the highest, 3 for the second, 2 for the third, and 1 for the lowest allocation ranking) and summed the task and contextual performance scores. For instance, if a participant chose the high task performer as the recipient of the most resources (4 pts) and the high contextual performer as the recipient of the third most resources (2 pts), they received a score of 6 for performance-based differentiation. For our dichotomous indicator, we created a dummy code for whether the leader provided the highest allocation to the high task and contextual performers over the most similar and liked subordinates. Specifically, they were coded 1 only if they allocated the most resources to the high task (contextual) performer first and high contextual (task) performer second. Following the task, participants completed manipulation checks for the task performance (J.-L. Farh et al., 1991; reliability = .91), contextual performance (DeRue & Morgeson, 2007; reliability = .92), liking (Wayne & Ferris, 1990; reliability = .90), and similarity (Wayne & Liden, 1995; reliability = .95) of each subordinate.

To directly assess the *ability* (i.e., individuals high in *g* have the social problem-solving abilities necessary to recognize the value provided by a functional approach to LMX differentiation) and *motivation* (i.e., individuals high in CSE believe in their capacity to successfully identify a sound strategy and the confidence in themselves to proceed with it) components of our theorizing, we assessed these constructs prior to their participation in the vignette and "leadership exercise" using the same operationalizations from Study 1. Specifically, before taking part in the study, participants rated their CSE (using the same scale from Study 1; reliability = .91) and completed an intelligence test (using the same version of the Wonderlic Personnel Test from Study 1).[9] This data collection was deemed exempt per University of Georgia's institutional review board (STUDY00006229: Organizational Teamwork Preferences).

[8] We note that our goal in creating the manipulated profiles was to ensure that they clearly delineated the constructs of interest and successfully were seen as such by the participants (Diener et al., 2022; Shadish et al., 2002). On that point, our theorizing suggests that leaders high in *g* would be most likely to recognize they could allocate more LMX-related personal resources to high task/contextual performers so that these subordinates may assist in completing task/group maintenance functions and that those high in CSE would be most self-assured in their identified strategy and confident enough in themselves to move forward with it. As such, rather than confounding these profiles to conceal subordinate characteristics, we followed best practice recommendations to cleanly manipulate these bases (i.e., task performance, contextual performance, liking, and similarity), ensure the operationalizations exemplify those constructs uniquely and do not confound them with other treatments, and maximize variance in the bases relative to other treatments (Diener et al., 2022; Kerlinger, 1986).

[9] Given the nature of intelligence and CSE as constructs (i.e., traits that capture one's inherent intelligence and motivational capacity; Bono & Colbert, 2005; Gottfredson, 1997; Judge, Erez, & Bono, 1998; Judge & Hurst, 2007), they are near impossible to manipulate in a construct valid way (Diener et al., 2022). For that reason, we assessed these constructs in the exact same manner we did in Study 1. That said, although our independent variables were not manipulated in Study 2, the way we designed the study allowed us to test our theorizing in a way that features almost all of the main benefits an experimental design typically offers (e.g., maximizing variance in the "differences" between subordinate profiles, isolating the specific relationships of interest, controlling for idiosyncratic follower differences across leaders, holding all information constant other than subordinate profiles), albeit without random assignment (given the unmanipulable nature of the independent variables). Given the value of experimental designs with random assignment, however, we follow up Study 2 with two supplemental studies (the second of which was a preregistered experiment that mirrored Study 2 exactly but manipulated the theoretical mechanism flowing from leader *g* outlined within the ability–motivation–opportunity framework—that is, manipulate the mechanism; Spencer et al., 2005). See our "Supplemental Studies Following Study 2" section as well as appendices D and E additional online material for further details.

Table 7
Subordinate Biographies Used in Study 2

Subordinate	Manipulated subordinate biographies (presented in random order)
Pat (high task performer)	The defining characteristic of Pat is their performance. Pat always completes work on time. Moreover, in addition to the timeliness of Pat's work, the quality of Pat's work is also excellent. For this reason, Pat is viewed as one of the most productive employees in the organization.
Cameron (high contextual performer)	The defining characteristic of Cameron is their citizenship. Cameron helps others without being asked, supports and encourages coworkers, and often says things that make others feel good. Cameron is also dedicated, putting in extra hours, paying close attention to details, and taking initiative to solve work problems.
Lee (most likable)	The defining characteristic of Lee is their likability. You get along well with Lee. In fact, supervising Lee could be described as "a pleasure." Therefore, when you think about Lee, you think they would be a "good friend" to you.
Sam (most similar)	The defining characteristic of Sam is their similarity to you. You and Sam are alike in a number of areas. For instance, you and Sam see things in much the same way and are similar in terms of your outlook, perspective, and values. As such, you and Sam tend to handle problems in a similar way.

Study 2: Results

Repeated measures analysis of variance revealed our manipulations of subordinate task performance ($F = 151.56$, $p = .00$), contextual performance ($F = 32.33$, $p = .00$), liking ($F = 39.07$, $p = .00$), and similarity ($F = 138.22$, $p = .00$) were effective. Pairwise comparisons showed subordinate task performance was highest for the high task performer ($M = 4.77$ vs. 3.87, 3.79, 3.29; $p = .00$ for all comparisons), contextual performance was highest for the high contextual performer ($M = 4.17$ vs. 3.59, 3.90, 3.86; $p = .00$ for all comparisons), liking was highest for the high liking subordinate ($M = 4.62$ vs. 3.99, 4.37, 4.11; $p = .00$ for all comparisons), and similarity was highest for the high similarity subordinate ($M = 4.70$ vs. 3.42, 3.40, 3.59; $p = .00$ for all comparisons) relative to each of the other conditions.

Descriptive statistics and correlations are presented in Table 8. The results of our linear and probit regressions are presented in Table 9. Hypothesis 3 predicted that leader *g* is positively associated with task and contextual performance-based differentiation. In support of Hypothesis 3, leader *g* was positively related to performance-based differentiation (for continuous dependent variable, $\beta = .25$, $p = .00$; for dichotomous dependent variable, $\beta = .32$, $p = .01$). Leaders who scored higher on the Wonderlic were more likely to invest their LMX-related resources in high task and contextual performers.

Hypothesis 5 predicted that leader *g* and CSE interact to predict task and contextual performance-based differentiation, such that the positive relationships between *g* and performance-based differentiation are stronger when leader CSE is high. Supporting Hypothesis 5, the interaction between leader *g* and CSE in predicting performance-based differentiation was significant (for continuous dependent variable, $\beta = .18$, $p = .04$, see Figure 4; for dichotomous dependent variable, $\beta = .26$, $p = .04$, see Figure 5). Leaders who had higher CSE had stronger associations between their Wonderlic scores and their LMX-related resource investments in high task and contextual performers. Results of a Johnson–Neyman test revealed the relationship between leader *g* and performance-based differentiation was significant when CSE was higher than .42 *SD* below the mean (and not significant when lower than .42 *SD* below the mean).

Supplemental Studies Following Study 2

Our theorizing, and in particular our *g*-related prediction, hinges on leaders recognizing the utility afforded by a functional approach to LMX differentiation. To provide further evidence supporting this idea, we conducted two supplemental studies included in our appendices in additional online material (the link is included in the Transparency and Openness section). First, we collected correlational field data from 150 young professionals who were employed and held leadership responsibilities in their positions. These participants first completed the same intelligence test and measure of CSE from Studies 1 and 2 and then reported on their (a) aptitude to recognize they can utilize subordinates to assist in the completion of leadership functions and (b) confidence in their ability to utilize subordinates to assist in the completion of leadership functions. Consistent with our theorizing, (a) leader *g* was linked to recognition to utilize—but not confidence in utilizing—subordinates to assist in the completion of leadership functions, and (b) leader CSE was linked to confidence in utilizing—but not recognition to utilize—subordinates to assist in the completion of leadership functions. Full details and results are presented in appendix D in additional online material.

Second, using the same task from Study 2, we conducted a preregistered online experiment that (a) directly manipulated leader recognition of the value in performance-based differentiation that we posit drives the effects flowing from leader *g* (which we showed above flow from leader *g*) and (b) tested the tenability of the assumptions in our theorizing surrounding the connection between leadership functions and employee performance behaviors. The results from this study supported our underlying theorizing that leader recognition of the value in utilizing subordinates to assist in task functions is positively related to task performance-based differentiation and leader recognition of the value in utilizing subordinates to assist in group maintenance functions is positively related to contextual performance-based differentiation. Full details and results are presented in appendix E in additional online material.[10]

Study 2: Discussion

Study 2 provided further evidence that leader *g* is positively linked to performance-based differentiation and that these effects are strengthened by leader CSE. Moreover, this study replicated the

[10] We also include a follow-up preregistered online experiment in appendix E additional online material to verify that leaders look to the contextual performance of subordinates in aggregate rather than the narrower aspects that underlie it.

Table 8
Study 2: Means, Standard Deviations, and Correlations Among Variables

Variable	*M*	*SD*	1	2	3	4
1. Cognitive ability	26.58	5.59	—			
2. Core self-evaluation	3.73	0.73	−.10	(.91)		
3. Performance-based LMX differentiation (continuous dependent variable)	5.54	1.34	.24*	−.04	—	
4. Performance-based LMX differentiation (dichotomous dependent variable)	0.36	0.48	.20*	−.01	.82*	—

Note. $N = 130$ participants. LMX = leader–member exchange.
* $p < .05$.

effects observed in Study 1 (a) with a sample of experienced leaders; (b) within the context of initial information processing and opportunity recognition; (c) in a study designed to model and/or directly assess the ability, motivation, and opportunity components of our theorizing; and (d) using a behavioral indicator that contrasted task and contextual performance-based differentiation against less strategic bases. We further note that, although this task was particularly well suited for testing the effects of leader *g* on performance-based differentiation, it provided a somewhat conservative test of the effects of leader CSE. Indeed, given the context of initial information processing and opportunity recognition, the effects of leader CSE were constrained to self-assurance and motivation in terms of the participant's *belief* that they had the capacity to act on and persist with the approach. While this aligns with the information processing aspects of the ability–motivation–opportunity framework (Kim et al., 2016; MacInnis et al., 1991; MacInnis & Jaworski, 1989), we note these effects are conservative as CSE is likely to provide an additional willingness and persistence during actual execution as well. Despite this limitation, we were encouraged by the constructive replication of our findings (including the specific form of interaction). Moreover, in addition to replicating our effects, we supplemented Study 2 with additional data further supporting that (a) leader *g* is linked to recognition that one may utilize subordinates to complete task and group maintenance functions, (b) leader recognition that one may utilize subordinates to complete task and group maintenance functions is linked to performance-based differentiation, and (c) leaders draw parallels between task and group maintenance functions in need of completion and the task and contextual performance behaviors of followers.

General Discussion

Although differentiation in social exchange quality within groups is the bedrock upon which the LMX literature was built, it remains unclear how leaders can tailor this process so that the benefits outweigh the accepted costs to group performance (Yu et al., 2018). In this article, we introduce a functional approach to LMX differentiation. In doing so, we highlight the potential opportunity leaders have to develop stronger social exchange relationships with subordinates best equipped to fulfill the task (high task performers) and group maintenance (high contextual performers) functions conducive to unit performance (Hackman & Walton, 1986; McGrath, 1962). Demonstrating the utility of recognizing and acting on this approach, our results confirmed that teams performed better when LMX was more strongly related to both forms of employee performance within groups. Moreover, speaking to the "cost–benefit" trade-offs discussed in the LMX differentiation literature, we show that contextual performance-based differentiation solely enhances performance, whereas task performance-based differentiation appears to mitigate the attitudinal costs (see appendix C in additional online material).

After identifying this means to enhance the efficacy of LMX differentiation when it comes to benefiting group performance that exists in nearly all leader–team member contexts (a key insight given the competing and mixed effects; Anand et al., 2015; Yu et al., 2018), we integrate this *opportunity* within the ability–motivation–opportunity framework to elucidate which leaders are most likely to successfully recognize and execute on it (Blumberg & Pringle, 1982; Jiang et al., 2012; Kim et al., 2016; MacInnis et al., 1991; MacInnis & Jaworski, 1989; Reinholt et al., 2011). We establish that

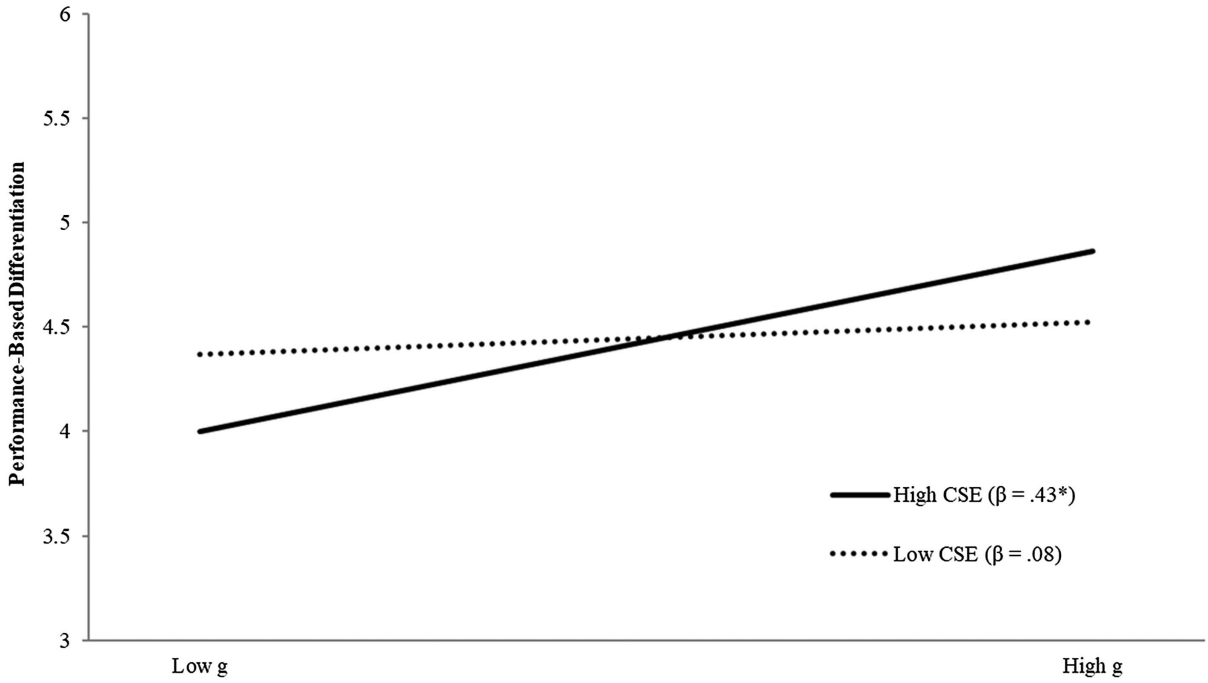
Table 9
Study 2: Linear Regression and Probit Regression Results

Variable	Performance-based LMX differentiation Continuous Dependent Variable (linear regression)	Performance-based LMX differentiation Dichotomous Dependent Variable (probit regression)
Predictors		
Cognitive ability	**.25* (.09)**	**.32* (.13)**
Core self-evaluation	.01 (.09)	−.01 (.12)
Cognitive Ability × Core Self-Evaluation	**.18* (.09)**	**.26* (.13)**
Omnibus tests		
R^2	8.8% ($p = .01$)	
χ^2		9.50 ($p = .02$)

Note. $N = 130$ participants. LMX = leader–member exchange. Bolded parameters are those relevant to our hypotheses.
* $p < .05$.

Figure 4

Study 2: Interaction of Leader g and CSE Predicting Continuous Performance-Based Differentiation



Note. CSE = core self-evaluation.
* $p < .05$.

g provides leaders with the *ability* needed to recognize the value in this approach (Fleishman et al., 1991; Gottfredson, 1997; Mumford et al., 2000), and CSE supplies the *motivation* and self-assurance to believe in their capabilities to successfully process, execute on, and persist with it once identified (Bono & Colbert, 2005; Judge, Erez, & Bono, 1998; Judge & Hurst, 2007). Results across study designs and samples affirmed that (a) leader *g* is associated with performance-based differentiation and (b) these effects are strengthened by leader CSE and muted if CSE is not sufficiently high.

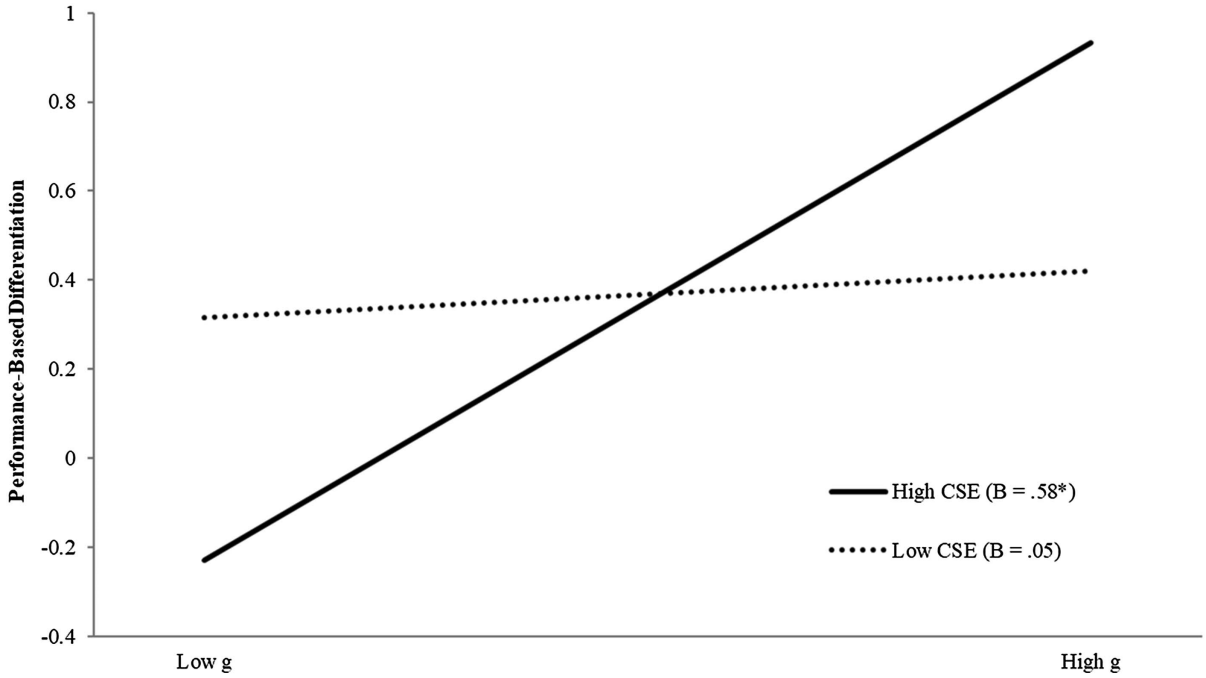
Our theory and results advance leadership theory in several ways. For instance, by introducing a functional approach to LMX differentiation, we (a) bridge conceptual gaps that exist when scholars examine the LMX phenomenon or functional approaches to leadership in isolation and (b) pinpoint the potential that emerges for leaders when these approaches are considered in tandem. On the one hand, the LMX differentiation process provides a descriptive account of how leaders maximize resource utilization by building differentiated social exchange relationships within groups but lacks the prescriptive component to explain what kinds of differentiation enhance performance. Functional leadership theory, on the other hand, supplies a prescriptive account of the precise functions leaders and members must fulfill to facilitate unit functioning but does not specify how leaders may go about utilizing their personal resources and social exchange relationships to achieve that end. By spotlighting the utility provided by a functional approach to differentiation, we offer an answer to a primary outstanding question in the LMX literature—how leaders may shape the differentiation process to allow the benefits of LMX differentiation to outweigh its costs (Anand et al., 2015; Yu et al., 2018).

We also contribute to leadership theory by introducing leader *g* and CSE as traits that increase the likelihood that leaders will independently identify and capitalize on a functional approach to LMX differentiation. Two of the primary limitations in the literature linking *g* with leader effectiveness—beyond the smaller than expected effect sizes (Lord et al., 2017)—are the focus on distal leader outcomes (e.g., effectiveness and emergence) rather than proximal leader actions and the lack of established mechanisms underlying the effects of *g* (Tuncdogan et al., 2017). Our research speaks directly to these limitations, submitting the LMX differentiation process as a fruitful avenue for examining proximal leader actions (strategic relationship formation) that link leader traits (such as *g*) with group performance. At the same time, we provide a potential partial answer as to why the effects of *g* on leadership may often be weaker than expected (Lord et al., 2017). At least in our contexts, leaders high in *g* squandered their ability-based advantages when they had low levels of CSE. Thus, leader *g* does not appear to be a panacea for recognizing and processing/executing on a functional approach to LMX differentiation. Importantly, by showing that leader outcomes (i.e., performance-based differentiation and group performance) are maximized at high levels of both *g* and CSE, we answer calls to take "an integrated approach to describe how multiple traits are combined in optimal ways to jointly influence leadership" (Zaccaro, 2007, p. 12).

Finally, we contribute to leadership theory by integrating a functional approach to LMX differentiation within the ability–motivation–opportunity framework. Although the ability–motivation–opportunity framework has been utilized to inform theory and practice in a wide array of organizational science domains (most

Figure 5

Study 2: Interaction of Leader g and CSE Predicting Dichotomous Performance-Based Differentiation



Note. CSE = core self-evaluation.
$^{*}p < .05$.

widely in relation to human resource management practices; e.g., Jiang et al., 2012), it has rarely been applied to the context of leadership. This is somewhat surprising given the large bodies of work on leader traits generally (e.g., DeRue et al., 2011) as well as leader ability (e.g., Judge et al., 2004) and leader motivation (e.g., Badura et al., 2020) specifically. We highlight that this integration was not only useful in outlining the interactive effects of leader *g* and CSE in enacting a functional approach to LMX differentiation but also in unpacking why leader *g* is linked to such an approach—because such leaders are better at recognizing the utility available in strategic relational formation (which we directly test and support in our supplemental studies following Study 2).

Strengths and Limitations

Despite the strengths of our work, it is not without limitations. First, our Study 1 was composed of MBA (leaders) and undergraduate senior students (team members) in an experiential business course. Although we tailored this study to overcome many of the limitations typically inevitable in examinations of the LMX differentiation process (Erdogan & Bauer, 2015; Nahrgang & Seo, 2015), concerns may exist over whether these results would generalize to different organizational contexts. We attempted to mitigate these concerns in several ways. First, we tailored this experiential course to share features of an organizational setting. For instance, leaders and team members were involved in every aspect of team development experienced in other settings (e.g., the recruitment and selection of team members, formation of the team, training of the team, and team performance). Moreover, these stages of development unfolded over an extended period of time (i.e., 15 weeks) typical of most organizational settings. Second, we utilized a task from other organizational settings (i.e., the Air Force) that requires high involvement, motivation, and interaction. Third, our use of MBA leaders and undergraduate senior team members provided natural hierarchical differentiation in knowledge, skills, and abilities between leaders and followers. Indeed, the MBA students in our sample typically accept frontline managerial jobs upon graduation and lead team members similar to those in our sample. Finally, we replicated our results in Study 2 with a sample of experienced leaders.

Another limitation of our Study 1 is the number of leaders/groups included in the sample. One of the difficulties in studying the role of the leader in the initiation of the LMX differentiation process is that it ideally examines early-stage relational development within newly formed dyads. These data are hard to come by, which is potentially one of the reasons these studies are rarely pursued in the literature (Erdogan & Bauer, 2015; Nahrgang & Seo, 2015). Indeed, it took 3 years and 45 total weeks (15 weeks each year) to collect the data used to test our predictions. Moreover, each of the 15-week periods required team formation activities, team training, 6 hr of in-person simulation time per team (four 90-min simulations), and team feedback. Given this limitation, however, we preregistered and conducted Study 2 with a sample size optimal for assessing the replicability of our effects.

Although Study 2 constructively replicated the effects from Study 1 with several different strengths (e.g., a sample of experienced leaders, an examination of initial information processing and opportunity recognition, a design that modeled and/or directly assessed the ability, motivation, and opportunity components of our

theorizing, and the use of a behavioral indicator of performance-based differentiation), one limitation was that we were unable to manipulate leader *g* (given that it is a trait that captures one's inherent intelligence). Thus, we attempted to overcome this limitation in two ways. First, we relied on three different measurement sources in Study 2 to remove any potential inflation in relationships due to the source of measurement (i.e., an intelligence test, a scale measure of CSE, and a behavioral assessment of performance-based differentiation). Second, we followed up Study 2 with two supplemental studies designed to unpack our theorizing that certain leaders better recognize the potential to utilize subordinates to complete task and group maintenance functions. Our first supplemental study revealed that leader *g* is linked to recognition that one can utilize subordinates to assist in the completion of leadership functions. The second then directly manipulated leader recognition of the value in such an approach (that we posit, and established, flows from leader *g*) and replicated our effects on performance-based differentiation (i.e., manipulate the mechanism; Spencer et al., 2005).

Future Research

Our work establishes a framework for future examinations of the ways leaders utilize social exchanges to fulfill their functional goals and springboards further inquiry into (a) other bases of LMX differentiation and (b) additional traits that may influence differentiation-related decision making. Beyond this, our results themselves highlight additional areas for future scholarship. For instance, although leader CSE strengthens the positive effects of leader *g* on performance-based differentiation and ultimately group performance, results across multiple studies suggest that performance-based differentiation was lowest when leader *g* is low and CSE is high. Given that leader *g* increases performance-based differentiation (because it enhances recognition of the potential in such an approach) and leader CSE strengthens those effects (because it enhances confidence in one's ability to process, execute on, and persist with the approach—once identified), it is likely the case that these leaders are poor at recognizing sound opportunities but confident in their abilities to execute on and persist with their chosen path forward. As such, one potential explanation for this result is that these leaders are overconfident in their abilities. Indeed, leader overconfidence has been shown to (a) hamper the identification of one's deficiencies (Shipman & Mumford, 2011), (b) enhance one's refusal to change course (Gino & Pisano, 2011), and (c) trigger a persistence with poor strategic decisions (Park et al., 2011). Thus, our work hints that exploring the role of overconfidence within the LMX differentiation context may be a worthwhile future direction.

Another area for future work might focus on the decision-making processes of low *g* leaders. Our data consistently highlighted that low *g* leaders are less likely to engage in performance-based differentiation and are more likely to differentiate based on similarity and liking rather than performance behaviors relative to high *g* leaders (Study 2). In fact, leader *g* was negatively associated with differentiating based on similarity and liking in this data ($r = -.24$, $p = .01$; indicating low *g* leaders were more likely to differentiate on these bases). Thus, an interesting extension of this work could consider the decision-making processes of low *g* leaders. For instance, could it be that low *g* leaders are intimidated by high performers or, alternatively, are they choosing to invest in more similar or liked subordinates to fulfill a particular motive?

Practical Implications

Our work provides clear, actionable guidance on where leaders should invest their limited personal resources. Specifically, given equal opportunity to enact a functional approach to LMX differentiation, leaders should strive to develop strong LMX quality with followers who exhibit high task and contextual performance behaviors. By engaging in performance-based differentiation, leaders can ensure their functional "bases are covered." Moreover, while high *g* leaders may be more likely to recognize the utility of such an approach on their own, an easy and actionable step for practitioners may be to prime leaders of all levels of *g* about this value (as we do in our supplemental study following Study 2). This is likely to be particularly beneficial for leaders low in *g* who might need assistance in identifying these circumstances exist and leaders high in CSE who have the motivational capacity to process and execute on the approach once recognized. Finally, our research has valuable implications for the selection and training of leaders. Ironically, though they likely have the *least* "need" to outsource in order to fulfill functions, leaders high in both *g* and CSE are most likely to "work smarter not harder"—recognizing and capitalizing on the utility afforded by such differentiation on their own and reaping its performance rewards.

Conclusion

Given that the LMX differentiation process begins with the leader, it is both surprising and concerning that examinations of how the leader shapes the LMX differentiation process—and the effectiveness of their chosen strategy—are essentially absent from the literature. Integrating tenets of functional leadership theory within the ability–motivation–opportunity framework, we develop theory aiming to address what kinds of differentiation facilitate team performance and what types of leaders differentiate effectively. Results from two studies—a multisource study of leaders and team members in newly formed teams as well as a preregistered online vignette study using a sample of current and former supervisors—largely supported our ideas that team performance is higher when leaders differentiate on members' task and contextual performance and that leaders who are high in *g* and CSE are more likely to differentiate in such a manner. We hope this work stimulates future research on what it means to differentiate effectively for team performance and the role of the leader in achieving that end.

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