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# An Investigation into High Quality Leader Member Exchange Relationships and their Relation to Followers' Motivation to Lead

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An Investigation into High Quality Leader Member Exchange Relationships and  
Their Relation to Followers' Motivation to Lead

by

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A dissertation submitted in partial fulfillment  
of the requirements for the degree  
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## Abstract

This research further investigates the motivation to lead (MTL) construct and its antecedents. While existing research has investigated culture, personality, and direct experience as an antecedent to MTL, the indirect experience of observing an effective leader has not been studied. It was hypothesized that having an effective supervisor would be related to followers' leadership self efficacy and MTL. It was also hypothesized that this relationship would be moderated by the quality of the relationship between leader and follower. Little evidence was found supporting these hypotheses. In addition, the existing research into MTL has failed to establish the link between MTL and leader performance. Using leadership 360 ratings as a proxy for leader performance, no support was found linking MTL with leader performance. Academic and applied implications are discussed.

## Chapter 1: Introduction

The academic study of leadership is nearly 80 years old (House & Aditya, 1997), and has experienced the cyclical trends that would be expected within any area of research with such an extended history. Early leadership research focused on the characteristics of the leader and was rooted in the *great man theory*. This theory posited that leaders possessed character and personality traits that distinguished them from followers (Carlyle, 1841/1907). Trait research dominated this initial leadership paradigm. Traits such as dominance, assertiveness, physical stature, social sensitivity, and perhaps, most importantly, intelligence, were extensively studied in early leadership research (Chemers, 2000). Stogdill's (1948) influential critique of trait research initiated a trend away from such a focus, finding that while a few traits were often associated with leadership, there was no single trait profile which could predict leadership across varied situations. While the trait approach to leadership fell from favor in the late twentieth century, more recent research has begun to again consider the explanatory power of individual differences for predicting leadership effectiveness. One individual difference variable that has emerged in recent years is the concept of motivation to lead (MTL) (Chan & Drasgow, 2001). MTL is a malleable individual difference variable that affects a person's desire to assume leadership roles and partake in leadership development opportunities, which in turn affect such person's effort and persistence at taking on and excelling in future leadership roles.

Chan and Drasgow's work (Chan, 1999; Chan & Drasgow, 2001) proposes that people possess a motivation to lead that is distally influenced by personality and cultural factors, and more proximally influenced by leadership self-efficacy (LSE). This individual characteristic of MTL affects people's willingness to take on leadership roles and training, which is then related to their overall leadership effectiveness. The quantity and quality of these leadership experiences feed back into people's LSE and future MTL. While it is clear that MTL derives in part from personality and culture influences, this motivation has a malleable component such that leadership-related training and experiences may also impact LSE and MTL.

The purpose of this dissertation is to investigate further the experiential basis of MTL, focusing on additional mechanisms of MTL formation. While direct leadership experience and formal leadership training are certainly important for building LSE and MTL, people's observation of, and experiences with, their leaders may have an influence on their individual LSE and MTL. Having a quality leadership role-model serves as a learning opportunity similar to formal leadership training which may impact people's LSE and MTL. In addition, the benefits of this leadership role-model can be enhanced by having a high quality leader member exchange (LMX) relationship with the leader. This dissertation will investigate the relationship between LMX, leader behaviors, and follower MTL; explore the outcomes related to MTL; and shed light on the relation of MTL with leader performance.

Developing a more comprehensive view of leadership, with a focus on what motivates an individual to want to take on leadership roles, is important from both theoretical and practical perspectives. Leadership research and theory have often ignored

the motivational component of leadership, and have focused more on assessing the qualities of good leaders. While developing an understanding of the knowledge, skills, and abilities associated with successful leadership is certainly a worthwhile academic endeavor, equally important is developing an understanding of why some unqualified individuals pursue leadership roles, and why some exceptionally qualified individuals do not. From an applied perspective, many organizations are placing an increased emphasis on leader development, and on identifying the next cadre of high potential individuals early on in their careers. Identifying high potential individuals is an exercise not only in assessing qualifications, but also in determining desire. Chan and Drasgow's (2001) research on MTL is a first step at improving our understanding of the 'why' of leadership, but it ignores the experiential mechanism of interacting with leader role models. Developing a more comprehensive understanding of MTL by including a focus on the impact of leaders on followers' MTL will continue to provide answers to the 'why' question of leadership while also shedding light on the importance of leader-follower relationships in the workplace. Below I present brief reviews of pertinent leadership research along with hypothesized relationships.

#### *Motivation to Lead (MTL)*

Chan and Drasgow (2001) posit that there are non-cognitive ability constructs such as personality traits and values that make people more or less likely to engage in leadership related behaviors, which in turn impact their participation in more formal leadership roles. Chan and Drasgow refer to this desire to engage in leadership roles as the motivation to lead. People's MTL, in combination with their ability, are the two crucial person-based factors that influence leadership behavior. People who are motivated

to lead, possess the cognitive ability to do so, and find themselves in situations with opportunities for leader emergence, will partake in leadership behaviors that will lead to positive leader outcomes. These positive outcomes in turn will reinforce their MTL, resulting in further leadership behavior. Conversely, those with low MTL will shy away from opportunities to lead which in turn will result in less leadership experience that will perpetuate the low MTL in the future.

MTL is not proposed to be an innate trait fitting into the great man theories of the early leadership research, rather it is proposed to be a malleable individual difference variable. Chan and Drasgow (2001), in their validation of the MTL scale, investigated the non-cognitive antecedents of MTL. They showed that the Big Five personality traits, along with values such as collectivism and individualism, were distal antecedents to MTL, working primarily through an individual's LSE. Building on the work of Bandura (1986, 1997), LSE takes into account the experiential nature of leadership. Both positive and negative leadership experiences provide a learning opportunity for the leader. Positive leadership experiences help to reinforce the individual's notion that he or she can and should continue to lead, raising one's LSE, which acts as a more proximal antecedent to MTL. Conversely, negative leadership experiences can be deflating and may cause one to question his or her leadership abilities. Thus, MTL is composed of more stable distal antecedents including personality and values, which impact the more proximal and somewhat fluid construct of LSE.

Chan and Drasgow (2001), borrowing from Fishbein and Ajzen's (1975) theory of reasoned action and Triandis' (1980) theory of interpersonal behavior, reasoned that MTL would best be conceptualized as a three dimensional construct comprised of

valences associated with the act of engaging in leadership, beliefs about outcomes of enacting leadership behavior, and social norms regarding leadership. Similar to Myer and Allen's (1991, 1997) three component model of organizational commitment, Chan and Drasgow proposed and showed through factor analytic techniques that MTL is comprised of an affective-identity component (people lead because they want to), a noncalculative component (people lead because there is no reason not to), and a social normative component (people lead because it is the right thing to do). Their factor analysis on the MTL items showed that the three factor model was indeed the better fitting model when compared to the single factor unidimensional model.

*Affective-identity MTL* stems from people's willingness to lead because of their attitudes or affect related to leadership. When presented with the opportunity to take on leadership roles, people who are high on affective-identity MTL assess the affective result of taking on the leadership role. In essence, the question asked when deciding to take on a leadership role is one of, "will this new role make me happy?" As outlined in Chan (1999), affective-identity motivation is akin to the attitude component of Fishbein and Ajzen's (1975) theory of reasoned action or the affect component of Triandis' (1977, 1980) theory of interpersonal behavior.

*Social-normative MTL* stems from people's willingness to lead because of a sense of duty or responsibility related to leadership. When presented with the opportunity to take on leadership roles, people who are high on social-normative MTL rely on their cultural or organizational norms with regard to leadership, and choose to lead based on those norms. In cultures and organizations where being a leader is seen as honorable and favored, those directed by social-normative MTL will take on leadership positions;

whereas in cultures and organizations where being a leader is seen in a less favorable light, those directed by social-normative MTL will shy away from leadership roles. This social-normative component of MTL is akin to the social norms component in the theory of reasoned action (Fishbein & Ajzen, 1975) and the theory of interpersonal behavior (Triandis, 1977, 1980).

*Noncalculative MTL* stems from a conscious evaluative process of determining the rewards and consequences of taking on a leadership role. Noncalculative MTL can be considered as a reverse formulation of a traditional outcome based motivation, whereby individuals do not consider the economic gain of leading, but rather the economic loss associated with taking on the added responsibility of leadership. Regardless, the noncalculative component of MTL is economic in nature despite the framing of the dimension in terms of absence of economic consideration. When presented with the opportunity to take on leadership roles, people who are low on noncalculative MTL (and are thus, calculative, when it comes to leadership) assess the potential rewards of leadership (i.e., increased status, increased wealth, ability to make a difference) and weigh those rewards against the potential costs (i.e., increased risk, increased responsibility, potential for damaged relationships). This noncalculative component is akin to the cognitive evaluation component present in Triandis's (1977, 1980) theory of interpersonal behavior. Those who are high in noncalculative MTL are not swayed by economic gains or costs associated with leadership.

While Chan (1999) does not specifically hypothesize differential antecedents to the three components of MTL, he notes the similarities to Meyer and Allen's (1991) commitment model. Chan also notes their argument that (1) affective commitment is a

direct result of experience and personal characteristics; (2) normative commitment is a result of socialization practices at the cultural, familial, and organizational levels; and, (3) continuance commitment is a result of one's investment in the job or organization. With regard to MTL, similar arguments should hold true. Affective-identity MTL is likely most impacted by people's experiences and personal characteristics. Social normative MTL is likely a result of socialization practices at the cultural, familial and organizational levels. While noncalculative MTL does not cleanly parallel continuance commitment, it is expected that organizational factors (e.g., benefits, workload, etc.) for those in leadership positions will drive noncalculative MTL.

#### *Antecedents of MTL*

Chan and Drasgow (2001) point out the importance of identifying the antecedent variables that shape MTL in coming to a complete understanding of the construct and how it operates. They outlined and tested five potential antecedents to MTL: general cognitive ability, personality, values, LSE, and past leadership experience. Their findings did not support general cognitive ability as an antecedent to MTL, but they did support the other proposed relationships described below.

*Personality traits.* Chan and Drasgow (2001) discuss that the "personality trait approach to leadership has, to a large extent equated personality traits with MTL." Chan (1999) points to reviews by Barrick and Mount (1991) and Hough (1992) that concluded that personality variables were significantly related to managerial performance which can be considered a proxy for leader performance. Given these findings, Chan and Drasgow (2001) proposed personality traits as a distal antecedent to MTL, and tested their hypothesis using hierarchical regression with the Big-Five personality dimensions and

their newly developed MTL measure. They found evidence for direct positive relationships between extraversion with affective-identity MTL ( $\beta = .24, p < .001, R^2=.61$ ) agreeableness ( $\beta = .18, p < .001, R^2=.35$ ) and emotional stability ( $\beta = .11, p < .001, R^2=.35$ ) with noncalculative MTL, and conscientiousness ( $\beta = .14, p < .001, R^2=.36$ ) agreeableness ( $\beta = .15, p < .001, R^2=.36$ ) and extraversion ( $\beta = .10, p < .01, R^2=.36$ ) with social-normative MTL. Taken together, their findings support personality as a distal antecedent to MTL.

*Cultural values.* Chan and Drasgow (2001) expanded their conceptualization of distal antecedents of MTL from individual difference traits (i.e., personality and ability) to include cultural determinants as predictors of MTL. They proposed that people's values would also serve as distal antecedents to MTL. Adopting Triandis's (1995, 1998) two dimensional conceptualization of culture, with a dimension representing individualistic versus collectivistic orientation and a dimension representing vertical or hierarchical versus horizontal orientation, they again tested their hypothesis using hierarchical regression. They found evidence for a direct positive relationship between vertical individualism (i.e., valuing personal achievement and competition) and affective-identity MTL ( $\beta = .12, p < .001, R^2=.61$ ). With regard to noncalculative MTL, they found collectivist values (both vertical and horizontal) were positively related ( $\beta = .23$  and  $.09, p < .01, R^2=.35$ ) and individualist values (again both vertical and horizontal) were negatively related ( $\beta = -.18$  and  $-.09, p < .01, R^2=.35$ ). Finally, social-normative MTL was positively related to vertical or hierarchical values (both individualist and collectivist) ( $\beta = .11$  and  $.17, p < .001, R^2=.36$ ) and negatively related to horizontal

collectivism (i.e., valuing harmony and equality) ( $\beta = -.11, p < .001, R^2=.35$ ). Taken together, these findings suggest cultural values act as distal antecedents to MTL.

*LSE.* A more proximal antecedent to MTL proposed by Chan and Drasgow (2001) is the concept of self-efficacy, or more specifically LSE. Self-efficacy is “the belief in one’s capabilities to organize and execute the course of action required to manage prospective situations” (Bandura, 1995, p. 2). LSE refers to the belief in one’s abilities to function effectively and overcome obstacles in leadership roles. Given the widespread consistent support of self-efficacy as a cognitive determinant of behavior (Stajkovic & Luthans, 1998), they hypothesized LSE as a proximal antecedent to MTL. Using the same analysis, they found that LSE was positively related to both affective-identity MTL ( $\beta = .40, p < .001, R^2=.61$ ) and social-normative MTL ( $\beta = .17, p < .001, R^2=.36$ ), but was not related to noncalculative MTL.

*Past leadership experience.* Finally, Chan and Drasgow (2001) proposed past leadership experience as a semi-distal antecedent to MTL. They considered this semi-distal in that it is more proximal than personality and values, but can have an impact on LSE as a feedback loop and thus is not as proximal as LSE. Citing Fiedler and Garcia’s (1987) cognitive resource theory of leadership which suggests that a leader’s past work experience can have a significant impact on the performance of a leader and of his or her group, Chan and Drasgow (2001) hypothesized that the quality and quantity of past leadership experience has a direct path to MTL. Similar to the findings with LSE, past leadership experience was only found to be positively related to affective-identity ( $\beta = .25, p < .001, R^2=.61$ ) and social-normative MTL ( $\beta = .15, p < .001, R^2=.36$ ) and not to noncalculative MTL.

*LSE as a mediator between distal antecedents and MTL.* In addition to the direct paths proposed by Chan and Drasgow (2001) from both distal and proximal antecedents of MTL, they also proposed indirect paths through LSE. Social cognitive beliefs, in this case LSE or belief in one's ability to lead, can be treated as more proximal explanations of individual traits (Langston & Sykes, 1997). While they did not propose specific cases of LSE mediating relationships between specific distal antecedents and the components of MTL, they hypothesized the potential for mediation in the model. The results of their studies suggested these indirect mediation paths existed between the distal antecedents of extraversion, conscientiousness, and past leadership experience, and the affective-identity and social-normative components of MTL. In addition, LSE mediated the relationship between openness to experience and affective-identity MTL.

*Observed leadership as a proposed new antecedent to MTL.* Along with the antecedents mentioned above and proposed by Chan and Drasgow (2001), it appears possible that, in addition to LSE achieved through personal leadership successes and failures, an individual may indeed also be impacted through an observational mechanism. This observational mechanism could result from the positive experiences of having a high quality relationship with an effective leader. Individuals not only learn through the experiences of their own successes and failures, but they also learn through the successes and failures of those around them, particularly those they regard as role models. In the context of leadership, one's direct supervisor serves as a primary role model with regard to leadership behavior. Given the strong emphasis placed on LSE in the understanding of MTL, it seems appropriate to further investigate additional means by which LSE is developed and maintained. Research investigating the "cascading effect" of leadership

(Bass, Waldman, Avolio, & Webb, 1987) can be applied to MTL to provide further explanation of how this motivation develops and is nurtured.

### *The Cascading Effect of Leadership*

At the heart of Chan and Drasgow's (2001) MTL model is LSE, or the belief that one can enact the behaviors to succeed in a leadership role. This concept of self-efficacy lies at the heart of Bandura's (1986) social learning theory. According to Bandura, self-efficacy can arise through four mechanisms: mastery experiences, social modeling, social persuasion, and psychological responses. First, people can develop self-efficacy through *mastery experiences* or through their own successful performance of tasks, and, conversely, self-efficacy may be diminished following failed experiences. Second, individuals can develop self-efficacy through *social modeling* or through the observation of other people's success in completing tasks. Third, people can develop self-efficacy through *social persuasion*, or through positive reinforcement from others that one can succeed at completing the task. Finally, self-efficacy can be shaped through an individual's *psychological responses* to situations. Feelings of stress or nervousness may serve to diminish one's self-efficacy, whereas feelings of excitement or anticipation may boost one's self-efficacy.

Chan and Drasgow's model of MTL focuses primarily on mastery experience and its impact on LSE. Their model reflects the feedback process of taking part in leadership experiences, and the impact those experiences have on LSE and motivation to take on additional leadership roles. Mastery experiences may be a primary mechanism in the development of LSE and MTL. However, when direct leadership experience is limited or

absent, it seems important to consider additional mechanisms from which LSE can arise. The observational mechanism proposed by social learning theory is a plausible candidate.

In addition to building LSE through direct behavior and reinforcement following the mastery path, individuals can learn leadership behavior and develop LSE through the observations of the behaviors of others. While the observed role model can certainly be anyone in an individual's life, one's immediate supervisor will serve as a direct and salient role model for leadership behavior. The notion that an immediate supervisor can serve as a role model is supported by previous research (e.g., Gerstner & Day, 1997; Lord & Brown, 2004) which proposed that work supervisors and their behaviors are salient cues for followers in organizations.

Existing leadership research has focused on the direct supervisor as a role model for followers. For example, Bass, Waldmen, Avolio, and Bebb (1987) investigated the "cascading effect" of transformational leadership. Specifically, they found that transformational leadership behaviors cascaded like "falling dominoes" where transformational behaviors displayed at higher levels of management are similarly displayed at lower levels of management. Mayer, Kuenzi, Greenbaum, Bardes, and Salvador (2009) also looked at this cascading effect in the context of ethical leadership, its impact on followers' counterproductive work behaviors (CWBs), and organizational citizenship behaviors (OCBs). Mayer et al., found that ethical behaviors performed by upper-level management were related to the performance of CWBs ( $\beta = -.31, p < .001$ ) and OCBs by the followers of upper-level managers ( $\beta = .44, p < .001$ ). The effects of upper-level managers' ethical behaviors on followers' CWB and OCB were mediated by supervisory ethical leadership. The authors suggest that social learning theory is a "useful

theoretical lens” through which to view their results in the passing down of ethical behaviors. Both studies suggest a modeling or observational process by which individuals observe the behaviors of their direct supervisors, and that, in turn, lead to a change in behavior of the individuals.

It is expected that, in addition to gaining LSE and MTL by having positive leadership experiences as currently represented in Chan and Drasgow’s (2001) model (see Figure 1),<sup>1</sup> there is also an observational mechanism to developing and maintaining LSE and MTL whereby individuals observe successful leadership others. In short, it is expected that having a high quality, close relationship with a direct supervisor who is perceived to be an effective leader will result in increased LSE and MTL. In order to fully formulate this hypothesis, it is important to first consider the importance of having a high quality leader.

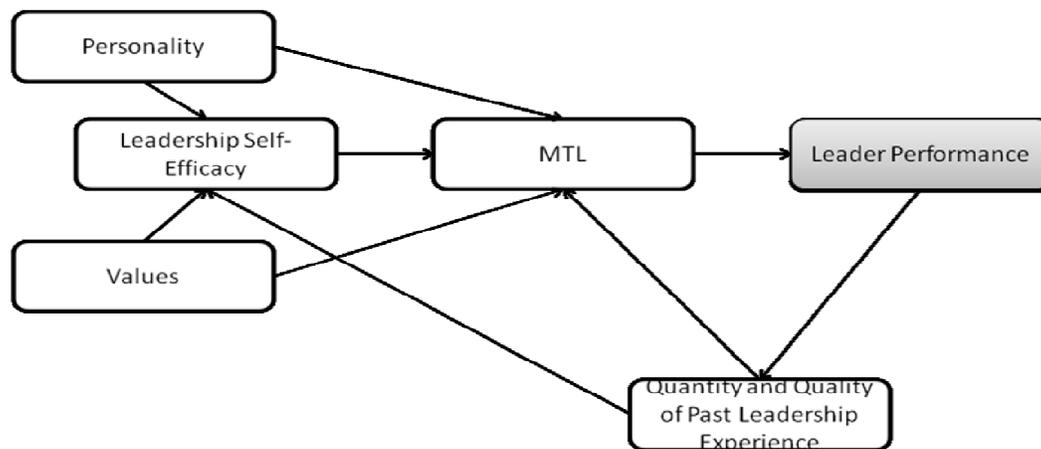


Figure 1 – Portion of Chan and Drasgow’s (2001) MTL model

<sup>1</sup> Chan and Drasgow’s (2001) model of MTL is more expansive and includes cognitive ability and domain specific knowledge as additional precursors to leadership performance. In addition, the concept of leader performance is presented in the context of acquiring the skills and experiences needed to be a successful leader. This is different from leader performance conceptualized as leader effectiveness, which is the approach this research agenda takes.

### *Relationship of Observed Leadership with MTL*

As previously stated, it is expected that in addition to the traditional leadership mastery path whereby direct leadership experience leads to an increase in LSE and MTL, there is also an observational mechanism at work whereby LSE and MTL can be impacted by experiencing the positive leadership of others, specifically one's direct supervisor. Bandura (1986, 1988) discusses two means by which social modeling can affect people's self-efficacy. First, an effective model displays beneficial strategies for managing difficult situations. Having knowledge of alternative and effective strategies builds one's confidence that he or she can perform in similar difficult situations. Second, self-efficacy beliefs are impacted through the social comparison process whereby observing similar individuals succeed in their endeavors helps to raise one's belief that he or she can succeed in similar endeavors. Certainly, if the skill level of the observer and the model are vastly different, this social comparison may be de-motivating or detrimental to one's self-efficacy. However, in an organizational context where the skill level and backgrounds of direct supervisors and followers are often not so disparate, this social comparison is expected to be self-efficacy enhancing in nature. Interacting with a supervisor that effectively displays leadership behaviors will serve as a role model for enacting similar leadership behaviors, and serve to increase one's confidence in successfully engaging in those behaviors. This leads to the following hypothesis regarding leader effectiveness and LSE:

*Hypothesis 1: Employees' perceptions of their direct supervisor's leadership effectiveness will be positively related to their own LSE.*

Similarly it is expected that this observational mechanism will have an impact on an individual's MTL, and that this impact will be different depending on the component of MTL. Given the similarities between the three component model of commitment (Meyer & Allen, 1987, 1991) and the three component conceptualization of MTL, a similar pattern of antecedents is expected. Allen and Meyer (1990) argued and provided evidence that affective commitment was a direct consequence of work experiences and personal characteristics. As previously stated, the behaviors supervisors enact are salient organizational cues. Perceiving one's supervisor as effective is a positive work experience in the realm of leadership that will serve to enhance the affective-identity component of MTL. This is similar to the way that positive work experiences enhance affective commitment to one's organization. Allen and Meyer argued that the normative component of commitment was driven by an individual's socialization experiences (familial and cultural factors) and his or her experiences within the organization. Interaction with, and observation of, one's supervisor is a key component of that organizational socialization. In essence, observing this positive behavior in one's supervisor serves to establish and/or reinforce the organizational norms associated with being a successful leader, which serves as an antecedent to the social-normative component of MTL. Finally, Allen and Meyer argue that the antecedents to continuance commitment are rooted in the economic evaluation of investments and alternatives. While it is certainly possible that one may observe the rewards and consequences of effective or ineffective leadership from one's direct supervisor, the contingencies are set at the organizational level regardless of the perceptions of one's supervisor's effectiveness. The economic incentives or consequences related to taking on a leadership position are

largely driven by the organizational context and not by the perceived effectiveness of one's supervisor. Some organizations may be very good at rewarding effective leadership and punishing ineffective leadership, while other organizations may not be as successful. The economic evaluation has less to do with the effectiveness of one's leader and more to do with the contingencies put into place by one's organization, and the individual's orientation toward external rewards as a motivator. This leads to the following hypotheses regarding leader effectiveness and MTL:

*Hypothesis 2a: Employees' perceptions of their direct supervisor's leadership effectiveness will be positively related to their own affective-identity MTL.*

*Hypothesis 2b: Employees' perceptions of their direct supervisor's leadership effectiveness will be positively related to their own social-normative MTL.*

#### *Leader Member Exchange (LMX)*

To this point, the discussion of developing LSE and MTL by observing one's direct supervisor has been limited strictly to the behaviors or perceived leadership effectiveness of the supervisor. If subordinates perceive that their supervisors are effective, it was hypothesized that this has a positive relationship with followers' LSE and MTL. When considering this observational mechanism, it is important to not just consider the perceived effectiveness of the supervisors, but also the quality of the supervisor. One supervisor may oversee several individuals and may have very different relationships with each subordinate. It is expected that the benefits of observing an effective supervisor will be stronger in a closer more meaningful relationship than it will in a more distant, detached relationship. While much of leadership research is focused on characteristics of the leader or the situational constraints placed on the leader, leader

member exchange (LMX) focuses the lens on the quality of the relationship between the leader and the follower.

LMX has become a popular leadership theory in the past 30 years due to its hypothesized relationships between leader processes and leader outcomes (Gerstner & Day, 1997). At the time of its inception in the early 1970s by Graen and colleagues (Dansereau, Cashman & Graen, 1973; Dansereau, Graen, & Haga, 1975; Graen, 1976; Graen & Cashman, 1975), LMX represented a break from the more traditional leadership research that focused on the characteristics of the leader or on the constraints of the situation. Instead, LMX was one of the first leadership theories to focus on the relationship element of leadership and the fact that all leadership relationships are not created equal. The same leader may have very different relationships with each of the individuals with whom he or she interacts. LMX also takes into account the evolutionary nature of the leader follower relationship in that relationship trust is fostered over time. The leader follower relationship evolves over time (Graen, 1976) with mutually beneficial exchanges resulting in more mature developed relationships. While LMX is likely related to perceptions of leader effectiveness, LMX is a distinct construct.

The research on LMX generally supports a positive relationship among LMX quality, performance, and attitudinal outcomes, especially with regard to the follower (Gerstner & Day, 1997). In their meta-analysis of LMX, Gerstner and Day (1997) enumerate the research findings regarding the positive outcomes associated with LMX: high performance ratings (e.g., Liden, Wayne, & Stilwell, 1993), better objective performance (e.g., Graen, Novak, & Sommerkamp, 1982; Vecchio & Gobdel, 1984), higher overall satisfaction (e.g., Graen, Novak, & Sommerkamp, 1982), greater

satisfaction with supervisor (e.g., Duchon, Green & Taber, 1986), stronger organizational commitment (e.g., Nystron, 1990), and more positive role perceptions (e.g., Snyder & Bruning, 1995). Their meta-analytic findings support the positive relationship between LMX relationship quality and follower outcomes.

It is expected that the quality of the LMX relationship will have an impact on the observational mechanism discussed above and outlined in Hypotheses 1 and 2. LMX quality will moderate the strength of the relationships described above, such that followers with stronger LMX relationships will experience a greater impact of leader effectiveness on their LSE and MTL. With regard to LSE, having an effective leader can impact follower effectiveness via two mechanisms: observing effective strategies, and social comparisons to similar others. In both cases, a closer relationship is likely to enhance the positive effects of leader effectiveness on the LSE of the follower. Having a closer relationship will result in increased interactions, and concomitantly, increase the likelihood of observing effective strategies for dealing with difficult situations. A closer relationship will also facilitate the observational mechanism by increasing perceptions of similarity, and by increasing the opportunity to observe leadership successes. This leads to the following hypothesis regarding the moderating role of LMX on the relationship between leader effectiveness and follower LSE.

*Hypothesis 3: Leader member exchange (LMX) will moderate the positive relationship between perceived supervisors' leadership effectiveness and subordinates' LSE, such that the relationship will be stronger when the quality of LMX is high versus low.*

Similarly it is expected that high quality LMX will have an enhancing effect on follower MTL. In the case of both affective-identity MTL and social-normative MTL, it was proposed that effective leadership was a salient organization cue. With regard to affective-identity MTL, the effective leader serves to create positive experiences for the follower. Having a high quality relationship with one's supervisor increases the likelihood of experiencing these effective leader behaviors and the likelihood of the follower perceiving these interactions as positive experiences. With regard to social-normative MTL, the effective leader serves as a model of the organizational norms related to leadership. Having a high quality relationship with one's supervisor increases the likelihood of observing the effective leader and the likelihood of interpreting the effective leader's behaviors as norms representing the organization. This leads to the following hypotheses regarding the moderating role of LMX on the relationships between leader effectiveness and follower MTL.

*Hypothesis 4a: Leader member exchange (LMX) will moderate the positive relationship between perceived supervisors' leadership effectiveness and subordinates' affective-identity MTL, such that the relationship will be stronger when the quality of LMX is high versus low.*

*Hypothesis 4b: Leader member exchange (LMX) will moderate the positive relationship between perceived supervisors' leadership effectiveness and subordinates' social-normative MTL, such that the relationship will be stronger when the quality of LMX is high versus low.*

### *A Competency Based View of Leadership Effectiveness*

One difficulty in studying leadership is pinpointing the criteria for measuring successful leadership. In an applied context, a proxy for successful leadership may be the effectiveness of the group one is leading. However, this is obviously confounded with a number of factors related to the skill and ability of team members. In short, a poorly led group of individuals may be very successful, and, conversely, an extremely well-led group may flounder. In general, the study of leadership separates performance criteria into two categories: leader effectiveness and leader emergence (Lord et al., 1986). As noted by Judge, Bono, Ilies, and Gerhardt (2002) leader emergence is more of an assessment of who is leader-like, and is generally an assessment made by individuals who have limited information regarding leader performance. Leader emergence is often used as a leader criteria in experimental settings just for that reason, as individuals are often working in low fidelity leader simulations where limited performance information is present and a more heuristic assessment of who is leader-like is an appropriate leader criteria. Leadership effectiveness, however, is less focused on perceptions of leadership but is focused, rather, on the observable behaviors enacted by the leader toward the goal of influencing or guiding the group's activities toward a successful end (Judge et al., 2002). In the context of real world applied research consisting of long-term established relationships, which is the case with MTL research, it would seem that a behavioral leadership effectiveness approach is appropriate for understanding leadership performance and assessing success as a leader.

Over the last 20 years, the U.S. Office of Personnel Management has conducted extensive research identifying the competencies related to successful leadership in the

federal government context (Hillery et al., 2003). These competencies encompass the specific leadership behaviors that can be used to evaluate leadership success. Rooted in the framework identified by Howard and Bray's (1988) study of successful managerial performance at AT&T, Corts and Gowing (1992) identified 26 primary and 10 ancillary dimensions of leadership. These dimensions served as the bases for Gregory and Park's (1992) study of leadership effectiveness. They surveyed nearly 8,000 federal executives, managers and supervisors, eliciting the importance of each competency toward effective job performance in a leadership position. The resulting leadership competency model was later updated, leveraging a study conducted by Eyde et al. (1999), in which subject matter experts participated in focus groups to discuss the behaviors related to effective managerial performance. The resulting competency model is comprised of 28 leadership competencies consisting of behaviors that are related to leadership effectiveness at all levels of supervision. These competencies and their definitions are listed in Appendix A. The OPM Leadership Competency Model represents an exhaustive categorization of leadership behaviors that are exhibited across the entire range of job roles in the federal government. Since many of these competencies are only required in specific job roles, only those competencies that are universal in nature will be used for the purposes of hypothesis testing. The following 13 competencies will be used to evaluate leadership effectiveness: accountability, conflict management, creativity and innovation, decisiveness, developing others, flexibility, integrity and honesty, interpersonal skills, oral communication, problem solving, resilience, team building, and written communication.

### *Relationship of MTL to Leadership Criteria*

In addition to investigating the observational mechanism for enhancing self-efficacy and MTL, it is important to continue to assess the outcomes associated with a motivated leader. To this point, relatively little research has investigated the positive or negative consequences of having a strong MTL. It would certainly seem intuitive that a motivated individual who has the requisite abilities to perform as a leader will be more successful as compared to someone who lacks that motivation. But as discussed earlier, the criteria for successful leadership is not always clear cut.

Chan and Drasgow's (2001) conceptualization of MTL as it relates to leadership outcomes was more focused on behavioral indicators of leadership potential rather than behavioral indicators of leadership success. Their model was more focused on proximal criteria related to MTL, such as an individual's willingness to take on leadership training or leadership positions. Their research, however, did not address the likelihood of success in those leadership roles as a function of MTL. While they did address leadership potential, which is more reflective of leader emergence than leader success, the more distal outcome of MTL, actual success as a leader, was not examined. In their sample of Singaporean military students, leadership potential ratings were collected from a panel of raters as part of a three-day assessment center during the cadets' basic training, and again were collected from their direct supervisor at the end of the three-month basic training. The assessment center was part of the cadets' officer selection system, and as such, represented a test of maximal performance. The supervisory assessment at the completion of basic training covered the entire three-month period, and as such, represented a test of typical performance.

Chan and Drasgow's (2001) findings were consistent across the two measures of leadership potential. In both the assessment center rating representing maximal performance and the overall rating of performance in the basic training representing typical performance, MTL added significant incremental validity in the prediction of leadership potential above that of other measures such as cognitive ability, past leadership experience, LSE, and personality variables ( $\Delta R^2$  ranging from .01 to .16). Looking at the three components of MTL separately, they found that affective MTL and noncalculative MTL were both significantly predictive of leadership potential rating above cognitive ability in both scenarios (assessment center and overall basic training rating) with  $\beta$  ranging from .08 to .13,  $p < .05$ . Social-normative MTL did correlate with the leadership potential criterion in the expected direction, but did not contribute unique variance to its prediction given the other predictors. Chan and Drasgow (2001) explain these findings by stating that observers find individuals that enjoy leading, or that lead with little concern for reward, to have more leadership potential. They state that "merely having a sense of duty or social obligation to lead may be insufficient to convince others that one has the potential to lead" (Chan & Drasgow, 2001; p. 494).

While this study provides some predictive validity evidence for MTL, the specific nature of the sample (Singaporean military students), and the limited scope of the criteria (leadership potential ratings as opposed to a more robust assessment of actual leadership skill or behavior), necessitate more investigation into the predictive validity of MTL. Hendricks and Payne (2007), in their study of goal orientation and leadership effectiveness, extended the research on the relationship of MTL to leadership outcomes. They investigated goal orientation, MTL, and leadership effectiveness in a lab setting

with teams of four undergraduates completing an experimental task involving building products and maximizing their profits. One of the four individuals was randomly assigned to act as the team leader in the task. They utilized two measures of leadership effectiveness. First, team members assessed the leaders' overall effectiveness and a consensus score was calculated across the three rating members. Second, an objective assessment of task success was used (overall profits in the experimental task). They hypothesized positive relationships between each form of MTL and leader effectiveness. Consistent with their hypotheses and with the findings of Chan and Drasgow (2001), there was a significant and positive relationship between noncalculative MTL and leadership effectiveness, as measured by the subjective assessment by team members of leader effectiveness ( $\beta = .23, p < .05$ ). While not significant, the authors characterize the relationship between affective MTL and subjective ratings of leader effectiveness as approaching significance. Surprisingly, while not significant, the relationship between social-normative MTL and subjective assessments of leadership effectiveness was negative, such that those who were high in social normative MTL received lower leadership effectiveness ratings. There were no significant relationships between measures of MTL and the objective performance of groups on the experimental task.

While Hendricks and Payne's (2007) study provides preliminary evidence regarding the relationship between MTL and leader effectiveness, the low fidelity and contrived nature of their experiment involving undergraduate students may not generalize to work settings. To truly understand effective leadership and the effects of MTL on the specific leadership behaviors that relate to effective leadership, a more ecologically valid assessment of leadership in a field setting is in order. While the research on the

relationship between MTL and leadership outcomes is scant, in both cases (Chan & Drasgow, 2001, with their assessment of the leadership outcome of leader potential and Hendricks & Payne, 2007, with their assessment of the leadership outcome of leader effectiveness), positive relationships were hypothesized between each component of MTL and the leadership outcome. The surprising findings with regard to social-normative MTL and leader outcomes could be a function of the subjective assessments involved with both studies. In the case of Chan and Drasgow (2001), the assessments were of leader potential which would not necessarily relate to leader effectiveness. In the case of Hendricks and Payne (2007), the assessments were of leader effectiveness in a very limited exercise, where perceptions of personality and leadership style may have colored the assessment of effectiveness beyond the actual leadership skills being displayed.

A potential explanation for the past findings with regard to the link between the various components of MTL and job performance may lie in the tenets of self determination theory (Deci & Ryan, 1985), and the differential motivational power of intrinsic versus extrinsic motivators. Self determination theory distinguishes between autonomous motivation and controlled motivation, with a continuum ranging from purely autonomous motivation (i.e., intrinsic motivation or doing something because one wants to and derives pleasure and interest by doing so) to strictly controlled (i.e., extrinsic motivation arising from contingent rewards or doing something because doing so will result in money). Placing the three components of MTL along this continuum can shed light on their relation to overall leadership performance, and potentially explain the past research findings. Affective-identity MTL is clearly autonomous in nature and is the intrinsic motivation because one enjoys leading. Noncalculative MTL is focused on the

rewards and/or lack of consequences associated with leadership, and is, therefore controlled in nature. Social-normative MTL is not as easy to classify, but given the self-determination continuum (Gagne & Deci, 2005), it appears that norms would be considered introjected regulation, which is slightly more autonomous than purely controlled external motivation, but still more on the controlled end of the continuum. According to cognitive evaluation theory (Deci, 1971; Deci & Ryan, 1980), extrinsic rewards can serve to reduce feelings of autonomy and thus undermine intrinsic motivation. Given that affective-identity MTL is more related to intrinsic motivation, and social-normative and noncalculative motivations to lead are more related to extrinsic motivation, it is expected that affective-identity MTL will have a stronger relationship to leader performance than social-normative and noncalculative MTL.

Given the previous research linking MTL with leader effectiveness and the theoretical explanations provided above, this study will further investigate the following hypothesis:

*Hypothesis 5a: Employees' affective-identity MTL will be positively related to their leadership effectiveness.*

*Hypothesis 5b: Employees' social-normative MTL will be positively related to their leadership effectiveness.*

*Hypothesis 5c: Employees' noncalculative MTL will be positively related to their leadership effectiveness.*

*Hypothesis 6: The relationship between MTL and leadership effectiveness will be strongest for affective-identity MTL.*

### *Summary of Proposed Study*

This dissertation will further the extant research on the construct of MTL. What little research there is on MTL has, to date, investigated the measurement and antecedents of MTL. The primary method of developing MTL is through mastery in leadership experiences and training, which serves as a feedback loop fostering stronger LSE and increased MTL. This dissertation will investigate a secondary method, which involves observing and enacting the effective leadership behaviors experienced through a role model in a high quality leader-follower relationship. This research will also advance the understanding of the outcomes associated with MTL by focusing on the impact of MTL on individual leader effectiveness. To date, the little research regarding MTL and outcomes has been focused on leader emergence or subjective assessments of leader potential. This research will serve as a first investigation into the impact of MTL on leader effectiveness measured using 360 ratings on key leadership behaviors.

## Chapter 2: Method

### *Participants*

*360 participants.* Employees already participating in the U.S. Office of Personnel Management's Leadership 360 were asked to participate in this study. Their participation was completely voluntary and they were informed that any additional data collected for the purposes of this study would not be shared with anyone from their organization. Data were collected from 226 individuals.

*360 raters.* Those participating in the OPM Leadership 360 assessment solicited ratings from workers whom they consider to be their supervisor, peers and subordinates. There were no added measures for individuals providing ratings, and as such, the 360 assessment procedure for raters remained identical to any other leadership 360 assessment conducted by OPM.

### *Measures*

*MTL.* Chan and Drasgow's (2001) 27 item Likert based scale was used to measure MTL. In their initial study utilizing three samples, the scales, consisting of 9 items measuring each of the three MTL dimensions (affective-identity, social-normative, and noncalculative) showed relatively high internal consistency with *as* ranging from .91 to .94 for affective-identity MTL, .80 to .84 for noncalculative MTL, and .65 to .75 for social-normative MTL. Coefficient alphas for the current study can be found in Table 1. A list of items can be found in Appendix C.

*LSE.* Paglis and Green's (2002) LSE scale was used. The scale consists of 12 items, with 4 items measuring self-efficacy with regard to setting group direction, 4 items measuring self-efficacy with regard to gaining group member commitment, and 4 items measuring self-efficacy with regard to overcoming obstacles. Reliability of the three LSE sub-scales ranges from  $a = .86$  to  $.92$  with a total LSE scale reliability of  $a = .92$ . The coefficient alpha for the current study can be found in Table 1. A list of items can be found in Appendix C.

*LMX.* The LMX-7 (Graen et al., 1982) was used to assess follower perceptions of the LMX relationship. Previous research has suggested that the LMX-7 provides the soundest psychometric properties of available LMX measures (Gerstner & Day, 1997). In their meta-analysis, Gerstner and Day (1997) reported a mean alpha of  $.89$  for this measure. The coefficient alpha for the current study can be found in Table 1. A list of items can be found in Appendix C.

*Leadership competencies.* The United States Office of Personnel Management's Leadership 360 assessment was used to collect participant leadership performance criteria. OPM's Leadership 360 is a multi-source rating device created to assess OPM's Leadership Model which was first developed in the early 1990s (Corts and Gowing, 1992), leveraging the framework from Howard and Bray's (1988) seminal study of dimensions of successful managerial performance at AT&T. This 100 item measure taps into 28 leadership competencies and is administered to the participants, their direct supervisor, self-identified peers, and self-identified subordinates. Competency scores are calculated using a weighted average in which each supervisory ratings receive  $1/3$  of the weighting toward the all-rater score, the average of all peer ratings receive  $1/3$  of the

weighting toward the all-rater score, and the average of all subordinate ratings receive 1/3 of the weighting toward the all-rater score. The OPM Leadership 360 is administered as a strictly developmental assessment, and the individual results were only shared with the participant receiving the assessment. The developmental nature of the OPM Leadership 360 reduces the likelihood of participants selecting raters that will inflate their ratings, and increases the likelihood of raters providing frank and honest ratings. The OPM Leadership 360 has been administered to over 17,000 participants with over 162,000 total ratings. Coefficient alphas for the 28 leadership competencies range from .78 to .96 (Hillery et al., 2003). Coefficient alphas for the 28 competencies, broken out by rating source for the current study, can be found in Table 2. A listing of the 28 leadership competencies and their corresponding definitions can be found in Appendix A. A list of items can be found in Appendix B.

*Perceived supervisor leadership effectiveness.* Participants were asked to complete a partial leadership competency assessment for their direct supervisor (the individuals they self-identified to complete the leadership portion of their 360 assessment). Only the 13 competencies identified as being universal in their value to assessments of leadership were rated in order to minimize the additional burden on those participating in the assessment. In addition, to minimize survey length single item measures were administered for each competency, and the respondents were asked to rate their supervisors overall effectiveness from very ineffective to very effective for each competency. The 13 item measure of perceived supervisor leadership effectiveness on the competencies was aggregated to produce a single overall rating of perceived supervisor

leadership effectiveness. The coefficient alpha for this scale can be found in Table 1. A list of items can be found in Appendix C.

*Control variables.* Given the importance of past leadership experience as an antecedent of LSE and MTL, it is important to control for past leadership experience when testing the unique contribution of the effects of LMX and perceived supervisor leadership effectiveness on follower LSE and MTL. A single item measure asking participants to indicate how long they have been in a formal leadership position was used.

### *Procedure*

Since this study leverages the existing OPM Leadership 360 process, the procedure for conducting this research followed closely to the existing process for administering the assessment. Participants were generally recruited by their agency to participate in the leadership 360 assessment as part of an agency-sponsored leadership development class and were run through the assessment as a cohort. In some instances, the 360 assessment was offered on a more ad hoc basis, and was not tied to a specific agency-run course. Regardless of the context in which the leadership 360 assessment was offered, the procedure for conducting the assessment was identical.

Once participants were identified by their agency to take part in a leadership 360, a one hour 360 orientation session was delivered either in person or via teleconference. During such a session, the purpose of 360 assessments was reviewed, the OPM leadership model was outlined, the participants were instructed of their role in the process of the assessment, and the participants were provided the opportunity to ask questions regarding the assessment and process. In addition, participants were instructed about the research portion related to this particular study and advised that their participation in the

research portion of the study was strictly voluntary. Shortly after the orientation session, individuals were sent email notifications with instructions for launching the 360 assessment.

Participants thereafter received an email with instructions and a link for accessing the 360 assessment secure survey website. Once logged into the site, participants identified individuals for providing 360 leadership feedback. They were instructed to enter the name, email address, and relationship type for their direct supervisor, and at least 3 subordinates, and at least 3 peers and that all raters should be able to assess their leadership capabilities. It was suggested that only individuals who have known the participant for at least 6 months should be chosen to complete the assessment. Once participants completed and saved their list of participants, they clicked a notification button that generated and sent instruction emails to their identified raters. This officially began the assessment period for the participant. The assessment period generally lasted three to four weeks, with extensions as needed.

During the assessment period, participants completed their self assessments and raters completed their assessments on the participants. All assessments were completed online using the account access information provided in the notification emails. All assessments were identical and included the 100 prescribed items (98 close-ended behavioral frequency rating items and 2 open-ended items). After completing the required self-assessment, participants were directed to the optional research only portion of the assessment where they were provided with the additional measures (MTL, LMX, and perceived supervisor leadership effectiveness).

Once the 360 assessment period was closed, individual reports were produced. Before distributing reports, a one hour group feedback session was conducted either in person or via teleconference to review the 360 process, discuss group trends and comparisons to government-wide benchmarks, and explore the best approach for understanding the data presented in the individual feedback reports. After the group feedback session reports were either distributed personally or electronically via email.

#### *Data Cleaning*

Prior to any analysis, the data was cleaned of any and all identifying information to preserve the confidentiality of those choosing to participate in the research portion of the 360 assessment. In addition, only the assessments of participants who completed the full research portion of the assessment, where they provided responses to the MTL, LMX and perceived supervisor leadership effectiveness items, were included in the analysis. If individual responses to a scale were omitted, then data was preserved. However if an entire scale was left incomplete the scale score was not imputed. Less than 1% of all possible responses were left blank.

#### *Scoring*

Scoring for the research only scales (MTL, LMX, perceived supervisor leadership effectiveness, LSE) followed the standard practice of calculating a mean for all items on the scale in question. For the perceived supervisor leadership effectiveness items, which measure the 13 core competencies, averages were calculated for each competency and an overall supervisory leadership effectiveness average was calculated based on the mean of all competency scores.

Scoring of the 360 leadership assessment, which was used to determine an overall participant leadership performance score and individual competency scores for each of the 28 core competencies, followed the standard OPM scoring procedure. Competency scores were calculated using a weighted mean approach such that the supervisory rating was weighted 1/3, the peer rating was weighted 1/3 and the subordinate rating was weighted 1/3. The ratings for each rating group were a simple average of the scores across all raters averaged across all items for a given competency. Consistent with the OPM 360 assessment scoring and existing research on 360 assessments (Conway & Huffcutt, 1997; Harris & Schaubroeck, 1988; Attwater, 1988), the self-assessment was not used in the calculation of the overall or individual competency scores as this rating has been shown to be the least accurate. Harris and Schaubroeck (1988) found a high correlation between supervisor and peer ratings (.62), while Conway and Huffcutt extended these findings by suggesting that only self ratings are significantly divergent to warrant exception. Atwater (1998) suggests the disparity in self versus other (supervisor, peer, and subordinate) ratings are likely caused by biases that affect self-ratings. While the self rating component of 360 assessment is a valuable self-reflection and voice component in the assessment process, consensus suggests that aggregating scores across rater groups excluding self ratings is the appropriate scoring approach (Anderson, Krajewski, Goffin & Jackson, 2008).

In addition to calculating an overall leadership performance score averaging across the 28 leadership competencies, the OPM Leadership 360 model provides for a logical breakdown of the 28 leadership competencies into a conceptual framework of fundamental competencies, and five additional logical groupings of competencies aligned

around the type of focus a leader's position might require. This Executive Core Qualification (ECQ) model categorizes the 28 leadership competencies according to the type of leadership being enacted. This model is the foundation for selecting individuals into leadership positions and for evaluating performance at the executive level. The ECQ model breaks the 28 leadership competencies into the following leadership areas: fundamental leadership competencies, competencies associated with leading change, competencies associated with leading people, competencies associated with driving results, competencies associated with business acumen, and competencies associated with building coalitions. Classification of competencies into their ECQ groupings can be found in Appendix A. ECQ scores were also calculated by averaging the component competencies, and were used as more specific, targeted measures of leadership performance.

### Chapter 3: Results

A total of 225 individuals completed the supplemental leadership motives survey, of which 220 had corresponding OPM Leadership 360 assessments. The sample was predominantly female (60%), and fairly tenured with respect to leadership experience, with 54% indicating at least 5 years of experience in leadership positions and less than 20% indicating no, or less than 1 year, of leadership experience. Descriptive statistics and correlations for the study variables can be found in Table 1. A more comprehensive review of the descriptive statistics for the OPM Leadership 360 assessment can be found in Table 2. OPM Leadership 360 ratings were provided by 2370 individuals, yielding an average of 10.8 raters per participant (1 self, 1.1 supervisors, 4.4 peers, and 4.2 subordinates). Intercorrelations of the overall subjective ratings of performance for the 4 rater groups can be found in Table 3. While the self ratings did not correlate with peer and subordinate ratings, the three other rating groups (supervisor, peers and subordinates) did correlate significantly with each other. Consistent with Oh and Berry (2009), Intraclass Correlation Coefficients (ICCs) were calculated for the peer and subordinate groups, with an average ICC of .36 and .30 respectively. An ICC was calculated for each participant for each rating group across the 98 rated behaviors. Minimum, maximum, and mean ICC information for the two rating groups are found in Table 4. Given that the vast majority of ratings for the supervisor group were provided by single individuals, no ICCs were calculated for this group.

Table 1 – Study Variables, Descriptive Statistics and Correlations.

Variable	Mean	SD	N	alpha	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Affective-identity MTL	3.73	0.50	225	0.74	--												
2. Social-normative MTL	3.61	0.48	225	0.76	0.25*	--											
3. Noncalculative MTL	4.05	0.46	225	0.76	0.08	0.20*	--										
4. Leadership experience	5.51	2.50	225	--	0.21*	0.08	0.10	--									
5. LSE	9.15	0.98	225	0.94	0.16*	0.19*	0.26*	0.12	--								
6. LMX	3.95	0.74	225	0.90	-0.01	0.01	0.13	-0.08	0.21*	--							
7. Percieved supervisor effectiveness	4.20	0.78	225	0.95	-0.10	0.03	0.14*	-0.02	0.09	0.71*	--						
8. Leadership performance	4.23	0.31	219	--	-0.08	-0.07	0.00	-0.01	0.08	0.20*	0.13	--					
9. ECQ - Fundamental competencies	4.34	0.31	218	--	-0.12	-0.14*	0.03	-0.09	0.05	0.23*	0.14*	0.88*	--				
10. ECQ - Leading change	4.19	0.33	207	--	-0.07	-0.08	-0.01	-0.02	0.11	0.21*	0.13	0.94*	0.81*	--			
11. ECQ - Leading people	4.20	0.46	216	--	-0.02	-0.04	-0.04	0.08	0.01	0.15*	0.10	0.70*	0.57*	0.60*	--		
12. ECQ - Results driven	4.27	0.33	212	--	-0.06	-0.04	0.00	-0.05	0.07	0.14*	0.08	0.93*	0.77*	0.91*	0.47*	--	
13. ECQ - Business accumen	4.18	0.36	178	--	-0.02	0.00	-0.03	0.07	0.08	0.11	0.02	0.90*	0.78*	0.84*	0.65*	0.88*	--
14. ECQ - Building coalitions	4.19	0.38	208	--	-0.07	-0.07	-0.02	-0.05	0.08	0.16*	0.09	0.88*	0.74*	0.85*	0.46*	0.86*	0.81*

Note: '\*' is significant  $p < .05$ . MTL = Motivation to Lead. LSE = Leadership Self Efficacy. LMX = Leader Member Exchange.

Table 2 - OPM Leadership 360 Descriptive Statistics

Competency	Self			Supervisor			Peer			Subordinate			All Raters		
	Alpha	Mean	SD	Alpha	Mean	SD	Alpha	Mean	SD	Alpha	Mean	SD	Alpha	Mean	SD
Public Service Motivation	0.63	4.21	0.44	0.81	4.39	0.34	0.82	4.38	0.31	0.87	4.33	0.27	0.84	4.37	0.36
Integrity/Honesty	0.77	4.56	0.34	0.86	4.63	0.24	0.89	4.55	0.24	0.91	4.40	0.30	0.90	4.53	0.35
Interpersonal Skills	0.85	4.28	0.36	0.90	4.40	0.29	0.92	4.38	0.27	0.94	4.31	0.29	0.93	4.36	0.39
Oral Communication	0.82	4.09	0.51	0.87	4.27	0.40	0.90	4.26	0.37	0.92	4.27	0.40	0.91	4.26	0.36
Written Communication	0.89	4.11	0.22	0.92	4.15	0.17	0.94	4.30	0.14	0.94	4.34	0.16	0.94	4.27	0.41
Continual Learning	0.69	4.10	0.49	0.77	4.38	0.30	0.80	4.38	0.28	0.85	4.33	0.28	0.82	4.37	0.36
Creativity and Innovation	0.81	4.03	0.35	0.87	4.18	0.29	0.90	4.25	0.25	0.91	4.20	0.28	0.90	4.22	0.45
External Awareness	0.77	3.61	0.43	0.85	4.05	0.36	0.87	4.23	0.27	0.91	4.30	0.24	0.88	4.18	0.45
Flexibility	0.81	4.31	0.30	0.88	4.36	0.23	0.88	4.29	0.26	0.88	4.33	0.26	0.88	4.33	0.40
Resilience	0.81	4.01	0.31	0.88	4.25	0.23	0.90	4.28	0.22	0.91	4.28	0.22	0.91	4.28	0.42
Strategic Thinking	0.89	3.56	0.32	0.93	3.92	0.20	0.93	4.10	0.20	0.94	4.15	0.19	0.93	4.06	0.53
Vision	0.84	3.82	0.33	0.90	4.03	0.25	0.93	4.10	0.19	0.94	4.15	0.20	0.93	4.09	0.47
Conflict Management	0.92	3.93	0.28	0.94	4.13	0.20	0.94	4.07	0.22	0.96	4.05	0.24	0.95	4.11	0.47
Leveraging Diversity	0.80	4.45	0.32	0.85	4.52	0.23	0.85	4.48	0.23	0.89	4.41	0.23	0.87	4.47	0.36
Developing Others	0.84	4.21	0.29	0.88	4.28	0.21	0.89	4.29	0.21	0.91	4.24	0.28	0.90	4.28	0.42
Team Building	0.90	4.05	0.39	0.93	4.26	0.30	0.93	4.22	0.28	0.95	4.16	0.32	0.94	4.22	0.43
Accountability	0.87	4.19	0.50	0.91	4.40	0.33	0.93	4.39	0.32	0.93	4.30	0.34	0.93	4.38	0.35
Customer Service	0.81	4.06	0.35	0.89	4.25	0.25	0.92	4.27	0.19	0.92	4.26	0.22	0.92	4.26	0.41
Decisiveness	0.91	4.11	0.17	0.94	4.27	0.15	0.95	4.27	0.13	0.96	4.28	0.13	0.95	4.28	0.42
Entrepreneurship	0.78	3.81	0.43	0.88	4.07	0.30	0.89	4.17	0.28	0.91	4.17	0.28	0.90	4.13	0.49
Problem Solving	0.83	4.11	0.30	0.90	4.25	0.22	0.91	4.28	0.19	0.94	4.23	0.19	0.93	4.26	0.44
Technical Credibility	0.90	4.02	0.36	0.93	4.34	0.27	0.94	4.37	0.22	0.95	4.25	0.24	0.94	4.32	0.40
Financial Management	0.85	3.74	0.40	0.94	4.10	0.19	0.94	4.17	0.16	0.94	4.27	0.17	0.94	4.17	0.49
Human Capital Management	0.76	4.04	0.46	0.72	4.22	0.41	0.83	4.27	0.30	0.87	4.21	0.33	0.84	4.24	0.43
Technology Management	0.83	3.66	0.38	0.91	4.10	0.22	0.92	4.18	0.18	0.94	4.11	0.20	0.93	4.12	0.50
Partnering	0.83	4.00	0.34	0.90	4.27	0.23	0.92	4.31	0.19	0.93	4.29	0.19	0.92	4.30	0.45
Political Savvy	0.89	3.69	0.28	0.94	3.99	0.19	0.93	4.18	0.18	0.95	4.26	0.15	0.94	4.14	0.49
Influencing/Negotiating	0.88	3.89	0.23	0.93	4.08	0.19	0.93	4.10	0.18	0.94	4.14	0.15	0.94	4.12	0.49
<b>ECQ</b>															
Fundamental Competencies		4.23	0.39		4.37	0.29		4.38	0.27		4.33	0.28		4.36	0.37
Leading Change		3.89	0.34		4.13	0.26		4.21	0.23		4.23	0.23		4.19	0.45
Leading People		4.16	0.32		4.30	0.23		4.27	0.24		4.21	0.27		4.27	0.42
Results Driven		4.05	0.35		4.26	0.25		4.29	0.22		4.25	0.23		4.27	0.42
Business Acumen		3.81	0.41		4.14	0.27		4.21	0.21		4.19	0.23		4.18	0.48
Building Coalitions		3.86	0.28		4.11	0.20		4.20	0.19		4.23	0.17		4.18	0.47
Overall Aggregate		4.03	0.35		4.23	0.26		4.27	0.23		4.24	0.25		4.25	0.43

Table 3 – Correlations between 360 Rating Groups on Overall Performance

Variable	1	2	3
Self rating	--		
Supervisor rating	0.16*	--	
Peer rating	0.07	0.21*	--
Subordinate rating	0.06	0.19*	0.25*

Note: '\*' is significant  $p < .05$

Table 4 - Intraclass Correlation Coefficients

Group	Minimum	Maximum	Mean
Peer	0.00	0.78	0.36
Subordinate	0.00	0.72	0.30

A review of the largely non-significant relationships found in the correlation matrix suggests little support for the hypothesized relationships. In order to test the hypotheses controlling for the effect of individual leadership experience, multiple regression was employed. For all regression equations, the control variable (leadership experience) was entered, followed by the variable(s) of interest to test the hypothesized relationships.

Hypotheses 1 and 2 concerned the relationship between perceived supervisor leadership effectiveness and LSE and MTL, respectively. To test Hypotheses 1, 2a and 2b, LSE, affective-identity MTL and social-normative MTL were regressed on leadership experience, and perceived supervisor leadership effectiveness in three separate regression models. Regression results are presented in Table 5. As a set, perceived supervisor leadership effectiveness and leadership experience did not significantly predict LSE,  $F(2, 222) = 2.73, ns$ . Perceived supervisor leadership effectiveness and leadership experience did significantly predict affective-identity MTL,  $F(2, 222) = 6.25, p < .05$ , accounting for 5% of the variance in affective-identity MTL. However, the beta weight for perceived

supervisor leadership effectiveness was not significant ( $\beta = -.09, ns$ ). Lastly, perceived supervisor leadership effectiveness and leadership experience did not significantly predict social-normative MTL,  $F(2, 222) = 0.83, ns$ . The non-hypothesized relationship between perceived supervisor leadership effectiveness and noncalculative MTL was also tested. Perceived supervisor leadership effectiveness and leadership experience did significantly predict noncalculative MTL,  $F(2, 222) = 3.56, p < .05$ , accounting for 3% of the variance in the criterion. In this instance, perceived supervisory leadership effectiveness was a significant predictor,  $\beta = .14, t(222) = 2.17, p < .05$ . Taken together, these results do not provide support for Hypotheses 1 and 2.

Table 5 - Regression Results for Perceived Supervisor Leadership Effectiveness Predicting LSE and MTL

Predictor	LSE		Affective-identity MTL		Social-normative MTL		Noncalculative MTL	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Leadership Experience	0.12	1.87	0.21	3.22**	0.08	1.23	0.11	1.59
PSLE	0.10	1.43	-0.09	-1.41	0.03	0.41	0.14	2.17*

Final Model Statistics

$R^2$	0.02	0.05	0.01	0.03
Adjusted $R^2$	0.02	0.05	0.00	0.02
$F$	2.73	6.25**	0.83	3.57*
$df$	2,222	2,222	2,222	2,222

Note: \* significant at  $p < .05$ , \*\* significant at  $p < .01$ . PSLE = Perceived Supervisor Leadership Effectiveness

Hypotheses 3 and 4 concerned the moderating effects of LMX relationship quality on the relationships of perceived supervisor leadership effectiveness with LSE and MTL, respectively. To test Hypotheses 3, 4a and 4b, LSE, affective-identity MTL and social-normative MTL were regressed on leadership experience and perceived supervisor leadership effectiveness, with LMX included as a moderator in three separate regression

models. These results are shown in Table 6. LMX did significantly moderate the relationship between perceived supervisor leadership effectiveness and LSE,  $F(4, 220) = 6.94, p < .05$ . Simple slope tests show that for those low on LMX (one standard deviation below the mean), there is a negative association between perceived supervisor leadership effectiveness and LSE ( $\beta = -.26, t(222) = -2.22, p < .05$ ), whereas the relationship was not significant for those high on LMX ( $\beta = .21, t(222) = -1.32, ns$ ). This interaction is illustrated in Figure 2. This provides support for Hypothesis 3. No moderating effects were present with affective-identity MTL or with social-normative MTL. While not specifically hypothesized, the moderating effects of LMX were also investigated with respect to noncalculative MTL and found to significantly moderate the relationship between perceived supervisor leadership effectiveness and noncalculative MTL  $F(4, 220) = 3.56, p < .05$ . Simple slope tests show that for those high on LMX (one standard deviation above the mean), there is a positive association between perceived supervisor leadership effectiveness and noncalculative MTL ( $\beta = .18, t(222) = 2.42, p < .05$ ), whereas the relationship was not-significant for those low on LMX ( $\beta = .01, t(222) = .17, ns$ ). This interaction is illustrated in Figure 3.

Table 6 - Regression Results for Moderation Analysis

Predictor	LSE		Affective-identity MTL		Social-normative MTL		Noncalculative MTL	
	$\beta$	<i>t</i>	$\beta$	<i>t</i>	$\beta$	<i>t</i>	$\beta$	<i>t</i>
Experience	0.16	2.49*	0.22	3.35**	0.09	1.33	0.12	1.85
LMX	-0.65	-3.53**	0.13	0.42	-0.54	-1.69	-0.67	-2.15*
PSLE	-1.02	-2.15*	-0.20	-0.68	-0.47	-1.53	-0.62	-2.08*
PSLE x LMX	1.73	3.29**	0.02	0.04	0.96	0.96	1.35	2.51*

Final Model Statistics

$R^2$	0.11	0.06	0.02	0.06
Adjusted $R^2$	0.10	0.05	0.00	0.04
<i>F</i>	6.94**	3.70**	1.18	3.56**
<i>df</i>	4,220	4,220	4,220	4,220

Note: \* significant at  $p < .05$ , \*\* significant at  $p < .01$ . LMX = Leader Member Exchange. PSLE = Perceived Supervisor Leadership Effectiveness

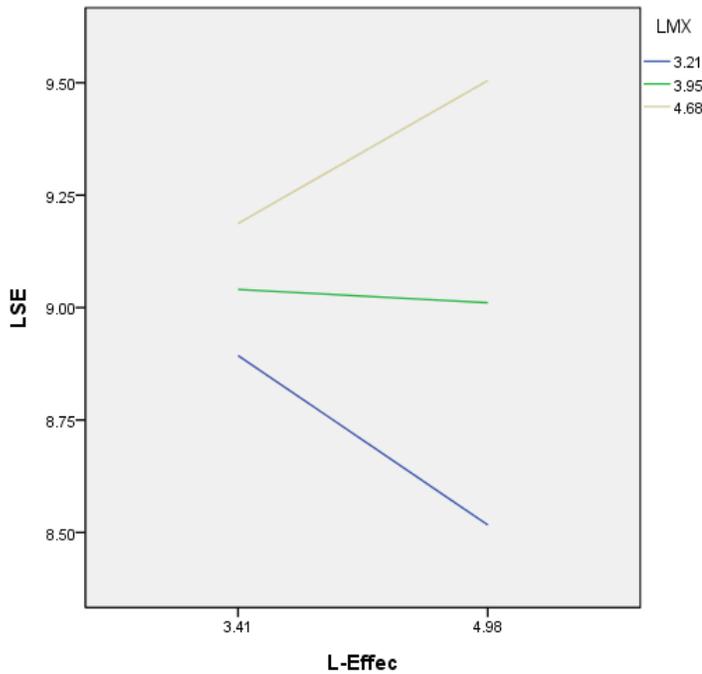


Figure 2 – Slope Illustration for Moderation of LMX on the Relationship between Perceived Supervisor Leadership Experience and LSE.

NOTE: Lines represent LMX values at the mean and one standard deviation above and below.

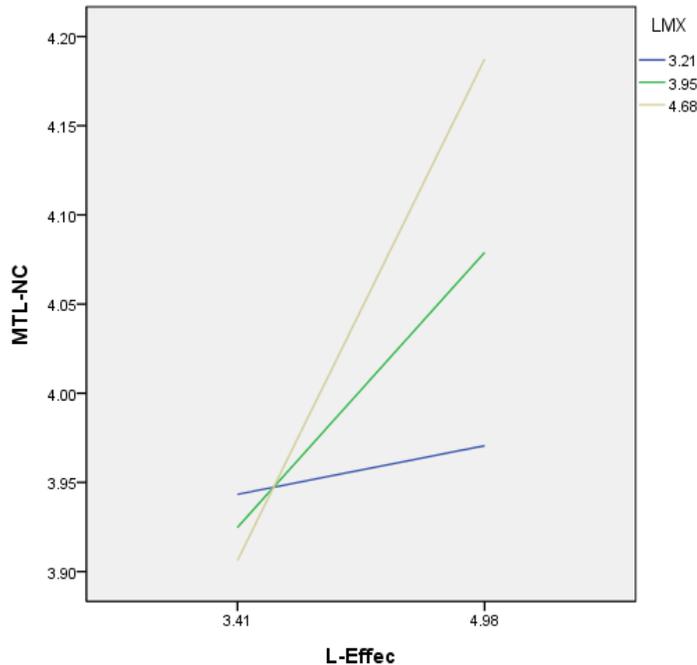


Figure 3 – Slope Illustration for Moderation of LMX on the Relationship between Perceived Supervisor Leadership Experience and Noncalculative MTL.  
NOTE: Lines represent LMX values at the mean and one standard deviation above and below.

Hypothesis 5 concerned the relationship between MTL and leadership performance. In this case, leader performance was measured utilizing a comprehensive developmental 360 leadership assessment. Ratings across all 28 leadership competencies were averaged to create an overall subjective assessment of the participants' leadership performance. To test Hypotheses 5a, 5b and 5c, leadership experience, LSE and the three forms of MTL (affective-identity, social-normative, and noncalculative) were entered into a regression equation with overall leadership performance as the criterion. Regression results are listed in Table 7. Leadership experience, LSE, affective-identity MTL, social-normative MTL, and noncalculative MTL did not significantly predict perceived leadership performance as measured by the 28 competency average,  $F(5, 213) = 0.90, ns$ , suggesting no support for the leadership hypotheses pertaining to leadership performance.

In addition to testing Hypothesis 5 using a single measure of overall subjective leadership performance, separate analyses were conducted using the *a priori* breakdown of the OPM leadership competency model, the ECQ model. Hypotheses 5a, 5b, and 5c were tested by regressing each of the six ECQ leadership dimensions on leadership experience, LSE, and the three forms of MTL (affective-identity, social-normative, and noncalculative) in separate models. None of the resulting regression equations were significant, again suggesting no support for the hypothesis related to leadership performance. Since the correlations between rating groups overall performance ratings were modest, all regressions were run at the rater group level and results displayed in Table 8 (supervisor rating), Table 9 (peer rating) and Table 10 (subordinate rating). The only significant findings were with regard to the relationship between affective-identity MTL, and peer ratings of leadership performance perceptions with regard to the first ECQ. Taken together, these results again suggest no evidence supporting a link between LSE and MTL with leader performance as measured through the 360 assessment.

Table 7 - Regression Results Predicting Leader Performance

Predictor	Overall Leader													
	Performance		ECQ1		ECQ2		ECQ3		ECQ4		ECQ5		ECQ6	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Leadership Experience	0.00	0.06	-0.07	-1.01	-0.01	-0.09	0.09	1.26	-0.05	-0.63	0.07	0.94	-0.05	-0.66
LSE	0.11	1.58	0.09	1.19	0.15	2.06*	0.02	0.21	0.09	1.23	0.09	1.09	0.11	1.53
Affective-identity MTL	-0.08	-1.14	-0.10	-1.34	-0.07	-0.93	-0.03	-0.35	-0.06	-0.75	-0.05	-0.57	-0.06	-0.78
Social-normative MTL	-0.07	-0.98	-0.11	-1.54	-0.09	-1.23	-0.03	-0.45	-0.04	-0.48	-0.01	-0.10	-0.06	-0.86
Noncalculative MTL	0.00	-0.04	0.05	0.71	-0.02	-0.21	-0.04	-0.54	-0.01	-0.13	-0.05	-0.61	-0.02	-0.30
Final Model Statistics														
$R^2$	0.02		0.04		0.03		0.01		0.01		0.01		0.02	
Adjusted $R^2$	0.00		0.01		0.01		-0.01		-0.01		-0.02		0.00	
$F$	0.91		1.58		1.23		0.43		0.53		0.49		0.82	
$df$	5,213		5,212		5,201		5,210		5,206		5,172		5,207	

Note: \* significant at  $p < .05$ , \*\* significant at  $p < .01$ . LSE = Leadership Self Efficacy. MTL = Motivation to Lead.

Table 8 - Regression Results Supervisor Rating Predicting Leader Performance

Predictor	Overall Leader													
	Performance		ECQ1		ECQ2		ECQ3		ECQ4		ECQ5		ECQ6	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Leadership Experience	0.02	0.29	-0.05	-0.68	0.08	1.11	0.06	0.92	-0.02	-0.22	0.09	1.30	-0.06	-0.83
LSE	0.07	1.02	0.06	0.79	0.10	1.42	0.12	1.63	0.03	0.38	0.05	0.67	0.06	0.87
Affective-identity MTL	-0.02	-0.21	-0.06	-0.78	-0.02	-0.33	-0.03	-0.45	0.02	0.31	0.01	0.14	0.00	0.06
Social-normative MTL	0.00	-0.03	-0.04	-0.56	0.00	0.01	-0.02	-0.31	0.01	0.16	0.01	0.09	0.03	0.40
Noncalculative MTL	0.00	-0.01	-0.01	-0.07	0.01	0.16	-0.01	-0.12	0.01	0.14	-0.01	-0.10	-0.03	-0.40
Final Model Statistics														
$R^2$	0.01		0.01		0.02		0.02		0.00		0.01		0.01	
Adjusted $R^2$	-0.02		-0.01		-0.01		-0.01		-0.02		-0.01		-0.02	
$F$	0.25		0.44		0.79		0.77		0.09		0.53		0.32	
$df$	5,213		5,213		5,213		5,213		5,213		5,212		5,213	

Note: \* significant at  $p < .05$ , \*\* significant at  $p < .01$ . LSE = Leadership Self Efficacy. MTL = Motivation to Lead.

Table 9 - Regression Results Peer Rating Predicting Leader Performance

Predictor	Overall Leader													
	Performance		ECQ1		ECQ2		ECQ3		ECQ4		ECQ5		ECQ6	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Leadership Experience	-0.08	-1.20	-0.10	-1.52	-0.08	-1.21	-0.05	-0.73	-0.09	-1.31	-0.04	-0.56	-0.07	-1.03
LSE	0.13	1.90	0.13	1.80	0.13	1.83	0.16	2.23*	0.11	1.55	0.08	1.10	0.13	1.76
Affective-identity MTL	-0.13	-1.82	-0.14	-2.01*	-0.13	-1.77	-0.14	-1.91	-0.10	-1.42	-0.10	-1.38	-0.11	-1.55
Social-normative MTL	-0.05	-0.74	-0.07	-0.91	-0.05	-0.74	-0.02	-0.29	-0.05	-0.69	-0.01	-0.10	-0.08	-1.18
Noncalculative MTL	-0.03	-0.48	0.05	0.67	-0.03	-0.47	-0.04	-0.56	-0.05	-0.74	-0.07	-0.97	-0.05	-0.72
Final Model Statistics														
$R^2$	0.04		0.05		0.04		0.04		0.03		0.02		0.04	
Adjusted $R^2$	0.02		0.03		0.02		0.02		0.01		0.00		0.02	
$F$	1.86		2.35*		1.80		1.78		1.50		0.85		1.78	
$df$	5,213		5,213		5,213		5,213		5,213		5,213		5,213	

Note: \* significant at  $p < .05$ , \*\* significant at  $p < .01$ . LSE = Leadership Self Efficacy. MTL = Motivation to Lead.

Table 10 - Regression Results Subordinate Rating Predicting Leader Performance

Predictor	Overall Leader													
	Performance		ECQ1		ECQ2		ECQ3		ECQ4		ECQ5		ECQ6	
	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$	$\beta$	$t$
Leadership Experience	0.00	0.00	0.01	0.18	-0.01	-0.15	-0.01	-0.19	0.00	-0.01	-0.02	-0.22	0.04	0.61
LSE	0.09	1.26	0.08	1.05	0.10	1.38	0.07	1.02	0.10	1.40	0.08	1.09	0.07	0.97
Affective-identity MTL	-0.08	-1.11	-0.10	-1.40	-0.08	-1.16	-0.08	-1.13	-0.08	-1.13	-0.05	-0.67	-0.04	-0.54
Social-normative MTL	-0.06	-0.77	-0.03	-0.39	-0.06	-0.87	-0.07	-0.93	-0.04	-0.49	-0.05	-0.66	-0.08	-1.13
Noncalculative MTL	-0.01	-0.07	0.00	0.06	-0.03	-0.36	-0.01	-0.15	-0.01	-0.11	0.01	0.08	0.03	0.38
Final Model Statistics														
$R^2$	0.02		0.01		0.02		0.02		0.02		0.01		0.01	
Adjusted $R^2$	-0.01		-0.01		0.00		-0.01		-0.01		-0.01		-0.01	
$F$	0.66		0.63		0.81		0.69		0.65		0.41		0.57	
$df$	5,213		5,213		5,213		5,213		5,213		5,211		5,213	

Note: \* significant at  $p < .05$ , \*\* significant at  $p < .01$ . LSE = Leadership Self Efficacy. MTL = Motivation to Lead.

Given the proposed importance of direct leadership experience and the lack of significant findings, t-tests were conducted to determine if group differences existed on the variables of interest with regard to those with and without leadership experience. Since the overall sample was quite tenured with respect to leadership experience, perhaps the motivational mechanisms that are being tested are more fixed and stable for the participants with past leadership experience. If so, this fact might explain the lack of significant findings. No significant group differences were found between the no leadership experience group and those with past leadership experience, suggesting leadership experience does not have a meaningful impact on the pattern of results (see Table 11).

Table 11 - Tests of Group Differences

Variable	Experience	Gender
	<i>t</i>	<i>t</i>
Perceived Supervisor Leader Effectiveness	0.58	-0.22
Leader Member Exchange (LMX)	-1.86	-1.49
Leadership Self Efficacy (LSE)	-0.01	-1.75
Affective-Identity MTL	1.2	-0.52
Social-Normative MTL	1.73	1.42
Noncalculative MTL	1.22	-2.08*
Performance	-1.82	-2.81**

Note: \* significant at  $p < .05$ , \*\* significant at  $p < .01$ . MTL = Motivation to Lead

While no hypotheses were proposed regarding the role of gender on the variables of interest, the majority of participants identified their gender, allowing an investigation into group differences. Group differences were found between males and females on noncalculative MTL,  $t(205) = -2.08, p < .05$ , with females reporting higher noncalculative MTL ( $M=4.11, SD=.47$ ) than males ( $M=3.97, SD=.44$ ). In addition, group differences were found in overall 360 leadership assessment scores  $t(200) = -2.67, p <$

.05, with females ( $M=4.28$ ,  $SD=.31$ ) receiving significantly higher scores than males ( $M=4.16$ ,  $SD=.31$ ). No other gender differences were observed.

## Chapter 4: Discussion

This study sought to investigate the relationship between positive leadership role modeling and an individual's MTL. Existing research suggested a feedback loop whereby individuals who have positive personal leadership experiences develop LSE and MTL, making them more likely to take on additional leadership training and leadership roles. It was hypothesized that in addition to this direct personal experience relationship, a role modeling relationship involving observing the positive leadership of one's supervisor would also be related to higher MTL and LSE. In addition, the research on MTL has been sparse with regard to its impact on perceived leader performance. This research sought to establish this link, suggesting that individuals with higher MTL would have higher leadership performance ratings.

### *Role Modeling and MTL*

In the sample of 226 federal government employees, there was mixed evidence supporting the relationship between a leadership role model and LSE or MTL. Regression analysis found no support for direct relationships between modeled leadership (as measured by perceived supervisor leader effectiveness) and the variables of interest (LSE, affective-identity MTL and social-normative MTL). However, it was also hypothesized that these role modeling relationships with LSE and MTL would be moderated by the quality of the relationship between follower and supervisor. Support was found for this moderated relationship between perceived supervisor leadership

effectiveness and LSE with those with lower quality relationships, exhibiting a negative relationship between leader effectiveness and LSE supporting Hypothesis 3. Similarly, the relationship between perceived supervisor leader effectiveness and noncalculative MTL was moderated by relationship quality, such that those experiencing high quality relationships had a significant positive relationship between perceived supervisor leader effectiveness and noncalculative MTL. No moderation was found regarding affective-identity MTL or social-normative MTL.

Taken together, this suggests that having an effective supervisor can have an impact on individuals' self beliefs of their leadership capabilities and on their noncalculative motives for taking on leadership roles and training, depending on the quality of the relationship with their supervisor. Results suggest that having a negative relationship with an effective supervisor is related to lower beliefs in one's ability to be successful as a leader. Conversely, having a positive relationship with an effective leader is related to one being more motivated to lead for less selfish reasons, i.e. more noncalculative. The results also suggest that an individual's belief in their own leadership abilities, and their affective and normative motivations to take on leadership roles, are unrelated to having a positive leadership role model. With regard to affective-identity MTL, these results suggest that having a positive leadership role model does not lead an individual to want to lead more for the happiness that may result from leadership. With regard to social-normative MTL, these results suggest that having a positive leadership role model does not lead an individual to want to lead more due to a sense of duty to take on leadership roles.

Given the null findings with regard to affective-identity MTL and social-normative MTL, these results suggest, perhaps, that MTL is much more stable than initially believed. Chan and Drasgow (2001) characterize MTL as an individual difference with personality traits and cultural values as distal determinants. In addition, they point out the malleable nature of MTL, in that it can be fostered and developed more proximally through successes in leadership roles or leadership training opportunities. The results of this study provide little support for the role of leadership experience having any impact on LSE or MTL. In addition, there is little evidence suggesting the alternative means to establishing affective-identity MTL or social-normative MTL through experiencing successful leadership in the form of modeled behavior from a perceived effective leader.

#### *MTL and Leadership Performance*

In the sample of 220 federal government employees for which self-reported LSE and MTL could be linked to an OPM Leadership 360 assessment, there was no evidence to support a connection between LSE and/or MTL and leader performance. The 28 leadership competencies measured by the OPM Leadership 360 assessment were aggregated into a single measure of leadership performance. Regression analysis found no relationship between LSE or MTL with leader performance. In addition, the theoretical executive core qualification model was used to aggregate the leadership competencies into six groupings depending on the leadership function. The findings that used these six groupings as dependent variables were similar, with no significant relationships with LSE or MTL. A review of the correlation matrix in Table 2 shows high inter-correlations among the leader performance measures, which is to be expected. In

addition, there are small but significant correlations between LMX and the leader performance measures. This suggests that those with closer relationships to their direct supervisor were rated better as leaders. Given that supervisory ratings are a component of the OPM leadership 360 assessment, it is also equally likely that closer relationships between rater (supervisor) and ratee (follower) can yield inflated 360 assessment ratings. Further research is necessary to better understand these findings.

### *Academic Implications*

One of the surprising findings or non-findings of this study is the relative lack of contribution that individual experience had on the variance in LSE and MTL. While this was not a primary variable of interest in this study and was only collected as a control variable, Chan and Drasgow's (2001) model discusses the malleable nature of MTL and the effects of leadership experience as a self-fulfilling mechanism for developing MTL. While the current research did find a significant relationship between leadership experience and affective-identity MTL, this only accounted for 5% of the variance. No significant relationships were uncovered with respect to LSE or the other forms of MTL. This casts some doubt on the theoretical model proposed by Chan and Drasgow (2001) and the feedback loop of leadership experience they present. Taken together with the null findings regarding a modeling path and affective-identity MTL or social-normative MTL, to date, there has been little research establishing the malleable nature of MTL. Perhaps the moderated relationship between perceived supervisor leader effectiveness and noncalculative MTL provides some evidence that MTL can be changed, but the largely null results seem to support, rather, the stable individual difference perspective as evidenced by Chan and Drasgow's initial findings regarding personality and culture as

primary determinants of one's MTL. Perhaps MTL is less something that one can develop or learn over time, but rather more of a stable individual difference variable that remains largely constant.

While not explicitly tested, the correlations between LSE, MTL and leader performance suggest looking further into the developmental path by which these beliefs develop. Chan and Drasgow (2001) propose that LSE is a proximal antecedent to MTL which then leads to taking on leadership roles and training. Perhaps it is the case that MTL is an antecedent to LSE such that individuals that develop more MTL begin to have feelings of confidence in their ability to succeed at leading teams.

#### *Applied Implications*

Unfortunately, the largely null findings of this study do little to guide the understanding of the development and fostering of MTL, or the impact of MTL on leader performance. It was hypothesized that MTL could be developed and enhanced through high quality interactions with effective leaders, and that being more motivated to lead would result in positive organizational results in the form of increase leadership performance. While this study supports this link with high quality relationships and non-calculative MTL, the hypothesized relationships to affective-identity MTL and social-normative MTL were not supported.

Many organizations are concerned with the early identification and fostering of the next cadre of future leaders. Nowhere is this more important than in the federal government where an aging workforce, quickly nearing or surpassing the age of retirement, has leadership aggressively looking for new ways to identify high potential (HIPOs) individuals for succession. If future research continues to fail in establishing

links between MTL and leadership performance, then the motivational component of taking on leadership roles should not be a primary consideration in identifying and developing HIPOs. The current status quo of identifying HIPOs based on knowledge, skill, ability (KSAs), and one's willingness to lead is likely a better approach.

With regard to the proposed modeling path to developing MTL, a link between perceived supervisor leadership effectiveness would have suggested pairing HIPOs with effective supervisors as a means to continue to develop MTL in the leaders of the future. The results relating to noncalculative MTL suggest that doing so, and fostering positive relationships with those supervisors, could yield noncalculative MTL. However, with no evidence found in this study linking MTL to leadership performance, the findings of this research suggest MTL should be of little interest to the applied world.

### *Limitations*

There are many potential limitations that could be contributing to the null findings of this study. At the outset, the characteristics of the sample are a potential concern. In order to leverage the OPM Leadership 360 assessment, a convenience sample of federal government leaders was used. While the OPM Leadership 360 assessment is assumed to measure many of the same concepts as a more traditional private sector 360, its focus is on assessing leadership behaviors in the federal government context. Measuring leadership in the federal government is likely very similar to measuring leadership in private industry, but there are unique challenges in the federal government context which may have an impact on leadership. Leadership within the federal government is inherently bureaucratic in nature and can result in barriers that are difficult for leaders to overcome. In addition, with the highest levels of leadership often changing on a four- or

eight-year cycle, directions and priorities are often drastically changed. Taken together, successful leadership in the federal space often requires high levels of resilience and adaptability that may be required to a lesser extent in the private sector. Regardless, the limited focus of measuring leadership solely in the federal government limits generalizing any findings to the larger context of leadership as a whole.

Another limiting factor tied to this particular sample is the relative tenure of those completing the assessment. While the OPM Leadership 360 is offered to individuals across all levels of leadership experience, the majority of individuals completing the OPM leadership 360 are tenured supervisors and managers. This was the case with this particular sample, with more than half having at least 5 years formal leadership experience in role and less than 20% having no leadership experience at all. The experience of the sample could explain the fairly high means and low variances for the introspective attitudinal variables (LSE and MTL), and similar high means and low variances for the leadership competency measures as assessed by the OPM Leadership 360. Many of the standard deviations were in the .3 to .4 range which is quite low for survey research. This could point to social desirability concerns with the LSE and MTL scales. With regard to the 360 results, this likely reflects the experienced participant pool. In addition, given that many of the individuals completed the 360 as part of a leadership development course, even those in non-supervisory roles were likely high performers identified as the next generation of government leaders. Essentially, this sample is restricted in favor of those who have already proven their leadership capabilities and progressed into roles demanding leadership skills. A more purposeful sampling strategy to identify and survey more individuals who are not in supervisory positions, and who

have had little opportunity to develop leadership skills through in-role experiences or through training opportunities, would likely yield a more varied sample in terms of LSE, MTL, and leadership performance. While this is a concern with regard to all hypotheses, this is of particular concern with regard to the link between MTL and performance. The null findings regarding MTL's link to leadership performance could certainly be a function of the experienced sample. In essence, the individuals in this sample have moved beyond the motivational component in the leadership journey. For whatever reason, they have taken on and succeeded in leadership roles as evidenced by their remaining in the leadership ranks. Taking a look at individuals early in their careers or those transitioning into leadership roles, and looking at the motives that are or are not in place for them, should shed more light on MTLs link to leader performance.

Another potential limitation is the study design. The cross-sectional nature of the survey design, whereby all variables were measured at a single point in time, limits the ability to speak to causality. Given the largely null findings, this is not a major concern. However, future research into MTLs effects on leader performance should adopt a more longitudinal approach, measuring motivation and leadership performance at multiple time points in an attempt to understand whether increases in motivation lead to increases in performance, or vice versa. While it is intuitive to think in terms of motivation or desire to engage in a behavior leading to success in that endeavor, it is certainly possible that successful performance in leadership roles can be rewarding and motivation enhancing.

In addition to the use of cross-sectional survey techniques, another potential limitation related to survey design is the reliance on perceptions and subjective assessments with regard to the assessment of leadership performance. The proposed

modeling path of LSE and MTL development was assessed using a perceptual measure of supervisor leadership effectiveness. Individuals were asked to rate their direct supervisor on 13 leadership competencies, making an assessment of their leadership effectiveness on each. While subordinate assessments of effectiveness may be a proxy for leadership performance, a more objective assessment may have yielded different results. The fact that LMX scores, which were intended to measure the strength of relationship between subordinate and supervisor, were so highly correlated with the perceived supervisor leadership effectiveness ratings is a clear indication that individuals might not have been able to sufficiently distinguish between having a good relationship with their supervisor and having an effective leader. Implementing a more objective measure of supervisor effectiveness, and using a multi-source approach to assessing relationship quality by assessing the relationship from both sides, should lessen these concerns.

The problem of subjective assessment is also of concern with regard to the assessment of individual leadership performance as assessed by the OPM Leadership 360. As discussed in the introduction, the measurement of leadership performance is a difficult endeavor. Subjective assessments often result in ratings more akin to what is leader-like as opposed to direct assessments of leader behavior. Objective assessments of leader performance often do not distinguish between leader performance and team results. Successful teams must have successful leaders. Utilizing a multi-source feedback system with behavioral based items seeks to truly assess leader performance. Collecting leadership performance data using the OPM Leadership 360 assessment is a real strength of the current study; however, this reliance on subjective ratings is not without concern. Rater biases, such as halo effect (rating all behaviors high because of high ratings on

some behaviors), are a concern. In addition, with an assessment of 100 items, rater fatigue is also a concern and could limit the usefulness of competency level or ECQ level data. While these are concerns at the competency and ECQ level, it is doubtful that they would have an impact on overall subjective assessments of leadership performance. Combining this multi-source behavioral assessment method for rating leadership performance with objective assessments of leadership success, such as those employed in formal performance appraisal systems, would provide a more valid and comprehensive assessment of leadership performance.

#### *Future Research*

While the present findings do not offer a clear role modeling relationship with LSE and MTL, the limitations described above may certainly be to blame. Future research into the effects of an effective leadership role model should consider the target of the modeling. Perhaps focusing on an effective leader that an individual identifies with and then measuring his or her perceived effectiveness and closeness would yield different results. The current research assumed one's direct supervisor as the most appropriate role model, but past supervisors or individuals outside the organization may be more salient leader models for a given individual. In addition, the self-report nature of this study focused on perceptions of leader effectiveness rather than an objective assessment of leader effectiveness. Future research should focus on an established effective leader rather than one who is simply perceived to be effective.

The lack of support for a link between MTL and leadership performance should be of particular interest to MTL researchers. While utilizing the OPM leadership 360 assessment provided rich multi-source data on leader performance, the data was still

entirely subjective. Future research should focus on obtaining objective measures of leader performance. In addition, future research should seek to correct the issues of range restriction encountered in the current research agenda by targeting individuals early in their career and before they have established themselves as leaders or as high potential individuals. Whereas the current research focused more on individuals that were high in LSE, MTL and leader performance, future research can and should focus more on the opposite end of the spectrum.

Finally, the current findings with regard to the impact of leader experience run contrary to those of Chan and Drasgow (2001). These findings may provide evidence that call into question Chan and Drasgow's (2001) original conceptualization of MTL as a malleable trait that can be developed over time. Since this study was cross-sectional, it is difficult to speak directly to the stability of MTL over time. But given the finding that past experience was unrelated to MTL, it raises questions. Again, this could potentially be a result of range restriction and the focus on individuals in, or aspiring to, leadership positions. Additional research should be conducted to better understand the role of leadership experience in fostering MTL. In addition, longitudinal research should be conducted to help answer the question of the stability and malleability of the MTL construct.

### *Summary*

In closing, this research sought to establish the link between MTL and leader performance while investigating an additional means to establishing and fostering MTL through role modeling from an effective leader. Using a self report survey methodology to measure MTL and its proposed antecedents, and a multi-source 360 leadership

assessment to measure leader performance, these relationships were tested. Little evidence was found to support any of the proposed relationships. With regard to the antecedents of MTL, the lack of support for the proposed hypotheses and the lack of a relationship with leader experience suggest that MTL may be less malleable than believed. The lack of findings regarding the link between MTL and actual leader performance casts doubts on the usefulness of the MTL construct from an applied perspective. Understanding the reasons why individuals participate in leadership development activities or take on additional leadership responsibilities is an interesting academic endeavor. However, if that knowledge does not help organizations increase leaders performance, MTL will not be of use to the applied world. Given the limitations of the current study, the book is not necessarily closed on MTL. These findings, however, should certainly give pause to those considering research into leader motivation.

## References

- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology, 63*, 1-18.
- Anderson, D. W., Krajewski, H. T., Goffin, R. D., & Jackson, D. N. (2008). A leadership self-efficacy taxonomy and its relation to effective leadership. *Leadership Quarterly, 19*, 595-608.
- Attwater, L. E. (1998). The advantages and pitfalls of self-assessment in organizations. In J.W. Smither (Ed.), *Performance Appraisal: State of the Art in Practice* (pp. 331-369). San Francisco: Jossey-Bass.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1988). Organizational application of social cognitive theory. *Australian Journal of Management, 13*, 275-302.
- Bandura, A. (1995). *Self-Efficacy in Changing Societies*. New York: Cambridge University Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of self control*. New York: Freeman.
- Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: a meta-analysis. *Personnel Psychology, 44*, 1-26.
- Carlyle, T. (1907). *Heroes and hero worship*. Boston: Adams. (Original work published 1841)

- Chan, K. (1999). *Toward a theory of individual differences and leadership: Understanding the MTL*. Doctoral Dissertation, Department of Psychology, University of Illinois at Urbana-Champaign.
- Chan, K., Drasgow, F. (2001). Toward a theory of individual differences and leadership: Understanding the MTL. *Journal of Applied Psychology, 86*, 481-498.
- Chemers, M. M. (2000). Leadership research and theory: A functional integration. *Group Dynamics: Theory, Research, and Practice, 4*, 27-43.
- Conway, J. M., & Huffcutt, A. I. (1997). Psychometric properties of multisource performance ratings: A meta-analysis of subordinate, supervisor, peer, and self-ratings. *Human Performance, 10*, 331-360.
- Corts, D. B., & Gowing, M. K. (1992). *Dimensions of effective behavior: Executives, manager and supervisors*. Washington, DC: U.S. Office of Personnel Management, Personnel Resources and Development Center, PRDC-92-05.
- Dansereau, F., Cashman, J., & Graen, G. (1973). Instrumentality theory and equity theory as complementary approaches in predicting the relationship of leadership and turnover among managers. *Organizational Behavior and Human Performance, 10*, 184-200.
- Dansereau, F., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance, 13*, 46-78.
- Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology, 18*, 105-115.

- Deci, E. L., & Ryan, R. M. (1980). The empirical exploration of intrinsic motivational processes. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 13, pp.39-80). New York: Academic Press.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Duchon, D., Green, S. G., & Tabert, T. D. (1986). Vertical dyad linkage: A longitudinal assessment of antecedents, measures, and consequences. *Journal of Applied Psychology, 71*, 56-60.
- Eyde, L. D., Gregory, D. J., Muldrow, T. W., & Mergen, P. K. (1999). *High-performance leaders- A competency model*. Washington, DC: U.S. Office of Personnel Management, Personnel Resources and Development Center, PRDC-99-02.
- Feasel, K. E. (1995). *Mediating the relation between goals and subjective well-being: Global and domain-specific variants of self-efficacy*. Unpublished master's thesis. University of Illinois at Urbana-Champaign.
- Fiedler, F. E., & Garcia, J. E. (1987). *New approaches to effective leadership: Cognitive resources and organizational performance*. New York: Wiley.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior*. Don Mills, Ontario, Canada: Addison-Wesley.
- Gagne, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior, 26*, 331-362.
- Gerstner, C.R. & Day, D.V. (1997). Meta-Analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology, 82*, 827-844.

- Graen, G. B. (1976). Role-making processes within complex organizations. In M.D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1201-1245). Chicago: Rand McNally.
- Graen, G. B., & Cashman, J. (1975). A role-making model of leadership in formal organizations: A developmental approach. In J.G. Hunt & L.L. Larson (Eds.), *Leadership frontiers* (pp. 143-165). Kent, OH: Kent State University.
- Graen, G. B., Novak, M. A., & Sommerkamp, P. (1982). The effects of leader-member exchange and job design on productivity and satisfaction: Testing a dual attachment model. *Organizational Behavior and Human Performance*, 30, 109-131.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, 6, 219-247.
- Gregory, D. J., & Park, R. K. (1992). *Occupational study of Federal executives, managers, and supervisors: An application of the Multipurpose Occupational Systems Analysis Inventory-Closed Ended (MOSAIC)*. Washington, DC: U.S. Office of Personnel Management, Personnel Resources and Development Center, PRDC-92-21.
- Harris, M. M., & Schaubroeck, J. (1988). A meta-analysis of self-supervisor, self-rater, and peer-supervisor ratings. *Personnel Psychology*, 41, 43-62.
- Hendricks, J. W., & Payne, S. C. (2007). Beyond the Big Five: Leader goal orientation as a predictor of leader effectiveness. *Human Performance*, 20, 317-343.

- Hillery, J. M., Case, J. L., Dyomina, N., Burnkrant, S. R., Schay, B. W., Eyde, L. (2003). *OPM Leadership 360: Development of a 360 degree leadership feedback system*. Washington, DC. U.S. Office of Personnel Management, Personnel Research and Development Center, PRDC-03-06
- Hough, L. M. (1992). The “Big Five” personality variables – construct confusion: Description versus prediction. *Human Performance*, 5, 139-155.
- House, R. J., & Aditya, R. N. (1997). The social scientific study of leadership: Quo vadis?, *Journal of Management*, 23, 409-473.
- Howard, A., & Bray, D. W. (1988). *Managerial lives in transition: Advancing age and changing times*. New York: Guilford Press.
- 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.
- Langston, C. A., & Sykes W. E. (1997). Beliefs and the Big Five: Cognitive bases of broad individual differences in personality. *Journal of Research in Personality*, 31, 141-165.
- Liden, R., Wayne, S. J., & Stillwell, D. (1993). A longitudinal study on the early development of leader-member exchanges. *Journal of Applied Psychology*, 78, 662-674.
- Lord, R. G., Brown, D. G. (2001). *Leadership processes and follower self-identity*. Mahwah: NJ: Lawrence Erlbaum Associates Publishers.
- Lord, R. G., De Vader, C. L., & Alliger, G. M. (1986). A meta-analysis of the relation between personality traits and leadership perceptions: An application of validity generalization procedures. *Journal of Applied Psychology*, 71, 402-410.

- Meyer, J.P., & Allen, N.J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review, 1*, 61-89.
- Meyer, J. P. & Allen, N. J. (1997). *Commitment in the workplace: Theory, research, and application*. Thousand Oaks, CA: Sage.
- Nystrom, P. C. (1990). Vertical exchanges and organizational commitments of American business managers. *Group and Organizational Studies, 15*, 296-312.
- Oh, I., & Berry, C. M. (2009). The Five-Factor model of personality and managerial performance: Validity gains through the use of 360 degree performance ratings. *Journal of Applied Psychology, 94*, 1498-1513.
- Paglis, L. L., & Green, S. G. (2002). Leadership self-efficacy and managers' motivation for leading change. *Journal of Organizational Behavior, 23*, 215-235.
- Snyder, R. A., & Bruning, N. S. (1985). Quality of vertical dyad linages: Congruence of supervisor and subordinate competence and role stress as explanatory variables. *Group and Organization Studies, 10*, 81-94.
- Stogdill, R. M. (1948). Personal factors associated with leadership: A survey of the leadership. *Journal of Psychology, 25*, 35-71.
- Triandis, H. C. (1977). *Interpersonal behavior*. Monterey, CA: Brooks/Cole.
- Triandis, H. C. (1980). Value, attitudes and interpersonal behavior. In M. M. Page (Ed.), *Nebraska symposium on motivation, beliefs, attitudes and values* (Vol. 1., pp. 195-259). Lincoln, NE: University of Nebraska.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.

Triandis, H. C. (1998). Vertical and horizontal individualism and collectivism: Theory and research implications for international comparative management. *Advances in Comparative Management, 12*, 7-35.

Vecchio, R. P., & Gobdel, B. C. (1984). The vertical dyad linkage model of leadership: Problems and prospects. *Organizational Behavior and Human Performance, 34*, 5-20.

## Appendices

*Appendix A - OPM Leadership 360 – Competency Definitions*

- \*Accountability** - Holds self and others accountable for measurable high-quality, timely, and cost-effective results. Determines objectives, sets priorities, and delegates work. Accepts responsibility for mistakes. Complies with established control systems and rules.
- \*Conflict Management** - Encourages creative tension and differences of opinions. Anticipates and takes steps to prevent counter-productive confrontations. Manages and resolves conflicts and disagreements in a constructive manner.
- Continual Learning** - Assesses and recognizes own strengths and weaknesses; pursues self-development.
- \*Creativity and Innovation** - Develops new insights into situations; questions conventional approaches; encourages new ideas and innovations; designs and implements new or cutting edge programs/processes.
- Customer Service** - Anticipates and meets the needs of both internal and external customers. Delivers high-quality products and services; is committed to continuous improvement.
- \*Decisiveness** - Makes well-informed, effective, and timely decisions, even when data are limited or solutions produce unpleasant consequences; perceives the impact and implications of decisions.
- \*Developing Others** - Develops the ability of others to perform and contribute to the organization by providing ongoing feedback and by providing opportunities to learn through formal and informal methods.
- Entrepreneurship** - Positions the organization for future success by identifying new opportunities; builds the organization by developing or improving products or services. Takes calculated risks to accomplish organizational objectives.
- External Awareness** - Understands and keeps up-to-date on local, national, and international policies and trends that affect the organization and shape stakeholders' views; is aware of the organization's impact on the external environment.
- Financial Management** - Understands the organization's financial processes. Prepares, justifies, and administers the program budget. Oversees procurement and contracting to achieve desired results. Monitors expenditures and uses cost-benefit thinking to set priorities.
- \*Flexibility** - Is open to change and new information; rapidly adapts to new information, changing conditions, or unexpected obstacles.

**Human Capital Management** - Builds and manages workforce based on organizational goals, budget considerations, and staffing needs. Ensures that employees are appropriately recruited, selected, appraised, and rewarded; takes action to address performance problems. Manages a multi-sector workforce and a variety of work situations.

**\*Integrity and Honesty** - Behaves in an honest, fair, and ethical manner. Shows consistency in words and actions. Models high standards of ethics.

**Influencing/Negotiating** - Persuades others; builds consensus through give and take; gains cooperation from others to obtain information and accomplish goals.

**\*Interpersonal Skills** - Treats others with courtesy, sensitivity, and respect. Considers and responds appropriately to the needs and feelings of different people in different situations.

**Leveraging Diversity** - Fosters an inclusive workplace where diversity and individual differences are valued and leveraged to achieve the vision and mission of the organization.

**\*Oral Communication** - Makes clear and convincing oral presentations. Listens effectively; clarifies information as needed.

**Partnering** - Develops networks and builds alliances; collaborates across boundaries to build strategic relationships and achieve common goals.

**Political Savvy** - Identifies the internal and external politics that impact the work of the organization. Perceives organizational and political reality and acts accordingly.

**\*Problem Solving** - Identifies and analyzes problems; weighs relevance and accuracy of information; generates and evaluates alternative solutions; makes recommendations.

**Public Service Motivation** - Shows a commitment to serve the public. Ensures that actions meet public needs; aligns organizational objectives and practices with public interests.

**\*Resilience** - Deals effectively with pressure; remains optimistic and persistent, even under adversity. Recovers quickly from setbacks.

**Strategic Thinking** - Formulates objectives and priorities, and implements plans consistent with the long-term interests of the organization in a global environment. Capitalizes on opportunities and manages risks.

**\*Team Building** - Inspires and fosters team commitment, spirit, pride, and trust. Facilitates cooperation and motivates team members to accomplish group goals.

**Technical Credibility** - Understands and appropriately applies principles, procedures, requirements, regulations, and policies related to specialized expertise.

**Technology Management** - Keeps up-to-date on technological developments. Makes effective use of technology to achieve results. Ensures access to and security of technology systems.

**Vision** - Takes a long-term view and builds a shared vision with others; acts as a catalyst for organizational change. Influences others to translate vision into action.

**\*Written Communication** - Writes in a clear, concise, organized, and convincing manner for the intended audience.

Note: \* included in hypothesis testing.

## FUNDAMENTAL COMPETENCIES

### Public Service Motivation

*Shows a commitment to serve the public. Ensures that actions meet public needs; aligns organizational objectives and practices with public interests.*

1. Demonstrates a commitment to public service
2. Inspires others to be service oriented
3. Makes organizational decisions after considering the impact on the public

### Integrity and Honesty

*Behaves in an honest, fair, and ethical manner. Shows consistency in words and actions. Models high standards of ethics.*

4. Acts in a fair and ethical manner
5. Follows through on commitments and promises
6. Inspires trust and confidence

### Interpersonal Skills

*Treats others with courtesy, sensitivity, and respect. Considers and responds appropriately to the needs and feelings of different people in different situations.*

7. Treats others with courtesy and respect
8. Handles interpersonal problems tactfully
9. Develops and maintains cooperative working relationships

### Oral Communication

*Makes clear and convincing oral presentations. Listens effectively; clarifies information as needed.*

10. Makes convincing oral presentations
11. Explains complex information clearly
12. Listens to others and seeks clarification when needed
13. Ensures that everyone's viewpoint is fully heard
14. Encourages open communication among employees
15. Informs employees of events that might affect their work

### Written Communication

*Writes in a clear, concise, organized, and convincing manner for the intended audience.*

16. Writes convincingly for different audiences
17. Writes in a clear and organized manner
18. Effectively edits complex or sensitive reports and materials

### **Continual Learning**

*Assesses and recognizes own strengths and weaknesses; pursues self-development.*

- 19. Learns from mistakes
- 20. Recognizes own strengths and weaknesses
- 21. Participates in training and self-development activities

## **LEADING CHANGE**

### **Creativity and Innovation**

*Develops new insights into situations; questions conventional approaches; encourages new ideas and innovations; designs and implements new or cutting edge programs/processes.*

- 22. Looks for better ways to accomplish work
- 23. Thinks “outside the box” to improve products, services, and processes
- 24. Encourages creativity and innovation

### **External Awareness**

*Understands and keeps up-to-date on local, national, and international policies and trends that affect the organization and shape stakeholders' views; is aware of the organization's impact on the external environment.*

- 25. Keeps up-to-date with relevant laws, regulations, policies, and procedures that affect the organization
- 26. Monitors political and economic trends that may affect the organization
- 27. Considers external issues affecting the organization when making program decisions

### **Flexibility**

*Is open to change and new information; rapidly adapts to new information, changing conditions, or unexpected obstacles.*

- 28. Is open to new ideas and opinions from others
- 29. Adapts to organizational change
- 30. Changes priorities, when necessary, as situations change

### **Resilience**

*Deals effectively with pressure; remains optimistic and persistent, even under adversity. Recovers quickly from setbacks.*

- 31. Works well under pressure
- 32. Recovers quickly from setbacks
- 33. Overcomes obstacles to obtain needed resources

### **Strategic Thinking**

*Formulates objectives and priorities, and implements plans consistent with the long-term interests of the organization in a global environment. Capitalizes on opportunities and manages risks.*

- 34. Establishes long-term goals and objectives for the organization
- 35. Develops effective strategies to meet organizational goals
- 36. Plans for potential organizational threats and opportunities

### **Vision**

*Takes a long-term view and builds a shared vision with others; acts as a catalyst for organizational change. Influences others to translate vision into action.*

- 37. Builds a shared vision of the organization's future
- 38. Communicates the organization's mission, vision, and values
- 39. Promotes change consistent with the organization's vision

## **LEADING PEOPLE**

### **Conflict Management**

*Encourages creative tension and differences of opinions. Anticipates and takes steps to prevent counter-productive confrontations. Manages and resolves conflicts and disagreements in a constructive manner.*

- 40. Acts before conflict escalates
- 41. Deals with interpersonal problems in a timely manner
- 42. Includes all affected parties in resolving conflicts

### **Leveraging Diversity**

*Fosters an inclusive workplace where diversity and individual differences are valued and leveraged to achieve the vision and mission of the organization.*

- 43. Makes the most of each employee's talents to meet organizational goals
- 44. Respects cultural, religious, gender, and racial differences
- 45. Creates an environment in which diversity is valued

### **Developing Others**

*Develops the ability of others to perform and contribute to the organization by providing ongoing feedback and by providing opportunities to learn through formal and informal methods.*

- 46. Involves employees in important decisions
- 47. Provides employees with constructive suggestions to improve their job performance
- 48. Ensures that staff is capable and trained
- 49. Supports long-term employee development

### **Team Building**

*Inspires and fosters team commitment, spirit, pride, and trust. Facilitates cooperation and motivates team members to accomplish group goals.*

- 50. Creates an atmosphere of cooperation among team members
- 51. Inspires pride and team spirit among team members
  
- 52. Delegates authority to teams
- 53. Builds teams of appropriate size and structure to accomplish work goals

## **RESULTS DRIVEN**

### **Accountability**

*Holds self and others accountable for measurable high-quality, timely, and cost-effective results. Determines objectives, sets priorities, and delegates work. Accepts responsibility for mistakes. Complies with established control systems and rules.*

- 54. Ensures that work responsibilities and assignments are clearly defined
- 55. Sets challenging but realistic performance goals
- 56. Reviews employees' progress toward goals on a regular basis
- 57. Achieves results within set time frames
  
- 58. Manages time effectively
  
- 59. Ensures that important records are maintained and preserved
- 60. Protects the privacy of employees, customers, and members of the public
- 61. Safeguards assets and ensures accountability for property and equipment

### **Customer Service**

*Anticipates and meets the needs of both internal and external customers. Delivers high-quality products and services; is committed to continuous improvement.*

- 62. Anticipates customer needs
- 63. Continuously improves products and services
- 64. Promotes the use of good customer service techniques

### **Decisiveness**

*Makes well-informed, effective, and timely decisions, even when data are limited or solutions produce unpleasant consequences; perceives the impact and implications of decisions.*

- 65. Makes sound and timely decisions
- 66. Makes effective decisions, even when data are limited
- 67. Makes decisions that keep projects moving toward completion

### **Entrepreneurship**

*Positions the organization for future success by identifying new opportunities; builds the organization by developing or improving products or services. Takes calculated risks to accomplish organizational objectives.*

- 68. Promotes the organization's products and services
- 69. Identifies strategies to develop new products and services
- 70. Takes calculated risks to accomplish organizational goals

### **Problem Solving**

*Identifies and analyzes problems; weighs relevance and accuracy of information; generates and evaluates alternative solutions; makes recommendations.*

- 71. Takes the initiative to solve problems affecting the work of the organization
- 72. Gathers information from relevant sources before generating solutions to problems
- 73. Considers and evaluates alternative courses of action when solving problems

### **Technical Credibility**

*Understands and appropriately applies principles, procedures, requirements, regulations, and policies related to specialized expertise.*

- 74. Demonstrates technical expertise in area of responsibility
- 75. Knows relevant procedures, requirements, and regulations
- 76. Is actively sought out by others for technical expertise

## **BUSINESS ACUMEN**

### **Financial Management**

*Understands the organization's financial processes. Prepares, justifies, and administers the program budget. Oversees procurement and contracting to achieve desired results. Monitors expenditures and uses cost-benefit thinking to set priorities.*

- 77. Prepares and justifies a budget that meets program needs
- 78. Uses cost-effective approaches to accomplish work
- 79. Reviews expenditures regularly to keep within budget limitations

### **Human Capital Management**

*Builds and manages workforce based on organizational goals, budget considerations, and staffing needs. Ensures that employees are appropriately recruited, selected, appraised, and rewarded; takes action to address performance problems. Manages a multi-sector workforce and a variety of work situations.*

- 80. Recruits and selects well-qualified employees
- 81. Delegates work effectively
- 82. Provides fair and accurate performance appraisals
- 83. Recognizes employees for doing good work
- 84. Takes corrective action when employees do not meet performance standards

- 85. Provides guidance and support to employees as needed to perform their jobs
- 86. Effectively manages workplace flexibilities (e.g., telework and alternative work schedules)

### **Technology Management**

*Keeps up-to-date on technological developments. Makes effective use of technology to achieve results. Ensures access to and security of technology systems.*

- 87. Identifies new technologies to meet the organization's needs
- 88. Ensures that employees acquire up-to-date technology skills
- 89. Makes cost-effective use of technology to meet the organization's goals

### **Partnering**

*Develops networks and builds alliances; collaborates across boundaries to build strategic relationships and achieve common goals.*

- 90. Develops professional relationships with colleagues inside and outside of the organization
- 91. Builds networks of constituents, stakeholders, and decision-makers
- 92. Encourages collaboration across organizations

### **Political Savvy**

*Identifies the internal and external politics that impact the work of the organization. Perceives organizational and political reality and acts accordingly.*

- 93. Recognizes the political implications of different courses of action for the organization
- 94. Recognizes the needs and perceptions of key stakeholders
- 95. Identifies the internal and external politics that affect the work of the organization

### **Influencing/Negotiating**

*Persuades others; builds consensus through give and take; gains cooperation from others to obtain information and accomplish goals.*

- 96. Identifies common interests of parties in negotiations
- 97. Builds consensus about the appropriate course of action
- 98. Persuades others to adopt recommendations

Appendix C - Supplemental Survey

**Thank you for taking part in this optional supplemental survey. This survey should take 5 to 10 minutes to complete. Your responses to these items are strictly confidential and will not be shared with anyone from your agency. In addition, all identifying information will be removed from the stored dataset.**

1. How long have you been a in a leadership position?
  - I am not in a leadership position
  - Less than 1 year
  - 1-2 years
  - 2-3 years
  - 3-4 years
  - 4-5 years
  - 5-10 years
  - Greater than 10 years

*Please use the “Do Not Know” response only if you feel you do not have enough information to answer the item accurately.*

	Strongly Disagree	Disagree	Neutral	Disagree nor	Agree	Strongly Agree	Do Not Know
2. Most of the time, I prefer being a leader rather than a follower when working in a group.	<input type="radio"/>						
3. I am the type of person who is not interested to lead others.	<input type="radio"/>						
4. I am definitely not a leader by nature.	<input type="radio"/>						
5. I am the type of person who likes to be in charge of others.	<input type="radio"/>						
6. I believe I can contribute more to a group if I am a follower rather than a leader.	<input type="radio"/>						
7. I usually want to be the leader in the groups that I work in.	<input type="radio"/>						
8. I am the type who would actively support a leader but prefers not to be appointed as leader.	<input type="radio"/>						
9. I have a tendency to take charge in most groups or teams that I work in.	<input type="radio"/>						
10. I am seldom reluctant to be the leader of a group.	<input type="radio"/>						
11. I am only interested to lead a group if there are	<input type="radio"/>						

clear advantages for me.						
12. I will never agree to lead if I cannot see any benefits from accepting that role.	<input type="radio"/>					
13. I would only agree to be a group leader if I know I can benefit from that role.	<input type="radio"/>					
14. I would agree to lead others even if there are no special rewards or benefits with that role.	<input type="radio"/>					
15. I would want to know "what's in it for me" if I am going to agree to lead a group.	<input type="radio"/>					
16. I never expect to get more privileges if I agree to lead a group.	<input type="radio"/>					
17. If I agree to lead a group, I would never expect any advantages or special benefits.	<input type="radio"/>					
18. I have more of my own problems to worry about than to be concerned about the rest of the group.	<input type="radio"/>					
19. Leading others is really more of a dirty job rather than an honorable one.	<input type="radio"/>					
20. I feel that I have a duty to lead others if I am asked.	<input type="radio"/>					
21. I agree to lead whenever I am asked or nominated by the other members.	<input type="radio"/>					
22. I was taught to believe in the value of leading others.	<input type="radio"/>					
23. It is appropriate for people to accept leadership roles or positions when they are asked.	<input type="radio"/>					
24. I have been taught that I should always volunteer to lead others if I can.	<input type="radio"/>					
25. It is not right to decline leadership roles.	<input type="radio"/>					
26. It is an honor and a privilege to be asked to lead.	<input type="radio"/>					
27. People should volunteer to lead rather than wait for others to ask or vote for them.	<input type="radio"/>					
28. I would never agree to lead just because others voted for me.	<input type="radio"/>					

**For the following items please rate your confidence in your ability to perform each of the following tasks. In these questions, "work group" refers to the group of employees currently reporting to you. If you do not have employees currently reporting to you then provide your confidence in your ability to perform these tasks if you did have a team of individuals reporting to you.**

**Rate your confidence level by selecting a number on the 100-point probability scale. For example, 0% reflects not at all confident, 50% reflects an intermediate level of confidence, and 100% means completely confident.**

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
29. I can figure out the best direction for where my work group needs to go in the future.	<input type="radio"/>										
30. I can identify the most critical areas for making meaningful improvements in my work group's effectiveness.	<input type="radio"/>										
31. I can develop plans for change that will take my work group in important new directions.	<input type="radio"/>										
32. I can see the path my work group needs to take in order to significantly improve our effectiveness.	<input type="radio"/>										
33. I can develop trusting relationships with my employees such that they will embrace change goals with me.	<input type="radio"/>										
34. I can obtain the genuine support of my employees for new initiatives in the work group.	<input type="radio"/>										
35. I can develop relationships with my employees that will motivate them to give their best efforts at continuous improvement.	<input type="radio"/>										
36. I can gain my employees' commitment to new goals.	<input type="radio"/>										
37. I can figure out ways for overcoming resistance to change from others whose cooperation we need to improve things.	<input type="radio"/>										
38. I can figure out ways for my work group to solve	<input type="radio"/>										

any policy or procedural problems hindering our change efforts.											
39. I can work with my employees to overcome any resource limitations hindering our efforts at moving the work group forward.	<input type="radio"/>										
40. I can find the needed supporters in management to back our change efforts.	<input type="radio"/>										

**The following items ask you to describe your relationship with your direct supervisor (i.e. the individual who will provide the supervisory rating as part of your OPM Leadership 360 assessment). For each of the items, indicate the degree to which you think the item is true for you.**

41. Do you know where you stand with your supervisor...do you usually know how satisfied your supervisor is with what you do?
  - Rarely
  - Occasionally
  - Sometimes
  - Fairly Often
  - Very Often
42. How well does your supervisor understand your job problems and needs?
  - Not a bit
  - A little
  - A fair amount
  - Quite a bit
  - A great deal
43. How well does your supervisor recognize your potential
  - Not at all
  - A little
  - Moderately
  - Mostly
  - Fully
44. Regardless of how much formal authority he or she has built into his or her position, what are the chances that your supervisor would use his or her power to help you solve problems in your work?
  - None
  - Small
  - Moderate
  - High
  - Very High

45. Again, regardless of the amount of formal authority your supervisor has, what are the chances that he or she would “bail you out” at his or her expense?
- None
  - Small
  - Moderate
  - High
  - Very High
46. I have enough confidence in my supervisor that I would defend and justify his or her decision if he or she were not present to do so.
- Strongly disagree
  - Disagree
  - Neither disagree or agree
  - Agree
  - Strongly Agree
47. How would you characterize your working relationship with your supervisor?
- Extremely ineffective
  - Worse than average
  - Average
  - Better than average
  - Extremely effective

**For the remaining items, please rate the effectiveness of your direct supervisor (i.e. the individual who will provide the supervisory rating as part of your OPM Leadership 360 assessment) on the following leadership competencies.**

	Very Ineffective	Ineffective	Neutral	Effective	Extremely Effective	No Basis to Judge
48. Accountability - Holds self and others accountable for measurable high-quality, timely, and cost-effective results. Determines objectives, sets priorities, and delegates work. Accepts responsibility for mistakes. Complies with established control systems and rules.	<input type="radio"/>					
49. Conflict Management - Encourages creative tension and differences of opinions. Anticipates and takes steps to prevent counter-productive confrontations. Manages and resolves conflicts and disagreements in a constructive manner.	<input type="radio"/>					
50. Creativity and Innovation - Develops new insights into situations; questions conventional approaches; encourages new ideas and	<input type="radio"/>					

innovations; designs and implements new or cutting edge programs/processes.						
51. Decisiveness - Makes well-informed, effective, and timely decisions, even when data are limited or solutions produce unpleasant consequences; perceives the impact and implications of decisions.	<input type="radio"/>					
52. Developing Others - Develops the ability of others to perform and contribute to the organization by providing ongoing feedback and by providing opportunities to learn through formal and informal methods.	<input type="radio"/>					
53. Flexibility - Is open to change and new information; rapidly adapts to new information, changing conditions, or unexpected obstacles.						
54. Integrity and Honesty - Behaves in an honest, fair, and ethical manner. Shows consistency in words and actions. Models high standards of ethics.	<input type="radio"/>					
55. Interpersonal Skills - Treats others with courtesy, sensitivity, and respect. Considers and responds appropriately to the needs and feelings of different people in different situations.	<input type="radio"/>					
56. Oral Communication - Makes clear and convincing oral presentations. Listens effectively; clarifies information as needed.	<input type="radio"/>					
57. Problem Solving - Identifies and analyzes problems; weighs relevance and accuracy of information; generates and evaluates alternative solutions; makes recommendations.						
58. Resilience - Deals effectively with pressure; remains optimistic and persistent, even under adversity. Recovers quickly from setbacks.	<input type="radio"/>					
59. Team Building - Inspires and fosters team commitment, spirit, pride, and trust. Facilitates cooperation and motivates team members to accomplish group goals.	<input type="radio"/>					
60. Written Communication - Writes in a clear, concise, organized, and convincing manner for the intended audience.	<input type="radio"/>					