

Motivation to Lead: A Meta-Analysis and Distal-Proximal Model of Motivation and Leadership

Katie L. Badura
Georgia Institute of Technology

Emily Grijalva
Washington University in St. Louis

Benjamin M. Galvin and Bradley P. Owens
Brigham Young University

Dana L. Joseph
University of Central Florida

To understand how motivation to lead (MTL) fits into the broader leadership literature, we present a meta-analytic review of MTL and test a Distal-Proximal Model of Motivation and Leadership. Using a database of 1,154 effect sizes from 100 primary studies, we found that the 3 types of MTL (affective-identity, social-normative, and noncalculative) had a unique pattern of antecedents and were only modestly correlated, indicating that MTL may be best operationalized as three separate motivational constructs instead of as one overarching construct. Further, the 3 MTL types were generally associated with individuals emerging as leaders, engaging in beneficial leadership behaviors (i.e., more transformational and transactional leadership, as well as less laissez faire leadership), and performing more effectively in leadership roles. Finally, meta-analytic path analysis demonstrated that the three MTL types partially explained the relationship between more distal predictors (i.e., gender, cognitive ability, the Big Five, past leader experience, and leader self-efficacy) and leadership emergence/effectiveness. Interestingly, we found that traits often viewed as beneficial for leadership (extraversion, conscientiousness, and openness) may have a darker side that is transmitted through MTL. Taken together, this study advances theory by clarifying the distinctiveness of the three MTL types, establishing MTL's relationship with leadership outcomes, and identifying MTL's role within the broader leadership domain.

Keywords: meta-analysis, motivation to lead, nomological network

Supplemental materials: <http://dx.doi.org/10.1037/apl0000439.supp>


Motivation to lead (MTL; Chan & Drasgow, 2001) is an individual difference that represents the desire to attain leadership roles as well as expend effort to fulfill leader role requirements. Understanding MTL is important to addressing questions related to who is going to be most attracted to leadership roles and whether those who are motivated to pursue leadership become more effective leaders. Further, from a practical perspective, an understanding of MTL is arguably essential to maximizing costly investments

in leadership training and development because it helps to assess whether employees will ultimately be willing to exert effort to fulfill leadership responsibilities (DeRue & Myers, 2014; Gurdjian, Halbeisen, & Lane, 2014).

Given the potential importance of MTL, it is surprising that it has not been more fully integrated into efforts aimed at understanding the nuanced nomological network of leadership processes (e.g., DeRue, Nahrgang, Wellman, & Humphrey, 2011; Dinh et al., 2014; Meuser et al., 2016). We believe three overarching issues have impeded greater incorporation of the MTL construct into the leadership literature: (a) confusion about how MTL is conceptualized and measured, (b) a disjointed accumulation of findings that leave doubt concerning MTL's role as a valuable predictor of leader outcomes, and (c) a lack of clarity regarding whether MTL increases our understanding of broader leader emergence and effectiveness processes.

Regarding MTL's conceptualization and measurement, Chan and Drasgow (2001) introduced three types of MTL: affective-identity MTL (AFF-MTL; the degree to which one enjoys leadership roles and sees oneself as a leader), social-normative MTL (SN-MTL; the degree to which one views leadership as a responsibility and duty), and noncalculative MTL (NC-MTL; the degree to which one views leadership opportunities positively despite potential costs and/or minimal personal benefits). However, there

This article was published Online First August 8, 2019.

 Katie L. Badura, Scheller College of Business, Georgia Institute of Technology; Emily Grijalva, Olin Business School, Washington University in St. Louis; Benjamin M. Galvin and Bradley P. Owens, Marriott School of Business, Brigham Young University; Dana L. Joseph, Department of Management, University of Central Florida.

We thank Kim Yin Chan and Cody Reeves for their valuable and constructive feedback on an earlier version of the manuscript. This research was supported by a grant from the Templeton Foundation (60622) and a fellowship from the Wheatley Institution at Brigham Young University.

Correspondence concerning this article should be addressed to Katie L. Badura, Scheller College of Business, Georgia Institute of Technology, 800 West Peachtree, NorthWest, Atlanta, GA 30308. E-mail: katie.badura@scheller.gatech.edu

has been limited theoretical development concerning how and why the three types of MTL may differ from one another, and there is inconsistency in the measurement of these subdimensions. Some scholars assess all three types of MTL and report their impact separately (e.g., [Hendricks & Payne, 2007](#)), whereas others combine the different types to create a single summary score (e.g., [Luria & Berson, 2013](#)), and still others measure only a subset of the types and report their findings either separately or together (e.g., [Seibert, Sargent, Kraimer, & Kiazad, 2017](#)).

To clarify MTL's dimensionality and evaluate the extent to which the three MTL types are discrete (but related) constructs, we summarize the meta-analytic correlations among the types and examine their patterns of relationships with antecedents. In line with interpersonal circumplex theory, we expect to observe that AFF-MTL aligns more closely with the agentic domain (e.g., extraversion and individualism), whereas SN- and NC-MTL align with the communal domain (e.g., agreeableness and collectivism; [Abele & Wojciszke, 2018](#); [Kiesler, 1996](#); [Leary, 1957](#)). Examining differences in the nomological networks among the MTL types helps to assess the usefulness and necessity of parsing out the three types and is consistent with how past meta-analytic work has established the discriminant validity of intercorrelated variables ([Berry, Ones, & Sackett, 2007](#); [Dalal, 2005](#)).

Second, we believe that MTL has been hampered by a lack of understanding regarding its relationship with leader outcomes. In developing the MTL construct, a greater focus was placed on identifying relevant antecedents than consequences. Thus, it is beneficial to offer additional theorizing regarding why the three MTL types should relate to leader emergence, behaviors, and effectiveness. Although we expect each MTL type to positively predict leader outcomes, we argue that AFF-MTL is particularly valuable as it captures the degree to which one intrinsically enjoys being a leader, rather than more secondary influences, such as social norms (SN-MTL) or a lack of concern for personal benefits (NC-MTL; [Guillén, Mayo, & Korotov, 2015](#)). If our findings suggest that most or all of the predictive power is generated by AFF-MTL, then it offers empirical support for the relatively common practice of measuring and reporting AFF-MTL in isolation.

Third, to further encourage the assimilation of the MTL construct with the broader leadership literature, we test a model that integrates [DeRue and colleagues \(2011\)](#) trait and behavioral theory of leadership with [Kanfer's \(1990\)](#) distal-proximal framework of motivation. The model allows us to assess whether MTL is a mechanism through which individual attributes relate to leadership outcomes. Given that motivation has been identified as an important driver of employee behavior and performance ([Barrick, Mount, & Li, 2013](#); [Mitchell & Daniels, 2003](#)), we bridge the motivation and leadership literatures to advance theory regarding the process through which individual attributes translate into leader emergence and effectiveness. Overall, we hope this meta-analytic review will serve to energize further inquiry into the motivational impetus driving leadership and encourage additional integration of MTL into the leadership literature.

Motivation to Lead and Dimensionality Concerns

[Yukl \(2013\)](#) defines leadership as “the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collec-

tive efforts to accomplish shared objectives” (p. 7). We argue that a core component of this leadership process is the motivation that drives an individual to lead. Historically, researchers trying to understand motivation's relevance to leadership primarily focused on an individual's motivation to manage. Initially formulated by [Miner \(1965\)](#), motivation to manage captures the extent to which people are compelled to fulfill the requirements of a managerial role within a hierarchical organization ([Eagly, Karau, Miner, & Johnson, 1994](#)). Other early work investigated leadership motive patterns ([Jacobs & McClelland, 1994](#); [McClelland, 1975](#)), and concluded that when individuals have a moderate to high need for power, a low need for affiliation, and a high need for self-control, then they are more likely to emerge into leadership positions ([McClelland & Boyatzis, 1982](#)).¹ However, both motivation to manage and leadership motive patterns used projective measurement approaches, which led these constructs to eventually fall out of favor due to criticisms related to construct validity and reliability ([Entwisle, 1972](#); [Fineman, 1977](#); for a description of projective measures, please refer to [Lilienfeld, Wood, & Garb, 2000](#); [Meyer & Kurtz, 2006](#)).

Due in part to these measurement issues, research on the motivation underlying leadership underwent a period of decline that ended with the publication of [Chan and Drasgow's \(2001\)](#) introduction of the three types of MTL (i.e., AFF-, SN-, and NC-MTL) as relatively stable individual differences that stem from a combination of noncognitive factors such as personality and cultural values. Currently, [Chan and Drasgow's \(2001\)](#) conceptualization of MTL is the dominant theoretical paradigm; yet, as mentioned above, there has been inconsistency in how scholars conceptualize and measure the three MTL types. We believe this inconsistency is a consequence of a limited understanding of how the three types differ from one another. To better understand the similarities and differences among the MTL types, we first metaanalyze the intercorrelations among the three types to evaluate whether these relationships are strong enough to warrant treatment as a single construct, or in contrast, indicate that MTL should be treated as three separate but related constructs. Second, we examine whether the three types of MTL exhibit different relationships with any antecedent of MTL that has been examined with enough frequency to meta-analyze. This includes demographics (e.g., gender, education), Big Five traits, self-concept traits (e.g., narcissism, leadership self-efficacy), cultural values (e.g., individualism, collectivism), and intelligence (e.g., cognitive ability, emotional intelligence).

Generally, we expect to observe that the MTL types exhibit similar patterns of relationships (i.e., in the same direction); however, we also predict that there are key ways in which they differ from one another. In particular, interpersonal circumplex theory models interpersonally relevant characteristics along two independent dimensions: agency and communion ([Abele & Wojciszke, 2018](#); [Kiesler, 1996](#); [Leary, 1957](#)). Agency is conceptualized as seeing oneself as a differentiated individual, and “it is manifest in strivings for mastery and power which enhance and protect that

¹ Although [Chan and Drasgow \(2001\)](#) make no assumption that “people have unconscious needs for achievement, power, or affiliation that drive their MTL” (p. 482), subsequent research has demonstrated that the three types of MTL are related to the need for achievement, power, and affiliation ([Bobbio & Rattazzi, 2006](#)).

differentiation,” whereas communion is conceptualized as seeing oneself as part of a larger social entity, and “it is manifested in strivings for intimacy, union, and solidarity with that larger entity” (Wiggins, 1991, p. 89; see also Bakan, 1966). Building upon the tenets of interpersonal circumplex theory, we argue that AFF-MTL aligns more closely with agency because these individuals have an intrinsic interest in leading and tend to identify with a role that is prototypically agentic in nature (i.e., leadership is considered agentic because of its association with attributes such as dominance and assertiveness; Eagly & Karau, 2002). On the other hand, a communal, other-oriented focus is interwoven into the intentions of people who lead for social-normative or noncalculative reasons (SN-MTL entails a focus on one’s responsibilities to others and NC-MTL captures leading without expecting personal gains for oneself).

As a consequence, we expect that AFF-MTL (as compared with SN- and NC-MTL) will have stronger relationships with agentic correlates including extraversion, openness to experience, cognitive ability (Grijalva & Zhang, 2016), and individualism (Singelis, Triandis, Bhawuk, & Gelfand, 1995), as well as positive self-concept traits (i.e., narcissism, leadership self-efficacy, core self-evaluation, and general self-efficacy). Alternatively, we anticipate that SN- and NC-MTL (as opposed to AFF-MTL) will each exhibit stronger relationships with communal correlates including: agreeableness, conscientiousness (Campbell, Rudich, & Sedikides, 2002), and collectivism (Singelis et al., 1995). Further, because men score higher on agency and women score higher on communion (Badura, Grijalva, Newman, Yan, & Jeon, 2018), we expect that the gender difference will be larger (favoring men) for AFF-MTL than SN- and NC-MTL (conversely, we expect that the gender difference will be larger (favoring women) for SN and NC-MTL than AFF-MTL). We make no explicit assumption for antecedents that are not clearly categorized as predominantly relating to agency or communion—instead we treat these antecedents using an inductive approach (i.e., age, past leadership experience, education, emotional intelligence, and emotional stability).

Hypothesis 1: AFF-MTL is more positively related to agentic characteristics than (a) SN-MTL and (b) NC-MTL.

Hypothesis 2: (a) SN-MTL and (b) NC-MTL are more positively related to communal characteristics than AFF-MTL.

Leadership Outcomes

Although understanding the antecedents of MTL is important, given the current state of the literature, it is also vital to examine how the three MTL types relate to leadership outcomes. As motivation propels individuals to strive to attain desired outcomes through focusing the direction, intensity, and persistence of their actions (Kanfer, Frese, & Johnson, 2017), people who are motivated to lead are expected to work harder and longer to obtain leadership roles and more effectively fulfill the requirements associated with those roles. That being said, when developing the MTL construct, there was not initially a strong theoretical or empirical connection established between MTL and leader outcomes. Chan and Drasgow stated that, “it is not yet known how MTL relates to constructs such as leader emergence” (p. 483), and that there was not an explicit assumption “that MTL is directly related to leader effectiveness” (p. 482). Thus, there is a need to clarify MTL’s relevance to valued outcomes. Drawing on core

tenets from the motivation and identity literatures, we next provide specific arguments for how we expect AFF-, SN-, and NC-MTL to relate to leadership emergence, behaviors, and effectiveness.

Leadership Emergence

Leadership emergence refers to the outcome of being perceived as leaderlike by others, such as peers in a leaderless group (Judge, Bono, Ilies, & Gerhardt, 2002; Kaiser, Hogan, & Craig, 2008). Past work demonstrates that people are perceived to be leaderlike to the extent that they actively engage in behaviors that match agentic leader prototypes (e.g., by voicing ideas and volunteering solutions to problems), and either directly or indirectly communicate an interest in and motivation to perform leadership functions (Leaper & Ayres, 2007; Mullen, Salas, & Driskell, 1989). Based on evidence showing that people attempt to maintain consistent self-views and seek to align others’ views with their own self-image (Korman, 1970; Swann, 1987), we argue that being highly motivated to lead is also associated with being more likely to engage in prototypical leader behaviors that identify an individual as leaderlike to other group members. In other words, if someone is high in MTL, then they should be more likely to enact behaviors within groups aimed at claiming leadership (e.g., greater participation, sitting at the head of the table, stating that one is a leader; DeRue & Ashford, 2010), and as a consequence, be more likely to emerge as leaders within group settings.

At the same time, although we expect MTL to generally promote engagement with the leader role, which in turn enhances the possibility of emergence—we do not anticipate that this is equally true for AFF-, SN-, or NC-MTL. Indeed, we predict that AFF-MTL will display a stronger relationship with leadership emergence than will SN- or NC-MTL. Our arguments for AFF-MTL’s predictive superiority rest on its association with intrinsic enjoyment of the leadership role and seeing oneself as a leader (Chan & Drasgow, 2001). Intrinsic enjoyment (i.e., “the motivation to engage in work primarily for its own sake, because the work itself is interesting, engaging, or in some way satisfying”) has been found to be a stronger motivator than external forces (Amabile, Hill, Hennessey, & Tighe, 1994, p. 950). In addition, because those high in AFF-MTL enjoy leadership and see themselves as leaders, we argue that they are more likely to fully internalize the leader role into their sense of self and use leadership as a way to define themselves relative to others and confirm their identity as a leader (Kwok, Hanig, Brown, & Shen, 2018; McCall & Simmons, 1978; Stets & Burke, 2000). This self-categorization then may evoke a stronger need for outside verification that one is indeed perceived as leaderlike by others (Swann, 1987). Therefore, we expect that individuals high in AFF-MTL will be more likely to participate in proactive behaviors that result in broad engagement with the leader role across contexts and that serve to distinguish them as leaderlike to other group members.

In contrast, SN- and NC-MTL are associated with leading out of necessity or selflessness and are expected to exhibit weaker relationships with leadership emergence than AFF-MTL. In the case of SN-MTL, individuals feel obligated to lead out of duty. For example, people may lead because they observe that no one else is stepping forward to lead or because they believe themselves to be the most qualified to lead, and therefore, it would benefit the team. When the locus of the motivation is more driven by external

reasons (e.g., seeing the need to help one's team or organization) and somewhat related to circumstance (e.g., no one else is stepping forward to lead) it will be a weaker driver of proactive engagement in acts that promote leadership emergence.

Similarly, NC-MTL is also predicted to have a weaker relationship with leadership emergence than AFF-MTL. The theory associated with NC-MTL acknowledges that "leadership usually involves certain responsibilities or costs" and that "the less calculative that one is about leading others, the less one would wish to avoid leadership roles" (Chan & Drasgow, 2001, p. 482). In other words, those high in NC-MTL are noncalculative in that they are not discouraged from leading by the potential costs and/or limited personal benefits. However, a selfless orientation toward leadership that results in a lack of aversion does not necessitate that one will enthusiastically pursue leadership. For this reason, we argue that NC-MTL will have a weaker relationship with leader emergence than will AFF-MTL. In sum, we hypothesize that each type of MTL will be positively related to leader emergence, but that AFF-MTL will more strongly predict leader emergence relative to SN- and NC-MTL.

Hypothesis 3: Leader emergence is positively related to (a) AFF-MTL, (b) SN-MTL, and (c) NC-MTL. Further, AFF-MTL is a stronger predictor of leader emergence than (d) SN-MTL and (e) NC-MTL.

Leadership Behaviors

Building on similar logic, we next examine how MTL relates to specific leadership behaviors. Both transformational and transactional leadership represent behaviors associated with the leader role (e.g., sharing vision, providing direction), whereas laissez-faire leadership is the abdication of the leadership role (Bass, 1999; Judge & Piccolo, 2004). Because leadership behaviors are natural outcomes of a positive orientation and desire to engage in leadership, we generally argue that individuals who are more motivated to lead will be likely to enact both transformational and transactional behaviors, and less likely to exhibit laissez-faire leadership.

Again, although we hypothesize that the three MTL types relate to leadership behaviors, we argue that AFF-MTL will exhibit the strongest relationship. In particular, because those high in AFF-MTL enjoy leadership and find it more personally meaningful, this intrinsic motivation will have a greater influence on one's engagement and persistence in leadership behaviors than more extrinsically, other-focused motives (such as SN- and NC-MTL). Altogether, we predict that these tendencies will produce a stronger positive relationship between AFF-MTL and transformational leadership as well as transactional leadership, and a stronger negative relationship with laissez-faire leadership, than will be associated with SN- and NC-MTL.

Hypothesis 4: Transformational leadership is positively related to (a) AFF-MTL, (b) SN-MTL, and (c) NC-MTL. Further, AFF-MTL is a stronger predictor of transformational leadership than (d) SN-MTL and (e) NC-MTL.

Hypothesis 5: Transactional leadership is positively related to (a) AFF-MTL, (b) SN-MTL, and (c) NC-MTL. Further, AFF-MTL is a stronger predictor of transactional leadership than (d) SN-MTL and (e) NC-MTL.

Hypothesis 6: Laissez-faire leadership is negatively related to (a) AFF-MTL, (b) SN-MTL, and (c) NC-MTL. Further, AFF-MTL is a stronger predictor of laissez-faire leadership than (d) SN-MTL and (e) NC-MTL.

Leader Effectiveness

Leadership effectiveness captures the extent to which an individual fulfills the requirements of a leadership role (Judge et al., 2002; Yukl, 2013). In general, individuals with higher levels of the three types of MTL are expected to be more effective because they are inherently more interested in and willing to be leaders, and thus, are driven to successfully perform role requirements (Chan & Drasgow, 2001; Hendricks & Payne, 2007). Consequently, we predict that those who are motivated to lead are more likely to invest time and energy to fulfill the demands associated with leadership and to persist in leadership efforts (Kanfer, 1990; Mitchell, 1982; Mitchell & Daniels, 2003). In addition, high MTL encourages employees to partake in leadership training and development opportunities (Maurer, Hartnell, & Lippstreu, 2017; Stiehl, Felfe, Elprana, & Gatzka, 2015), and research has shown that the accumulation of leadership relevant knowledge, experience, and skills results in more effective leadership (Van Iddekinge, Ferris, & Heffner, 2009). Accordingly, we propose that the three MTL types are positively associated with leader effectiveness.

That being said, consistent with our previous arguments, we also suggest that AFF-MTL plays a stronger role in predicting leadership effectiveness than SN- or NC-MTL because of a deeper enjoyment of and a stronger identification with the leader role. Seeing the role as important to one's identity is expected to enhance leadership effectiveness because embracing one's role as a leader drives "a positive, generative process that empowers people to assume the mantle of leader and thereby more effectively engage in leadership processes that facilitate the accomplishment of organizational goals" (DeRue, Ashford, & Cotton, 2009, p. 219; see also Day & Harrison, 2007; Hall, 2004). Consistent with this idea, stronger role identification has been shown to generally enhance role performance (Burke & Reitzes, 1981; Burke & Tully, 1977). Similarly, a positive affective orientation toward the role will promote a willingness to invest more time and persist in leadership efforts that are likely to result in greater effectiveness. In contrast, because of SN- and NC-MTL's weaker theoretical associations with leadership self-identity and the tendency to be associated with leadership out of necessity or selflessness rather than enjoyment, these motives likely produce lower total effort, as well as relatively less successful efforts, resulting in weaker associations with leadership effectiveness than AFF-MTL.

Hypothesis 7: Leader effectiveness is positively related to (a) AFF-MTL, (b) SN-MTL, and (c) NC-MTL. Further, AFF-MTL is a stronger predictor of leader effectiveness than (d) SN-MTL and (e) NC-MTL.

A Distal-Proximal Framework of Motivation and Leadership

Up to this point we have focused on how MTL relates to antecedents and leadership outcomes. A third purpose of this meta-analysis is to better understand how MTL fits into the

broader nomological network of leadership. We integrate DeRue and colleagues (2011) trait and behavioral theory of leadership with Kanfer's (1990, 1992) distal-proximal framework of motivation to develop a theoretical model that explains the role that MTL has in the leadership process. DeRue and colleagues (2011) theory is used to establish the necessary elements to include in our theoretical framework and Kanfer's (1992) distal-proximal model of motivation is used to inform how (i.e., in what causal order) MTL should be integrated with other variables.

DeRue and colleagues (2011) theory was developed to address a lack of theoretical integration in the leadership literature by specifying how leaders' individual differences (e.g., gender, intelligence, Big Five traits) are transmitted through leadership behaviors (i.e., task-, relationship-, and change-oriented behaviors) to affect leadership outcomes. We extend their approach by suggesting that an important missing element in this prior synthesis was the role played by leader motivation. By accounting for the regulatory influence of MTL, we should be able to better predict leadership outcomes by capturing a key mechanism through which distal dispositional determinants advance purposeful work striving.

Regarding the specific antecedents we examine in our extended theoretical model, we use a theoretically derived subset of the 19 antecedents included in this paper (a practice consistent with other meta-analytic work; Christian, Bradley, Wallace, & Burke, 2009; Christian, Garza, & Slaughter, 2011; Kooij, Kanfer, Betts, & Rudolph, 2018). In particular, we supplement DeRue and colleagues (2011) antecedents (i.e., gender, the Big Five traits, and cognitive ability) with those identified as being theoretically relevant to MTL by Chan and Drasgow (2001): past leadership experience, cultural values (i.e., horizontal individualism, horizontal collectivism, vertical collectivism, and vertical individualism; Triandis, 1995; Triandis & Gelfand, 1998),² and leadership self-efficacy (Ng, Ang, & Chan, 2008).³

MTL's placement in our extended theoretical model of leadership is based on Kanfer's (1992) distal-proximal model of motivation, which argues that there should be greater attention paid to the causal ordering of motivation constructs and provides an initial framework for this order based on constructs' proximity to behavioral acts. In particular, Kanfer (1992) suggested that demographic and personality characteristics are considered more distal than motives because these characteristics are expected to influence an individual's intention or choice to engage in certain behaviors (i.e., motivation). In the case of leadership, this would suggest that attributes such as gender, the Big Five traits, and cognitive ability indirectly impact leadership behaviors and in turn leadership emergence and effectiveness via a set of more proximal motivational mechanisms, including AFF-, SN-, and NC-MTL. Notably, consistent with Chan and Drasgow (2001), we position leadership self-efficacy as an intermediary variable between the other individual attributes and MTL. This decision is in line with research arguing that "self-efficacy falls toward the middle of the distal-proximal continuum" (Yeo & Neal, 2008 p. 629), which has led to past researchers to treat leadership self-efficacy as a direct consequence of personality (Ng et al., 2008) and as an antecedent of MTL (Chan & Drasgow, 2001). Based on DeRue and colleagues work (2011), we also include leadership behaviors (i.e., transformational leadership, transactional leadership, and laissez-faire leadership) in our model as an intermediary mechanism between

MTL and leadership effectiveness. For a summary of our model, see Figure 1.

Hypothesis 8a: The relationship between distal individual difference constructs and leadership emergence is mediated by the three types of MTL.

Hypothesis 8b: The relationship between distal individual difference constructs and leadership effectiveness is serially mediated by the three types of MTL such that the individual difference variables influence MTL, which in turn influence leadership behaviors and subsequently leadership effectiveness.

Method

Literature Search and Data Coding for MTL Primary Studies

To evaluate the nomological network of MTL, we performed a large-scale literature search to identify possible studies for inclusion in this meta-analysis. We first searched PsycINFO, Web of Science, Google Scholar, and Proquest Dissertations and Theses for the following keywords: *motivation to lead*, *motivation to manage*, *leader aspiration*, *leadership aspiration*, *desire for leadership*, and *desire to lead* (searches were performed through April 1, 2019). Using these keywords, we also searched all electronically available programs from the annual meetings of the Academy of Management and the Society for Industrial and Organizational Psychology. Additionally, we conducted a forward search for papers that have cited seminal MTL research (Chan & Drasgow, 2001; Gray & O'Brien, 2007; Miner, 1977, 1978). Finally, we solicited unpublished datasets from authors who regularly conduct MTL research.

Following this preliminary search, a series of coding rules were established to determine relevant primary studies. First, studies were excluded if MTL or one of the corresponding antecedents/consequences did not align with the a priori construct definitions reported in Table 1 (e.g., Dromnes, 1989). Second, only adult samples were included. Third, primary studies had to include either (a) an effect size between one of the MTL types (i.e., AFF,

² Triandis (1995) introduced four cultural values, including vertical collectivism (seeing the self as part of the collective, and accepting status differences among group members), vertical individualism (seeing the self as independent, and accepting status differences among group members), horizontal collectivism (seeing the self as part of the collective, and being less accepting of status differences among group members), and horizontal individualism (seeing the self as independent, and being less accepting of status differences among group members; Singelis et al., 1995).

³ As described by Chan and Drasgow (2001), past leadership experience likely influences whether people have incorporated leadership into their self-identity (Hiller, 2005) and received the necessary developmental opportunities to feel capable of success in a leadership role (Bobbio & Manganelli, 2009). Cultural values are relevant because they shape both an employee's definition of leadership (Chan & Drasgow, 2001) and his/her willingness to engage in leadership behaviors (Offermann & Hellmann, 1997; Singelis et al., 1995). Finally, leadership self-efficacy captures the extent to which individuals feel competent to perform the leader role, which influences how likely they are to pursue leadership and enact task-relevant behaviors that enhance performance (Barrick et al., 2013, p. 138).

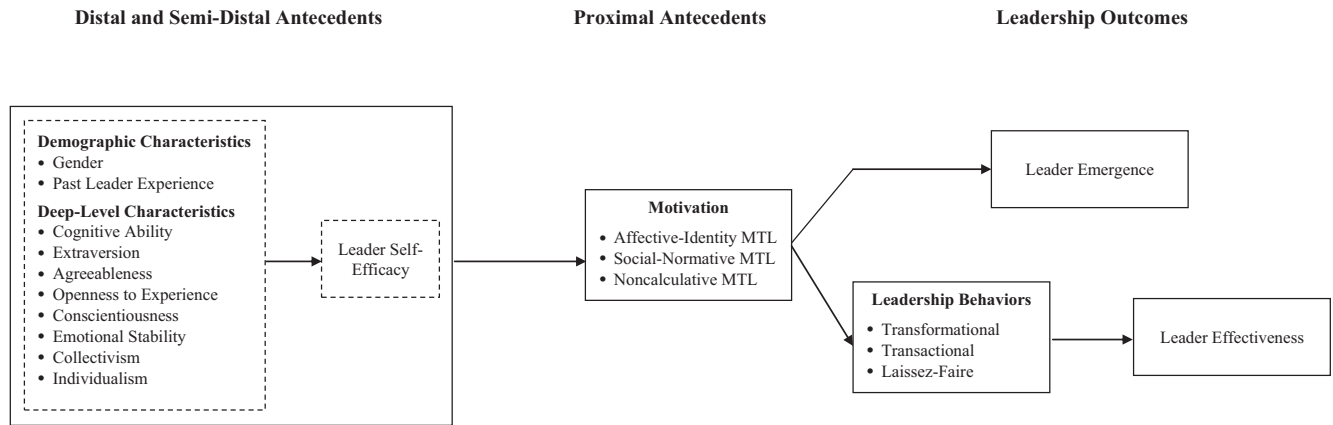


Figure 1. A Distal-Proximal Model of Motivation and Leadership. Based on available data, we included a subset of the distal antecedents for the leadership emergence and leader effectiveness path analyses. Gender, the Big Five traits, and cognitive ability were included for leadership emergence, whereas these antecedents as well as past leader experience and leadership self-efficacy were included for leadership effectiveness.

SN, or NC) and one of the predictor/outcomes included in this meta-analysis or (b) an intercorrelation between the MTL types. Fourth, we excluded studies using implicit measurement techniques (e.g., Miner & Smith, 1982) because implicit measures capture different phenomenon than self/other report measures (McClelland, Koestner, & Weinberger, 1989), are unreliable, and exhibit poor convergent validity (Entwisle, 1972; Fineman, 1977).

Fifth, we excluded a handful of studies that manipulated the MTL items to measure a unique type of motivation (e.g., motivation to lead transformationally; Gilbert, Horsman, & Kelloway, 2016). Sixth, when a study measured constructs across multiple time points, we included the data reported from the first time point (e.g., Rosch, 2015). With respect to leadership effectiveness, we excluded a study that focused on training effectiveness (e.g., “how much has this leader improved?”) rather than a global rating of leadership effectiveness (e.g., “how effective is this leader?”; Stiehl et al., 2015). Finally, consistent with past meta-analyses (Berry et al., 2007; Cohen-Charash & Spector, 2001), we only reported results for antecedent/consequent relationships that included three or more primary studies.

Using the aforementioned coding criteria, we identified 100 primary studies with information to be included in our meta-analysis. We coded relevant effect sizes, sample sizes, and reliability estimates from each primary study. To ensure the accuracy of the above coding procedures, two authors coded each effect size included in the meta-analysis. There was a high level of agreement among the coders (98%), and any disagreements were discussed until consensus was reached. Appendix A of online supplemental materials includes a list of the MTL primary studies that were included in the current study and their coded effect sizes.

Literature Search and Data Coding for Additional Correlations Needed to Construct the Metacorrelation Matrix

To test the Distal-Proximal Model of Motivation and Leadership (see Figure 1), we needed to construct a correlation matrix among constructs in the model (see Table 2) by either performing an

original meta-analysis for each bivariate relationship in the correlation matrix or, if available, using the correlation from a previously published meta-analysis (Viswesvaran & Ones, 1995).⁴ Accordingly, we performed a literature search for past meta-analyses that may include the intercorrelation between any of the following variables: *gender*, *cognitive ability*, *openness to experience*, *conscientiousness*, *extraversion*, *agreeableness*, *emotional stability*, *past leader experience*, *leader self-efficacy*, *leader emergence*, *transformational leadership*, and *leader effectiveness*. We identified a total of 12 previously published meta-analyses that reported at least one of the aforementioned intercorrelations (see the note in Table 2 for a complete list of citations).

There were no previous meta-analyses for past leader experience or leader self-efficacy. Thus, we needed to perform original meta-analyses to estimate the bivariate relationships between these constructs and the other variables included in our metacorrelation matrix. To identify relevant primary studies, we performed an additional literature search in PsycINFO, Web of Science, Google Scholar, and Proquest Dissertations and Theses using the following keywords: *past leader experience*, *prior leader experience*, *leader self-efficacy*, and *leader efficacy*. We also performed this search substituting the word *leadership* for *leader*. Our searches were completed through April 1, 2019. Using the same coding criteria reported for the MTL literature search, we identified 90 primary studies reporting relevant information. Overall, there was a high level of agreement between the two coders (99%) and any discrepancies were reconciled prior to data-analysis. Appendix B of online supplemental materials includes a list of these primary studies and their coded effect sizes.

⁴ Notably, the only antecedent variable we were not able to include from Chan and Drasgow’s (2001) original model was cultural values. This is attributable to a lack of sufficient data in the literature to estimate a relationship between these cultural values and leadership emergence, behaviors, or effectiveness. We also excluded transactional leadership and laissez-faire leadership because we were unable to estimate the bivariate association between these behaviors and several antecedents included in the path model.

Table 1
 Definitions and Missing Reliability Estimates for Each Variable Meta-Analyzed

Variable	Definition	Values imputed for missing reliability
Motivation to lead		
Affective-identity MTL	An individual's desire to lead because (s)he either enjoys leading or sees oneself as a leader. ^c	.85 ⁿ
Social normative MTL	An individual's desire to lead out of a sense of duty or obligation to his/her organization. ^c	.73 ⁿ
Noncalculative MTL	An individual's desire to lead because (s)he does not compare the costs and benefits of leading. ^d	.79 ⁿ
Antecedents		
Gender	A positive effect size denotes that men scored higher on the given variable of interest.	1.00
Past leader experience	The quantity and/or quality of past experience in leadership positions. ^d	.88 ⁿ
Age	Age of the person completing the MTL scale.	1.00
Education	Education level of the person completing the MTL scale.	1.00
Openness to experience	A personality trait reflecting the extent to which a person is imaginative, curious, and original. ^b	.73 ^w
Conscientiousness	A personality trait reflecting the extent to which a person is dependable, hardworking, and organized. ^b	.78 ^w
Extraversion	A personality trait reflecting the extent to which a person is sociable, assertive, and talkative. ^b	.78 ^w
Agreeableness	A personality trait reflecting the extent to which a person is cooperative, courteous, and good-natured. ^b	.75 ^w
Emotional stability	A personality trait reflecting the extent to which a person is calm, less emotional, and has lower anxiety. ^b	.78 ^w
Core self-evaluations	A person's general evaluation s(he) holds about oneself. ^g	N/A
General self-efficacy	An individual's belief that s(he) is capable of being successful across a wide variety of situations. ⁱ	.86 ⁿ
Leadership self-efficacy	An individual's belief that s(he) is capable of being successful in a leadership role. ^l	.86 ⁿ
Narcissism	A personality trait reflecting the extent to which a person is grandiose, entitled, and lacking empathy. ^a	.83 ^u
Horizontal collectivism	A type of cultural value where individuals see the self as part of the collective, and are less accepting of status differences among group members. ^m	.73 ⁿ
Horizontal individualism	A type of cultural value where individuals see the self as independent, and are less accepting of status differences among group members. ^m	.72 ⁿ
Vertical collectivism	A type of cultural value where individuals see the self as part of the collective, and are accepting of status differences among group members. ^m	.72 ⁿ
Vertical individualism	A type of cultural value where individuals see the self as independent, and are accepting of status differences among group members. ^m	.73 ⁿ
Emotional intelligence	The ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought. ^k	N/A
Cognitive ability	An individual's "entire repertoire of acquired skills, knowledge, learning sets, and generalization tendencies considered intellectual in nature that is available at any one period of time." (p. 32) ^f	.94 ^p (AFQT Paper & Pencil); .97 ^p (AFQT Computer Administered); .97 ^o (ACT); .98 ^v (WAIS); .86 ^q (Other)
Consequences		
Leadership emergence	The extent to which an individual is seen as a leader by others. ^h	.84 ^s
Transformational leadership	A set of leadership behaviors (i.e., idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration) that attempt to move followers beyond immediate self-interests. ^c	.90 ^f
Transactional leadership	A set of leadership behaviors that relate to the exchange relationship between leaders and followers. ^c	N/A
Laissez faire leadership	The absence of leadership. ^j	.67 ^t
Leadership effectiveness	The extent to which an individual fulfills the requirements of a leadership role (e.g., guiding followers to achieve unit goals). ^h	.88 ^s

Definitions were obtained from the following sources: ^a American Psychiatric Association (2013). ^b Barrick & Mount (1991). ^c Bass (1999). ^d Chan and Drasgow (2001). ^e Chan, Rounds, & Drasgow (2000). ^f Humphreys (1971). ^g Judge & Bono (2001). ^h Judge, Bono, Ilies, & Gerhardt (2002). ⁱ Judge, Erez, Bono, & Thoresen (2003). ^j Judge & Piccolo (2004). ^k Mayer, Roberts, & Barsade (2008). ^l Ng et al. (2008). ^m Singelis, Triandis, Bhawuk, & Gelfand (1995). Missing reliability estimates were obtained from the following sources: ⁿ An average of reliability estimates used in current manuscript. ^o ACT (2014). ^p ASVAB (2009). ^q Gonzalez-Mulé, Mount, & Oh (2014). ^r Joseph, Dhanani, Shen, McHugh, & McCord (2015). ^t Judge & Piccolo (2004). ^u O'Boyle, Forsyth, Banks, & McDaniel (2012). ^v Pearson Education Inc. (2008). ^w Viswesvaran and Ones (2000). N/A means that there were no missing reliabilities for that particular variable.

Table 2
Meta-Analytic Correlation Matrix Used to Perform the Path Analyses

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender	—														
2. Openness	.03 ^m 1/17,637	—													
3. Conscientiousness	-.07 ^m 1/17,637	-.06 ^k 338/356,680	—												
4. Extraversion	-.06 ^m 1/17,637	.17 ^k 418/252,004	.00 ^k 632/683,001	—											
5. Agreeableness	-.09 ^m 1/17,637	.11 ^k 236/144,205	.27 ^k 344/162,975	.17 ^k 243/135,529	—										
6. Emotional stability	.22 ^m 1/17,637	.16 ^k 423/254,937	.26 ^k 587/490,296	.19 ^k 710/440,440	.25 ^k 561/415,679	—									
7. Cognitive ability	.16 ⁱ 10/9,631	.22 ^h 46/13,182	-.04 ^h 56/15,429	.02 ^h 61/21,602	.00 ^h 38/11,190	.09 ^h 61/21,404	—								
8. Past leader experience	.05 ^a 18/4,441	.31 ^a 167/485	.22 ^a 20/8,551	.38 ^a 20/8,551	.18 ^a 177/7,753	.19 ^a 19/8,709	.09 ^a 8/3,703	—							
9. Leader self-efficacy	.07 ^a 31/9,167	.41 ^a 177/233	.34 ^a 22/8,322	.46 ^a 23/8,475	.27 ^a 19/7,269	.32 ^a 21/7,973	.02 ^a 10/4,426	.57 ^a 25/10,232	—						
10. AFF-MTL	.05 ^a 43/13,070	.36 ^a 26/8,799	.31 ^a 30/9,493	.57 ^a 32/10,049	.11 ^a 27/8,695	.24 ^a 28/9,435	.09 ^a 12/4,759	.49 ^a 35/12,902	.67 ^a 38/13,321	—					
11. SN-MTL	.06 ^a 27/8,836	.25 ^a 19/5,807	.31 ^a 21/5,930	.41 ^a 23/6,486	.28 ^a 20/5,734	.20 ^a 20/6,003	-.04 ^a 9/3,343	.31 ^a 26/8,894	.48 ^a 27/9,770	.56 ^a 63/16,998	—				
12. NC-MTL	-.09 ^a 23/6,319	.15 ^a 20/6,564	.27 ^a 22/6,687	.20 ^a 24/7,243	.35 ^a 20/6,360	.23 ^a 20/6,629	.01 ^a 11/4,288	.25 ^a 25/8,606	.24 ^a 23/7,673	.29 ^a 60/16,740	.35 ^a 56/15,134	—			
13. Leader emergence	.09 ^b 136/19,073	.24 ^f 20/NR	.33 ^f 17/NR	.33 ^f 37/NR	.05 ^f 23/NR	.24 ^f 30/NR	.19 ^g 65/NR	-.19 ^g —	.24 ^f —	.25 ^h 8/1,372	.15 ^a 6/1,096	.11 ^a 5/1,030	—		
14. Transformational leadership	-.05 ^c 44/29,770	.15 ^c 19/3,887	.13 ^c 18/3,516	.24 ^c 20/3,692	.14 ^c 20/3,916	.17 ^c 18/3,380	.16 ^d 6/826	.00 ^a 3/347	.39 ^a 7/1,467	.35 ^a 9/1,630	.32 ^a 8/1,570	.28 ^a 7/1,382	—		
15. Leader effectiveness	-.02 ⁱ 99/101,676	.24 ^d 39/7,762	.28 ^d 39/10,056	.31 ^d 63/12,640	.08 ^d 45/10,507	.24 ^d 51/8,960	.15 ^e 14/2,869	.23 ^a 5/1,151	.23 ^a —	.31 ^a 12/2,481	.19 ^a 7/1,414	.07 ^a 7/1,357	.64 ⁱ 27/5,415	—	

Note. Each cell contains the correlation corrected for attenuation in the predictor and criterion, followed by the number of effect sizes in the meta-analysis (k) and the total sample size in the meta-analysis (N). AFF-MTL = Affective-Identity MTL; SN-MTL = Social-Normative MTL; NC-MTL = Noncalculative MTL. — denotes that correlations were excluded from the correlation matrix because they were not included in our analyses. NR denotes that the sample size was not reported in the original meta-analytic source. For correlations with gender, positive correlations indicate that men scored higher than women.

^a Original meta-analysis. ^b Badura, Grijalva, Newman, Yan, & Jeon (2018). ^c Bono & Judge (2004). ^d DeRue, Nahrgang, Wellman, & Humphrey (2011). ^e Eagly, Johannesen-Schmidt, & van Engen (2003). ^f Judge et al. (2002). ^g Judge, Colbert, & Ilies (2004). ^h Judge, Jackson, Shaw, Scott, & Rich (2007). ⁱ Judge & Piccolo (2004). ^j Lynn & Irwing (2004). ^k Ones, 1993. ^l Paus-tian-Underdahl, Walker, & Woehr (2014). ^m Schmitt, Realo, Voracek, & Allik (2008).

Data Analysis

We performed 89 original meta-analyses using the formulas outlined by Schmidt and Hunter (2015; Chapter 3). We corrected for attenuation resulting from measurement error in both the predictor and criterion. To perform this correction, we coded the relevant reliability information reported in our primary studies. For missing reliability data, we imputed estimates based on the average reliability reported in the current meta-analysis or, in a few instances, we used the reliability reported in a single study (i.e., if it had a larger sample size than that available in the current meta-analysis; reliability values that were imputed are reported in Table 1).

In addition, we took two steps to maintain the independence of effect sizes in this meta-analysis. First, when a primary study reported more than one effect size for a given relationship, we used composite formulas (Ghiselli, Campbell, & Zedeck, 1981). We used the average correlation when information necessary to calculate a composite was not available. Second, when two separate primary studies included the same or overlapping data, we retained only the primary study with the larger sample size (e.g., Hong, 2005; Hong, Catano, & Liao, 2011). If the sample sizes were the same across primary studies, we retained the published primary study (vs. the nonpublished primary study; e.g., Chan, 1999; Chan & Drasgow, 2001).

To evaluate whether there were statistically significant differences across the nomological networks of the three MTL types, we used Raju and Brand's (2003) z test. Next, to assess whether the three MTL types mediate the relationship between distal individual differences and leader outcomes, we performed two path analyses using the metacorrelation matrix reported in Table 2 (analyses were conducted in LISREL 9.2). The first path analysis was focused on establishing the role that MTL has in the *leader emergence process*, and involved the following sequence of effects: distal individual differences (i.e., gender, cognitive ability, openness, conscientiousness, extraversion, agreeableness, and emotional stability) \rightarrow MTL (i.e., AFF, SN, and NC) \rightarrow leader emergence.⁵ Because the effect sizes reported in the correlation matrix are based on different sample sizes, we used the smallest meta-analytic sample size ($N = 1,030$; using the smallest meta-analytic sample size is a more conservative decision when the sample size for particular bivariate correlations inflate the harmonic mean sample size in a way that may facilitate Type I error; for a recent example see Dhanani, Beus, & Joseph, 2018).

The second path analysis examined the role that MTL has in the *leadership effectiveness process*. We evaluated the following sequence of effects: distal individual differences (i.e., gender, cognitive ability, openness, conscientiousness, extraversion, agreeableness, emotional stability, and past leader experience) \rightarrow leader self-efficacy \rightarrow MTL (i.e., AFF, SN, and NC) \rightarrow transformational leadership \rightarrow leader effectiveness. The sample size used for this analysis was again based on the smallest meta-analytic sample size ($N = 347$). To establish the significance of the indirect effects implied by the above path models, we constructed 95% confidence intervals using Monte Carlo simulations in R (Preacher & Selig, 2012).

Finally, we performed Duval and Tweedie's (2000) trim and fill publication bias test for each antecedent-MTL relationship and each MTL-outcome relationship included in the current meta-

analysis using the metafor package in R (Viechtbauer, 2010). Using the interpretive guidelines reported by Borenstein and colleagues (2009; p. 292), publication bias did not impact the substantive conclusions of this article (results are reported in Appendix C of online supplemental materials).

Results

Our review revealed 100 independent samples that were included in our meta-analytic examination of MTL. There were 55 published studies, 38 dissertations/theses, and seven unpublished studies. Across all of the samples, 29,323 participants contributed data—39% of participants were students, 39% were employees, and 12% were members of the military (the remaining 10% of participants were from studies including a mixture of working adults and students). Of the 11,391 working adults, 35% were managers and 12% were nonmanagers (53% of participants were from studies that had a mixture of managers and nonmanagers). The sample-weighted average age of participants was 29.43 years, and 52% of participants were men.

Antecedents of MTL

Intercorrelations between the MTL types. To evaluate the distinctiveness of the MTL types, we first evaluated the intercorrelations among AFF-, SN-, and NC-MTL. Results are reported in Table 3. Notably, all three MTL types exhibited statistically significant, positive relationships with each other [AFF- and SN-MTL ($\rho = .56$); AFF- and NC-MTL ($\rho = .29$); SN- and NC-MTL ($\rho = .35$)]. At the same time, the strength of these relationships were relatively modest, consistent with the idea that the types should be treated as three separate constructs.

Summary of bivariate relationships for antecedent-MTL relationships. We investigated 19 antecedents of the three MTL types. In general, we found that gender, extraversion, openness, conscientiousness, agreeableness, emotional stability, past leader experience, general self-efficacy, leader self-efficacy, core self-evaluation, emotional intelligence, and horizontal collectivism each exhibited statistically significant, positive relationships with the three MTL types. Narcissism, education, horizontal individualism, and vertical individualism were also positively (and significantly) related to AFF- and SN-MTL, whereas narcissism and vertical individualism were negatively (and significantly) related to NC-MTL. Notably, results indicated that only AFF-MTL had a statistically significant (positive) relationship with cognitive ability and vertical collectivism was positively related to SN and NC-MTL. For the full results, including the corrected correlations and confidence intervals used to evaluate statistical significance, please see Table 3.

Differences across the nomological networks of the three MTL types. We proposed that predictors across the nomological networks of the three MTL types would vary as a function of whether they are agentic (AFF-MTL) or communal (SN and NC-MTL). In partial support of our predictions, results revealed that AFF-MTL was more strongly predicted by the following agentic

⁵ We excluded past leadership experience and leader self-efficacy because there were not sufficient data to estimate these variables' bivariate associations with leadership emergence.

Table 3
Antecedents of the Three Types of Motivation to Lead

Motivation	<i>k</i>	<i>N</i>	<i>r</i>	$\hat{\rho}$	<i>SD_ρ</i>	95% CI	80% CV
Intercorrelations							
AFF- and SN-MTL	63	16,998	.44	.56	.16	[.40, .47]	[.35, .76]
AFF- and NC-MTL	60	16,740	.23	.29	.23	[.18, .28]	[-.01, .58]
SN- and NC-MTL	56	15,134	.27	.35	.21	[.23, .31]	[.08, .62]
	<i>k</i>	<i>N</i>	<i>d</i>	$\hat{\delta}$	<i>SD_δ</i>	95% CI	80% CV
Gender							
AFF-MTL	43	13,070	.10	.10	.22	[.02, .17]	[-.18, .39]
SN-MTL	27	8,836	.12	.14	.20	[.04, .21]	[-.12, .40]
NC-MTL	23	6,319	-.17	-.19	.23	[-.06, -.27]	[-.49, .11]
	<i>k</i>	<i>N</i>	<i>r</i>	$\hat{\rho}$	<i>SD_ρ</i>	95% CI	80% CV
Past leadership experience							
AFF-MTL	35	12,902	.41	.49	.26	[.34, .47]	[.16, .82]
SN-MTL	26	8,894	.23	.31	.26	[.16, .30]	[-.02, .64]
NC-MTL	25	8,606	.20	.25	.19	[.14, .25]	[.01, .48]
Age							
AFF-MTL	36	9,368	-.01	-.01	.07	[-.04, .02]	[-.10, .08]
SN-MTL	20	4,905	-.05	-.05	.11	[-.10, .01]	[-.19, .09]
NC-MTL	20	4,997	.05	.06	.12	[.00, .11]	[-.09, .21]
Education							
AFF-MTL	10	3,161	.08	.09	.05	[.03, .12]	[.02, .15]
SN-MTL	9	2,751	.04	.05	.02	[.01, .08]	[.03, .07]
NC-MTL	8	2,029	.04	.04	.04	[-.02, .09]	[-.02, .10]
Openness to experience							
AFF-MTL	26	8,799	.29	.36	.08	[.26, .32]	[.25, .46]
SN-MTL	19	5,807	.18	.25	.17	[.12, .25]	[.03, .47]
NC-MTL	20	6,564	.12	.15	.18	[.05, .18]	[-.08, .37]
Conscientiousness							
AFF-MTL	30	9,493	.24	.31	.16	[.20, .29]	[.10, .52]
SN-MTL	21	5,930	.23	.31	.14	[.18, .28]	[.13, .49]
NC-MTL	22	6,687	.21	.27	.17	[.15, .27]	[.05, .49]
Extraversion							
AFF-MTL	32	10,049	.48	.57	.08	[.45, .51]	[.47, .67]
SN-MTL	23	6,486	.31	.41	.10	[.27, .34]	[.29, .53]
NC-MTL	24	7,243	.16	.20	.17	[.10, .22]	[-.02, .42]
Agreeableness							
AFF-MTL	27	8,695	.09	.11	.15	[.04, .14]	[-.08, .30]
SN-MTL	20	5,734	.21	.28	.19	[.14, .27]	[.04, .52]
NC-MTL	20	6,360	.27	.35	.19	[.20, .33]	[.10, .59]
Emotional stability							
AFF-MTL	28	9,435	.20	.24	.11	[.16, .24]	[.11, .38]
SN-MTL	20	6,003	.15	.20	.09	[.11, .19]	[.08, .32]
NC-MTL	20	6,629	.18	.23	.18	[.12, .25]	[.00, .46]
Emotional intelligence							
AFF-MTL	5	1,538	.24	.28	.05	[.18, .30]	[.22, .35]
SN-MTL	4	724	.19	.24	.02	[.12, .27]	[.22, .27]
NC-MTL	5	1,538	.18	.22	.08	[.10, .26]	[.12, .32]
Core self-evaluations							
AFF-MTL	5	1,123	.30	.35	.00	[.27, .32]	[.35, .35]
SN-MTL	3	781	.18	.23	.00	[.17, .19]	[.23, .23]
NC-MTL	4	1,003	.30	.36	.06	[.22, .37]	[.29, .43]
General self-efficacy							
AFF-MTL	10	3,505	.35	.40	.16	[.25, .44]	[.20, .61]
SN-MTL	8	2,026	.33	.41	.23	[.19, .47]	[.12, .70]
NC-MTL	8	1,750	.23	.28	.24	[.09, .38]	[-.03, .58]
Leadership self-efficacy							
AFF-MTL	38	13,321	.57	.67	.16	[.52, .61]	[.46, .87]
SN-MTL	27	9,770	.37	.48	.16	[.32, .41]	[.27, .68]
NC-MTL	23	7,673	.20	.24	.25	[.11, .28]	[-.08, .57]
Narcissism							
AFF-MTL	4	955	.51	.59	.00	[.45, .58]	[.59, .59]
SN-MTL	4	955	.31	.38	.07	[.23, .40]	[.29, .47]

Table 3 (continued)

Motivation	<i>k</i>	<i>N</i>	<i>r</i>	$\hat{\rho}$	<i>SD</i> _{ρ}	95% CI	80% CV
NC-MTL	3	675	-.15	-.17	.00	[-.11, -.19]	[-.17, -.17]
Horizontal collectivism							
AFF-MTL	6	3,776	.14	.18	.09	[.08, .21]	[.07, .29]
SN-MTL	5	2,392	.33	.44	.10	[.24, .41]	[.31, .58]
NC-MTL	5	2,392	.35	.44	.00	[.31, .38]	[.44, .44]
Horizontal individualism							
AFF-MTL	7	4,414	.20	.24	.05	[.16, .23]	[.17, .31]
SN-MTL	6	3,030	.10	.14	.12	[.03, .17]	[-.01, .29]
NC-MTL	6	3,030	.00	.00	.12	[-.08, .08]	[-.15, .16]
Vertical collectivism							
AFF-MTL	6	3,776	.05	.07	.14	[-.04, .15]	[-.12, .25]
SN-MTL	5	2,392	.33	.46	.08	[.26, .40]	[.35, .56]
NC-MTL	5	2,392	.26	.33	.22	[.10, .41]	[.05, .61]
Vertical individualism							
AFF-MTL	7	4,414	.25	.31	.04	[.21, .29]	[.26, .36]
SN-MTL	6	3,030	.18	.26	.05	[.14, .23]	[.20, .32]
NC-MTL	6	3,030	-.21	-.28	.06	[-.16, -.26]	[-.21, -.36]
Cognitive ability							
AFF-MTL	12	4,759	.07	.09	.07	[.03, .12]	[.00, .17]
SN-MTL	9	3,343	-.04	-.04	.05	[-.08, .01]	[-.11, .03]
NC-MTL	11	4,288	.01	.01	.03	[-.02, .04]	[-.02, .05]

Note. Positive effect sizes mean that men scored higher than women. *k* = number of effect sizes in the meta-analysis; *N* = total sample size in the meta-analysis; *r* = sample-size weighted mean correlation; $\hat{\rho}$ = correlation corrected for attenuation in the predictor and criterion; *SD* _{ρ} = standard deviation of the corrected correlation; 95% CI = 95% confidence interval; 80% CV = 80% credibility interval. Effect sizes are statistically significant when the confidence interval does not include zero. AFF-MTL = Affective-Identity MTL; SN-MTL = Social-Normative MTL; NC-MTL = Noncalculative MTL.

variables as compared with SN-MTL: extraversion ($z = 2.18$; $p < .05$), leader self-efficacy ($z = 3.39$; $p < .05$), and narcissism ($z = 2.63$; $p < .05$), but not openness ($z = 1.21$; $p > .05$), cognitive ability ($z = 1.49$; $p > .05$), core self-evaluation ($z = 1.18$; $p > .05$), general self-efficacy ($z = .13$; $p > .05$), horizontal individualism ($z = 1.34$; $p > .05$), or vertical individualism ($z = .70$; $p > .05$).

Likewise, the following antecedents were stronger predictors of AFF-MTL compared with NC-MTL: extraversion ($z = 4.64$; $p < .05$), openness to experience ($z = 2.34$; $p < .05$), narcissism ($z = 8.53$; $p < .05$), leader self-efficacy ($z = 6.15$; $p < .05$), vertical individualism ($z = 8.63$; $p < .05$), and horizontal individualism ($z = 3.29$; $p < .05$)—however, there were no significant differences in the predictive power of cognitive ability ($z = .96$; $p > .05$), general self-efficacy ($z = 1.36$; $p > .05$), or core self-evaluation ($z = .11$; $p > .05$). Altogether, these findings provide partial support for Hypotheses 1a and 1b which argued that AFF-MTL is more strongly linked to agentic attributes as compared with SN- and NC-MTL (i.e., of nine possible agentic antecedents, three were more strongly related to AFF-MTL than SN-MTL and six were more strongly related to AFF-MTL than NC-MTL).

With respect to communal antecedents, SN-MTL exhibited a stronger positive relationship, as compared with AFF-MTL, with horizontal collectivism ($z = 3.89$; $p < .05$) and vertical collectivism ($z = 5.76$; $p < .05$) and NC-MTL had a stronger positive association with agreeableness ($z = 2.60$; $p < .05$), horizontal collectivism ($z = 3.97$; $p < .05$), and vertical collectivism ($z = 3.60$; $p < .05$). SN- and AFF-MTL did not significantly differ in their relationship with conscientiousness ($z = .00$; $p > .05$) or agreeableness ($z = 1.71$; $p > .05$), nor did conscientiousness differentially predict NC- and AFF-MTL ($z = .45$; $p > .05$). These results partially support Hypotheses 2a and 2b that SN- and NC-MTL are more closely linked to communal antecedents as com-

pared with AFF-MTL (i.e., of four possible communal antecedents, two were more strongly related to SN-MTL than AFF-MTL and three were more strongly related to NC-MTL than AFF-MTL).

We note that gender did not significantly differ in its predictive power for any of the three MTL types (z test AFF-MTL vs. SN-MTL; $z = .11$, $p > .05$; z test AFF-MTL vs. NC-MTL; $z = 1.52$, $p > .05$; z test SN-MTL vs. NC-MTL; $z = 1.62$, $p > .05$). Although not formally hypothesized, we also found that SN-MTL exhibited a stronger positive relationship with several agentic antecedents as compared with NC-MTL: extraversion ($z = 2.30$; $p < .05$), narcissism ($z = 5.44$; $p < .05$), leader self-efficacy ($z = 3.03$; $p < .05$), and vertical individualism ($z = 7.00$; $p < .05$). We discuss the implications for the pattern of relationships observed in the Discussion section.

Consequences of MTL

We next examined the impact of MTL on leadership emergence, behaviors, and effectiveness—and compare whether AFF-MTL is a stronger predictor of these leadership outcomes relative to SN- and NC-MTL. Results are reported in Table 4.

Leadership emergence. We predicted that individuals who are motivated to lead would be more likely to emerge into leadership roles. As expected, our results indicated that all three MTL types were positively related to emergent leadership: AFF-MTL ($\rho = .25$), SN-MTL ($\rho = .15$), and NC-MTL ($\rho = .11$; supporting Hypotheses 3a–3c). Contrary to our hypothesis, although the effect size for AFF-MTL was larger, it was not a significantly stronger predictor of leadership emergence as compared with SN-MTL ($z = .84$; $p > .05$) or NC-MTL ($z = 1.23$; $p > .05$; failing to support Hypotheses 3d–3e).

Leadership behaviors. With regard to leadership behaviors, AFF-MTL ($\rho = .35$), SN-MTL ($\rho = .32$), and NC-MTL ($\rho =$

Table 4
Leadership Outcomes Associated With the Three Types of Motivation to Lead

Motivation	<i>k</i>	<i>N</i>	<i>r</i>	$\hat{\rho}$	<i>SD_ρ</i>	95% CI	80% CV
Leader emergence							
AFF-MTL	8	1,372	.22	.25	.00	[.19, .26]	[.25, .25]
SN-MTL	6	1,096	.12	.15	.00	[.07, .18]	[.15, .15]
NC-MTL	5	1,030	.10	.11	.05	[.02, .17]	[.04, .18]
Transformational leadership							
AFF-MTL	9	1,630	.30	.35	.21	[.17, .42]	[.08, .62]
SN-MTL	8	1,570	.28	.32	.27	[.11, .45]	[-.02, .67]
NC-MTL	7	1,382	.24	.28	.24	[.08, .40]	[-.03, .58]
Transactional leadership							
AFF-MTL	4	776	.12	.13	.23	[-.08, .32]	[-.16, .43]
SN-MTL	3	718	.30	.38	.05	[.19, .40]	[.32, .44]
NC-MTL	3	718	.13	.15	.18	[-.05, .32]	[-.07, .38]
Laissez faire leadership							
AFF-MTL	3	637	-.27	-.33	.03	[-.20, -.33]	[-.29, -.37]
SN-MTL	3	637	-.14	-.18	.00	[-.08, -.21]	[-.18, -.18]
NC-MTL	3	637	-.24	-.31	.07	[-.16, -.33]	[-.22, -.40]
Leader effectiveness							
AFF-MTL	12	2,481	.23	.31	.23	[.13, .32]	[.01, .60]
SN-MTL	7	1,414	.15	.19	.25	[-.01, .31]	[-.13, .50]
NC-MTL	7	1,357	.06	.07	.12	[-.02, .15]	[-.08, .22]

Note. *k* = number of effect sizes in the meta-analysis; *N* = total sample size in the meta-analysis; *r* = sample-size weighted mean correlation; $\hat{\rho}$ = correlation corrected for attenuation in the predictor and criterion; *SD_ρ* = standard deviation of the corrected correlation; 95% CI = 95% confidence interval; 80% CV = 80% credibility interval. Effect sizes are statistically significant when the confidence interval does not include zero. AFF-MTL = Affective-Identity MTL; SN-MTL = Social-Normative MTL; NC-MTL = Noncalculative MTL.

.28) were positively related to transformational leadership (supporting Hypothesis 4a–4c). However, AFF-MTL was not a stronger predictor of transformational leadership than SN-MTL ($z = .28$; $p > .05$) or NC-MTL ($z = .65$; $p > .05$; failing to support Hypotheses 4d and 4e). Further, results indicated that SN-MTL was the only facet that exhibited a statistically significant relationship with transactional leadership [AFF-MTL ($\rho = .13$), SN-MTL ($\rho = .38$), and NC-MTL ($\rho = .15$); providing support for Hypothesis 5b, but not 5a and 5c]. AFF-MTL did not significantly differ in its predictive power relative to NC-MTL ($z = .17$; $p > .05$) and AFF-MTL was a weaker predictor of transactional leadership than SN-MTL ($z = 2.20$; $p < .05$; failing to support Hypotheses 5d and 5e). Finally, the three MTL types each exhibited significant negative relationships with laissez-faire leadership [AFF-MTL ($\rho = -.33$), SN-MTL ($\rho = -.18$), and NC-MTL ($\rho = -.31$); providing support for Hypotheses 6a–c]. *z* tests revealed that AFF-MTL was not a stronger predictor of laissez-faire leadership than SN-MTL ($z = 1.16$; $p > .05$) and NC-MTL ($z = .16$; $p > .05$; failing to support Hypotheses 6d and 6e).

Leadership effectiveness. As proposed, individuals were more effective leaders when they reported having higher levels of AFF-MTL ($\rho = .31$); however, there was not a statistically significant association between leader effectiveness and SN-MTL ($\rho = .19$) or NC-MTL ($\rho = .07$). As expected, AFF-MTL was a stronger predictor of leader effectiveness as compared with NC-MTL ($z = 2.06$; $p < .05$), but did not out predict SN-MTL ($z = 1.06$; $p > .05$). Altogether, Hypotheses 7a and 7e were supported, whereas Hypotheses 7b through 7d were not.

Supplemental Analysis

Using the metacorrelation matrix, we performed relative importance analyses in SPSS to evaluate the amount of variance in

leader outcomes accounted for by each MTL type. This analysis supplements the aforementioned *z* tests by simultaneously accounting for the impact of the three MTL types on leader outcomes (rather than performing pairwise comparisons) and better informs conclusions regarding the appropriateness of using only a single MTL type in a given study. Overall, the three MTL types explained 6% of the variance in leader emergence, 17% of the variance in transformational leadership, 16% of the variance in transactional and laissez-faire leadership, and 10% of the variance in leader effectiveness. Our results revealed that AFF-MTL accounted for the most variance in leader emergence [AFF-MTL (76%), SN-MTL (15%), and NC-MTL (9%)], transformational leadership [AFF-MTL (43%), SN-MTL (30%), and NC-MTL (27%)], laissez-faire leadership [AFF-MTL (49%), SN-MTL (7%), and NC-MTL (44%)], and leader effectiveness [AFF-MTL (80%), SN-MTL (18%), and NC-MTL (2%)], whereas SN-MTL accounted for the most variance in transactional leadership [AFF-MTL (8%), SN-MTL (85%), and NC-MTL (7%)]. Thus, AFF-MTL explains the greatest percentage of variance in most leadership outcomes relative to the other MTL types (with the exception of transactional leadership, which is primarily driven by SN-MTL).

Mediation Results

Next, we proposed that the three MTL types would mediate the relationships between distal individual differences and leadership outcomes (see Figure 1). To test this hypothesis, we performed two separate path analyses using the correlation matrix depicted in Table 2. Consistent with DeRue and colleagues (2011), we used fully saturated path models (i.e., we specified the model such that (a) all distal individual differences predicted the three MTL types and (b) all distal individual differences and MTL types predicted leader outcomes). This approach is advantageous because it estab-

lishes the extent to which the three MTL types mediate each leader attribute-outcome relationship, while also recognizing the possibility that the distal attributes may exert a direct effect on leader outcomes. Results for the leader emergence process are reported in Tables 5 and 6.

In general, we found that AFF- and SN-MTL partially mediated the relationship between the distal attributes and leader emergence; in contrast, NC-MTL did not serve as a mediator (partially supporting Hypothesis 8a). To elaborate, there was a statistically significant *positive* indirect effect for one path: agreeableness → AFF-MTL → leader emergence ($\beta = .02$; 95% CI [.01, .04]). In addition, there were statistically significant *negative* indirect effects for the following paths: (a) openness → AFF-MTL → leader emergence ($\beta = -.07$; 95% CI [-.04, -.09]), (b) conscientiousness → AFF-MTL → leader emergence ($\beta = -.08$; 95% CI [-.05, -.11]), (c) extraversion → AFF-MTL → leader emergence ($\beta = -.12$; 95% CI [-.08, -.16]), (d) gender → AFF-MTL → leader emergence ($\beta = -.02$; 95% CI [-.01, -.03]), (e) openness → SN-MTL → leader emergence ($\beta = -.02$; 95% CI [-.01, -.04]), (f) conscientiousness → SN-MTL → leader emergence ($\beta = -.03$; 95% CI [-.02, -.05]), (g) extraversion → SN-MTL → leader emergence ($\beta = -.04$; 95% CI [-.02, -.06]), (h) agreeableness → SN-MTL → leader emergence ($\beta = -.01$; 95% CI [-.01, -.03]), and (i) gender → SN-MTL → leader emergence ($\beta = -.01$; 95% CI [-.01, -.03]). All other indirect effects were not statistically significant. Notably, we expected that the indirect effects through MTL would be positive.⁶ We discuss the implications of these negative indirect effects below.

The results for the leader effectiveness mediation analyses are reported in Tables 7 and 8. SN-MTL mediated the relationship between distal individual differences and leader effectiveness for the following paths: (a) openness → SN-MTL → leader effectiveness ($\beta = -.02$; 95% CI [-.01, -.05]), (b) conscientiousness → SN-MTL → leader effectiveness ($\beta = -.04$; 95% CI [-.02, -.06]), and (c) extraversion → SN-MTL → leader effectiveness ($\beta = -.04$; 95% CI [-.02, -.08]). Likewise, there were several statistically significant indirect effects for pathways through NC-MTL, including: (a) conscientiousness → NC-MTL → transformational leadership → leader effectiveness ($\beta = .03$; 95% CI [.01, .06]), (b) conscientiousness → NC-MTL → leader effectiveness ($\beta = -.05$; 95% CI [-.02, -.09]), and (c) agreeableness → NC-MTL → leader effectiveness ($\beta = -.07$; 95% CI [-.04, -.10]). None of the pathways through AFF-MTL were statistically significant. These findings offer partial support for Hypothesis 8b.

Discussion

Motivation has long been recognized as a key determinant of an employee's decision to pursue particular organizational roles, as well as to devote resources (e.g., time and effort) toward completing job responsibilities (Kanfer, 1990; Kanfer et al., 2017; Latham & Pinder, 2005). To enhance understanding regarding how motives fit within the broader leadership literature, we conducted a meta-analysis of the MTL domain. Our results shed light on (a) the distinctiveness of the three MTL types, (b) the utility of using MTL to predict leader outcomes, and (c) the extent to which the three MTL types are mechanisms that explain why distal anteced-

ents affect leadership emergence and effectiveness. We describe how these three contributions influence leadership and motivation theory below.

Theoretical Implications

Contribution 1: Establishing the distinctiveness of the three MTL types. A primary purpose of the current study was to reconcile inconsistencies in the conceptualization and measurement of MTL by evaluating the distinctiveness of the three types (AFF-, SN-, and NC-MTL). Notably, Berry and colleagues (2007) argue that there are three pieces of evidence that establish the distinct nature of constructs: (a) whether confirmatory factor analyses reveal that items load onto a single factor or multiple factors, (b) whether there are different correlates for the constructs in question, and (c) whether the intercorrelations among constructs are below the conventional discriminant validity threshold ($r < .70$). Because meta-analysis does not produce the type of data necessary to perform confirmatory factor analyses, the focus of our meta-analysis was on the latter two conditions.

Accordingly, we first examined the pattern of antecedents among the three MTL types. Notably, there was some conceptual similarity observed between AFF-, SN-, and NC-MTL. In particular, our results revealed that both AFF- and SN-MTL encapsulate overlapping *agentic* content (i.e., AFF- and SN-MTL have similar associations with openness to experience, core self-evaluation, general self-efficacy, cognitive ability, and individualistic values), whereas SN- and NC-MTL include overlapping *communal* content (i.e., SN- and NC-MTL have similar associations with collectivistic values, agreeableness, and conscientiousness).

Despite these similarities, there were important differences in the pattern of antecedents predicting the three MTL types. That is, (a) AFF-MTL exhibited more agentic content relative to SN- and NC-MTL (e.g., AFF-MTL was more strongly predicted by extraversion, narcissism, and leader self-efficacy), (b) SN- and NC-MTL possessed more communal content relative to AFF-MTL (e.g., SN- and NC-MTL were more strongly predicted by collectivistic values), and (c) SN-MTL had more agentic content relative to NC-MTL (e.g., SN-MTL was more strongly predicted by extraversion and leader self-efficacy). Altogether, this meta-analytic finding provides support for Berry and colleagues (2007) second condition of discriminant validity by indicating that there are nuanced differences in the antecedents for the three MTL types. In general, relative to the other MTL types, AFF-MTL reflects a greater *agentic orientation*, NC-MTL reflects a greater *communal orientation*, and SN-MTL reflects a dual focus toward *agency* and *communion*.

Finally, in support of the third condition of distinctiveness, the MTL types were only modestly correlated with one another [AFF- and SN-MTL ($\rho = .56$); AFF- and NC-MTL ($\rho = .29$); SN- and NC-MTL ($\rho = .35$)]. Altogether, these findings have important implications for the measurement of MTL. Through meta-analytic

⁶ To ensure that negative effects were not due to multicollinearity, we evaluated the variance inflation factors (VIF) for all predictors included in our path models. All VIF values were below the conventional threshold of 10 (i.e., VIFs ranged from 1.12 to 2.75), including AFF-MTL (VIF = 2.75), SN-MTL (VIF = 1.73), and NC-MTL (VIF = 1.33). Therefore, it is unlikely that our results were significantly impacted by multicollinearity among the predictor variables (Kutner, Nachtsheim, Neter, & Li, 2005).

Table 5
Path Coefficients for the Theoretical Process Model Predicting Leader Emergence

Independent variable	IV → AFF-MTL	IV → SN-MTL	IV → NC-MTL	IV → Leader emergence (direct unmediated effect)
Gender	.09*	.13*	-.07*	.12*
Cognitive ability	.01	-.10*	-.00	.13*
Openness to experience	.30*	.22*	.10*	.27*
Conscientiousness	.36*	.30*	.18*	.49*
Extraversion	.54*	.37*	.12*	.47*
Agreeableness	-.11*	.13*	.24*	-.14*
Emotional stability	.00	-.04	.10*	.05
AFF-MTL				-.22*
SN-MTL				-.11*
NC-MTL				-.01

Note. Standardized path coefficients (β s) are presented. $N = 1,030$. AFF-MTL = Affective-Identity MTL; SN-MTL = Social-Normative MTL; NC-MTL = Noncalculative MTL.
* $p < .05$.

means, we provide support for the contention that MTL should be conceptualized as three separate motivational constructs. Just as was done for the organizational justice (Colquitt, 2001), organizational commitment (Dunham, Grube, & Castañeda, 1994), and workplace deviance (Berry et al., 2007) literatures, we believe confirming the distinctiveness of MTL is vital for shaping this literature going forward.

Contribution 2: Clarifying how the three MTL types influence leadership outcomes. Through conducting our review, it became evident that the focus within the MTL literature has been on identifying antecedents, leaving the connection between MTL and leader outcomes less well established. Although Chan and Drasgow (2001) concluded that individuals with higher levels of MTL may be seen as having more leader potential, they did not explicitly examine whether people were more likely to emerge into leader roles nor did they assume that MTL facilitates effective leadership. As a consequence, it was unclear whether the three MTL types were useful predictors of leadership emergence, behaviors, and effectiveness. Our meta-analysis clarified this issue by showing that the three MTL types positively predicted leader emergence and transformational leadership, and negatively predicted laissez-faire leadership. AFF-MTL also positively predicted leadership effectiveness, whereas SN-MTL exhibited a positive relationship with transactional leadership.

Beyond these main effects, the current meta-analysis evaluated whether AFF-MTL outperformed SN- and NC-MTL as a predictor of leader outcomes. In general, AFF-, SN-, and NC-MTL each exhibited similar relationships with leader emergence, behaviors, and effectiveness. However, a relative importance analysis revealed that upon simultaneously comparing the three MTL types, AFF-MTL accounted for the majority of variance in many of the outcomes studied (i.e., leader emergence, transformational leadership, laissez faire leadership, and leader effectiveness). The relatively greater predictive power of AFF-MTL in comparison to SN- and NC-MTL is particularly notable because it is common for researchers to use a subset of the MTL types (the current review found that of those studies using the Chan and Drasgow measure, 40% examined a subset of the three MTL dimensions).

Given the aforementioned findings that the three MTL types exhibit a similar pattern of relationships with leader outcomes and AFF-MTL explains the greatest amount of unique variance in leadership (with the exception of SN-MTL explaining the greatest amount of unique variance in transactional leadership)—we draw the general conclusion that in some cases it is likely appropriate to focus on AFF-MTL. We do not want to imply, however, that researchers should stop measuring SN- or NC-MTL—especially because each had different patterns of antecedents and each explained unique variance in the leader outcomes (especially lead-

Table 6
Effect Decomposition for the Three Types of Motivation to Lead Predicting Leader Emergence

Independent variable	Indirect effect (IV → AFF-MTL → Leader emergence)	Indirect effect (IV → SN-MTL → Leader emergence)	Indirect effect (IV → NC-MTL → Leader emergence)
Gender	-.02* (-.01, -.03)	-.01* (-.01, -.03)	.00 (-.00, .01)
Cognitive ability	-.00 (-.01, .01)	.01 (.00, .02)	.00 (-.00, .00)
Openness to experience	-.07* (-.04, -.09)	-.02* (-.01, -.04)	-.00 (-.01, .01)
Conscientiousness	-.08* (-.05, -.11)	-.03* (-.02, -.05)	-.00 (-.01, .01)
Extraversion	-.12* (-.08, -.16)	-.04* (-.02, -.06)	-.00 (-.01, .01)
Agreeableness	.02* (.01, .04)	-.01* (-.01, -.03)	-.00 (-.02, .01)
Emotional stability	.00 (-.01, .01)	.00 (-.00, .01)	-.00 (-.01, .01)

Note. Standardized path coefficients (β s) are presented. $N = 1,030$. Monte Carlo 95% confidence intervals used to test the significance of the indirect effects are reported in parentheses. AFF-MTL = Affective-Identity MTL; SN-MTL = Social-Normative MTL; NC-MTL = Noncalculative MTL.
* $p < .05$.

Table 7
Path Coefficients for the Theoretical Process Model Predicting Leader Effectiveness

Independent variable	IV → Leader self-efficacy	IV → AFF-MTL	IV → SN-MTL	IV → NC-MTL	IV → Transformational leadership	IV → Leader effectiveness (direct unmediated effect)
Gender	.08*	.04	.12*	-.08	-.11*	.06
Cognitive ability	-.08*	.04	-.09	-.01	.21*	-.08*
Openness to experience	.28*	.15*	.16*	.09	-.08	.31*
Conscientiousness	.26*	.23*	.25*	.17*	-.08	.43*
Extraversion	.28*	.39*	.31*	.10	.01	.32*
Agreeableness	.06	-.13*	.12*	.24*	-.03	-.02
Emotional stability	.07	-.02	-.05	.11*	.03	.10*
Past leader experience	.30*	.07	-.02	.12*	-.40*	.39*
Leader self-efficacy		.35*	.18*	-.07	.48*	-.58*
AFF-MTL					.12	-.06*
SN-MTL					.13*	-.14*
NC-MTL					.21*	-.29*
Transformational leadership						.84*

Note. Standardized path coefficients (β s) are presented. $N = 347$. AFF-MTL = Affective-Identity MTL; SN-MTL = Social-Normative MTL; NC-MTL = Noncalculative MTL.

* $p < .05$.

ership behaviors). Instead, we seek to highlight the comparative benefits of the dimensions and suggest that theory should guide decisions about what type(s) of MTL to measure.

As a starting point, given our finding that both AFF- and SN-MTL have agentic features—it may be appropriate to focus on these MTL types when studying contexts or outcomes that emphasize agency. In particular, scholarship on AFF- and SN-MTL may be well suited in ‘western’ (or individualistic societies), in jobs/industries that are historically male-dominated (e.g., engineers, mechanics), or when the outcome of interest is task-related (e.g., initiating structure behaviors). Further, because SN and NC-MTL have communal features—these two MTL types may be more theoretically relevant to evaluate when the context or outcomes of interest are oriented toward communion. For instance, researchers may find greater relevance for SN- and NC-MTL in ‘eastern’ or collectivistic societies, jobs/industries that place importance on giving back to the community and behaving in ways that are socially responsible (e.g., social workers, nurses), and when the outcome of interest has a greater relational or other-oriented focus (e.g., servant leadership). Altogether, we encourage continued research on how the three MTL types impact a host of outcomes related to leadership.

Contribution 3: Evaluating the distal-proximal model of motivation and leadership. To further establish the importance of MTL within the broader leadership literature, we performed meta-analytic path analyses to assess whether the MTL types explain *why* distal individual differences predict leader emergence and effectiveness. In general, our findings provided partial support for the integrated trait and behavioral perspective of leadership (DeRue et al., 2011), as well as Kanfer’s (1990) distal-proximal framework of motivation. That is, leadership motives stemming from pure enjoyment (AFF-MTL) and being motivated to lead out of obligation (SN-MTL) partially explained why people emerged as leaders. However, being motivated to lead out of selflessness (NC-MTL) did not serve as a pathway through which leader attributes influenced leadership emergence.

Regarding leadership effectiveness, motives stemming from obligation (SN-MTL) and selflessness (NC-MTL) served as interme-

diary variables between several leader attributes and effectiveness, but we were surprised to find that being motivated to lead out of enjoyment (AFF-MTL) did *not* mediate the relationship between leader attributes and effectiveness. Further, consistent with DeRue and colleagues (2011) model we expected that MTL would affect leader behaviors and subsequently effectiveness, but we found that SN-MTL primarily served as a direct mediator, whereas NC-MTL operated directly and through transformational leadership. These results raise interesting questions about how motivation influences leader effectiveness, and we encourage additional research into the behaviors (e.g., task- and relationship-oriented behaviors) that connect MTL with effective leadership behavior. In sum, we conclude that SN-MTL appears to be particularly important for explaining why personality traits (e.g., extraversion, conscientiousness) relate to *both* emergence and effectiveness, whereas AFF-MTL helps to explain leader emergence and NC-MTL helps to explain leader effectiveness.

These findings have implications for both the motivation and leadership literatures. To date, neither of these literatures appear to have “claimed” MTL as an important and meaningful construct. For instance, past integrative reviews of leadership have predominantly focused on integrating distal leader attributes (e.g., the Big Five traits) and behaviors (e.g., transformational leadership)—while only briefly mentioning MTL in the discussion section as a variable that deserves additional attention (e.g., DeRue et al., 2011; Meuser et al., 2016). Likewise, in the motivation literature, researchers generally focus on how leaders motivate followers rather than how they themselves are motivated to lead. Because our study provided evidence that MTL plays a role in the leader emergence and effectiveness processes, we contend that future leadership research should more explicitly account for motives when studying leadership.

At the same time, we would also like to highlight that motivation has an unexpectedly complex role in the leadership process. Specifically, although the zero-order correlations for leader emergence/effectiveness’ association with (a) the Big Five traits and (b) the three MTL types were positive, our mediation analyses showed that the indirect effects of the distal antecedents on leader emer-

Table 8
Effect Decomposition for the Three Types of Motivation to Lead Predicting Leader Effectiveness

Independent variable	Indirect effects via AFF-MTL			Indirect effects via SN-MTL			Indirect effects via NC-MTL			Indirect effects not involving MTL		
	(IV → LSE → MTL → TFL → Leff)	(IV → MTL → TFL → Leff)	(IV → LSE → MTL → TFL → Leff)	(IV → MTL → TFL → Leff)	(IV → MTL → TFL → Leff)	(IV → LSE → MTL → TFL → Leff)	(IV → MTL → TFL → Leff)	(IV → MTL → TFL → Leff)	(IV → LSE → MTL → TFL → Leff)	(IV → LSE → MTL → TFL → Leff)	(IV → MTL → TFL → Leff)	(IV → LSE → MTL → TFL → Leff)
Gender	.00 (-0.00, .01)	.00 (-0.00, .02)	.00 (-0.01, .00)	.01 (.00, .03)	-.02 (-0.04, .00)	.00 (-0.00, .00)	-.01 (-0.04, .00)	.02 (-0.00, .05)	.03 (.00, .07)	-.05 (-0.09, .00)	-.09* (-0.11, -.08)	-.09* (-0.11, -.08)
Cognitive ability	.00 (-0.01, .00)	.00 (-0.00, .02)	.00 (-0.01, .00)	-.01 (-0.03, .00)	.01 (-0.00, .03)	.00 (-0.00, .00)	.00 (-0.02, .02)	.00 (-0.03, .03)	-.03 (-0.00, -.07)	.05 (.00, .09)	.18* (.09, .26)	.18* (.09, .26)
Openness to experience	.01 (-0.00, .02)	.02 (-0.00, .04)	-.01 (-0.03, .01)	.02 (.00, .04)	-.02* (-0.01, -.05)	.00 (-0.01, .00)	.02 (-0.00, .04)	-.03 (-0.06, .01)	.11* (.07, .16)	-.16* (-0.11, -.22)	-.07 (.01, -.15)	-.07 (.01, -.15)
Conscientiousness	.01 (-0.00, .02)	.02 (-0.00, .05)	-.01 (-0.04, .01)	.03 (.00, .06)	-.04* (-0.02, -.06)	.00 (-0.01, .00)	.03* (.01, .06)	-.05* (-0.02, -.09)	.10* (.06, .15)	-.15* (-0.10, -.21)	-.07 (-0.17, .02)	-.07 (-0.17, .02)
Extraversion	.01 (-0.00, .02)	.04 (-0.01, .09)	-.02 (-0.06, .02)	.03 (.00, .07)	-.04* (-0.02, -.08)	.00 (-0.01, .00)	.02 (-0.00, .04)	-.03 (-0.07, .01)	.11* (.07, .16)	-.16* (-0.11, -.22)	.01 (-0.09, .11)	.01 (-0.09, .11)
Agreeableness	.00 (-0.00, .01)	-.01 (-0.03, .00)	.01 (-0.00, .02)	.01 (.00, .03)	-.02 (-0.00, -.04)	.00 (-0.01, .00)	.04 (-0.00, .04)	-.07* (-0.04, -.10)	.02 (-0.01, .06)	-.03 (-0.08, .01)	-.03 (-0.11, .06)	-.03 (-0.11, .06)
Emotional stability	.00 (-0.00, .01)	.00 (-0.01, .01)	.00 (-0.00, .01)	.01 (-0.02, .01)	.01 (-0.01, .02)	.00 (-0.00, .00)	.02 (.00, .04)	-.03 (-0.00, .06)	.03 (-0.00, .06)	-.04 (-0.09, .01)	.03 (-0.06, .11)	.03 (-0.06, .11)
Past leader experience	.01 (-0.00, .02)	.01 (-0.00, .02)	.00 (-0.02, .00)	.00 (-0.02, .01)	.00 (-0.01, .02)	.00 (-0.01, .00)	.02 (.00, .05)	-.03 (-0.07, -.00)	.12* (.08, .17)	-.17* (-0.12, -.23)	-.34* (-0.23, -.44)	-.34* (-0.23, -.44)

Note. $N = 347$. Standardized path coefficients (β s) are presented. Monte Carlo 95% confidence intervals used to test the significance of the indirect effects are reported in parentheses. AFF-MTL = Affective-Identity MTL; SN-MTL = Social-Normative MTL; NC-MTL = Noncalculative MTL; LSE = Leadership Self-Efficacy; TFL = Transformational Leadership; Leff = Leader Effectiveness. * $p < .05$.

gence/effectiveness were negative for extraversion, openness, and conscientiousness. These results are an example of what Tzelgov and Henik (1991) refer to as negative suppression—a situation where variables that have positive correlations with a criterion receive negative β weights in multiple regression (see also Darlington, 1968). Notably, Judge and colleagues (2007, 2009) argue that extraversion, openness, and conscientiousness are complex attributes with both positive and negative features, which may help to explain the negative suppression observed in our path model. Altogether, our findings indicate that traits often viewed as positive for leaders may have a darker side that operates through one's MTL (and that the positive aspects of openness, extraversion, and conscientiousness may operate through other mechanisms including leadership self-efficacy and transformational leadership). Because finding that MTL explained the darker side of distal antecedents was inconsistent with logic proposed in past theory (Chan & Drasgow, 2001; DeRue et al., 2011; Kanfer, 1992), we encourage future scholars to further investigate what it is about MTL that transmits these negative effects.

Limitations and Future Research Directions

Like any study, the current paper has some potential limitations. First, although the sample sizes were generally large for each analysis (ranging from 347 to 84,869 individuals) and allowed for greater generalizability and statistical power beyond the findings typically reported in a primary study, the sample size was smaller than we would have liked for a few of the analyses. Second, although we meta-analyzed 24 different correlates of MTL (19 antecedents and five consequences), there are potentially important antecedents (for example, self-regulatory focus; Kark & Van Dijk, 2007) and consequences (for example, servant leadership; Liden, Wayne, Zhao, & Henderson, 2008) not included in this meta-analysis because there were not enough primary studies. Thus, future research can continue to build the nomological network of MTL with particular emphasis placed on examining a broader array of antecedents and consequences.

Additionally, sufficient primary data were not available to estimate the relationship between certain antecedents and leadership outcomes (e.g., the relationship between leadership self-efficacy and leadership emergence). Therefore, our mediation analyses included a subset of the predictors that have been examined in the MTL literature. That being said, our variable selection was driven by past theory (Chan & Drasgow, 2001; DeRue et al., 2011) and relatively expansive in that we included seven antecedents for leader emergence and nine for leader effectiveness. We encourage future research to continue to explore how MTL mediates the relationship between distal individual differences and leadership outcomes.

We also note that there were several limitations of the meta-analytic method. Although we would have liked to examine whether (a) the MTL types moderate the relationships between the distal antecedents and leader outcomes and (b) whether the three MTL types interact to predict leader outcomes—we were unable to evaluate these interactive effects because this kind of analysis typically requires access to an author's raw data. Second, we were limited in the types of between study moderators that could be assessed because most of the primary data included in our meta-analysis used heterogeneous samples (i.e., samples involved par-

ticipants from many jobs and industries; for methodological moderators results see Appendix D of online supplemental materials). Given the limited empirical work examining the moderators of MTL, we underscore the need for future MTL research to incorporate contextual factors—with a particular emphasis toward studying both *between-individual* moderators (for example, whether MTL's relationships are impacted by job [e.g., autonomy, contact with beneficiaries], organizational [e.g., company size, firm growth rate], or cultural characteristics [e.g., power distance, gender egalitarianism]) and *within-individual* moderators (for example, whether AFF-MTL's positive association with leader emergence/effectiveness is strengthened when people have higher levels of SN- or NC-MTL).

Third, some of the individual studies used to test our meta-analytic path analysis relied on cross-sectional rather than longitudinal designs and thus did not incorporate the temporal precedence of the relationships depicted in our model. The reliance on cross-sectional associations is unfortunately a common limitation of meta-analytic path analysis (e.g., Beus, Dhanani, & McCord, 2015; Butts, Casper, & Yang, 2013; Courtright, Thurgood, Stewart, & Pierotti, 2015). However, the decision to test a process model containing sequential mediations (as well as the ordering of the variables in our model) was based on two theoretical perspectives that we used to ground our work. Both Chan and Drasgow's (2001) original conceptualization of MTL and DeRue and colleagues' (2011) trait and behavioral theory of leadership used a sequential approach to capture how variables were interrelated. We felt it was important to test a model that was theoretically consistent with how MTL was originally conceptualized as well as how leadership processes are expected to unfold. Nevertheless, we encourage future researchers to further examine the dynamic processes underlying MTL using longitudinal approaches.

Practical Implications

It is vital to organizations' long-term prosperity to have succession plans in place, particularly for important leadership positions (Shen & Cannella, 2003). Part of succession planning is being able to identify future leaders so that they can receive additional training and experience before they are called upon to fill leadership vacancies. As employee interest is an important element of succession planning and leadership development (Le Breton-Miller, Miller, & Steier, 2004), directly measuring the three MTL types would help organizations identify high potential employees who are perceived as leaders and perform effectively in leadership roles. Thus, we recommend that MTL should be included in a battery of measures designed to assess the viability of high potential candidates. This battery should also include other variables such as the Big Five and cognitive ability that have previously been linked to leadership outcomes.

In addition, it is possible that some employees who are perceived as having a strong potential for leadership might actually have a fairly low level of motivation to lead. In such circumstances, it could be possible for organizations to help increase employees' motivation to lead, especially AFF-MTL, by providing positive feedback about the impact they are having and by reinforcing their identity and efficacy as a leader. This could be achieved by providing additional leadership experiences and coaching, and by helping increase the employees' leadership self-

efficacy through facilitating opportunities for incremental successes as a leader.

Conclusion

To further establish its place in the literature and inform future directions, this meta-analysis sought to establish the distinctiveness of the three MTL types and document the consequences of MTL. Based on these efforts, we conclude that the three MTL types are meaningful components of the leadership emergence/effectiveness processes. We hope that our findings will serve as a catalyst spurring further theoretical elaboration and empirical examination of the three MTL types across a variety of organizational contexts.

References

- References marked with an asterisk indicate primary studies included in one or more of the current meta-analyses.
- Abele, A. E., & Wojciszke, B. (Eds.). (2018). Introduction: The Big Two of agency and communion as an overarching framework in psychology. *Agency and communion in social psychology* (pp. 1–12). New York, NY: Routledge. <http://dx.doi.org/10.4324/9780203703663-1>
- ACT. (2014). *Technical manual: The ACT*. Retrieved from http://www.act.org/content/dam/act/unsecured/documents/ACT_Technical_Manual.pdf
- *Ali, H. E., Schalk, R., Van Engen, M., & Van Assen, M. (2018). Leadership self-efficacy and effectiveness: The moderating influence of task complexity. *Journal of Leadership Studies*, *11*, 21–40. <http://dx.doi.org/10.1002/jls.21550>
- *Allen, M. T., Bynum, B. H., Oliver, J. T., Russell, T. L., Young, M. C., & Babin, N. E. (2014). Predicting leadership performance and potential in the U.S. Army Officer Candidate School (OCS). *Military Psychology*, *26*, 310–326. <http://dx.doi.org/10.1037/mil0000056>
- Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The Work Preference Inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology*, *66*, 950–967. <http://dx.doi.org/10.1037/0022-3514.66.5.950>
- *Amah, O. E. (2018). Determining the antecedents and outcomes of servant leadership. *Journal of General Management*, *43*, 126–138. <http://dx.doi.org/10.1177/0306307017749634>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- *Amit, K., & Bar-Lev, S. (2013). Motivation to lead in multicultural organizations: The role of work scripts and political perceptions. *Journal of Leadership & Organizational Studies*, *20*, 169–184. <http://dx.doi.org/10.1177/1548051812467206>
- *Amit, K., Lisak, A., Popper, M., & Gal, R. (2007). Motivation to lead: Research on the motives for undertaking leadership roles in the Israel Defense Forces (IDF). *Military Psychology*, *19*, 137–160. <http://dx.doi.org/10.1080/08995600701386317>
- *Asenuga, O. A. (2012). *The development and initial validation of a measure of small group leadership self-efficacy* (Unpublished Master's Thesis). Texas A&M University, College Station, TX.
- ASVAB. (2009). *Estimated reliabilities for AFQT scores and the AFQT*. Retrieved from http://official-asvab.com/reliability_tbl2.htm
- *Aycan, Z., & Shelia, S. (2019). "Leadership? No thanks!" A new construct: Worries about leadership. *European Management Review*, *16*, 21–35. <http://dx.doi.org/10.1111/emre.12322>
- Badura, K. L., Grijalva, E., Newman, D. A., Yan, T., & Jeon, G. (2018). Gender and leadership emergence: A meta-analysis and explanatory model. *Personnel Psychology*, *71*, 335–367. <http://dx.doi.org/10.1111/peps.12266>

- Bakan, D. (1966). *The duality of human existence: Isolation and communion in Western man*. Chicago, IL: Rand McNally.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, *44*, 1–26. <http://dx.doi.org/10.1111/j.1744-6570.1991.tb00688.x>
- Barrick, M. R., Mount, M. K., & Li, N. (2013). The theory of purposeful work behavior: The role of personality, higher-order goals, and job characteristics. *The Academy of Management Review*, *38*, 132–153. <http://dx.doi.org/10.5465/amr.2010.0479>
- Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, *8*, 9–32. <http://dx.doi.org/10.1080/135943299398410>
- *Bergner, S., Kanape, A., & Rybnicek, R. (2019). Taking an interest in taking the lead: The influence of vocational interests, leadership experience and success on the motivation to lead. *Applied Psychology*, *68*, 202–219. <http://dx.doi.org/10.1111/apps.12150>
- Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology*, *92*, 410–424. <http://dx.doi.org/10.1037/0021-9010.92.2.410>
- Beus, J. M., Dhanani, L. Y., & McCord, M. A. (2015). A meta-analysis of personality and workplace safety: Addressing unanswered questions. *Journal of Applied Psychology*, *100*, 481–498. <http://dx.doi.org/10.1037/a0037916>
- *Bishop, J. P. (2008). *Does leadership motivation predict the leadership component of emotional intelligence for college student leaders?* (Unpublished doctoral dissertation). University of California, Santa Barbara, CA.
- *Bobbio, A., & Manganelli, A. M. (2009). Leadership self-efficacy scale: A new multidimensional instrument. *TPM-Testing, Psychometrics, Methodology in Applied Psychology*, *16*, 3–24.
- *Bobbio, A., & Rattazzi, A. M. M. (2006). A contribution to the validation of the motivation to lead scale (MTL): A research in the Italian context. *Leadership*, *2*, 117–129. <http://dx.doi.org/10.1177/1742715006057240>
- Bono, J. E., & Judge, T. A. (2004). Personality and transformational and transactional leadership: A meta-analysis. *Journal of Applied Psychology*, *89*, 901–910. <http://dx.doi.org/10.1037/0021-9010.89.5.901>
- Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2009). *Introduction to meta-analysis*. West Sussex, UK: Wiley, Ltd. <http://dx.doi.org/10.1002/9780470743386>
- *Brooks, J. A. (2013). *With great power comes great responsibility: An examination of the behaviors of leaders in student services administrative officers positions within southern California based institutions of higher learning* (Unpublished Doctoral Dissertation). University of La Verne, La Verne, CA.
- Burke, P. J., & Reitzes, D. C. (1981). The link between identity and role performance. *Social Psychology Quarterly*, *44*, 83–92. <http://dx.doi.org/10.2307/3033704>
- Burke, P. J., & Tully, J. C. (1977). The measurement of role identity. *Social Forces*, *55*, 881–897. <http://dx.doi.org/10.1093/sf/55.4.881>
- Butts, M. M., Casper, W. J., & Yang, T. S. (2013). How important are work-family support policies? A meta-analytic investigation of their effects on employee outcomes. *Journal of Applied Psychology*, *98*, 1–25. <http://dx.doi.org/10.1037/a0030389>
- Campbell, W. K., Rudich, E. A., & Sedikides, C. (2002). Narcissism, self-esteem, and the positivity of self-views: Two portraits of self-love. *Personality and Social Psychology Bulletin*, *28*, 358–368. <http://dx.doi.org/10.1177/0146167202286007>
- *Carleton, E. L., Barling, J., & Trivisonno, M. (2018). Leaders' trait mindfulness and transformational leadership: The mediating roles of leaders' positive affect and leadership self-efficacy. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, *50*, 185–194. <http://dx.doi.org/10.1037/cbs0000103>
- Chan, K. Y. (1999). *Toward a theory of individual differences and leadership: Understanding the motivation to lead* (Unpublished doctoral dissertation). University of Illinois, Urbana Champaign, IL.
- *Chan, K. Y., & Drasgow, F. (2001). Toward a theory of individual differences and leadership: Understanding the motivation to lead. *Journal of Applied Psychology*, *86*, 481–498. <http://dx.doi.org/10.1037/0021-9010.86.3.481>
- *Chan, K. Y., Li, Y., Ho, M. R., Chernyshenko, O., & Sam, Y. L. (2013, May). *Affective, Non-calculative and Social Motivation to lead: What we know from studies of Entrepreneurial, Professional & Leadership motivation*. Paper presented at the 16th Congress of the European Association of Work and Organizational Psychology, Münster, Germany
- Chan, K. Y., Rounds, J., & Drasgow, F. (2000). The relation between vocational interests and the motivation to lead. *Journal of Vocational Behavior*, *57*, 226–245. <http://dx.doi.org/10.1006/jvbe.1999.1728>
- *Chemers, M. M., Watson, C. B., & May, S. T. (2000). Dispositional affect and leadership effectiveness: A comparison of self-esteem, optimism, and efficacy. *Personality and Social Psychology Bulletin*, *26*, 267–277. <http://dx.doi.org/10.1177/0146167200265001>
- *Chen, L. (2016). Linking leader personality traits to motivation to lead: A self-concept approach. *Social Behavior and Personality*, *44*, 1913–1925. <http://dx.doi.org/10.2224/sbp.2016.44.11.1913>
- *Cho, Y., Harrist, S., Steele, M., & Murn, L. T. College student motivation to lead in relation to basic psychological need satisfaction and leadership self-efficacy. *Journal of College Student Development*, *56*, 32–44. <http://dx.doi.org/10.1353/csd.2015.0005>
- *Chopin, S. M., Danish, S. J., Seers, A., & Hook, J. N. (2013). Effects of mentoring on the development of leadership self-efficacy and political skill. *Journal of Leadership Studies*, *6*, 17–32. <http://dx.doi.org/10.1002/jls.21253>
- Christian, M. S., Bradley, J. C., Wallace, J. C., & Burke, M. J. (2009). Workplace safety: A meta-analysis of the roles of person and situation factors. *Journal of Applied Psychology*, *94*, 1103–1127. <http://dx.doi.org/10.1037/a0016172>
- Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, *64*, 89–136. <http://dx.doi.org/10.1111/j.1744-6570.2010.01203.x>
- *Chung, C. M. C. (2014). *The influence of acculturation, microaggression, mentorship, and networking comfort, on the motivation to lead and leader efficacy of African-Americans* (Unpublished doctoral dissertation). Alliant International University, Los Angeles, CA.
- *Clemmons, A. B., III, & Fields, D. (2011). Values as determinants of the motivation to lead. *Military Psychology*, *23*, 587–600. <http://dx.doi.org/10.1080/08995605.2011.616787>
- Cohen-Charash, Y., & Spector, P. E. (2001). The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes*, *86*, 278–321. <http://dx.doi.org/10.1006/obhd.2001.2958>
- *Coleman-Oliver, S. L. (2018). *A multi-dimensional analysis of leadership competencies and resistance to change* (Unpublished doctoral dissertation). North Carolina A&T State University, Greensboro, NC.
- Colquitt, J. A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, *86*, 386–400. <http://dx.doi.org/10.1037/0021-9010.86.3.386>
- *Cook, A. S. (2015, January). *Identifying the Alphas: The assessment of emergent leadership via behavioral parameter using wearable sensors*. Paper presented at the 17th Congress of the European Association of Work and Organizational Psychology, Norway, Oslo.
- *Cook, A. S., & Krauth, J. F. (2015). *Informal leadership behavior in the presence of formal leadership hierarchies - The impact of leadership motives and activity on leadership perceptions in teams*. Paper presented at the 31st Congress of Psychology, Yokohama, Japan.
- *Courtright, S. H., Colbert, A. E., & Choi, D. (2014). Fired up or burned out? How developmental challenge differentially impacts leader behavior.

- ior. *Journal of Applied Psychology*, 99, 681–696. <http://dx.doi.org/10.1037/a0035790>
- Courtright, S. H., Thurgood, G. R., Stewart, G. L., & Pierotti, A. J. (2015). Structural interdependence in teams: An integrative framework and meta-analysis. *Journal of Applied Psychology*, 100, 1825–1846. <http://dx.doi.org/10.1037/apl0000027>
- *Cziraki, K., Read, E., Spence Laschinger, H. K., & Wong, C. (2018). Nurses' leadership self-efficacy, motivation, and career aspirations. *Leadership in Health Services*, 31, 47–61. <http://dx.doi.org/10.1108/LHS-02-2017-0003>
- Dalal, R. S. (2005). A meta-analysis of the relationship between organizational citizenship behavior and counterproductive work behavior. *Journal of Applied Psychology*, 90, 1241–1255. <http://dx.doi.org/10.1037/0021-9010.90.6.1241>
- *Daly, A. J., Liou, Y., Tran, N. A., Cornelissen, F., & Park, V. (2014). The rise of neurotics: Social networks, leadership, and efficacy in district reform. *Educational Administration Quarterly*, 50, 233–278. <http://dx.doi.org/10.1177/0013161X13492795>
- Darlington, R. B. (1968). Multiple regression in psychological research and practice. *Psychological Bulletin*, 69, 161–182. <http://dx.doi.org/10.1037/h0025471>
- *Davis, D. (2018). *The moderating effect of environmental empowerment on the relationship between personal growth initiative and motivation to lead among African Americans in corporate organizations*. (Unpublished doctoral dissertation). Regent University, Virginia Beach, VA.
- Day, D. V., & Harrison, M. M. (2007). A multilevel, identity-based approach to leadership development. *Human Resource Management Review*, 17, 360–373. <http://dx.doi.org/10.1016/j.hrmr.2007.08.007>
- *Demiran, A. (2015). *Measurement of transformational leadership through a conditional reasoning test* (Unpublished Master's Thesis). Middle East Technical University, Ankara, Turkey.
- *Dencker, J. C., Gruber, M., & Shah, S. K. (2009). Individual and opportunity factors influencing job creation in new firms. *Academy of Management Journal*, 52, 1125–1147. <http://dx.doi.org/10.5465/amj.2009.47084648>
- DeRue, D. S., & Ashford, S. J. (2010). Who will lead and who will follow? A social process of leadership identity construction in organizations. *The Academy of Management Review*, 35, 627–647.
- DeRue, D. S., Ashford, S. J., & Cotton, N. C. (2009). Assuming the mantle: Unpacking the process by which individuals internalize a leader identity. In L. M. Roberts & J. E. Dutton (Eds.), *Exploring positive identities and organizations: Building a theoretical and research foundation* (pp. 213–232). New York, NY: Taylor & Francis.
- DeRue, D. S., & Myers, C. G. (2014). Leadership development: A review and agenda for future research. In D. V. Day (Ed.), *The Oxford handbook of leadership and organizations* (pp. 832–855). Oxford, UK: Oxford University Press.
- DeRue, D. S., Nahrgang, J. D., Wellman, N., & Humphrey, S. E. (2011). Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity. *Personnel Psychology*, 64, 7–52. <http://dx.doi.org/10.1111/j.1744-6570.2010.01201.x>
- Dhanani, L. Y., Beus, J. M., & Joseph, D. L. (2018). Workplace discrimination: A meta-analytic extension, critique, and future research agenda. *Personnel Psychology*, 71, 147–179. <http://dx.doi.org/10.1111/peps.12254>
- Dinh, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *The Leadership Quarterly*, 25, 36–62. <http://dx.doi.org/10.1016/j.leaqua.2013.11.005>
- Dromnes, D. E. (1989). *A survey of managerial motivation of secondary public school administrators* (Unpublished doctoral dissertation). Texas A&M University, College Station, TX.
- Dunham, R. B., Grube, J. A., & Castañeda, M. B. (1994). Organizational commitment: The utility of an integrative definition. *Journal of Applied Psychology*, 79, 370–380. <http://dx.doi.org/10.1037/0021-9010.79.3.370>
- Duval, S., & Tweedie, R. (2000). Trim and fill: A simple funnel-plot-based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, 56, 455–463. <http://dx.doi.org/10.1111/j.0006-341X.2000.00455.x>
- Eagly, A. H., Johannesen-Schmidt, M. C., & van Engen, M. L. (2003). Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. *Psychological Bulletin*, 129, 569–591. <http://dx.doi.org/10.1037/0033-2909.129.4.569>
- Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, 109, 573–598. <http://dx.doi.org/10.1037/0033-295X.109.3.573>
- Eagly, A. H., Karau, S. J., Miner, J. B., & Johnson, B. T. (1994). Gender and motivation to manage in hierarchic organizations: A meta-analysis. *The Leadership Quarterly*, 5, 135–159. [http://dx.doi.org/10.1016/1048-9843\(94\)90025-6](http://dx.doi.org/10.1016/1048-9843(94)90025-6)
- *Elprana, G., Felfe, J., Stiehl, S., & Gatzka, M. (2015). Exploring the sex difference in affective motivation to lead. *Journal of Personnel Psychology*, 14, 142–152. <http://dx.doi.org/10.1027/1866-5888/a000137>
- Entwisle, D. R. (1972). To dispel fantasies about fantasy-based measures of achievement motivation. *Psychological Bulletin*, 77, 377–391. <http://dx.doi.org/10.1037/h0020021>
- *Erickson, R. W. (2005). *Exploring the antecedents of motivation to lead and the affects of collective efficacy* (Unpublished Doctoral Dissertation). Regent University, Virginia Beach, VA.
- *Erlemann, C. (2016). *Gender and leadership aspiration: The impact of the organizational environment* (Unpublished Doctoral Dissertation). Erasmus University Rotterdam, Rotterdam, South Holland.
- *Fearing, B. K. (2015). *Moderated mediation of leader's traits and effectiveness: The role of stress* (Unpublished Doctoral Dissertation). Illinois Institute of Technology, Chicago, IL.
- *Felfe, J., & Schyns, B. (2014). Romance of leadership and motivation to lead. *Journal of Managerial Psychology*, 29, 850–865. <http://dx.doi.org/10.1108/JMP-03-2012-0076>
- *Fenton, M. S. (2015). *Exploring the relationship between parental psychological control and emergent leadership* (Unpublished Master's Thesis). University of Nebraska, Lincoln, NE.
- *Fincher, J. (2008). *Leadership self-efficacy for college students with a learning disability* (Unpublished Master's Thesis). University of Maryland, College Park, MD.
- Fineman, S. (1977). The achievement motive construct and its measurement: Where are we now? *British Journal of Psychology*, 68, 1–22. <http://dx.doi.org/10.1111/j.2044-8295.1977.tb01554.x>
- *Galvin, B. M. (2010). *Antecedents and outcomes of leader role identification* (Unpublished Doctoral Dissertation). Arizona State University, Phoenix, AZ.
- *Gentile, B. (2013). *Investigating alternative response sets with the narcissistic personality inventory: Validation of a new Likert version* (Unpublished doctoral dissertation). University of Georgia, Athens, GA.
- *Gharemani, H., Lemoine, G. J., & Keem, S. (2017). *Building shared leadership: The role of personality and vertical leadership*. Unpublished manuscript, University at Buffalo, Buffalo.
- Ghiselli, E. E., Campbell, J. P., & Zedeck, S. (1981). *Measurement theory for the behavioral sciences: Origin & evolution*. San Francisco, CA: WH Freeman & Company.
- *Gilbert, S. L. (2015). *Motivation for transformational leadership in two organizations* (Unpublished doctoral dissertation). Saint Mary's University, Halifax, Nova Scotia.
- *Gilbert, S., Horsman, P., & Kelloway, E. K. (2016). The Motivation for Transformational Leadership Scale: An examination of the factor structure and initial tests. *Leadership & Organization Development Journal*, 37, 158–180. <http://dx.doi.org/10.1108/LODJ-05-2014-0086>

- *Gilson, T. A., Dix, M. A., & Lochbaum, M. (2017). "Drive on": The relationship between psychological variables and effective squad leadership. *Military Psychology, 29*, 58–67. <http://dx.doi.org/10.1037/mil0000136>
- Gonzalez-Mulé, E., Mount, M. K., & Oh, I. S. (2014). A meta-analysis of the relationship between general mental ability and nontask performance. *Journal of Applied Psychology, 99*, 1222–1243. <http://dx.doi.org/10.1037/a0037547>
- *Gottfried, A. E., Gottfried, A. W., Reichard, R. J., Guerin, D. W., Oliver, P. H., & Riggio, R. E. (2011). Motivational roots of leadership: A longitudinal study from childhood through adulthood. *The Leadership Quarterly, 22*, 510–519. <http://dx.doi.org/10.1016/j.leaqua.2011.04.008>
- *Graham, K. A. (2015). *Do leaders' hierarchical perceptions matter? A social dominance theory perspective of empowering leadership, abusive supervision, and team performance* (Unpublished Doctoral Dissertation). Drexel University, Philadelphia, PA.
- Gray, M. P., & O'Brien, K. M. (2007). Advancing the assessment of women's career choices: The Career Aspiration Scale. *Journal of Career Assessment, 15*, 317–337. <http://dx.doi.org/10.1177/1069072707301211>
- Grijalva, E., & Zhang, L. (2016). Narcissism and self-insight: A review and meta-analysis of narcissists' self-enhancement tendencies. *Personality and Social Psychology Bulletin, 42*, 3–24. <http://dx.doi.org/10.1177/0146167215611636>
- *Guay, R. P. (2011). *Igniting the fire between leaders and followers: The impact of having the right fit* (Unpublished Doctoral Dissertation). University of Iowa, Iowa City, IA.
- *Guillén, L., Mayo, M., & Korotov, K. (2015). Is leadership a part of me? A leader identity approach to understanding the motivation to lead. *The Leadership Quarterly, 26*, 802–820. <http://dx.doi.org/10.1016/j.leaqua.2015.05.001>
- Gurdjian, P., Halbeisen, T., & Lane, K. (2014). Why leadership-development programs fail. *McKinsey Quarterly*. Retrieved from <https://www.mckinsey.com/global-themes/leadership/why-leadership-development-programs-fail>
- Hall, D. T. (2004). Self-awareness, identity, and leader development. In D. V. Day, S. J. Zaccaro, & S. M. Halpin (Eds.), *Leader development for transforming organizations* (pp. 153–176). Mahwah, NJ: Erlbaum.
- *Hamid, J. A., & Krauss, S. E. (2013). Does university campus experience develop motivation to lead or readiness to lead among undergraduate students? A Malaysian perspective. *Journal of Student Affairs Research and Practice, 50*, 208–225. <http://dx.doi.org/10.1515/jsarp-2013-0015>
- *Harms, P. D., Roberts, B. W., & Wood, D. (2007). Who shall lead? An integrative personality approach to the study of the antecedents of status in informal social organizations. *Journal of Research in Personality, 41*, 689–699. <http://dx.doi.org/10.1016/j.jrp.2006.08.001>
- *Hasan, N. T. (2011). *Understanding women's leadership interests and goals using social cognitive career theory* (Unpublished Doctoral Dissertation). University of Akron, Akron, OH.
- *Hendricks, J. W., & Payne, S. C. (2007). Beyond the big five: Leader goal orientation as a predictor of leadership effectiveness. *Human Performance, 20*, 317–343.
- *Hetrick, A., LoPilato, A., Gentile, B., & Hoffman, B. (2014, May). *Motivation to lead among narcissists: Be afraid*. Paper presented at the 29th annual meeting of the Society for Industrial and Organizational Psychology, Honolulu, HI.
- *Hiller, N. J. (2005). *An examination of leadership beliefs and leadership self-identity: Constructs, correlates, and outcomes* (Unpublished doctoral dissertation). The Pennsylvania State University, University Park, PA.
- *Hinrichs, A. T. (2011). *Motivation to lead: Examining it's antecedents and consequences in a team context* (Unpublished doctoral dissertation). Texas A&M University, College Station, TX.
- *Hinrichs, K. T., Wang, L., Hinrichs, A. T., & Romero, E. J. (2012). Moral disengagement through displacement of responsibility: The role of leadership beliefs. *Journal of Applied Social Psychology, 42*, 62–80. <http://dx.doi.org/10.1111/j.1559-1816.2011.00869.x>
- Hong, Y. (2005). *Motivation to lead: Antecedents and resulting leader emergence*. Unpublished master's thesis, St. Mary's University, Canada.
- *Hong, Y., Catano, V. M., & Liao, H. (2011). Leader emergence: The role of emotional intelligence and motivation to lead. *Leadership & Organization Development Journal, 32*, 320–343. <http://dx.doi.org/10.1108/01437731111134625>
- *Huang, L. (2015). *Followers' constructive voice and leaders' reactions to voice: A self-enhancement perspective* (Unpublished Doctoral Dissertation). University of Nebraska, Lincoln, NE.
- Humphreys, L. G. (1971). Theory of intelligence. In R. Cancro (Ed.), *Intelligence: Genetic and environmental influences* (pp. 31–42). New York, NY: Grune & Stratton.
- *Huszczo, G., & Endres, M. L. (2017). Gender differences in the importance of personality traits in predicting leadership self-efficacy. *International Journal of Training and Development, 21*, 304–317. <http://dx.doi.org/10.1111/jtd.12113>
- Jacobs, R. L., & McClelland, D. C. (1994). Moving up the corporate ladder: A longitudinal study of the leadership motive pattern and managerial success in women and men. *Consulting Psychology Journal, 46*, 32–41. <http://dx.doi.org/10.1037/1061-4087.46.1.32>
- *Jeung, W. (2013). *Exploring the changing effects of individual differences on social status of influence* (Unpublished Doctoral Dissertation). University of Nebraska, Lincoln, NE.
- *Joliobis, J. L. (2014). *A self-concept-based approach to motivation to lead* (Unpublished Doctoral Dissertation). Regent University, Virginia Beach, VA.
- *Jones, J. A. (2012). *Toward a situational theory of motivation to lead: Applying an interactional psychology perspective* (Unpublished doctoral dissertation). Regent University, Virginia Beach, VA.
- *Jones, S. L. (2015). *Learning to lead: A quasi experimental test of the interplay between experience and training* (Unpublished Doctoral Dissertation). University of Minnesota, Minneapolis, MN.
- *Joo, M. K., Yu, G. C., & Atwater, L. E. (2016, August). *Leadership mentoring and motivation to lead among female proteges*. Paper presented at the 76th annual meeting of the Academy of Management, Anaheim, CA.
- *Joo, M. K., Yu, G. C., & Atwater, L. E. (2018). Formal leadership mentoring and motivation to lead in South Korea. *Journal of Vocational Behavior, 107*, 310–326. <http://dx.doi.org/10.1016/j.jvb.2018.05.010>
- Joseph, D. L., Dhanani, L. Y., Shen, W., McHugh, B. C., & McCord, M. A. (2015). Is a happy leader a good leader? A meta-analytic investigation of leader trait affect and leadership. *The Leadership Quarterly, 26*, 557–576. <http://dx.doi.org/10.1016/j.leaqua.2015.04.001>
- Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—Self-esteem, generalized self-efficacy, locus of control, and emotional stability—With job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology, 86*, 80–92. <http://dx.doi.org/10.1037/0021-9010.86.1.80>
- Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology, 87*, 765–780. <http://dx.doi.org/10.1037/0021-9010.87.4.765>
- Judge, T. A., Colbert, A. E., & Ilies, R. (2004). Intelligence and leadership: A quantitative review and test of theoretical propositions. *Journal of Applied Psychology, 89*, 542–552. <http://dx.doi.org/10.1037/0021-9010.89.3.542>
- Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2003). The core self-evaluations scale: Development of a measure. *Personnel Psychology, 56*, 303–331. <http://dx.doi.org/10.1111/j.1744-6570.2003.tb00152.x>
- Judge, T. A., Jackson, C. L., Shaw, J. C., Scott, B. A., & Rich, B. L. (2007). Self-efficacy and work-related performance: The integral role of indi-

- vidual differences. *Journal of Applied Psychology*, 92, 107–127. <http://dx.doi.org/10.1037/0021-9010.92.1.107>
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89, 755–768. <http://dx.doi.org/10.1037/0021-9010.89.5.755>
- Judge, T. A., Piccolo, R. F., & Kosalka, T. (2009). The bright and dark sides of leader traits: A review and theoretical extension of the leader trait paradigm. *The Leadership Quarterly*, 20, 855–875. <http://dx.doi.org/10.1016/j.leafqua.2009.09.004>
- Kaiser, R. B., Hogan, R., & Craig, S. B. (2008). Leadership and the fate of organizations. *American Psychologist*, 63, 96–110. <http://dx.doi.org/10.1037/0003-066X.63.2.96>
- *Kane, T. D., Zaccaro, S. J., Tremble, T. R., Jr., & Masuda, A. D. (2002). An examination of the leader's regulation of groups. *Small Group Research*, 33, 65–120. <http://dx.doi.org/10.1177/104649640203300103>
- Kanfer, R. (1990). Motivation theory and industrial and organizational psychology. In M. D. Dunnette & L. Hough (Eds.), *Handbook of industrial and organizational psychology* (pp. 75–170). Palo Alto, CA: Consulting Psychologists Press.
- Kanfer, R. (1992). Work motivation: New directions in theory and research. In C. L. Cooper & I. T. Robertson (Eds.), *International Review of Industrial and Organizational Psychology* (Vol. 7, pp. 1–53). London: Wiley, Ltd.
- Kanfer, R., Frese, M., & Johnson, R. E. (2017). Motivation related to work: A century of progress. *Journal of Applied Psychology*, 102, 338–355. <http://dx.doi.org/10.1037/apl0000133>
- *Karelaiia, N., & Guillén, L. (2014). Me, a woman and a leader: Positive social identity and identity conflict. *Organizational Behavior and Human Decision Processes*, 125, 204–219. <http://dx.doi.org/10.1016/j.obhdp.2014.08.002>
- *Karelaiia, N., & Guillén, R. (2012). *Me, a women and a leader: Antecedents and consequences of the identity conflict of women leaders*. Working Paper.
- Kark, R., & Van Dijk, D. (2007). Motivation to lead, motivation to follow: The role of the self-regulatory focus in leadership processes. *The Academy of Management Review*, 32, 500–528. <http://dx.doi.org/10.5465/amr.2007.24351846>
- *Kasemaa, A. (2016). The adaptation of the Motivation to Lead Instrument to the Estonian military context. *Journal of Management and Business Administration Central Europe*, 24, 64–88.
- *Kaur, D. (2011). *Motivation to lead in relation to personality type, psychological empowerment, and emotional intelligence* (Unpublished doctoral dissertation). Panjab University, Chandigarh, India.
- *Key-Roberts, M., Halpin, S., & Brunner, J. M. (2012). *Leader identity, individual differences, and leader self-development* (Technical Report 1310). Retrieved from <https://apps.dtic.mil/docs/citations/ADA565314>
- Kiesler, D. J. (1996). *Contemporary interpersonal theory and research: Personality, psychopathology, and psychotherapy*. New York, NY: Wiley.
- *Kim, J. H. (2011). Relations among motivation to lead, leadership behavior, and performance. *The Journal of the Korea Contents Association*, 11, 321–337. <http://dx.doi.org/10.5392/JKCA.2011.11.4.321>
- *Knudsen, Q. E. (2018). *Leadership developmental readiness: Furthering our understanding of this multi-dimensional construct* (Unpublished Master's Thesis). Michigan State University, Lansing, MI.
- Kooij, D. T. A. M., Kanfer, R., Betts, M., & Rudolph, C. W. (2018). Future time perspective: A systematic review and meta-analysis. *Journal of Applied Psychology*, 103, 867–893. <http://dx.doi.org/10.1037/apl0000306>
- Korman, A. K. (1970). Toward an hypothesis of work behavior. *Journal of Applied Psychology*, 54, 31–41. <http://dx.doi.org/10.1037/h0028656>
- *Krishnakumar, S., & Hopkins, K. (2014). The role of emotion perception ability in motivation to lead. *Management Research Review*, 37, 334–347. <http://dx.doi.org/10.1108/MRR-07-2012-0161>
- Kutner, M. H., Nachtsheim, C. J., Neter, J., & Li, W. (2005). *Applied linear statistical models*. Chicago, IL: McGraw-Hill.
- Kwok, N., Hanig, S., Brown, D. J., & Shen, W. (2018). How leader role identity influences the process of leader emergence: A social network analysis. *The Leadership Quarterly*, 29, 648–662. <http://dx.doi.org/10.1016/j.leafqua.2018.04.003>
- *Lacroix, M., & Verdorfer, A. P. (2017). Can servant leaders fuel the leadership fire? The relationship between servant leadership and followers' leadership avoidance. *Administrative Sciences*, 7, 1–11. <http://dx.doi.org/10.3390/admsci7010006>
- *Lamb, W. B. (2015). *Service-learning experiences and university students' motivation to lead* (Unpublished Doctoral Dissertation). Regent University, Virginia Beach, VA.
- Latham, G. P., & Pinder, C. C. (2005). Work motivation theory and research at the dawn of the twenty-first century. *Annual Review of Psychology*, 56, 485–516. <http://dx.doi.org/10.1146/annurev.psych.55.090902.142105>
- Leaper, C., & Ayres, M. M. (2007). A meta-analytic review of gender variations in adults' language use: Talkativeness, affiliative speech, and assertive speech. *Personality and Social Psychology Review*, 11, 328–363. <http://dx.doi.org/10.1177/1088868307302221>
- Leary, T. (1957). *Interpersonal diagnosis of personality*. New York, NY: Ronald Press.
- Le Breton-Miller, I., Miller, D., & Steier, L. P. (2004). Toward an integrative model of effective FOB succession. *Entrepreneurship Theory and Practice*, 28, 305–328. <http://dx.doi.org/10.1111/j.1540-6520.2004.00047.x>
- *Lee, D. (2011). *Examining the relationship between collective racial esteem and leadership self-efficacy among Asian-American college students* (Unpublished Master's Thesis). University of Maryland, College Park, MD.
- *Lee, N. M. (2018). *Personalized and socialized need for power: Scale construction and validation* (Unpublished Master's Thesis). University of Calgary, Canada.
- *Lemoine, G. J., Keem, S., & Vredeveld, M. P. (2014, August). *Patterns of motivations to lead: Predictors and outcomes*. Paper presented at the 74th annual meeting of the Academy of Management, Philadelphia, PA.
- *Lester, P. B., Hannah, S. T., Harms, P. D., Vogelgesang, G. R., & Avolio, B. J. (2011). Mentoring impact on leader efficacy development: A field experiment. *Academy of Management Learning & Education*, 10, 409–429. <http://dx.doi.org/10.5465/amle.2010.0047>
- Liden, R. C., Wayne, S. J., Zhao, H., & Henderson, D. (2008). Servant leadership: Development of a multidimensional measure and multi-level assessment. *The Leadership Quarterly*, 19, 161–177. <http://dx.doi.org/10.1016/j.leafqua.2008.01.006>
- Lilienfeld, S. O., Wood, J. M., & Garb, H. N. (2000). The scientific status of projective techniques. *Psychological Science in the Public Interest*, 1, 27–66. <http://dx.doi.org/10.1111/1529-1006.002>
- *Lippstreu, M. (2010). *Revisiting fundamental concepts of transformational leadership theory: A closer look at follower developmental processes* (Unpublished Doctoral Dissertation). Georgia Institute of Technology, Atlanta, GA.
- Luria, G., & Berson, Y. (2013). How do leadership motives affect informal and formal leadership emergence? *Journal of Organizational Behavior*, 34, 995–1015.
- *Luthans, F., & Peterson, S. J. (2002). Employee engagement and manager self-efficacy. *Journal of Management Development*, 21, 376–387. <http://dx.doi.org/10.1108/02621710210426864>
- Lynn, R., & Irwing, P. (2004). Sex differences on the progressive matrices: A meta-analysis. *Intelligence*, 32, 481–498. <http://dx.doi.org/10.1016/j.intell.2004.06.008>

- *Machida, M. (2012). *Examining a model of career advancement of female and male assistant coaches* (Unpublished Doctoral Dissertation). Michigan State University, East Lansing, MI.
- *Maggard, M. R. (2005). *The career development of female community college students: A test of social cognitive theory* (Unpublished Doctoral Dissertation). Capella University, Minneapolis, MN.
- *Mahon, M. R. (2017). *The influence of leader prototype congruence on leadership beliefs* (Unpublished Doctoral Dissertation). St. Ambrose University, Davenport, IA.
- *Mascia, D., Russo, S. D., & Morandi, F. (2015). Exploring professionals' motivation to lead: A cross-level study in the healthcare sector. *The International Journal of Human Resource Management*, 26, 1622–1644. <http://dx.doi.org/10.1080/09585192.2014.958516>
- *Mason, C., Griffin, M., & Parker, S. (2014). Transformational leadership development: Connecting psychological and behavioral change. *Leadership & Organization Development Journal*, 35, 174–194. <http://dx.doi.org/10.1108/LODJ-05-2012-0063>
- *Maurer, T. J., Hartnell, C. A., & Lippstreu, M. (2017). A model of leadership motivations, error management culture, leadership capacity, and career success. *Journal of Occupational and Organizational Psychology*, 90, 481–507. <http://dx.doi.org/10.1111/joop.12181>
- *Maurer, T. J., & Lippstreu, M. (2010). *Self-initiated development of leadership capabilities: Toward establishing the validity of key motivational constructs and assessment tools* (Technical Report 1275). Retrieved from www.dtic.mil/get-tr-doc/pdf?AD=ADA532359.
- *Maxwell, B. J. (2005). *Feedback as it relates to the development of leadership self-efficacy and leadership ability* (Unpublished Doctoral Dissertation). Claremont Graduate University, Claremont, CA.
- Mayer, J. D., Roberts, R. D., & Barsade, S. G. (2008). Human abilities: Emotional intelligence. *Annual Review of Psychology*, 59, 507–536. <http://dx.doi.org/10.1146/annurev.psych.59.103006.093646>
- McCall, G. J., & Simmons, J. L. (1978). *Identities and interactions*. New York, NY: Free Press.
- McClelland, D. C. (1975). *Power: The inner experience*. New York, NY: Irvington.
- McClelland, D. C., & Boyatzis, R. E. (1982). Leadership motive pattern and long-term success in management. *Journal of Applied Psychology*, 67, 737–743. <http://dx.doi.org/10.1037/0021-9010.67.6.737>
- McClelland, D. C., Koestner, R., & Weinberger, J. (1989). How do self-attributed and implicit motives differ? *Psychological Review*, 96, 690–702. <http://dx.doi.org/10.1037/0033-295X.96.4.690>
- *McCormick, M. J., Tanguma, J., & Lopez-Forment, A. S. (2002). Extending self-efficacy theory to leadership: A review and empirical test. *Journal of Leadership Education*, 1, 34–49. <http://dx.doi.org/10.12806/V1I2/TF1>
- *Mellor, S., Barclay, L. A., Bulger, C. A., & Kath, L. M. (2006). Augmenting the effect of verbal persuasion on self-efficacy to serve as a steward: Gender similarity in a union environment. *Journal of Occupational and Organizational Psychology*, 79, 121–129. <http://dx.doi.org/10.1348/096317905X36353>
- Meuser, J. D., Gardner, W. L., Dinh, J. E., Hu, J., Liden, R. C., & Lord, R. G. (2016). A network analysis of leadership theory: The infancy of integration. *Journal of Management*, 42, 1374–1403. <http://dx.doi.org/10.1177/0149206316647099>
- Meyer, G. J., & Kurtz, J. E. (2006). Advancing personality assessment terminology: Time to retire “objective” and “projective” as personality test descriptors. *Journal of Personality Assessment*, 87, 223–225. http://dx.doi.org/10.1207/s15327752jpa8703_01
- Miner, J. B. (1965). *Studies in management education*. Atlanta: Organizational Measurement Systems Press.
- Miner, J. B. (1977). *Motivation to manage: A ten year update on the “studies in management education” research*. Atlanta, GA: Organizational Measurement Systems Press.
- Miner, J. B. (1978). Twenty years of research on role-motivation theory of managerial effectiveness. *Personnel Psychology*, 31, 739–760. <http://dx.doi.org/10.1111/j.1744-6570.1978.tb02122.x>
- Miner, J. B., & Smith, N. R. (1982). Decline and stabilization of managerial motivation over a 20-year period. *Journal of Applied Psychology*, 67, 297–305. <http://dx.doi.org/10.1037/0021-9010.67.3.297>
- Mitchell, T. R. (1982). Motivation: New directions for theory, research, and practice. *Academy of Management Review*, 7, 80–88. <http://dx.doi.org/10.5465/amr.1982.4285467>
- Mitchell, T. R., & Daniels, D. (2003). Motivation. In W. C. Borman, D. R. Ilgen, R. J. Klimoski, W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Handbook of psychology: Vol. 12. Industrial and organizational psychology* (pp. 225–254). Hoboken, NJ: Wiley
- *Mull, M. (2018). *Testing an adapted and integrated model of motivation to lead and intention to apply* (Unpublished Doctoral Dissertation). University of Texas at Tyler, Tyler, TX.
- Mullen, B., Salas, E., & Driskell, J. E. (1989). Salience, motivation, and artifact as contributions to the relation between participation rate and leadership. *Journal of Experimental Social Psychology*, 25, 545–559. [http://dx.doi.org/10.1016/0022-1031\(89\)90005-X](http://dx.doi.org/10.1016/0022-1031(89)90005-X)
- *Musalib, M. A., & Ghani, A. H. A. (2013). Leadership traits, leadership behavior, and job autonomy of imams in peninsular Malaysia: A moderated mediation analysis. *International Journal of Business and Society*, 14, 17–40.
- *Musalib, M. A., Razali, W., Hashim, M., Ahmad, N. M., Zakaria, Z., & Rahman, A. A. (2017). Leadership and mosque performance in rural and urban areas of peninsular Malaysia. *The International Journal of the Arts in Society*, 9, 451–472.
- *Ng, K. Y., Ang, S., & Chan, K. Y. (2008). Personality and leader effectiveness: A moderated mediation model of leadership self-efficacy, job demands, and job autonomy. *Journal of Applied Psychology*, 93, 733–743. <http://dx.doi.org/10.1037/0021-9010.93.4.733>
- Ng, K. Y., Koh, C., & Goh, H. C. (2008). The heart of the servant leader: Leader's motivation-to-serve and its impact on LMX and subordinates' extra-role behavior. In G. B. Graen & J. A. Graen (Eds.), *Knowledge driven corporation: Complex creative destruction* (pp. 125–144). Charlotte, NC: Information Age Publishing.
- O'Boyle, E. H., Jr., Forsyth, D. R., Banks, G. C., & McDaniel, M. A. (2012). A meta-analysis of the Dark Triad and work behavior: A social exchange perspective. *Journal of Applied Psychology*, 97, 557–579. <http://dx.doi.org/10.1037/a0025679>
- *O'Connor, P. J. (2007). *The mediation of temperament by character in the prediction of workplace outcomes* (Unpublished Doctoral Dissertation). University of Queensland, Brisbane, Queensland.
- Offermann, L. R., & Hellmann, P. S. (1997). Culture's consequences for leadership behavior: National values in action. *Journal of Cross-Cultural Psychology*, 28, 342–351. <http://dx.doi.org/10.1177/0022022197283008>
- *Oh, S. (2012). Leadership emergence in autonomous work teams: Who is more willing to lead? *Social Behavior and Personality*, 40, 1451–1464. <http://dx.doi.org/10.2224/sbp.2012.40.9.1451>
- Ones, D. S. (1993). *Establishing construct validity for integrity tests* (Unpublished doctoral dissertation). University of Iowa, Iowa City, IA.
- *Paglis, L. L., & Green, S. G. (2002). Leadership self-efficacy and managers' motivation for leading change. *Journal of Organizational Behavior*, 23, 215–235. <http://dx.doi.org/10.1002/job.137>
- *Papavero, E. M. (2009). *Assessing the relationships between person-organization fit, moral philosophy, and the motivation to lead* (Unpublished doctoral dissertation). Northcentral University, Prescott Valley, AZ.
- Paustian-Underdahl, S. C., Walker, L. S., & Woehr, D. J. (2014). Gender and perceptions of leadership effectiveness: A meta-analysis of contextual moderators. *Journal of Applied Psychology*, 99, 1129–1145. <http://dx.doi.org/10.1037/a0036751>

- Pearson Education, Inc. (2008). *WAIS-IV: Administration, scoring, and basic interpretation*. Retrieved from http://images.pearsonclinical.com/images/Products/WAIS-IV/WAIS-IV_Adm_Scoring_March%202011_Handout.pdf
- *Pepper, R. C. (2009). *The impact of motivation to lead on college students' cocurricular involvement* (Unpublished doctoral dissertation). Regent University, Virginia Beach, VA.
- *Perreault, D., Cohen, L. R., & Blanchard, C. M. (2016). Fostering transformational leadership among young adults: A basic psychological needs approach. *International Journal of Adolescence and Youth, 21*, 341–355. <http://dx.doi.org/10.1080/02673843.2015.1083451>
- *Pitichat, T., Reichard, R. J., Kea-Edwards, A., Middleton, E., & Norman, S. M. (2018). Psychological capital for leader development. *Journal of Leadership & Organizational Studies, 25*, 47–62.
- *Porter, T. H. (2011). *The power of transformational leadership: The effect on self-efficacy, spirituality, and MTL* (Unpublished doctoral dissertation). Regent University, Virginia Beach, VA.
- *Porter, T. H., Mitchell, M., & Riesenmy, K. (2014). *The role of context and leadership in motivation to lead*. Manuscript in progress.
- *Porter, T. H., Riesenmy, K. D., & Fields, D. (2016). Work environment and employee motivation to lead: Moderating effects of personal characteristics. *American Journal of Business, 31*, 66–84. <http://dx.doi.org/10.1108/AJB-05-2015-0017>
- Preacher, K. J., & Selig, J. P. (2012). Advantages of Monte Carlo confidence intervals for indirect effects. *Communication Methods and Measures, 6*, 77–98. <http://dx.doi.org/10.1080/19312458.2012.679848>
- *Quigley, N. R. (2003). *The relationship between leader core self-evaluations, team feedback, leader efficacy, transformational leadership, team efficacy, team goals, team action and transition processes, and team performance* (Unpublished Doctoral Dissertation). University of Maryland, College Park, MD.
- *Quigley, N. R. (2013). A longitudinal, multilevel study of leadership efficacy development in MBA teams. *Academy of Management Learning & Education, 12*, 579–602. <http://dx.doi.org/10.5465/amle.2011.0524>
- Raju, N. S., & Brand, P. A. (2003). Determining the significance of correlations corrected for unreliability and range restriction. *Applied Psychological Measurement, 27*, 52–71. <http://dx.doi.org/10.1177/0146621602239476>
- *Robinson, A. J. (2016). *Potential barriers to women's leadership self-efficacy* (Unpublished Master's Thesis). University of North Carolina, Charlotte, NC.
- *Romano, R. L. (2008). *Motivational predictors of leadership effectiveness: A transformational framework exploring motivation to lead* (Unpublished doctoral dissertation). Illinois Institute of Technology, Chicago, IL.
- *Rosch, D. M. (2014). Predicting student leadership in agricultural professional preparation organizations. *NACTA Journal, 58*, 8–11.
- *Rosch, D. (2015). Effects of classroom-based team experiences on undergraduate student leadership development: When practice does not make perfect. *Journal of Leadership Education, 104*–118. <http://dx.doi.org/10.12806/V14/I3/R7>
- *Rosch, D. M., Collier, D., & Thompson, S. E. (2015). An exploration of students' motivation to lead: An analysis by race, gender, and student leadership behaviors. *Journal of College Student Development, 56*, 286–291. <http://dx.doi.org/10.1353/csd.2015.0031>
- *Rossi, M. (2011). *An investigation into high quality leader member exchange relationships and their relation to followers' motivation to lead* (Unpublished Doctoral Dissertation). University of South Florida, Tampa, FL.
- Schmidt, F. L., & Hunter, J. E. (2015). *Methods of meta-analysis: Correcting for error and bias in research findings*. Newbury Park, CA: Sage. <http://dx.doi.org/10.4135/9781483398105>
- Schmitt, D. P., Realo, A., Voracek, M., & Allik, J. (2008). Why can't a man be more like a woman? Sex differences in Big Five personality traits across 55 cultures. *Journal of Personality and Social Psychology, 94*, 168–182. <http://dx.doi.org/10.1037/0022-3514.94.1.168>
- *Seibert, S. E., Sargent, L. D., Kraimer, M. L., & Kiazad, K. (2017). Linking developmental experiences to leader effectiveness and promotability: The mediating role of leadership self-efficacy and mentor network. *Personnel Psychology, 70*, 357–397. <http://dx.doi.org/10.1111/peps.12145>
- *Semadar, A., Robins, G., & Ferris, G. R. (2006). Comparing the validity of multiple social effectiveness constructs in the prediction of managerial job performance. *Journal of Organizational Behavior, 27*, 443–461. <http://dx.doi.org/10.1002/job.385>
- Shen, W., & Cannella, A. A. (2003). Will succession planning increase shareholder wealth? Evidence from investor reactions to relay CEO successions. *Strategic Management Journal, 24*, 191–198. <http://dx.doi.org/10.1002/smj.280>
- *Shondrick, S. J. (2013). *Rating leadership potential from above: The effects of implicit theories on supervisors' ratings of leadership potential* (Unpublished doctoral dissertation). University of Akron, Akron, OH.
- Singelis, T. M., Triandis, H. C., Bhawuk, D. P., & Gelfand, M. J. (1995). Horizontal and vertical dimensions of individualism and collectivism: A theoretical and measurement refinement. *Cross-Cultural Research: The Journal of Comparative Social Science, 29*, 240–275. <http://dx.doi.org/10.1177/106939719502900302>
- *Steele, A. R., & Day, D. V. (2018). The role of self-attention in leader development. *The Journal of Leadership Studies, 12*, 17–32. <http://dx.doi.org/10.1002/jls.21570>
- *Stephens, J. L. (2012). *The effects of calling, career commitment, and organizational commitment on motivation to lead* (Unpublished Doctoral Dissertation). Regent University, V. A. Beach, VA.
- Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly, 63*, 224–237. <http://dx.doi.org/10.2307/2695870>
- Stiehl, S. K., Felfe, J., Elprana, G., & Gatzka, M. B. (2015). The role of motivation to lead for leadership training effectiveness. *International Journal of Training and Development, 19*, 81–97. <http://dx.doi.org/10.1111/ijtd.12051>
- *Stiehl, S., Gatzka, M., Elprana, G., & Felfe, J. (2015). Personality and Leadership Intention: The mediating role of motivation to lead in careers. *Zeitschrift für Arbeits- und Organisationspsychologie, 59*, 188–205. <http://dx.doi.org/10.1026/0932-4089/a000185>
- *Struckmeyer, K. M. (2018). *Family and consumer science educators receptiveness to respond to changes in family caregiver environments* (Unpublished Doctoral Dissertation). Oklahoma State University, Stillwater, OK.
- *Sullivan, S. D. (2014). *The role of leadership in facilitating innovation in multiteam systems* (Unpublished Doctoral Dissertation). Northwestern University, Evanston, IL.
- Swann, W. B., Jr. (1987). Identity negotiation: Where two roads meet. *Journal of Personality and Social Psychology, 53*, 1038–1051. <http://dx.doi.org/10.1037/0022-3514.53.6.1038>
- *Tafero, T. (2007). *Personality predictors of motivation to lead* (Unpublished Doctoral Dissertation). Clemson University, Clemson, SC.
- Triandis, H. C. (1995). *Individualism and collectivism*. New York, NY: Simon & Schuster.
- Triandis, H. C., & Gelfand, M. J. (1998). Converging measurement of horizontal and vertical individualism and collectivism. *Journal of Personality and Social Psychology, 74*, 118–128. <http://dx.doi.org/10.1037/0022-3514.74.1.118>
- Tzelgov, J., & Henik, A. (1991). Suppression situations in psychological research: Definitions, implications, and applications. *Psychological Bulletin, 109*, 524–536. <http://dx.doi.org/10.1037/0033-2909.109.3.524>

- *Vaculik, M., Prochazka, J., & Smutny, P. (2014, November). *Competencies and leadership effectiveness: Which skills predict effective leadership?* Paper presented at the 10th meeting of the European Conference on Management, Leadership, & Governance, Zagreb, Croatia.
- *Van Iddekinge, C. H., Ferris, G. R., & Heffner, T. S. (2009). Test of a multistage model of distal and proximal antecedents of leader performance. *Personnel Psychology, 62*, 463–495. <http://dx.doi.org/10.1111/j.1744-6570.2009.01145.x>
- *van Quaquebeke, N., van Knippenberg, D., & Brodbeck, F. C. (2011). More than meets the eye: The role of subordinates' self-perceptions in leader categorization processes. *The Leadership Quarterly, 22*, 367–382. <http://dx.doi.org/10.1016/j.leaqua.2011.02.011>
- *Verdorfer, A. P. (2016). Examining mindfulness and its relations to humility, motivation to lead, and actual servant leadership behaviors. *Mindfulness, 7*, 950–961. <http://dx.doi.org/10.1007/s12671-016-0534-8>
- Viechtbauer, W. (2010). Conducting meta-analyses in R with the metafor package. *Journal of Statistical Software, 36*, 1–48. <http://dx.doi.org/10.18637/jss.v036.i03>
- Viswesvaran, C., & Ones, D. S. (1995). Theory testing: Combining psychometric meta-analysis and structural equations modeling. *Personnel Psychology, 48*, 865–885. <http://dx.doi.org/10.1111/j.1744-6570.1995.tb01784.x>
- Viswesvaran, C., & Ones, D. S. (2000). Perspectives on models of job performance. *International Journal of Selection and Assessment, 8*, 216–226. <http://dx.doi.org/10.1111/1468-2389.00151>
- *Vogel, D., & Kroll, A. (2019). Agreeing to disagree? Explaining self-other disagreement on leadership behaviour. *Public Management Review*. Advance online publication. <http://dx.doi.org/10.1080/14719037.2019.1577910>
- *Waldman, D. A., Galvin, B. M., & Walumba, F. O. (2013). The development of motivation to lead and leader role identity. *Journal of Leadership & Organizational Studies, 20*, 156–168. <http://dx.doi.org/10.1177/1548051812457416>
- *Walter, S. L. (2016). *Who develops? Understanding the role of leadership mindset in developmental opportunities* (Unpublished Doctoral Dissertation). University of Iowa, Iowa City, IA.
- *Wells, M. R. (2016). *The relationship of professional values and spirituality with motivation to lead: The mediating effect of social justice importance* (Unpublished Doctoral Dissertation). Regent University, V. A. Beach, VA.
- *Wernsing, T. S. (2010). *Leader self-awareness development: An intervention and test of a theoretical model* (Unpublished doctoral dissertation). University of Nebraska, Lincoln, NE.
- Wiggins, J. S. (1991). Agency and communion as conceptual coordinates for the understanding and measurement of interpersonal behavior. In D. Cicchetti & W. M. Grove (Eds.), *Thinking clearly about psychology: Essays in honor of Paul E. Meehl* (pp. 89–113). Minneapolis: University of Minnesota Press.
- *Wright, M. A. (2011). *Investigating the validity of the conditional reasoning test for leadership* (Unpublished doctoral dissertation). Georgia Institute of Technology, Atlanta, GA.
- Yeo, G., & Neal, A. (2008). Subjective cognitive effort: A model of states, traits, and time. *Journal of Applied Psychology, 93*, 617–631. <http://dx.doi.org/10.1037/0021-9010.93.3.617>
- *Yoerger, M. A. (2018). *Effects of simulation-based interprofessional education and debriefs and leader identity, leader self-efficacy, and motivation to lead* (Unpublished Doctoral Dissertation). University of Nebraska, Omaha, NE.
- Yukl, G. A. (2013). *Leadership in organizations*. Boston: Pearson.
- *Zhang, J., Fan, Y., & Zhang, X. (2015). The role of power motivation in creativity: A moderated mediation model. *Social Behavior and Personality, 43*, 613–628. <http://dx.doi.org/10.2224/sbp.2015.43.4.613>

Received July 2, 2017

Revision received June 3, 2019

Accepted July 6, 2019 ■

E-Mail Notification of Your Latest Issue Online!

Would you like to know when the next issue of your favorite APA journal will be available online? This service is now available to you. Sign up at <https://my.apa.org/portal/alerts/> and you will be notified by e-mail when issues of interest to you become available!