This research is an extension of the Baseline Officer Longitudinal Development Study (BOLDS), an ongoing longitudinal project initiated at the United States Military Academy at West Point (USMA) in 1994. West Point graduates from the class of 1998 were recruited from a 10-year reunion celebration during the fall of 2008. Ninety-nine Soldiers completed online measures of leadership and performance. The focus of the present research was on four potential predictors of leader self-development: leader identity, leader self-efficacy, motivation to lead, and learning goal orientation. Contrary to expectations leader identity was not a strong predictor of leader-initiated developmental activity. Consistent with prior research and theory, support for a strong relationship between leader identity, leader self-efficacy, and motivation to lead was demonstrated. Finally, results indicate that motivation to lead alone does not mediate the relationship between identity, self-efficacy, and leader self-development behavior. Overall, results suggest that seeing oneself as a leader and believing in one’s capabilities to lead may be precursors to feeling motivated to participate in leadership roles. Additionally, Soldiers who are motivated to lead are more likely to engage in leader self-development behaviors when they view abilities as something that can be developed.
Leader Identity, Individual Differences, and Leader Self-development

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We would also like to take this opportunity to thank the cadets in USMA’s class of 1998 who participated in BOLDS data collections. Without their continued support we would not have this database from which to examine leader development longitudinally.
EXECUTIVE SUMMARY

Research Requirement:

Within Army Doctrine, self-development is viewed as one of the three pillars of leader development. The purpose of leader self-development is to increase a Soldier’s readiness and potential for positions of greater responsibility; it is a crucial, though often underutilized facet of the leader development process. Because of the likely impact of self-development on leader effectiveness and performance, this research sought to understand factors that contribute to leader-initiated developmental activity. The general framework used in the present research borrows from Day, Harrison, and Halpin's (2009) theoretical work on identity processes in leader development, as well as the empirical work of Maurer and Lippstreu (2008). While portions of the overall framework have received support from prior research, the specific model evaluated in the present research includes new variables and paths not previously tested.

Procedure:

This research is an extension of the Baseline Officer Longitudinal Development Study (BOLDS), an ongoing longitudinal project initiated at the United States Military Academy at West Point (USMA) in 1994. Phase I of the project followed cadets throughout the four years of their pre-commissioning education. Building on the original BOLDS investigation, the goal of Phase II was to further evaluate how members of the class of 1998 have developed over time and how they currently perform in leadership roles ten years after graduation. Phase II assessments included measures of leadership and performance, as well as data on events that shaped the cadet’s leadership development over time.

The focus of the present research was on four potential predictors of leader self-development: leader identity, leader self-efficacy, motivation to lead, and learning goal orientation. Using path analysis in AMOS, relationships were examined between leader identity, individual differences (i.e., motivation to lead, self-efficacy, and learning goal orientation), and leader initiated developmental activity. Self-efficacy and leader identity were hypothesized to be significantly related to motivation to lead, which was thought to partially mediate the relationship between these variables and leader self-development behavior. Also included in the model was learning goal orientation, which was hypothesized to moderate the relationship between motivation to lead and leader self-development behavior. A direct path from leader identity to leader self-development behavior was also specified.

Findings:

Contrary to expectations, leader identity was not a strong predictor of leader-initiated developmental activity. Although not anticipated, the weaker than expected association may
support Day et al.’s (2009) assertion that the relationship between leader identity and behavior is influenced by individual difference variables. Support for a strong relationship between leader identity, leader self-efficacy, and motivation to lead was demonstrated. These results are consistent with the tenets of both motivational and identity theory—that seeing oneself as a leader and believing in one’s capabilities to lead may be precursors to feeling motivated to participate in leadership roles. Finally, results indicate that motivation to lead on its own does not mediate the relationship between identity, self-efficacy, and leader self-development behavior. Findings indicate that individuals who are motivated to lead are more likely to engage in leader self-development when they are oriented toward learning.

Utilization and Dissemination of Findings:

While both a direct and indirect relationship between identity and behavior is supported by theory and empirical study, the present research advances past research by considering the role of leader identity in the leader development process. Overall, the results present a complicated picture of leader development, suggesting avenues for future investigation and intervention. While the results indicate that motivation to lead on its own does not mediate the relationship between identity, self-efficacy, and leader self-development, results do suggest that individuals who are motivated to lead are more likely to engage in leader self-development behaviors when they are oriented toward learning. Given the strong relationship between goal orientation and developmental activity, indoctrinating Soldiers with the belief that knowledge, skills, and abilities are malleable and can be developed could have a strong impact on leader self-development behavior.

A version of this paper was presented during a poster session at the 25th Annual Conference of the Society for Industrial and Organizational Psychology, Atlanta, GA, April 2010.
# LEADER IDENTITY, INDIVIDUAL DIFFERENCES, AND LEADER SELF-DEVELOPMENT

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Leader Identity, Individual Differences, and Leader Self-Development

Potential Predictors of Leader Self-Development

Self-development is a process that individuals undertake in order to gain knowledge or strengthen a skill-set (Confessore & Kopps, 1998). Within Army Doctrine, self-development is viewed as one of the three pillars of leader development (see Figure 1). Self-development is defined as a process used to (1) enhance previously acquired skills, knowledge, and experience (i.e., maximize strengths); (2) minimize weaknesses; and (3) achieve individual development goals (U.S. Department of the Army, 2006; U.S. Department of the Army, 2008). The goal of leader self-development is to increase a Soldier’s readiness and potential for positions of greater responsibility; it is a crucial, though often underutilized facet of the leader development process. According to Army Doctrine FM 7-0, self-development can occur through any number of outlets, and can supplement training in the institutional and operational domains (U.S. Department of the Army, 2008). Unlike other forms of development, self-development is initiated by the individual and not mandated by the organization (Maurer & Tarulli, 1994). Leader self-development, then, refers to deliberate activities by an individual within the domain of leadership.

Although self-development is defined as a process in which the individual takes primary responsibility for their own learning experience, successful self-development is often a joint effort involving peers, subordinates, and superiors. According to Army Doctrine, leaders are responsible for encouraging, supporting, and assessing the self-development efforts of their subordinates (U.S. Department of the Army, 2006). As part of the self-development process, the individual and his or her leader develop goals and establish courses of action to improve performance and achieve maximum potential. Self-development typically begins with a narrow focus which broadens as individuals learn their strengths and weaknesses, determine needs, and become more independent. Self-development actions may include self-study, reading programs, and civilian education courses that support established goals.

Leader self-development is thought to expand an individual’s capacity “to be effective in leadership roles and processes” (Van Velsor & McCauley, 2004, p. 2), enabling leaders to handle more complex situations and increased information flow. While Army Doctrine stresses the importance of self-development, a finding of the Army Training and Leader Development Panel Officer Study (ATLDP) is that Army leaders are not adequately engaging in self-development behaviors (U.S. Department of the Army, 2003). Because of the likely impact of self-development on leader effectiveness and performance, this research sought to understand factors that contribute to leader-initiated developmental activity. Specifically, the focus of this research is on four potential predictors of leader self-development: leader identity, leader self-efficacy, motivation to lead, and learning goal orientation.
Figure 1. Excerpt from Leader Development for America’s Army (Pamphlet 350-58). “Lessons learned from recent wars, humanitarian relief operations, and exercise suggests the Army’s progressive, sequential, and three-pillar approach to leader development is sound and produces the quality leaders our nation requires. The three pillars of leader development — institutional training and education, operational assignments, and self-development — are dynamic and interconnected” (p. 2).
Leader Identity

Of the three key components of the military leader (i.e., character, presence, intellect), character is central to an Army leader’s core identity. According to the Army Leader Development Strategy (U.S. Department of the Army, 2009), a leader of character internalizes the Army Values, is guided by professional military ethics, reflects the Warrior Ethos, and displays empathy towards those who are affected by a unit’s actions (U.S. Department of the Army, 2009). The extent to which a leader internalizes the values and attributes that shape leader character directly relate to his or her effectiveness (U.S. Department of the Army, 2006). As such, successful leader development should strive to develop well-rounded leaders that possess these critical leader values/attributes. Focusing on the three key components of the military leader (i.e., character, presence, and intellect) is also essential to successful self-development (U.S. Department of the Army, 2006).

Understanding how identity is formed, is changed, and impacts behavior is important to the emerging study of leadership development and is of particular interest in the present research. Identity (or self-schema) has been defined as the integration of various aspects of one’s self-concept and is thought to serve as a guide and organizer of motivation and behavior (Ng, 2000). One explanation for the relationship between identity and behavior is that humans are driven to maintain a stable self-concept, and they do this by behaving in ways that are consistent with their identity (Aronson, 1968; Day et al., 2009). Given this, it is likely that individuals who see themselves as leaders will be motivated to act in accordance with this identity and will be more likely to seek out leadership experiences. Stryker’s identity theory provides another way of thinking about the relationship between identity and behavior. Stryker (1968) posits that people have various identities within their self-concept that are arranged along a hierarchy of salience. According to Stryker’s theory the most salient identity is likely to be invoked across a variety of situations, guiding behavioral choices. Like Aronson’s formulation of dissonance theory, Stryker’s identity theory supports the probability of a strong association between leader identity and leader developmental behavior.

Empirical evidence for the relationship between identity and leader self-development comes from several investigations of developmental activity. Maurer and Tarulli (1994) examined individual differences in the process of motivating and encouraging participation in learning activities and concluded that individuals are more likely to engage in self-development of skill-sets that they value. Based on Maurer and Tarulli’s findings, if being a military leader is valued (as indicated by strong leader self-identity), than participation in leader self-developmental activities is more likely to occur. More recently, in an evaluation of the relationship between how individuals think about themselves as leaders and subsequent thoughts and actions in the leadership domain, Hiller (2005) found evidence that a strong leader identity is related to interest in participating in future leader development activities. Building on Hiller’s findings, Langkamer’s dissertation (2008) demonstrated a relationship between a strong leader self-identity and actual engagement in leader self-development activities. Finally, Day and Hock-Peng (2009) recently tested the proposition that adopting a leader identity promotes leader development. Results showed that participants with strong leader identities were more likely to be perceived as demonstrating effective leadership, as evidenced by the extent to which they
took positions as team leader, provided direction and support to team members, matched individual contributions to overall group goals, and facilitated team learning.

While thinking of oneself as a leader has been shown to increase the chances of acting like a leader, additional factors are likely to influence the relationship between identity and behavior or performance. Potential intervening constructs include individual difference variables such as self-efficacy, motivation to lead, and goal orientation (Day et al., 2009). Partial support for the role of intervening variables comes from research outside of the leadership domain. For example, goal orientation has been shown to mediate the relationship between students’ self-schemas and their performance in learning mathematics (Ng, 2000). It is worth noting that support for a direct effect of self-schema on performance was also demonstrated in Ng’s work. A recent project that evaluated development of leadership capabilities explored the relationship between identity, motivation to lead, and developmental behavior (Maurer & Lippstreu, 2008). Although the researchers did not measure leader identity directly, Maurer and Lippstreu did include development-oriented self-concept in their evaluation of self-initiated leader development. Development self-concept involves perceiving oneself as possessing the qualities one needs to successfully pursue learning and development and has been shown to be related to motive toward and involvement in development (Maurer & Lippstreu, 2008; Maurer, Weiss, & Barbeite, 2003). In their assessment of self-initiated development of leadership capabilities, Maurer and Lippstreu (2008) again demonstrated a significant indirect effect of self-concept on involvement in developmental activities. The relationship between development self-concept and behavior was mediated by both motivation to lead and motivation to develop leadership.

Individual differences thought to influence the leader development process will be outlined in greater detail below. Given prior research it is hypothesized that:

H1: Leader identity will have both direct and indirect effects on leader self-development behavior.

Leadership Self-Efficacy

Self-efficacy refers to a “belief in one’s capabilities to organize and execute the course of action required to produce given attainments” (Bandura, 1997, p. 3). Extensive research has shown that self-efficacy is an important predictor of intentions and choice to perform a behavior or pursue a task (Lent, Lopez, & Bieschke, 1993; Locke, Frederick, Lee, & Bobko, 1984; Stajkovic & Luthans, 1998). It is also known to affect persistence, thoughts, and feelings during task performance. The effect of self-efficacy on job performance is most often explained through its effect on motivation and regulation (Day et al., 2009). This is consistent with motivational theory which identifies self-efficacy as a sub-component or direct predictor of overall motivation to perform a task (Maurer & Lippstreu, 2008). Research by Maurer and Lippstreu (2008) supports a strong positive relationship between self-efficacy for leadership (i.e., confidence in one’s ability to lead others) and motivation to lead, providing some evidence that an individual must believe in their capability to perform a task before they will be motivated to engage in leadership behavior (see also Chan & Drasgow, 2001). Army Doctrine also acknowledges the link between motivation and self-efficacy. FM 6-22 recommends enhancing self-efficacy by developing necessary knowledge and skills. Building self-efficacy is thought to improve
motivation, creating a desire to work smarter, harder, and/or longer (U.S. Department of the Army, 2006).

H2: Self-efficacy for leadership will predict overall motivation to lead.

Motivation to Lead

Motivation plays an essential role in Army leadership. According to Army Doctrine FM 6-22, motivation contributes to effective task performance through four different means: (1) motivation focuses a Soldier’s attention on issues, goals, task procedures, or other aspects of what needs to be done; (2) motivation impacts the amount of effort put forth; (3) motivation generates persistence; and (4) motivation defines how a task is performed. Increasing a Soldier’s motivation can lead to success in reaching a desired goal. As stated in the prior section, Army Doctrine indicates that leaders can improve motivation by enhancing self-efficacy (U.S. Department of the Army, 2006).

Motivation to lead is defined as motivation to assume leadership relevant roles, responsibilities, and training (Chan & Drasgow, 2001). It is conceptualized as an immediate outcome of one’s leadership self-efficacy and leadership experience. Motivation to lead (MTL) is not a unidimensional construct; instead it is comprised of three components: affective MTL, social-normative MTL, and non-calculative MTL (Chan & Drasgow, 2001). Affective MTL highlights the valence associated with an act and is a focus of the present research.

Chan and Drasgow (2001) conducted a large-scale investigation to examine the relationship between individual differences and various leader behaviors. They hypothesized that leadership self-efficacy was a proximal antecedent to motivation to lead. Results of a series of hierarchical multiple regressions supported the proposed relationship. In addition, Chan and Drasgow demonstrated that both affective MTL and non-calculative MTL were significant predictors of leadership potential ratings, providing some support for the utility of MTL as a predictor of certain leader-related behaviors (i.e., participation in leadership training and activities).

Learning Goal Orientation

Goal orientation is a motivational variable that stems from an individual’s implicit theory of intelligence (Zweig & Webster, 2004). It is based on core assumptions about the malleability of abilities and includes both learning and performance orientations. Learning goal orientation is associated with an incremental theory of intelligence, which is the belief that ability can be developed and that effort is integral to successful task performance. In contrast, performance orientation originates from the belief that abilities are fixed and can be further portioned into two distinct factors: performance approach orientation and performance avoidance orientation (Day et al., 2009; Zweig & Webster, 2004). While learning goal orientation and performance goal orientation were initially conceptualized as different ends of the same continuum, they are now believed to be separate dimensions entirely (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002).
Beliefs about the improvability or malleability of skills play a role in motivating self-initiated development. Individuals who view abilities as an acquirable skill (i.e., individuals with a learning or mastery orientation) are more likely to behave in ways that promote the achievement of their developmental goals – specifically, they are more likely than individuals with a performance orientation to strive to understand new things and to increase their competence and skills. Learning goal orientation is generally considered an adaptive motivational orientation and has been found to be associated with an array of positive outcomes such as increased self-efficacy, persistence in the face of difficulties, preference for a challenge, self-regulated learning, and positive affect and well-being (Beaubien & Payne, 1999 as cited in Boyce, Wisecarver, & Zaccaro, 2005; Day et al., 2009; Dweck & Leggett, 1988; Maurer & Lippstreu, 2008; Pintrich, 2000).

Although not directly addressed in Army Doctrine, the importance of goal orientation to military leadership can be seen in the emphasis placed on lifelong learning. Lifelong learning is the enduring choice to actively and overtly pursue knowledge, the comprehension of ideas, and the expansion of depth in any area in order to progress beyond a known state of development and competency (U.S. Department of the Army, 2008). According to Army Doctrine, to master the profession at every level, military leaders must seek self-improvement through lifelong learning (U.S. Department of the Army, 2006). Soldiers prepare themselves for advanced leadership positions by acquiring and then applying new knowledge and skills. Lifelong learning is particularly important to military leaders as it better prepares leaders to adapt to changes in the operational environment.

Goal orientation is typically considered a proximal, mid-level construct and has been evaluated as both a predictor of motivation as well as a precursor to performance or developmental activity (Maurer & Lippstreu, 2008; Ng, 2000; Zweig & Webster, 2004). Zweig and Webster (2004) examined the relationship between the big-five model of personality, three goal orientations (learning, performance-approach, and performance-avoidance), and performance intentions. Results of their analysis revealed that goal orientation mediated the relationship between personality and performance intentions. Of the three goal orientation dimensions measured in Zweig and Webster’s investigation, only learning goal orientation showed a significant association with all four performance outcomes (i.e., students’ intentions to study, read, attend lectures, and hand in papers by due date). In a recent examination of leader development, identity, and goal orientation, Day and Hock Peng (2009) found evidence to support a significant relationship between learning goal orientation and effective leader behaviors. As hypothesized, learning goal orientation was associated with both initial leadership levels as well as higher levels of leadership effectiveness over time. Learning goal orientation has also been shown to be strongly related to self-set goal levels, greater engagement in self-regulated learning, and participation in voluntary job- and career- planning activities (Beaubien & Payne, 1999 as cited in Boyce et al., 2005; Birdi, Allan, Warr, 1997). In their 2005 examination of leader self-development, Boyce, Wisecarver, and Zaccaro concluded that “individuals with a mastery orientation…were both more motivated and more skilled at leader self-development, leading to a greater propensity to self-develop” (p. 24).
Learning goals are thought to promote intrinsic motivation by fostering perceptions of challenge, encouraging task involvement, generating excitement, and supporting self-determination (Elliot & Harackiewicz, 1996). While current literature does not provide extensive theoretical and empirical guidance regarding the relationship between motivation to lead, learning goal orientation, and leader self-development, given prior research showing the importance of adopting a mastery orientation during the leader development process it is hypothesized that:

H3: Learning goal orientation will predict self-development behavior. It will also moderate the relationship between motivation to lead and leader self-development behavior such that the relationship between motivation to lead and leader self-development will be stronger when individuals are oriented toward learning.

**Hypothesized Model**

Joint effects of the variables included in this project have not been studied extensively and existing work has yielded inconsistent findings. While both a direct and indirect relationship between identity and behavior is supported by theory and empirical research, the present research aims to add to former work by considering the role of leader identity in the leader development process. The mediating role of motivation to lead on the link between identity and behavior and self-efficacy and behavior will also be evaluated. Finally, learning goal orientation will be considered as a potential moderator of the relationship between motivation to lead and leader self-development behavior. Thus, it is predicted that military leaders who see themselves as a leader, believe in their leadership capabilities, are motivated to lead, and are oriented toward learning will be more likely to engage in self-development activities to improve their leadership. Figure 2 depicts the conceptual model guiding this research.

![Figure 2](image-url)
Method

Participants and Procedure

This research is an extension of the Baseline Officer Longitudinal Development Study (BOLDS), an ongoing longitudinal project initiated at the United States Military Academy at West Point (USMA) in 1994. Phase I of the project followed cadets throughout the four years of their pre-commissioning education. During this time data was obtained from student records and from measures administered specifically for BOLDS research purposes. Building on the original BOLDS investigation, the goal of Phase II was to further evaluate the development of members of the class of 1998, with a particular emphasis on participant’s performance in leadership roles ten years after graduation. Phase II assessments include measures of leadership and performance, as well as data on events that have shaped the cadet’s leadership development over time. While measures of leadership efficacy, motivation, self-complexity, leadership style, ethics and integrity, organizational citizenship behavior, and individual job performance were included in Phase II of the BOLDS data collection, only a small number of those measures were utilized in the current analysis.

West Point graduates from the class of 1998 were recruited from a 10-year reunion celebration during the fall of 2008. Participants were invited to take part in a voluntary online data collection effort aimed at assessing leader growth and development. The online surveys took approximately two hours to complete. Of the initial 107 participants, 99 completed the measurement procedure (93%). Overall, data collection was cut short due to a change in government policy regarding email solicitation, resulting in a smaller sample than originally anticipated. The remaining sample represents a subsection of a single cohort of cadets who entered West Point in the spring of 1994 (N = 99). Subjects were primarily male (92%), typical of West Point incoming classes in the early 90s. At the time of data collection, approximately 61% of these participants were in Active service.

Measures

Leadership self-efficacy. The Leadership Self-efficacy measure was a modified version of the Agentic Leadership Efficacy (ALE) scale (Hannah, 2006). It is a 22-item measure representing the respondent’s level of confidence in his or her ability to accomplish each task or activity as a leader in his or her organization. Responses are made on a 10-point scale (10 = 100% confidence). A typical item is “In my role as leader, I can develop agreements with followers to enhance their participation.” Internal consistency among the items was high (α = .92).

Leader identity. The Leader Identity scale was adapted from Hiller (2005). This measure targets the extent to which a “leader” identity is considered to be descriptive of and important to the respondent. Five items representing the descriptiveness subscale were included in the analysis (α = .80). Participants rated each item on a 5-point scale (0 = does not describe me at all to 4 = describes me very well). The five items are as follows: “I am a leader,” “I see myself as a leader,” “If I had to describe myself to others, I would include the word leader,” “I prefer being seen by others as a leader,” and “I have always seen myself as a leader.”
Motivation to lead. The Motivation to Lead scale utilized in the current report was the Affective/Identity subscale of the Motivation to Lead measure developed by Chan and Drasgow (2001). Comprised of 13 items (α = .87) and rated on a 5-point scale (1 = strongly disagree to 5 = strongly agree), the measure assesses the degree to which individuals prefer to lead and see themselves as leaders. Individuals who score high on this subscale tend to be outgoing, value competition and achievement, and are confident in their own leadership abilities. A typical item is “I usually want to be the leader in the groups that I work in.”

Leader self-development behaviors and usefulness. This scale was an extension of Reichard’s (2006) Intentions to Develop measure. The Leader Self-Development Behaviors and Usefulness scale assesses the degree to which responders participate in 58 self-development activities (α = .95). Examples of the types of behaviors surveyed included seeking input from other leaders/peers, consuming media and coursework related to leader or career development, conducting self-assessments, developing others, and participating in activities to facilitate leader development. The frequency with which participants took part in developmental activities was assessed with a 6-point scale (1 = daily and 6 = never). The usefulness of each behavior was rated on a 5-point scale (1 = not at all useful to 5 = extremely useful). Prior to data analysis the frequency of each item was reverse-scored (i.e., 1 = never and 6 = daily) and a weighted average was calculated for each individual by first summing the product of the frequency and usefulness for each item and then dividing by 58. Thus, high scores on this measure indicate that self-development behaviors were performed more frequently and perceived as useful. Items included in the measure are listed in Appendix A.

Goal orientation. Goal orientation was assessed using an 18-item measure adapted from Zweig and Webster’s (2004) original 21 item scale. Six items representing learning goal orientation were included in the analysis (α = .73). Items such as “I prefer to work on tasks that force me to learn new things” assess learning orientation. Responses ranged from 1 = strongly disagree to 5 = strongly agree.

Results

This report presents an examination of the relationship between leader identity, individual differences, and leader development in a sample of West Point graduates. Descriptive statistics for each of the measures utilized in the present research are presented in Table 1.
Table 1
Means, Standard Deviations, and Intercorrelations among Variables (N = 99)

<table>
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<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<td>1. Learning Goal Orientation</td>
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<td>.43</td>
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<td>.34*</td>
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<td>.70</td>
<td>.41*</td>
<td>.44*</td>
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<td>.45*</td>
<td>.53*</td>
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<td>3.40</td>
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<td>.24*</td>
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<td>.21*</td>
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</table>

*p < .05.

Hypotheses Testing

Using path analysis in AMOS, relationships were examined between leader identity, self-efficacy, motivation to lead, learning goal orientation, and leader self-development behavior. Self-efficacy and leader identity were hypothesized to be significantly related to motivation to lead, which was thought to partially mediate the relationship between these variables and leader self-development behavior. Also included in the model was learning goal orientation, which was hypothesized to moderate the relationship between motivation to lead and leader self-development behavior.¹ A direct path from leader identity to leader self-development behavior was also specified. The model presented in Figure 3 illustrates the results of data analysis.

To avoid potential multicollinearity, measures of self-efficacy, leader identity, motivation to lead, and learning goal orientation were centered. Although the sample size was small, an adequate number of cases were available for parameter estimates (i.e., five cases per parameter, Bentler & Chou, 1987). No differences in leader self-development behavior were found for active and former military participants – results are aggregated across the two groups.

Overall model fit. The chi-square test was used to test the meditational effect of motivation to lead on the relationship between self-efficacy, identity, and leader self-development behavior as well as the moderational effect of goal orientation on the relationship between motivation to lead and leader self-development activities. The model fit the data adequately, $\chi^2 (6, N = 99) = 5.935$, CFI = 1.0, NFI = .96, RMSEA = .00. A satisfactory chi-square test indicates the proposed model is one viable representation of the true relations underlying the data. A chi-square value close to zero indicates little difference between the expected and observed covariance matrices. The Comparative Fit Index (CFI) measures the proportion of improvement in fit as one moves from the baseline to the target model while the

¹ A significant interaction between motivation to lead and learning goal orientation would indicate a potential moderating effect of learning goal orientation on the relationship between motivation to lead and leader self-development behavior.
Normed Fit Index (NFI) indicates the proportion of improvement of the overall fit of the model relative to the independence model. CFI and NFI range from 0 to 1 with a larger values indicating better model fit. Acceptable model fit is indicated by a value of 0.90 or greater (Hu & Bentler, 1999). Root Mean Square Error of Approximation (RMSEA) is related to residual in the model. RMSEA values range from 0 to 1 with a smaller RMSEA value indicating better model fit. Acceptable model fit is indicated by an RMSEA value of 0.06 or less (Hu & Bentler, 1999).

![Path analytic model](image)

**Figure 3.** Path analytic model of the relationships among leader self-efficacy, leader identity, motivation to lead, learning goal orientation, and leader self-development behaviors. Standardized parameter estimates included. *p < .05.

**Direct and indirect effects on leader self-development.** Leader identity was hypothesized to have both direct and indirect effects on leader developmental behavior. Contrary to expectations, however, leader identity did not have a significant direct effect on leader self-development behavior. The expectation that motivation to lead would serve as a mediator was also unsupported. As illustrated in Figure 3, motivation to lead had no significant direct effect on leader self-development behavior. Furthermore, indirect effects of leader identity and leader self-efficacy on leader self-development behavior were non-significant.

The hypothesis that self-efficacy for leadership would predict overall motivation to lead was supported by the data. Leader identity and leader self-efficacy, which were moderately correlated ($r = .44, p < .01$), each had a significant effect on motivation to lead (standardized path coefficient $\beta = .60, p < .01$, and $\beta = .27, p < .01$ respectively). Together leader identity and
leader self-efficacy explained a significant amount of the variance in motivation to lead, $R^2 = .57$, $F (2, 96) = 62.87$, $p < .001$. Thus, military leaders who strongly identify themselves as “leaders” and believe that they are capable of leadership are more motivated to be leaders.

The relationship between goal orientation, motivation to lead, and leader self-development. The hypothesis that learning goal orientation would predict leader development activity and would moderate the relationship between motivation to lead and leader development behavior was supported. Both learning goal orientation and the interaction of motivation to lead and learning goal orientation had a significant positive effect on leader self-development behavior ($\beta = .30$, $p < .01$ and $\beta = .22$, $p < .05$ respectively). These findings indicate that learning goal orientation moderates the relationship between motivation to lead and leader self-development behavior such that the relationship between motivation to lead and leader self-development becomes increasingly stronger when individuals are oriented toward learning. These findings indicate that orientation toward learning impacts the degree to which military leaders participate in self-development activities. Specifically, military leaders who are highly motivated to lead and highly motivated to learn are more likely to participate in self-development behaviors. Conversely, military leaders who are highly motivated to lead, but lack the motivation to learn are less likely to engage in self-improvement. Interestingly, it appears that active and former military members who have a low learning goal orientation are even less likely to participate in self-development activities the more motivated they are to lead. Figure 4 illustrates the complex relationship between motivation to lead, goal orientation, and self-development behaviors – the high learning goal orientation group includes participants who fell one standard deviation above the mean, while the group classified as low learning goal orientation fell one standard deviation below the mean.

**Figure 4.** Interaction between motivation to lead and learning goal orientation. Results indicate that individuals who are motivated to lead are more likely to engage in self-development behaviors when they are oriented toward learning.
Discussion

The present research extends past findings on the relationships among leader identity, leader self-efficacy, motivation to lead, goal orientation, and leader self-development. Support for a strong relationship between leader identity, leader self-efficacy, and motivation to lead was demonstrated. These results are consistent with the tenets of motivational theory, which identify self-efficacy as a sub-component or direct predictor of overall motivation (Vroom, 1964). Results are also congruent with Chan and Drasgow’s (2001) research, which demonstrated that leadership self-efficacy is a proximal antecedent to motivation to lead. The particularly strong association with motivation is also consistent with Ng’s (2000) definition of identity (i.e., identity is the integration of various aspects of one’s self-concept and is thought to serve as a guide and organizer of motivation and behavior).

Although not conclusive, these results suggest that seeing oneself as a leader and believing in one’s capabilities to lead may be precursors to feeling motivated to participate in leadership roles. Military leaders can utilize these findings to increase their own motivation, as well as the motivation of subordinates. Effective methods for building self-efficacy include providing opportunities to practice new skills and/or allowing Soldiers to witness others successfully demonstrating new knowledge and abilities. By employing strategies to increase leader self-efficacy, senior leaders can positively affect how Soldiers feel, think, motivate themselves, and behave. As the findings demonstrate, strengthening leader identity is another method for increasing motivation to lead. Senior leaders can create an environment that promotes identity clarity by utilizing self-assessment tools to encourage greater self-awareness. Providing feedback to Soldiers, particularly in relation to the critical military leader values/attributes, is another method for strengthening leader identity. Benefits of building leader efficacy and identity extend beyond increased motivation and include improved job performance and satisfaction.

Contrary to expectations, an individual’s identification as a “leader” was not a strong predictor of leader self-development behaviors. This failure to find a direct link between leader identity and leader self-development may be a bi-product of the way leader identity and motivation to lead were operationalized in the current research. In the present project, leader identity and motivation to lead were highly correlated. Consequently, when examined in a single model, there may not have been enough remaining unique variance in leader identity to predict leader self-development. Although not anticipated, the weaker than expected association may also support Day et al.’s (2009) assertion that the relationship between leader identity and behavior is influenced by individual difference variables. Several variables have been suggested as possible moderators of this relationship, including self-efficacy, motivation to lead, and goal orientation (Day et al., 2009; Maurer & Lippstreu, 2008; Ng, 2000). Based on the results of the present project, goal orientation may be a promising variable for future exploration. In particular, learning goal orientation, which has repeatedly been shown to play a strong role in the leader development process, should be considered when constructing models of leader growth (Day & Hock-Peng, 2009; Zweig and Webster, 2004).

Army Doctrine highlights the importance of self-development by including it as one of the three pillars of military leader development. It is seen as a primary method for Soldiers to
capitalize on potential and improve performance. Self-development is also believed to increase a Soldier’s preparedness for future leadership positions (U.S. Department of the Army, 2006). While self-development is highly valued by the military community, results of a recent leader development panel reveal that Army leaders are not adequately engaging in self-development activities (U.S. Department of the Army, 2003). This failure to engage in adequate self-development may be explained, in part, by the present research. Findings from this investigation of leader self-development suggest that Soldiers who are motivated to hold positions of greater responsibility, but lack a learning goal orientation, are less likely to engage in self-development behaviors. These Soldiers who do not believe that ability can be developed are increasingly less likely to engage in self-development the more motivated they are to lead. Though not evaluated directly, a possible explanation for this finding may be that some Soldiers who desire to lead have a strong performance goal orientation. Soldiers with a strong performance orientation would be motivated to produce results, leaving less time for self-development.

According to military Doctrine, Soldiers who fail to engage in sufficient self-development will be ill-prepared for advanced leadership positions (U.S. Department of the Army, 2006). Those Soldiers who do not engage in adequate self-improvement may also have difficulty adapting to changing leadership environments. The current findings suggest that individuals who possess a high learning goal orientation will be more likely to engage in self-development activities. In contrast, those with low learning goal orientation appear less likely to participate in self-development, even as they are increasingly motivated to lead. Successful self-development is often a joint effort involving peers, subordinates, and superiors (U.S. Department of the Army, 2006). For those with low learning goal orientation, senior leaders can promote self-development behavior by providing support and encouragement (Orvis & Leffler, 2011). By encouraging junior leaders to understand and master new skills, senior military leaders can foster an environment that supports lifelong learning, potentially offsetting an individual’s beliefs about the improvability or malleability of skills.

Limitations

The primary limitation of the present research was the small number of participants. While an adequate number of cases were available for parameter estimates in the path analysis, structural equation modeling was precluded due to small sample size. Drawing causal inferences was also limited due to the fact that all of the measures in the project were gathered concurrently. In order to better understand the development of leaders, future research in this area may want to employ a longitudinal design, utilizing multiple types of measurement.

Future Directions

Given the strong relationship between learning orientation and developmental behavior, future research might explore the possibility of modifying goal orientation beliefs. Some research exists suggesting that individuals can be persuaded to change their theory of intelligence and thus to adopt a different goal orientation, at least temporarily (Kaplan & Maehr, 2007). Examination of other possible moderators may also be beneficial in future research on this topic. In addition to goal orientation, Day et al. (2009) have suggested additional individual
differences, such as self-regulatory strength and self-awareness, as possible accelerators of the leader development process.

**Conclusion**

Leader self-development refers to “deliberate [emphasis added] activities that an individual undertakes in order to gain knowledge, skills, or abilities specifically in the domain of leadership” (Boyce, Wisecarver, & Zaccaro, 2005, p.1). The factors contributing to leader self-development are varied and complex; however, the benefits of engaging in self-development activities are clear. Leaders who engage in self-development experience increased confidence, greater ability to solve difficult problems, improved decision making capacity, expansion of specialized skills, and increased leader effectiveness (Antonacopoulou, 2000; Maurer, Pierce, & Shore, 2002; Van Velsor & McCauley, 2004). Within the current operational environment, Soldiers are faced with increasingly complex environments and rapidly accelerating operations. Military leaders and their subordinates who participate in self-development activities will likely be better prepared for positions of responsibility. While the benefits of self-development may be understood by most Soldiers, many leaders and their subordinates acknowledge spending little time on self-initiated learning activities. The results of this report suggest that a number of factors influence participation in leader development activities. Increasing the degree to which a Soldier sees him or herself as a leader or his or her motivation to lead may not have a direct impact on self-development behavior. Rather, based on the findings of this report, targeting underlying beliefs about the malleability of skills and ideas about the impact of effort on learning are potentially viable strategies for increasing a Soldier's likelihood of engaging in development activities.
References


APPENDIX
MEASURE OF LEADER SELF-DEVELOPMENT
BEHAVIORS AND USEFULNESS

Leader Self-development Behaviors and Usefulness
Directions: Please rate how often you to engage in each of the leader self-development activities for the development of your leadership skills using the following scale. That is, how often do you engage in the activity to develop your leadership?

1-daily
2-once a week
3-once a month
4-twice a year
5-once a year
6-never

Then rate each for usefulness for Leader Development from

1-Not at all useful
2-somewhat useful
3-moderately useful
4-very useful
5-extremely useful

Don’t worry about what may seem to be consistent or inconsistent between behaviors and usefulness. Something may be very useful as a leader development activity, but you don’t choose to or have time to participate. Something may not be that useful but it is easy or convenient so you participate more.

1. Social Support

- Ask others for feedback on what I need to do to become a better leader
- Discuss leadership-related topics with friends/peers on doctrine, politics, etc.
- Find a peer to hold me accountable for self-development
- Observe leadership examples in my current peers
- Speak with someone who has prior service time
- Stay in touch with mentors from previous jobs
- Grow by learning from tough bosses
• Seek out a mentoring relationship
• Learn about myself through the observations of my mentor
• Emulate other leaders
• Observe other leaders outside my chain
• Seek counseling from superior
• Seek knowledge from experienced leaders

2. Self Development

• Attend Officer Professional Development meetings
• Check military websites for information on leadership (i.e., AKO, companycommand.com)
• Monitor current world events
• Take college courses or earn an advanced degree on-line/in the classroom (e.g., MBA)
• Listen to books on tape / CD related to leadership
• Participate in additional military courses designed to help commanders (e.g., online, offered on post, etc)
• Pursue continuing education goals supporting my Army career field (e.g., civilian certifications)
• Read After Action Reviews and/or Center for Army Lessons Learned products
• Read books / stories about leadership (e.g. both military and non-military).
• Read Army Regulations and/or Field Manuals
• Research battlefield leadership
• Watch historical documentaries related to leadership (e.g., the History channel)
• Watch movies with leadership themes
• Watch reality TV shows (i.e., The Apprentice) to observe characters’ leadership behaviors

• Study current and past political leaders to learn from their experience

• Present at an Officer Professional Development meeting.

3. Self Assessment and Development of Others

• Complete leadership questionnaires to learn about my leadership style

• Complete personality questionnaires to learn about my personality (e.g., MBTI)

• Conduct self-assessments

• Learn what I’m good at / my strengths

• Develop strategies / game plan for reaching my developmental goals

• Develop the leadership of my subordinates

• Keep a log or journal of my leadership experiences

• Try to understand others’ perceptions of me

• Provide emotional support for others

• Set short-term, specific goals focusing on developing my leadership

• Regulate my tasks in order to schedule time to self-develop

• Reward myself for sticking to my leader self-development plan

• Hold myself accountable for my leadership development

4. Development Opportunities

• Learn the culture of the local people when stationed outside the U.S.

• Seek different and new experiences (e.g., travel to learn about different cultures/perspectives

• Seek jobs/positions that challenge me professionally
• Volunteer for leadership roles in my community (e.g., city council, youth sports, neighborhood watch, etc.)

• Spend time socializing to build relationships

• Conduct my own leadership experiments to see what works

• Show respect for others to build relationships that support my development

• Force myself to face my weaknesses

• Learn good judgment from experience

• Imagine myself leading successfully

• Practice leading to boost my confidence

• Look for leadership opportunities to take charge of projects

• Make sense of my experiences, applying what I've learned

• Conduct After Action Reviews with subordinates

• Be involved in team sports

• Visualize success in the future in my leadership role