How do leadership motives affect informal and formal leadership emergence?

GIL LURIA† AND YAIR BERSON‡,*

†Faculty of Welfare and Health Sciences, Department of Human Services, University of Haifa, Haifa, Israel
‡Department of Psychology, Bar-Ilan University, Ramat Gan, Israel

Summary

To what extent and in what ways do leadership motives of potential leaders predict their informal and formal leadership assignments? To address these questions, we conducted two studies in a military setting. In the first study (n = 215), we examined a mediated-mediation model in which we hypothesized that the motivation to lead (MTL) of candidates to an elite unit would predict their teamwork behaviors and their tendency to emerge as leaders of their peers. We further hypothesized that cognitive ability would interact with MTL to predict teamwork behaviors and that teamwork behaviors would mediate the relationship between this interaction and leadership emergence. In Study 2, we followed up 60 candidates who were selected to the unit and examined whether MTL would predict the extent to which they achieved formal leadership roles. The findings of Study 1 supported the hypotheses included in the moderated mediation model. In Study 2, as expected, MTL predicted formal leadership emergence. We discuss several theoretical implications of these findings. Copyright © 2012 John Wiley & Sons, Ltd.

Keywords: motivation to lead (MTL); informal leadership emergence; formal leadership emergence; teamwork behaviors; cognitive ability

One of the key issues that concerns leadership researchers is how to evaluate the leadership potential of individuals (Gough, 1984, 1990; Hogan, Curphy, & Hogan, 1994; Lord, Foti, & De Vader, 1984; Mann, 1959; Stogdill, 1948). What are the distinguishing traits and motives of those who will become informal leaders of their peers? What characterizes individuals who achieved formal positions, such as CEOs, supervisors, or military commanders? And, most importantly, how and under what conditions do such traits explain their chances to emerge as leaders?

The topic of linking leader traits and leadership outcomes has received considerable attention in the last decade (e.g., Foti & Hauenstein, 2007; Hoffman, Woehr, Maldagen-Youngjohn, & Lyons, 2011; Judge, Bono, Ilies, & Gerhardt, 2002; Judge, Piccolo, & Kosalka, 2009; Smith & Foti, 1998). In this work, we chose to focus on leadership motives, which are context-specific leadership traits (Chan & Drasgow, 2001; Kark & Van Dijk, 2007; Van Iddekinge, Ferris, & Heffner, 2009). The study of motives dates back to the 1970s, and much work has examined such motives, in particular dominance and need for power, and linked them with outcomes such as leadership emergence (e.g., Hoffman et al., 2011; Judge et al., 2002; Lord, De Vader, & Alliger, 1986). Although these works laid the foundations for the study of leader motives, with the exception of a few studies (e.g., Anderson & Kilduff, 2009), most research on leadership motives did not focus on the processes by which the motives of potential leaders predict their emergence as leaders as well as their future leadership assignments (Zaccaro, 2007; Zaccaro, Gullick, & Khare, 2008; Zaccaro, Kemp, & Bader, 2004).

The purpose of this study is to fill this void in the leader-trait literature by offering a theoretical model that introduces mechanisms that explain how and under what conditions leadership motives will predict informal and formal leadership emergence. In line with traditional work on motives (e.g., Vroom, 1960), we suggest that

*Correspondence to: Gil Luria, Faculty of Welfare and Health Sciences, Department of Human Services, University of Haifa, Haifa, Israel. E-mail: gluria@univ.haifa.ac.il
†Both authors contributed equally to the writing of this manuscript.

Received 27 July 2011
Revised 09 September 2012, Accepted 24 September 2012

Copyright © 2012 John Wiley & Sons, Ltd.
leadership motives interact with cognitive ability to predict leadership outcomes. We draw on socioanalytic theory (e.g., Hogan & Holland, 2003) to argue that individuals who are highly motivated to lead will seek to influence others by demonstrating behaviors that promote their status as leaders. We examine in a moderated mediation model whether the interaction of leadership motives and cognitive ability will predict leadership emergence through teamwork behaviors (i.e., behaviors associated with cooperating with teammates; Stevens & Campion, 1994), while taking into consideration the role of task competence as another potential mediator.

In order to address our research goals, we conducted two field studies by using independent sources of raters and methods in which we examined leadership motives by using a relatively new construct of motivation to lead (MTL; Chan & Drasgow, 2001). As we specify later, the MTL integrates some of the traditional components of leadership motives (i.e., dominance) with the more recently introduced social-normative and non-calculative motivations (Chan, Rounds, & Drasgow, 2000).

**Leadership traits and motives**

Trait theories of leadership argue that leadership depends on the personal qualities of leaders (Judge et al., 2002; Stogdill, 1948; Zaccaro, Foti, & Kenny, 1991). Despite ebbs and flows in the study of leadership traits, research on traits has been prominent throughout the history of leadership research (Zaccaro, 2007). Following the introduction of the Five Factor Model of Personality (Goldberg, 1990), there has been a resurgence of interest in associating personality traits with leadership outcomes (e.g., Judge et al., 2002; Zaccaro, 2007). In particular, three meta-analyses (Hoffman et al., 2011; Judge et al., 2002; Lord et al., 1986) found links between general and specific personality dimensions, and leader emergence and effectiveness (Judge et al., 2002).

With some variations, the results of these meta-analyses suggest that extraversion and, in particular, the facets of self-confidence, dominance, and sociability were the strongest predictors of leadership emergence. The results of the analysis of Judge et al. (2002) indicated that with respect to extraversion, “measures of dominance and sociability better predicted leadership than did overall measures of Extraversion” (p. 774). Hoffman et al. (2011) also found that energy, self-confidence, and dominance were “narrow conceptualizations of individual differences that are more closely matched to the criterion domain (and thus) should engender the strongest relationship (with leadership outcomes)” (p. 20). Overall, the meta-analytic findings and reviews point to a family of related predictors of leadership emergence that are “conceptually similar constructs under different labels” (Hoffman et al., 2011, p. 21), such as dominance and need for power.

Dominance, regarded by abundant research as a strong predictor of leadership, is defined as “the tendency to behave in assertive, forceful, self-assured ways” (Anderson & Kilduff, 2009, p. 491). Dominant individuals tend to be more active in groups, speak assertively, and make direct eye contact (e.g., Aries, Gold, & Weigel, 1983). Research on dominance associated it, among other things, with influencing group members in experimental and field settings as well as with employee occupational advancement (Anderson & Kilduff, 2009; Harms, Roberts, & Wood, 2007; Hogan, Rybicki, & Borman, 1998). In a study of a military sample, dominance was found to distinguish between leaders and non-leaders (Rueb, Erskine, & Foti, 2008).

Related to the trait of dominance are motives that reflect individuals’ needs to influence and achieve, in particular the need for power (e.g., McClelland, 1975). Scholars (e.g., McAdams & Olson, 2010) view motives as particularized and contextualized personality dimensions that link with behaviors better than general personality dimensions. Motives reflect choices and plans which individuals make that are consistent with their identity and needs. For example, McClelland (1975) offered three basic needs of individuals, represented in the motives for achievement, power, and intimacy (Winter, John, Stewart, Klohnen, & Duncan, 1998). Although all of these motives have been linked with leadership outcomes, the need for power, defined as “the desire to have an impact...to be strong and influential” (McClelland & Burnham, 2003, p. 120), was the strongest predictor.

Despite their predictive power, both dominance and the need for power tend to underspecify important aspects of leader motives. For example, Anderson and Kilduff (2009) noted that “trait dominance is unrelated to many of the
tasks and social competencies required in leaders…” (p. 491). Others found high positive correlations between dominance, and hostility and negative outcomes, and between dominance and narcissism (Raskin, Novacek, & Hogan, 1991; Tepper, 2000). McClelland and colleagues noted that although power motive may be a predictor of effective management, it could also harm organizations if not used with inhibition (McClelland & Boyatzis, 1982; McClelland & Burnham, 2003). Finally, research on ideal leadership perceptions found that individuals tend to view traits such as “dominant” and “domineering” as anti-typical of ideal leaders (Epitropaki & Martin, 2004). Beyond these conceptual issues, measures of leadership motives, such as the need for power, have been criticized for their tendency to rely on projective tests (Chan & Drasgow, 2001; Winter, 1991).

Recognizing these limitations, Chan and Drasgow (2001) introduced the construct of MTL, which is highly related to the aforementioned family of leadership motives. Yet, they claimed it to have both methodological and conceptual advantages over some of the aforementioned constructs. Specifically, Chan and Drasgow (2001) presented the MTL as a “psychometrically sound measure of individual differences in MTL” (p. 482) when compared with earlier measures of leader motives (e.g., McClelland’s need for power). Second, although the items in typical measures of dominance (e.g., Narcissistic Personality Inventory; Raskin & Terry, 1988) and the MTL partially overlap, from a leadership point of view, measures of dominance are contaminated because they include items that are less conceptually linked with leadership. Moreover, the MTL encompasses other sources of motivations beyond dominance, such as need for harmony and approach to social obligation (Chan & Drasgow, 2001). Considering the aforementioned limitations and in line with these advantages, we elected to use the MTL construct in order to test our succeeding hypotheses.

Chan and Drasgow (2001) defined the MTL as “an individual differences construct that affects a leader’s or leader-to-be’s decisions to assume leadership training, roles, and responsibilities and that affect his or her intensity of effort at leading and persistence as a leader” (p. 482). MTL represents individual differences that are stable over time and which may interact with ability, to predict leadership behaviors such as participation in leadership roles (Chan & Drasgow, 2001). They specifically argued that MTL is a within-person trait predicting direction, intensity, and persistence of behavior (e.g., Kanfer, 1990), and that MTL evolves as a result of personality traits, self-efficacy, and individual values. In their validation of the construct, Chan and Drasgow (2001) distinguished it from personality traits such as extraversion. Others have replicated these results and further established the discriminant validity of the MTL with respect to related personality constructs (Hendricks & Payne, 2007).

In line with the literature on dominance and need for power, Chan and Drasgow (2001) argued that individuals who are highly motivated to lead are determined to become leaders. They specifically stated that such individuals seek to improve their leadership skills, knowledge, and style and ultimately assume leadership positions. They began to examine process outcomes of MTL; however, their work focused solely on linking the MTL with a nomological network of variables and did not include an examination of its leadership outcomes. Unfortunately, both the research on MTL and to a large extent on other leadership motives (see Anderson & Kilduff, 2009 for an exception) did not consider mechanisms and boundary conditions of the relationship between leadership motives and leadership emergence. Indeed, Judge et al. (2002) noted that “we have a relatively poor idea of not only which traits are relevant (for leadership), but why (are they relevant)” (p. 774). Consequently, a key goal of our work is, in addition to testing MTL as a predictor of leadership emergence outcomes, to examine such mechanisms and boundary conditions with respect to the MTL.

**Linking leadership motives with leadership outcomes**

Chan and Drasgow (2001) proposed that the MTL has three dimensions, one of which is affective-identity motivation, an intrinsic approach whereby individuals enjoy opportunities to lead. This dimension largely overlaps with dominance and the need for power. In addition, the MTL is composed of two other motives, including social-normative motivation, where individuals lead out of a sense of duty and responsibility, and non-calculative motivation, where individuals are motivated to lead not as a result of cost–benefit calculations. Individuals high on affective identity like to lead and view themselves as having leadership qualities. They are outgoing and sociable,
value achievement, have past leadership experiences, and are highly confident (Chan & Drasgow, 2001). Those who emphasize social-normative motives are motivated by social duty and obligation. Finally, individuals high on non-calculative motives lead because they value group harmony (Chan & Drasgow, 2001).

We argue that the rationale for the direct relationship between MTL and leadership outcomes is rooted in early approaches to motivation, such as Vroom’s expectancy theory. Vroom (1964) argued that the tendency to act (motivation) depends on both the expectation that the act will be followed by an outcome, and the extent to which this outcome is valued by the individual. Individuals who are motivated to lead value the outcome of leading others and influencing them to perform, because this is aligned with their identity, is socially expected, or seen as potentially beneficial to them. Other approaches that help link MTL and leadership outcomes focus specifically on managers’ motivation. For example, studies on the motivation to manage found that individuals who are motivated to manage performed better as managers than those who have lower motivation to manage (e.g., Miner, 1978). Other evidence for the direct relationship between leadership motives and outcomes comes from a study (Van Iddekinge et al., 2009) that found that affective-identity MTL of leaders, in the formal role of military officers, was associated with leadership effectiveness.

Overall, however, there has been limited systematic research that demonstrated how leadership motives translate into leadership outcomes. Specifically, previous research did not explore the social processes through which motives affect leadership emergence. Indeed, work (Anderson & Kilduff, 2009) on the relationship between a key leadership motive, dominance, and leadership outcomes demonstrated the importance of uncovering the mechanisms through which motives affect outcomes. As with other leadership motives, the logic for the association between dominance and leadership is more complex than it appears at first glance (Anderson & Kilduff, 2009). Although dominant individuals seek control as a result of their personality, Anderson and Kilduff (2009) argued that dominance is unrelated to many tasks associated with leading groups. In their work, they demonstrated that through their socially and technically competent appearance, dominant individuals influence others. We extend their work by examining a different mechanism through which leadership motives affects leadership emergence as well as a condition of this relationship.

We propose a theoretical model in which we argue that leadership motives in conjunction with ability predict individuals’ potential to emerge as leaders. We conducted two studies to examine this model. In Study 1, we test a mediated-moderation model (Figure 1) in which leadership motives interact with cognitive ability to predict teamwork behaviors and leadership emergence. We further tested whether the interaction between leadership motives and cognitive ability was mediated by teamwork behaviors when predicting informal leadership emergence. In Study 2, we conducted a time-lagged examination in order to test whether leadership motives predicted formal leadership emergence 1 year following the measurement of these motives. To be more confident about our conclusions regarding the relationship between leadership motives and the aforementioned outcomes, we chose to control for both core self-evaluations (CSE) and cognitive ability.

![Figure 1. A mediated-moderation model linking MTL with leadership emergence](image-url)
As we say earlier and in line with Chan and Drasgow’s (2001) work, we examine leadership motives by using the MTL and argue that it will predict their emergence as informal leaders of their group and their future assignments as leaders in their organization. The distinction we use between formal and informal leadership emergence is consistent with earlier work on the topic (e.g., Carson, Tesluk, & Marrone, 2007; Hollander, 1958; Wheelan & Johnston, 1996). Informal leadership emergence refers to individuals in groups who exert influence over peers and emerge as leaders, whereas formal leaders are appointed or designated by an external authority, which is hierarchically positioned and has a responsibility for the unit processes and outcomes (Carson et al., 2007). Both informal and formal leaders receive credit from evaluators who view them as leaders and exert influence over their constituents (Hollander, 1958). However, their leadership behaviors are often different. For example, formally appointed leaders tend to be more task-oriented, whereas informal leaders are more communicative with their peers (Wheelan & Johnston, 1996). This distinction between informal and formal emergence recurs in the leadership literature, for example, in the form of shared versus hierarchical leadership or in work on self-managing work teams (Manz & Sims, 1987; Pearce & Conger, 2003). It is also consistent with literature indicating that different sources of raters represent different nomological networks (Luria & Kalish, in press). In Study 1, we focus on informal leadership emergence.

Study 1—Leadership Motives and Leadership Emergence: A Mediated Moderated Approach

Earlier work on leadership motives highlighted that individuals who are high on leadership motives would seek situations where they can demonstrate higher intensity of leading and persistence as leaders (Anderson & Kilduff, 2009; Chan & Drasgow, 2001; McClelland & Boyatzis, 1982). Such individuals would look for situations in which they can exert influence over others. The rationale for this relationship comes from work on personality (e.g., Conway, 2000; Hogan & Shelton, 1998), suggesting that individuals’ personality is a precursor of their behaviors and social interactions. In other words, “... a person is motivated to engage in behaviors consistent with his or her identity but not behaviors that are inconsistent” (Conway, 2000, p. 42).

In line with this argument, Anderson and Kilduff (2009) found that individuals’ personality (dominance) predicted the extent to which they influenced other group members, taking into consideration task and social competence as mediators of this relationship. Whereas their findings point to the importance of processes by which personality translates into leadership outcomes, in this study, we take a comprehensive approach testing both mediators and a moderator of this relationship at the same time. As they noted in the Limitations and future research section, Anderson and Kilduff (2009) conducted their studies in a lab setting, whereas we test our hypotheses in a competitive environment on recruits in larger groups, where participants’ stakes are higher and thus are more likely to authentically display dominance. Finally, we propose a different mediating process, individuals’ teamwork behaviors, which rather than emphasizing the extent to which individuals appear competent, highlights the behaviors in which emerging leaders engage in order to influence others to view them as leaders.

We argue that individuals’ teamwork behaviors would serve as a mechanism by which MTL (together with cognitive ability) explains leadership emergence. These are behaviors that facilitate individual’s influence on other group members through forming positive social ties with peers and by providing a direction to the group. This argument is highly consistent with socioanalytic theory, which argues that individuals, who are motivated to seek status, when working in groups, will look for ways “to get along with other members of the group and to get ahead or achieve status vis-à-vis other members of the group” (Hogan & Holland, 2003, p. 100). In line with this theory, we argue that individuals who are highly motivated to lead will seek to influence peer members in order to establish their status as leaders.

In order to better understand the mechanisms by which leadership motives affect informal leadership emergence, we chose to include an additional mediating factor that represents a critical aspect of participants’ task competence, namely, their navigation skills. On the basis of the argument that competent individuals are those who achieve
leadership roles, previous research has demonstrated that in order to emerge as leaders of their groups, individuals need to display both social and task-related skills (Anderson & Kilduff, 2009; Van Vugt, 2006). Taking into consideration the content of the dimensions of the MTL which emphasize relational and social-oriented motives, we expect teamwork behaviors to be the central mediating mechanism. In line with this argument, our theoretical model and hypotheses include only the social mechanism (teamwork behaviors); however, we also tested technical competence as a potential mediator of the relationship between leadership motives and leadership emergence in Study 1.

**Linking leadership motives with informal leadership emergence**

Informal leadership emergence has been long considered a key criterion of leadership (Hogan et al., 1994; Judge et al., 2002). Schneider and Goktepe (1983) suggested that emerging leaders are those group members who exert significant influence over other members of the group to which they belong, although no formal authority has been assigned to them. That is, emerging leaders are more likely than other members to influence the activities of fellow group members (De Souza & Klein, 1995).

Given that those who emerge as leaders are endorsed and supported by their peers, leadership emergence depends also on the personal attributes of the emerging leader that systematically affect how others view him or her (Conway, 2000; Zaccaro et al., 2008). In line with this argument, we propose that leadership emergence is an outcome of leadership motives, as conceptualized by the MTL (Chan & Drasgow, 2001). Support for the link between MTL and leadership emergence also comes from extant research, which associated dominance and need-for-power with leadership emergence (e.g., Judge et al., 2002; Thomas, Dickson, & Bliese, 2001). However, given that dominance only partially overlaps with the MTL, the relationship between the MTL and leadership emergence is yet to be examined.

Specifically, dominance and the affective-identity dimension of the MTL mostly represent individuals’ inclination to “get ahead,” whereas other dimensions of the MTL (i.e., non-calculative) capture “getting along” traits, such as valuing harmony (Chan & Drasgow, 2001; Hogan & Holland, 2003).

Overall, we argue that because one’s MTL represents his or her inclination to influence others (Chan & Drasgow, 2001; Kark & Van Dijk, 2007) because of their identity as leaders, the social influence they experience, and their agreeable disposition, we expect that individuals who are high on the MTL would emerge as leaders. Such individuals will exert influence over their peers, feel more obligated to lead, and display more socio-emotional qualities such as empathy, which other members of a group may interpret as cues of their prosocial tendency (Batson, 1998; Van Vugt, 2006). In summary, these individuals, who are high on the MTL, are more likely to be seen as leaders than those who display less MTL.

**Hypothesis 1**: MTL will be positively correlated with leadership emergence

**Linking leadership motives and cognitive ability with teamwork behaviors**

We also expect that individuals who are highly motivated to lead will exhibit more teamwork behaviors. Teamwork behaviors are defined as the very basic acts of individuals that are observable to other team members and contribute to the team process (Tasa, Taggar, & Seijts, 2007). Earlier research associated teamwork behaviors with individual characteristics such as self-efficacy, agreeableness, conscientiousness, and cognitive skills, including task-relevant knowledge (Tasa, Sears, & Schat, 2011; Tasa et al., 2007). Teamwork behaviors may be in the form of interpersonal skills, such as conflict resolution and communication and self-management skills, namely, task coordination and performance management (Stevens & Campion, 1994; Tasa et al., 2011). Furthermore, teamwork behaviors are overt actions and involve verbal statements that contribute to the team’s task coordination (Rousseau, Aubé, & Savoie, 2006; Tasa et al., 2011). Tasa et al. (2011) gave an example of an individual who is engaged in such behaviors, stating that such “team member (s)...steer their fellow team members toward on-topic conversations, suggest setting time deadlines for completing tasks, or attempt to resolve a conflict within the group” (p. 32).
We argue that individuals who seek opportunities to lead have a strong sense of duty and responsibility, and those who are not driven by cost–beneﬁt calculations are more likely to exhibit teamwork behaviors. Such individuals would be more active team members as compared with those members who are less motivated to lead and will seek opportunities to inﬂuence other team members (Chan & Drasgow, 2001). As such, they will engage in teamwork behaviors that allow better expression of their MTL, such as communication, collaborative problem solving, task coordination, and planning (Salas, Burke, & Cannon-Bowers, 2000; Stevens & Campion, 1994; Tasa et al., 2007). We summarize these expectations in Hypothesis 2.

Hypothesis 2: MTL will be positively correlated with teamwork behaviors.

In addition to the direct effect of leadership motives, we also expect that such motives in conjunction with cognitive ability will predict individuals’ teamwork behaviors. Speciﬁcally, we argue that the MTL of individuals with higher cognitive ability will be a stronger predictor of teamwork behaviors. Previous research found direct links between cognitive measures, such as task-relevant and declarative knowledge, and teamwork behavior, measured in terms of communication skills and collaborative problem-solving skills (e.g., Ellis, Bell, Ployhart, Hollenbeck, & Ilgen, 2005; Tasa et al., 2007). In line with our focus on leadership motives, we do not hypothesize here a direct link with teamwork behaviors but rather focus on the interaction between MTL and cognitive ability as related with teamwork behavior.

This expectation that cognitive ability will interact with leadership motives is consistent with an earlier work that found that a cluster of emerging/effect leaders included, among other things, both the traits of dominance and intelligence, measured by the Scholastic Aptitude Test (SAT) scores (Foti & Hauenstein, 2007). Notwithstanding the important contribution of this work, in our study, we aim to test more speciﬁcally how ability affects the relationship between leadership motives, teamwork skills, and leadership emergences. As such, we co-examine the processes, teamwork behaviors and technical competence, and a boundary condition (cognitive ability) that explain who emerges as a leader. Beyond the research on leadership, there is much theoretical support for the interaction between ability and motivation factors in predicting behavior. For example, Vroom (1960) found that among high aptitude individuals, need for independence was related with performance. More recent evidence (Wright, Kacmar, McMahan, & Deleeuw, 1995) indicated that the interaction between cognitive ability and motivational factors predicted job performance above and beyond the direct relationship between cognitive ability and performance.

Although we do not focus directly on job performance, by capturing behaviors such as problem solving and planning, teamwork behaviors represent an individual-level behavioral outcome. In line with the rationale of the aforementioned studies, we argue that in order to solve problems in team settings, individuals will need to both utilize their domain-speciﬁc cognitive ability (e.g., Tasa et al., 2007; Tasa et al., 2011) and display their motivation to take a more active part in the team. In sum, we hypothesize the following:

Hypothesis 3: Cognitive ability will interact with MTL to predict teamwork behaviors, such that at high levels of cognitive ability, the positive relationship between MTL and teamwork behaviors will be stronger than under low levels of cognitive ability.

Predicting leadership emergence: A mediated-moderation model

In our model (Figure 1), we suggest that individuals with high leadership motives and cognitive abilities facilitate their teamwork behaviors in order to emerge as leaders of their peers. Later, we ﬁrst discuss the link between individuals’ teamwork behaviors and leadership emergence, followed by the mediating effects of teamwork behaviors.

We argue that individuals who display high levels of teamwork behaviors, such as high coordination, problem-solving, and communication skills, are more likely to be seen by their peers as informal leaders. Building on earlier work that associated teamwork behaviors with team performance, we suggest that individuals who engage in teamwork behaviors may be seen by peers as supporting the social context of the team and thus are likely to be
viewed as emerging leaders (e.g., Morgeson, Reider, & Campion, 2005; Stevens & Campion, 1994; Tasa et al., 2007; Tasa et al., 2011). Indirect evidence for this argument comes from research that found that individual’s ability to contribute to the achievement of group goals was associated with their potential to emerge as leaders (Ghidelli, 1971; Heslin, 1964; Lord et al., 1986). Therefore, we argue the following:

**Hypothesis 4**: Teamwork behaviors will positively correlate with leadership emergence.

Finally, we argue that teamwork behaviors will mediate the effects of the interaction between leadership motives and cognitive ability on leadership emergence. We build this argument on a recent study that found that task and social competence, more specially, appearing competent, mediated the relationship between dominance and influencing the group (Anderson & Kilduff, 2009). As we noted earlier, although this mediating mechanism appears similar to teamwork behaviors at first, it emphasizes ability, whereas we base our teamwork measure on actual observations of overt actions taken by individuals who are invested in a real-life situation (Rousseau et al., 2006). Furthermore, we argue that teamwork behaviors mediate the interaction between leadership motives and cognitive ability. Stated differently, individuals who are both highly motivated to lead and cognitively capable will display more teamwork behaviors and consequently will gain respect from peers and emerge as leaders.

Whereas we discussed earlier the direct link between leadership motives and leadership emergence (Hypothesis 1), in this section, we seek to enhance the contribution of our work by explaining how and under what conditions these motives explain leadership outcomes. We follow early theoretical work by calling for integration of traits and capabilities to explain leadership outcomes. For example, Zaccaro (2007) argued that “...leadership (is) derived from an integrated set of cognitive abilities, social capabilities, and dispositional tendencies...” (p. 12). Following on this rationale, we examine together a disposition (leadership motives), cognitive ability, and a social capability (teamwork behaviors) in predicting a leadership outcome (leadership emergence).

**Hypothesis 5**: The relationship between the interaction of MTL and cognitive ability and leadership emergence will be mediated by teamwork behaviors.

**Method**

**Sample and procedure**

Participants were 215 Israeli military recruits (all participants were 18 years old) who volunteered for a 2-day selection procedure for a military unit. All recruits were male (from an all-male unit) and had completed their high-school education. The selection procedure took place in outdoor conditions and resembled an assessment center, where multiple observers and raters evaluate the candidates with psychological tests and military simulation. The recruits participated in this selection voluntarily and had the right to withdraw from this difficult and demanding procedure at any given time. Indeed, of the 215 recruits who started the selection procedure, 33 quit. Consequently, we tested our hypotheses on a sample of 182 recruits.

In order to effectively capture the candidates’ ability and traits, the observers examined them in groups of about 12 individuals (the commanders made sure that the recruits in each group did not know each other). Observers evaluated the recruits by using code numbers printed on the recruits’ shirts, which remained visible throughout the procedure. The selection ratio of recruits accepted to the unit was about 30 percent.

Participants agreed to take part in this study after it was made clear to them that participation was not mandatory. The first author administered surveys, including the MTL (Chan & Drasgow, 2001) and CSE scales (Judge, Erez, Bono, & Thoresten, 2003) together with the cognitive test prior to the selection procedure (before the recruits were even separated into groups). This was carried out at least a day before we measured leadership emergence to assure that all individual differences were measured prior to assessments of group processes and leadership outcomes.
Following previous research on leadership emergence that is generally conducted in situations where no member of a team has been vested with formal authority, we measured leadership emergence by asking team members to rate each other, in order to capture members’ attributions of leadership (Taggar, Hackett, & Saha, 1999; Usoff & Nixon, 1998; Zaccaro et al., 1991). Specifically, we administered a peer assessment questionnaire, asking participants to evaluate each other’s leadership after the recruits had spent time together for at least one full day of the selection procedure.

**Measures**

*Motivation to lead.* This survey includes 27 items that assess the three MTL factors: affective identity (sample item: “Most of the time, I prefer being a leader rather than a follower when working in a group”), social normative (sample item: “I feel that I have to lead others if I am asked to”), and non-calculative (sample item: “I am only interested to lead a group if there are clear advantages for me”; Chan & Drasgow, 2001). Responses ranged on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree).

*Cognitive ability.* We used the Bennett Mechanical Comprehension Test (BMCT; Bennett, 1969) to measure cognitive ability. This is a 68-item test, commonly used by the Israeli military. BMCT measures three primary cognitive abilities: mechanical information, spatial visualization, and mechanical reasoning or understanding. Scores ranged from 0 (failed all the questions) to 10 (completed successfully all of the questions). The test examines the ability to perceive and understand the relationship of physical forces and mechanical elements in practical situations. These abilities are highly relevant for success as a soldier in this elite unit.

*Core self-evaluation.* We elected CSE as a control because its dimensions have been shown to be strong correlates of most of the variables under study: including MTL, leadership outcomes, and in particular leadership emergence (Chan & Drasgow, 2001; Erez & Judge, 2001; Judge, Erez, & Bono, 1998). CSE is “defined as basic conclusions or bottom-line evaluations that individuals hold about themselves” (Judge & Bono, 2001, p. 80). CSE focuses, among other things, on the overall value that one places on oneself as a person, as well as on generalized efficacy beliefs. We used the 12 items of the CSE scale (CSES; Judge et al., 2003). The CSES measures specific core traits including self-esteem, generalized self-efficacy, emotional stability, and locus of control. Responses were rated on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Sample item is “I am confident I will achieve the success I deserve.”

*Teamwork behaviors.* Research on teamwork behaviors offers two broad categories representing interpersonal and self-management behaviors (e.g., Barry & Stewart, 1997; Salas et al., 2000; Stevens & Campion, 1994; Tasa et al., 2007; Tasa et al., 2011). For example, among the behaviors in the interpersonal category are communication, emphasizing open communication and listening to peers. The self-management category included task coordination and planning, synchronization of activities and information, establishing task expectations, and ensuring appropriate balance among peers (Stevens & Campion, 1994). Furthermore, this self-management category included monitoring and evaluating peers, and providing detailed feedback on their performance on the task (Stevens & Campion, 1994; Tasa et al., 2011). In line with research by Tasa et al. (2007), which emphasized overt behaviors, we used observable behaviors that capture these categories. However, because we measured leadership emergence by using a peer evaluation, we relied on external observers as part of the selection procedure to assess teamwork behaviors. Consequently, all of our measures were obtained from different sources.

Teamwork behaviors were evaluated by between two and four observers who were former commanders, now on reserve duty in the unit for which participants of these studies were potential candidates. The Army trains these observers extensively by using lectures, simulations of the selection procedure, and post action reviews conducted by military psychologists. These psychologists emphasize the dimensions to observe and the structured format of the evaluation. In addition to assessing teamwork skills, the observers also evaluate other skills such as navigation. One of the goals of the training is to assure that the raters assess the dimensions required by the military.
Another goal of this training is to reduce the likelihood of biases common in assessment centers, such as inflated correlations among ratings of post-exercise dimensions (e.g., Lance, Lambert, Gewin, Lievens, & Conway, 2004). Evidently, we found a 0.16 correlation between observers’ assessments of task competence, evaluated in terms of navigation skills and teamwork behaviors.

In order to assess teamwork behaviors, the Army uses a simulation that consisted of crossing an obstacle course that was marked as a minefield. The simulation included passing the minefield by using only pieces of metal and wooden beams. While individuals pass through this simulation, observers are able to assess both communication and self-management behaviors (Tasa et al., 2011). For example, because of the highly interdependent nature of this task, recruits must maintain excellent communication with peers and at the same time be open to listening to them. Despite the need to demonstrate better skills than fellow recruits, in order to pass the obstacles, individuals must maintain conflicts at a functional level, thus “get along” with others (Hogan & Holland, 2003). Furthermore, given that this is a leaderless group, recruits have to initiate planning (e.g., engage in a group discussion as to how to cross the minefield), provide feedback to peers who are doing well or failing the task (e.g., preventing them from stepping on a “mine”), and monitor others’ performance (e.g., giving instructions required to maintain coordination, necessary to pass the minefield), all of which represent “getting ahead” (Hogan & Holland, 2003).

On the basis of observing the aforementioned behaviors, observers evaluate the overall contribution of each recruit by using a scorecard ranging from 1 to 10, where 1 represented poor teamwork and 10 was excellent teamwork. The observers were blind to the hypotheses of this study. In order to assess the inter-rater agreement among these observers, we used a special form of intraclass correlation coefficient (ICC) called ICC (1,k) (see Shrout & Fleiss, 1979 for a similar procedure). This form of ICC is adjusted for having a varying number of raters for different participants. The average ICC (1,k) was 0.77, indicating agreement among raters. We used the mean of the ratings of all observers to calculate the scores of teamwork behavior, and because the distribution of variable scores was skewed, a logarithmic transformation was used on the measure.

Task competence (navigation skills). Given the nature of this combat unit, a critical part of the task of soldiers in the unit is to be able to navigate without a map through a rough terrain. Navigation of this sort requires high spatial-processing skills (Teplitzky & Busciglio, 1994), which military organizations define as individual’s ability to maintain his or her bearings with respect to points on a compass as well as demonstrate ability to perceive his or her location relative to the environment (Peterson, 1987). Such skills are measured using tests in which individuals are examined on their ability to utilize information from a map (e.g., Ackerman & Kanfer, 1993). Accordingly, the test that was used by the unit in this study involved handing a map to recruits in the beginning of the selection, asking them to memorize a navigation route and familiarize themselves with its surroundings. At a later point in the selection, recruits are tested on this information, this time without the map. The test is conducted by a retired officer with an extensive experience in navigation by using an open-question format (sample questions: “Which is the shortest route in order to get from one coordinate to another?” and “How would you know (using information from the environment) where should you make a turn?”). Overall, the officer asks each recruit five questions and assigns them a grade ranging between 1 and 5. The questions have a correct answer, and if correct, recruits obtain a point per question.

Leadership emergence. We measured leadership emergence by following existing procedures (Goktepe & Schneier, 1989; Neubert & Taggar, 2004; Taggar et al., 1999) in which participants are asked to indicate who they perceive as a leader in their group. In line with these procedures, we did not specify a definition of leadership but rather simply asked participants to nominate leaders. Using the code printed on participants’ shirts for observer evaluation purposes (see Sample and procedure in Study 1), we asked participants to indicate whether they viewed each of the other participants as leaders. The first author collected these evaluations and calculated a leadership emergence score for each participant, which represented the ratio of members who identified him as a leader (see Neubert & Taggar, 2004 for the same procedure). A higher ratio indicated a higher degree of shared perception of leadership emergence. Technically, this measure ranged from 0 (no group member selected the participant as leader) to
(all group members selected the participant as a leader), and the range of scores was 0 to 0.70. All participants in this study were assigned these emergence scores. In order to verify that there was no variation in emergence ratings across groups, we conducted an ANOVA analysis and found no differences in ratings by individuals from different groups ($F = 0.45$, NS). Neubert and Taggar (2004) provided significant support for using this single-item measure. They referred to work by Kane and Lawler (1978) who found a 0.77 reliability estimate for single-item peer nominations.

**Results and discussion**

Given the relatively recent introduction of the MTL (Chan & Drasgow, 2001), there is limited evidence for the structure of the measure. Some early analyses used a three-factor model (e.g., Chan & Drasgow, 2001; Chan et al., 2000), whereas others used the MTL as a general factor (Chan et al., 2000). In addition, earlier reports (Chan & Drasgow, 2001) of fit indices for the MTL were below expected levels. Taking into account this information, we considered work by Marsh (e.g., Marsh, 1986), which indicated that negatively worded items may be a source of reduced fit in confirmatory factor analysis (CFA). Of 27 items that comprise the MTL scale, 11 items are negatively worded (40 percent of the scale). Other works (e.g., Springer & Hauser, 2006) suggested that item order may also contribute to reduced fit.

To address these issues, we conducted a CFA\(^1\) by using Amos 17 (Arbuckle, 2008) with a method factor on which all negatively worded items were loaded (Marsh, 1986). In addition, we freed the covariances among several error terms of adjacent items within the same factor (Ghorpade, Hattrup, & Lackritz, 1999; Springer & Hauser, 2006). Following these procedures, we obtained adequate fit for the higher order model ($CFI = 0.90$; $RMSEA = 0.056$; Browne & Cudeck, 1993; Hoyle, 1995). Using a chi-square difference test, we compared this model to a three-factor model and found that it had significantly better fit ($\chi^2(1) = 30.20, p < .001$).

We provide descriptive statistics correlations and alpha reliability coefficients in Table 1. As indicated in Table 1, all scales had satisfactory reliability levels. In order to examine our hypotheses, we conducted regression analysis with mean-center predictor variables (Aiken & West, 1991) to test the direct effect of MTL on leadership emergence (Hypothesis 1), the effects of MTL on teamwork behaviors (Hypothesis 2), the interaction between MTL and cognitive ability as predicting teamwork behaviors, controlling for CSE and for team membership (Hypothesis 3), and the effects of teamwork behaviors on leadership emergence (Hypothesis 4). Finally, we tested the mediating effects of teamwork behaviors in the relationship between the interaction of MTL, and cognitive ability and leadership emergence, including the same controls as used earlier (Hypothesis 5). In line with Hypothesis 1, we found a significant effect of MTL on leadership emergence ($\beta = .21$, $p < .05$), controlling for CSE and group membership (referring to the group to which participants were part of in the selection process). We also found support for Hypothesis 2, indicating that MTL had a direct effect on teamwork behaviors ($\beta = .32$, $p < .001$). In addition, we obtained a significant effect for the interaction of MTL and cognitive ability (Hypothesis 3) on teamwork behaviors ($\beta = .16$, $p < .05$). In line with Hypothesis 3, when cognitive ability was high, the relationship between MTL and teamwork behaviors was further strengthened (Figure 2). To test Hypothesis 4, we examined the extent to which teamwork behaviors predicted leadership emergence while considering task competence (navigation skills) and controlling for the variables examined earlier. Consistent with our expectations, we found support for this hypothesis ($\beta = .44$, $p < .001$). We found no significant effect for task competence.

Finally, to examine Hypothesis 5, we tested a mediated-moderation effect (Table 2). Our model (Figure 1) is a first-stage moderation model in which the moderating effect is between the independent variable and the mediator (Edwards & Lambert, 2007). Specifically, we examined whether the effect of the interaction between MTL and cognitive ability on leadership emergence was mediated by both teamwork behaviors and task

\(^{1}\)The sample for the CFA ($N = 323$) was based on all participants who completed the MTL survey from both Study 1 ($N = 215$) and another cohort of recruits in similar selection procedure that participated only in Study 2, to which we had only MTL, CSE, and cognitive ability scores ($N = 108$).
competence. We followed procedures suggested by Edwards and Lambert (2007) and employed a bootstrap procedure to test the size of the indirect effect of the interaction (Edwards & Lambert, 2007; MacKinnon, Fairchild, & Fritz, 2007; Preacher, Bucker, & Hayes, 2007). This non-parametric procedure estimates effects sizes and constructs bias-corrected confidence intervals by drawing 1000 random samples. We report the indirect estimates at two points of the moderator in Figure 2, one standard deviation above and below the mean of the moderator (Preacher et al., 2007). In support of the significance of the indirect effect of teamwork behaviors on the relationship between the interaction of MTL and cognitive ability and leadership emergence, the range of bootstrap estimates produced by the bootstrapping procedure excluded zero. We did not find this effect for task competence (navigation skills).

In summary, the aforementioned findings provided support for all of our hypotheses. The results help clarify the effects of leadership motives on informal leadership emergence. Leadership motives interacted with cognitive ability to predict teamwork behaviors, which, in turn, affected leadership emergence. This mediation effect did not exist when we tested task competence as a mediator. These findings support earlier research on leader motives (e.g., Anderson & Kilduff, 2009), cognitive ability and leadership (Judge, Colbert, & Ilies, 2004), teamwork behaviors (Tasa et al., 2007; Tasa et al., 2011), and extant research on leadership emergence (e.g., Taggar et al., 1999). The findings also support Zaccaro’s (2007) integrative approach to the study of leadership motives in conjunction with abilities, personality, and social capabilities.

In line with this integrative approach, an important criterion of leadership is the actual achievement of a leadership position within an organization (Zaccaro, 2007). Whereas in Study 1 we focused on informal leadership emergence,
in Study 2, we extend our examination of the predictive validity of leadership motives, and specifically of the MTL, and examine whether these motives predict leadership role occupancy or formal leadership emergence. Specifically, our goal was to examine whether the MTL of “leaders to be” will predict their ability to achieve a formal leadership position later in their career, and hence we used a time-lagged design.

**Study 2—Predicting Formal Leadership Emergence with Leadership Motives**

Research on leadership motives, and in particular conceptualizations of the construct of MTL (Chan & Drasgow, 2001), proposed that individuals who are high on leadership motives would self-select into leadership activities, which develop their leadership skills. For example, McClelland (1975) argued that social influence motivation, represented by power motivation (Winter, 1973), should predict managerial success (House & Baetz, 1979; McClelland & Boyatzis, 1982). His work with his colleagues (McClelland & Boyatzis, 1982) provided some support for the link between leadership motives, in particular power, and individuals’ ability to achieve higher formal positions in their organization.

Here, we argue that when individuals display interest and motivation to be leaders, their supervisors are more likely to identify their leadership potential and select them for formal leadership roles. We summarize this expectation in Hypothesis 6.

**Hypothesis 6:** MTL will be positively correlated with formal leadership emergence

---

**Table 2. Results of mediated-moderation regression analysis**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>Standard error</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group membership</td>
<td>.00</td>
<td>.00</td>
<td>-.02</td>
</tr>
<tr>
<td>Core self-evaluations</td>
<td>.05</td>
<td>.08</td>
<td>.05</td>
</tr>
<tr>
<td>MTL</td>
<td>.14</td>
<td>.04</td>
<td>.32**</td>
</tr>
<tr>
<td>Cognitive ability</td>
<td>.06</td>
<td>.03</td>
<td>.12</td>
</tr>
<tr>
<td>MTL $\times$ Cognitive ability</td>
<td>.07</td>
<td>.03</td>
<td>.16*</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Mediator 1 model (predicting teamwork behaviors)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>Standard error</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group membership</td>
<td>.03</td>
<td>.01</td>
<td>.20*</td>
</tr>
<tr>
<td>Core self-evaluations</td>
<td>.40</td>
<td>.22</td>
<td>.15</td>
</tr>
<tr>
<td>MTL</td>
<td>.03</td>
<td>.11</td>
<td>.02</td>
</tr>
<tr>
<td>Cognitive ability</td>
<td>.24</td>
<td>.09</td>
<td>.19**</td>
</tr>
<tr>
<td>MTL $\times$ Cognitive ability</td>
<td>-.03</td>
<td>.09</td>
<td>-03</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Mediator 2 model (predicting navigation skills)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>Standard error</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group membership</td>
<td>.01</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>Core self-evaluations</td>
<td>.01</td>
<td>.01</td>
<td>.07</td>
</tr>
<tr>
<td>MTL</td>
<td>.01</td>
<td>.01</td>
<td>-.05</td>
</tr>
<tr>
<td>Cognitive ability</td>
<td>-.01</td>
<td>.01</td>
<td>-.10</td>
</tr>
<tr>
<td>Navigation skills</td>
<td>-.01</td>
<td>.01</td>
<td>-.09</td>
</tr>
<tr>
<td>Teamwork behaviors</td>
<td>.13</td>
<td>.02</td>
<td>.44**</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Dependent variable model (predicting leadership emergence)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>Standard error</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group membership</td>
<td>.00</td>
<td>.00</td>
<td>.01</td>
</tr>
<tr>
<td>Core self-evaluations</td>
<td>.01</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>MTL</td>
<td>.01</td>
<td>.01</td>
<td>.07</td>
</tr>
<tr>
<td>Cognitive ability</td>
<td>-.01</td>
<td>.01</td>
<td>-.05</td>
</tr>
<tr>
<td>MTL $\times$ Cognitive ability</td>
<td>-.01</td>
<td>.01</td>
<td>-.10</td>
</tr>
<tr>
<td>Navigation skills</td>
<td>-.01</td>
<td>.01</td>
<td>-.09</td>
</tr>
<tr>
<td>Teamwork behaviors</td>
<td>.13</td>
<td>.02</td>
<td>.44**</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: N=181. MTL, motivation to lead.  
*p < .05;  
**p < .01.*
Method

Sample and procedure
Participants ($n = 60$)\(^2\) in this study were those recruits who were selected to the unit in the selection procedure (see Method of Study 1). A year following this selection procedure, some of those accepted to the unit remained in non-leadership roles, whereas others became commanders.

To become commanders, these soldiers had to meet three criteria. First, they had to officially present their candidacy. Although officially required, this condition was less important in differentiating among candidates given that this is an elite unit, where many tend to volunteer for commanding roles. Second, direct commanders recommend candidates to the overall commander of the unit, and together, the commanders decide which of the candidates have leadership potential, on the basis of their professional level as soldiers and their interpersonal skills. Third, those selected had to complete roughly 4 months of intensive commander training courses, which would have included stringent examination of physical ability and leadership in combat.

We note that the commanders who selected participants for leadership roles were blind to both earlier evaluations of these participants by the observers (such as in Study 1) and to the participants’ MTL scores. Overall, about 30 percent of the soldiers selected to the unit later occupy leadership roles (become commanders) during their military service.

Results and discussion

Means, standard deviations, correlations, and reliability coefficients for Study 2 are reported in Table 3. Using logistic regression, we examined whether MTL ratings obtained at time 1 (during selection to the unit) predicted the binary criterion of formal leadership emergence. Results of the regression analysis (Table 4) supported Hypothesis 6. Individuals who had higher MTL scores were more likely to assume leadership roles (serve as commanders) during their military service as compared with those who had lower ratings on the MTL measure. In addition to providing longitudinal evidence for the link between leadership motives and outcomes, these results supported the predictive validity of the MTL measure while controlling for CSE and cognitive ability (see Method section of Study 1).

In order to conduct this study, we tracked individual recruits who went through two stages of selection. They had to first be accepted to the unit and then to be selected for commanding roles in their units. Most individuals do not pass this selection process. Only about 30 percent of participants in the initial 2-day selection procedure (Study 1) were selected to become soldiers in the unit, out of which a third became commanders in the unit. Hence, this selection process limited the sample size of this study. Another limitation of this study concerns the generalization of the aforementioned findings. Although the findings provided support for the predictive validity of the MTL in military settings, further validation of MTL should be extended in future research to contexts other than the military.

General Discussion

Our intention in the aforementioned studies was to further establish the links between leadership motives and leadership outcomes by presenting mechanisms and conditions that explicate this relationship. Although considerable meta-analytical works (e.g., Hoffman et al., 2011; Judge et al., 2002; Lord et al., 1986) have demonstrated links between traits of leaders and leadership outcomes, only limited research (see Anderson &

\(^2\)The sample for this study included those participants who were accepted to the unit, out of which 23 were in Study 1.
Kilduff, 2009, for a notable exception) addressed the mechanisms and conditions that explain this relationship that is central to leadership theory (Zaccaro, 2007).

The results indicated that the MTL of potential leaders predicted both informal and formal leadership emergence while taking into consideration a general personality trait (CSE) and a cognitive ability. In line with our hypotheses (Study 1), we found that MTL significantly interacted with cognitive ability. These findings extend the classic work (e.g., Vroom, 1960) on the interaction of traits and abilities to the study of leadership. Furthermore, teamwork behaviors, which capture social behaviors such as “getting ahead” and “getting along” (Hogan & Holland, 2003), mediated the relationship between this interaction and informal leadership emergence. The importance of teamwork behaviors as a mediator is further emphasized by the lack of support found for task competence (comprised of navigation skills) as a mediator of the same relationship. Our findings in Study 2, using a time-lagged design, provided evidence for the predictive validity of MTL. Overall, our work contributes to understanding how individuals’ leadership motives explain both informal and formal leadership emergence.

One of the main challenges and sources of debate regarding the prominence of the trait approach stems from the relatively limited understanding of the processes by which leader traits affect leadership outcomes (Zaccaro, 2007).

The results indicated that the MTL of potential leaders predicted both informal and formal leadership emergence while taking into consideration a general personality trait (CSE) and a cognitive ability. In line with our hypotheses (Study 1), we found that MTL significantly interacted with cognitive ability. These findings extend the classic work (e.g., Vroom, 1960) on the interaction of traits and abilities to the study of leadership. Furthermore, teamwork behaviors, which capture social behaviors such as “getting ahead” and “getting along” (Hogan & Holland, 2003), mediated the relationship between this interaction and informal leadership emergence. The importance of teamwork behaviors as a mediator is further emphasized by the lack of support found for task competence (comprised of navigation skills) as a mediator of the same relationship. Our findings in Study 2, using a time-lagged design, provided evidence for the predictive validity of MTL. Overall, our work contributes to understanding how individuals’ leadership motives explain both informal and formal leadership emergence.

One of the main challenges and sources of debate regarding the prominence of the trait approach stems from the relatively limited understanding of the processes by which leader traits affect leadership outcomes (Zaccaro, 2007). In order to address this challenge, we examined simultaneously two mediators reflecting relatively diverse processes. One potential explanation for our findings that teamwork behaviors (and not task competence) mediated the relationship between the interaction of leadership motives and cognitive ability in predicting leadership emergence, may be the role of contextual factors (Zaccaro, 2007). Whereas in some situations, in order to emerge as leaders, individuals would need to rely on their technical skills, in others, like ours, social skills are more crucial. Our findings are somewhat inconsistent with those of a recent work (Anderson & Kilduff, 2009) that found both social and task competence to mediate the relationship between dominance and influencing others. One potential explanation for this discrepancy may come from the context and nature of the task under study. Whereas in the study of Anderson and Kilduff (2009) students were examined in a group discussion task, conducted in lab setting, to emerge as leaders, participants in our study heavily depended on peer cooperation under pressure to perform on a highly interdependent task. These stressful conditions possibly enhanced the relevance of teamwork behaviors.
(the social mechanism), so that members who exhibited such behaviors tended to emerge as leaders more than those who did not. Future research may map the conditions under which each of these mechanisms (social- vs. task-oriented) becomes important to explaining the effects of leader traits on outcomes.

In addition to shedding light on the mechanisms by which leader traits affect outcomes, our work is among the first to associate the MTL with leadership outcomes. However, it is certainly not pioneering in linking leadership motives, such as dominance, with leadership behaviors. In order to further integrate our work with the stream of research on dominance, we decomposed the MTL survey and used the affective-identity scale as a proxy for dominance (this scale only partially overlaps with common dominance scales), examining it as a predictor of our outcomes together with the two other dimensions of the MTL (combined). Interestingly, we found that when predicting informal emergence, only the “dominance” dimension of the MTL was significant ($\beta = .23, p < .05$). With formal emergence, however, we found in a logistic regression that the combined dimension (social-normative/non-calculative) was the significant predictor ($\text{estimate} = 1.43, p < .05$, one tailed), whereas “dominance” was insignificant. Although there are probably several ways to interpret these findings, the results of these analyses in Study 1 possibly suggest that given the short period and interaction with peers, individuals instinctively act on the basis of their identity (dominance tendency) to emerge as leaders. In Study 2, however, the motives behind achieving actual (formal) leadership roles may be more complex, involving long-term relationships. As such, motivations that involve social pressure to be a leader and considerations of rewards become more relevant. Future research may explore more antecedents of both informal and formal leadership emergence.

In addition, the aforementioned findings provide varied criteria for validating the MTL measure by using multiple methods of data collection, including paper and pencil tests, observed behavior, surveys, and unobtrusive data. As such, we address a classic goal of social science, namely, the validation of measures by means of empirical criteria (e.g., Nunnally & Bernstein, 1994). This study also contributes to the leadership emergence literature by extending the research of leadership emergence to non-laboratory settings and to non-student populations. As such, it addresses the dearth in research on leadership emergence in natural settings (Neubert & Taggar, 2004; Zhang, Waldman, & Wang, 2012) and provides an opportunity to examine leadership emergence in context.

We chose to include CSE in our model as a general personality trait to be examined in conjunction with a specific motive predicting outcomes (Judge & Kammeyer-Mueller, 2012). In addition, we focused on CSE because it has been shown to relate to most of the variables under study. For example, early research with a similar sample found that CSE correlated with cognitive ability (Luria & Torjman, 2009). Several reviews of the leadership literature (e.g., Judge et al., 2009; Martinko, Harvey, & Douglas, 2007) also presented CSE as associated with leadership emergence. Finally, in their presentation of the MTL, Chan and Drasgow (2001) found leadership efficacy to be correlated with the MTL.

**Practical implications**

The aforementioned findings have implications for managerial developmental purposes. In their theorizing of the construct of MTL, Chan et al. (2000) argued that the “MTL affects participation in leadership roles and training” (p. 242). Per their work, individuals who are high on the MTL will seek to participate and benefit from leadership training. Specifically, the administration of the MTL may help identify individuals with high motivation to participate in such programs and help in mapping the reasons for their decision to join such programs.

It is also possible that the feedback and training given to participants in leadership development programs take into consideration contextual factors, such as peer assessments of leadership emergence, together with their MTL scores. The use of such assessments may add to existing practices, such as 360 feedback systems, by using tailored measures rather than uniform indicators for each rating group. For example, 360 feedback systems have been criticized for inducing situational performance orientation, which undermines individuals’ dispositions (Brett & Atwater, 2001). The use of diverse methods including both dispositional and situational measures may help feedback recipients approach the feedback developmentally rather than solely as an evaluation. For instance, individuals may learn how to express their dispositional MTL in ways that effectively influence both their peers and their supervisors, which, in turn, may lead to their future development as leaders.
Limitations and future research

One limitation of this study has to do with the population of soldiers. We relied on a specific sample of 18-year-old Israeli recruits and soldiers. Although this population is valuable for studying the effects of traits on leadership outcomes, it is a select group of men from a specific culture with relatively similar backgrounds. The use of a homogeneous sample limited the generalizability of the aforementioned findings. Future research should extend the examination of MTL to non-military settings.

A second limitation has to do with conducting a field study within a real-life selection process. Although the selection procedure provided rich unobtrusive information about the participants, it might have biased individuals’ responses to surveys because of social desirability. In spite of this limitation, meta-analytic findings suggest that although social desirability plays a role in personnel selection, it is “not a pervasive problem as has been anticipated by IO psychologists” (Ones, Viswesvaran, & Reiss, 1996, p. 660). We also made sure to separate the administration of the MTL from the selection procedure and to emphasize its voluntary nature. By relying on experienced observers, we reduced the chance of invalid assessment of behavior. Finally, we note that we found reasonable variance in the survey scales and took other precautions, such as using multiple observers and methods.

Although we view the MTL as part of a family of constructs including need for power and dominance and the MTL construct partially overlaps with dominance measures, we did not include a measure of dominance in this research. Interestingly, our effect sizes for both informal and formal leadership emergence largely replicate the meta-analytic findings linking dominance and leadership emergence and effectiveness (Hoffman et al., 2011; Judge et al., 2002). For example, Judge et al. (2002) found a 0.24 effect, exactly the same as we found for informal leadership emergence. We found a 0.28 effect for formal leadership emergence slightly higher than what Hoffman et al. (2011) found for leadership effectiveness (0.27). These rather weak relationships call for consideration of other factors beyond personality in predicting leadership emergence. For example, one may consider abilities, behaviors, and other contextual factors in future research. Indeed, we found a 0.44 correlation between teamwork behaviors and informal leadership emergence. As such, our findings begin to address this limitation.

In addition to examining more independent variables, future research may also extend our findings to other outcomes of leadership, in particular to leadership effectiveness. Another relevant outcome may involve the extent to which individuals are granted with the opportunity to lead (Blumberg & Pringle, 1982). Whereas we considered motivation and ability as predictors of leadership outcomes, one may argue that in order to effectively perform as leaders, individuals need to also have the opportunity to lead. Opportunity, in general, refers to factors beyond individuals’ control, such as forces that enable or constrain task performance (Blumberg & Pringle, 1982). Although MTL and ability may predict one’s chances to achieve a leadership role, if no slots are available, then even motivated and able individuals will not have the opportunity to be leaders. In line with Blumberg and Pringle’s (1982) recommendation, future research may examine the interaction between motivation, ability, and opportunity in predicting leadership emergence and effectiveness.

Conclusion

In the aforementioned studies, we examined a central element of the trait approach to leadership, namely, the extent to which potential leaders’ motives predict their emergence as leaders as evaluated by both their peers and supervisors. We followed a group of Israeli soldiers from the time they were candidates for an elite unit of the military, through their service in the unit, up until some of them became commanders in the unit. In addition to providing evidence for the validity of the MTL, our findings help in delineating the processes and conditions by which leadership motives explain leadership emergence outcomes.

Acknowledgements

We would like to thank Shaul Oreg and Dale Martin for their helpful comments on earlier versions of this manuscript.
Author biographies

Gil Luria is a senior lecturer at the University of Haifa, Faculty of Social Welfare and Health Sciences, Department of Human Services. He conducts research on organizational climate, leadership, and stress. He received his PhD from the Faculty of Management at the Technion-Israel Institute of Technology. Gil has conducted research projects in a variety of organizations, from large manufacturing plants and military organizations, to small factories. His recent work focuses on service and safety climates, stress and emotional contagion, and supervision (leadership)-based intervention studies.

Yair Berson is a senior lecturer of Industrial/Organizational Psychology at the Department of Psychology, Bar-Ilan University in Israel. His research focuses on leadership and individual differences, leadership at strategic levels, and its implications for such phenomena as organizational learning and change. He received his doctoral degree from the State University of New York at Binghamton.

References


Copyright © 2012 John Wiley & Sons, Ltd.  
*J. Organiz. Behav.* 34, 995–1015 (2013)  
DOI: 10.1002/job