

THESIS

LEADERS IN THE NONPROFIT SECTOR: LEADER AND ORGANIZATIONAL
LEVEL PREDICTORS OF LEADER ENGAGEMENT IN SELF-DEVELOPMENT
ACTIVITIES

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ABSTRACT

LEADERS IN THE NONPROFIT SECTOR: LEADER AND ORGANIZATIONAL LEVEL PREDICTORS OF LEADER ENGAGEMENT IN SELF-DEVELOPMENT ACTIVITIES

The purpose of the current study was to better understand the individual and organizational antecedents of leader self-development in the nonprofit sector. Data were collected from 94 nonprofit leaders and 340 nonprofit employees and volunteers. Individual-level analyses revealed that three leader characteristics (developmental efficacy, learning adaptability, and propensity to self-develop) significantly predicted multiple indicators of leader engagement in self-development activities. Multi-level analyses failed to support the expected relationship between organizational-level characteristics (organizational support for development, organizational barriers to development, learning environment) and leader engagement in self-development activities. Finally, five interactions of leader and organizational characteristics significantly predicted leader self-development outcomes, but were in the opposite direction than expected. Implications and opportunities for future research on leader self-development are discussed.

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CHAPTER 1

INTRODUCTION

Today's business leaders recognize the strategic and financial importance of investing in key people in their organizations. Recent estimates by the American Society for Training and Development (ASTD; 2008 State of the Industry Report) suggest that in 2007 alone, U.S. organizations spent approximately \$134 billion dollars on employee learning and development. These estimates clearly demonstrate the high value that many organizations place on workplace learning and development.

While learning and development opportunities provide personal benefits to an individual employee (e.g., enhanced capabilities, increased knowledge/experience, etc.), these training initiatives also help enhance an employee's value to an organization (e.g., enhanced leader potential, improved business performance, etc.). As such, businesses are often willing to support the learning of their organizational members if doing so provides them with some competitive advantage (e.g., Jeppesen, 2002).

Given potential positive (e.g., more effective leadership) and negative (e.g., high costs) outcomes associated with organization-sponsored learning and development programs (see Arthur, Bennett, Edens, & Bell, 2003), it is clear that cost-effective alternatives for training are needed. One alternative has been a shift from employer-driven to employee-driven learning (e.g., Cho, 2002; Confessore & Kops, 1998). By

encouraging employees to initiate and direct their own learning activities, the organization reduces its financial and time investment in employee training, as each individual becomes responsible for his/her own learning and development outcomes.

At the leader level, this strategy is known as leader self-development, defined as “the total of all deliberate activities that an individual undertakes in order to gain and retain a specific leadership knowledge, skill, or ability” (Boyce, 2004, pp. 5-6). Leader self-development is based on the assumption that organizational leadership can improve when individuals assume primary responsibility for their own professional development (Boyce, Zaccaro, & Wisecarver, 2010; Pedler, Burgoyne, & Boydell, 1986).

Mauer, Weiss, and Barbeite (2003) demonstrated that when leaders actively strive to enhance their job-related competencies and skills, they are likely to experience a variety of positive individually-focused outcomes such as improved pay and promotions (extrinsic benefits), challenging learning opportunities (intrinsic benefits), and the capacity to reach their full potential (psychosocial benefits). Furthermore, employees who direct their own learning activities are more successful and effective on the job (Gould & Penley, 1984; Temporal, 1982).

In addition to benefiting the individual engaged in self-directed learning activities, the organization may also benefit economically, as self-development training has been associated with reduced training costs, higher profits, and lower turnover (Boyer & Lambert, 2008). Consequently, self-development activities may be a viable training option for improving organizational effectiveness and maintaining competitive advantage, particularly when financial capital is restricted.

To date, minimal research has examined specific predictors of leader engagement in self-directed learning activities. As such, the current study aims to extend past research findings on leader self-development in several ways. First, I will examine several individual and organizational characteristics, as well as their combined effects, on leader engagement in self-development activities (see Figure 1). While Boyce et al. (2010) studied the interaction of several individual difference traits and organizational support on leader engagement in self-development activities, the current study will examine additional individual and organizational level characteristics that also may play a role in either facilitating or hindering a leader's capacity to self-develop.

In addition, extant research has primarily studied leader self-development in the context of either military (e.g., Boyce et al., 2010) or for-profit organizations (e.g., Langkamer, 2008). As such, the current study adds to this literature by focusing on nonprofit leader self-development. Given the increasing growth rate of the nonprofit sector (Blackwood, Wing, & Pollak, 2008) and the lack of formal training and development programs within many nonprofit organizations (Corder, 2001; Santora, Seaton, & Sarros, 1999), leader self-development may be a particularly useful strategy for leaders in this setting.

Finally, the current study will be using a multi-level data-analysis method to test the proposed hypotheses. While many researchers in the I/O psychology literature analyze multi-level data using hierarchical linear modeling (HLM; Hofmann, 1997), I will be using an alternative strategy known as multi-level latent covariate modeling (MLC; Ludtke, Marsh, Robitzsch, Trautwein, Asparouhov, & Muthen, 2008). With the ability to account for variance among respondents within a single organization, MLC

modeling will provide a less biased estimate of the true relationship among my variables of interest. This study is a unique contribution to the self-development literature because of this innovative analytic approach.

To begin, I will provide a general overview of the construct of leader self-development, and then discuss several leader and organizational level predictors of leader engagement in self-development activities.

Leader Self-Development

Leader self-development is rooted in adult learning theory, which posits that learning is most effective when the learning process is self-directed, relevant, a problem-solving experience, and when the learner is both ready to learn and motivated to learn (Knowles, 1990; Knowles, Holton, & Swanson, 2005). This particular type of development can take place in a variety of ways, including both on and off the job experiences, personal and professional development courses and seminars, and through increased self-awareness (e.g., Goldstein & Ford, 2002; Manz & Sims, 1980; Maurer & Tarulli, 1994; McCauley, 2001; Noe & Wilk, 1993). While more traditional leader development programs involve direction or guidance from a trained instructor, leader self-development training focuses on self-initiated and individualized learning, with the learner determining the progress and pace of his or her own developmental training (e.g., Cortina, Zaccaro, McFarland, Baughman, Wood, & Odin, 2004; Goldstein & Ford, 2002; Mauer & Tarulli, 1994; Reichard & Johnson, in press).

Based on the theory of informal and incidental learning (Marsick & Watkins, 1997), Marsick and Watkins (2003) suggested that learning is most likely to take place when it is the least structured. This view is in contrast to most adult learning models that

are often based on the assumption that learning experiences are most effective when structured by some facilitator or educator. While formal learning opportunities provide valuable experience, informal and less structured learning experiences (like leader self-development) may be even more effective for employee learning and development.

Rather than being a passive participant through development and training, a leader who engages in self-development activities becomes an active member in the learning process, displaying a conscious and deliberate effort to critically reflect and evaluate information in the work environment (e.g., Butler & Winne, 1995; Confessore & Kops, 1998; Murphy & Young, 1995). In educational psychology, research by Winne (2005) further suggests that individuals who engage in self-regulated learning behaviors (like self-development) are better ‘directors’ of the overall learning process. Thus, leader self-development activities allow leaders to better direct their own learning experiences, in terms of both the *content* of what is learned and the *process* of how the learning takes place (Boyce, Wisecarver, & Zaccaro, 2005).

Like traditional leader development training, the ultimate goal of leader self-development is to enhance an individual’s leadership knowledge, skills, and abilities (Boyce et al., 2005). Thus, in addition to learning how to effectively self-manage, a successful leader must also strive to improve his or her leadership capabilities during the self-development process (Boyce et al., 2005; Reichard & Johnson, in press). These leadership qualities are essential, as leaders today are often responsible for enhancing organizational effectiveness (Goldstein & Ford, 2002).

Thus, leader self-development is best conceptualized as “those deliberate activities that an individual undertakes in order to gain and retain knowledge, skills, or

abilities specifically in the domain of leadership” (Boyce et al., 2005, p. 1). With the ability to foster engagement in learning and assist in developing leadership capabilities, leader self-development may be an important strategy for training organizational leaders.

Leader self-development can be operationalized in a number of ways, from the number of activities engaged to individual experiences in (or commitment to) each activity. Thus, when assessing leader self-development, it is important to properly measure leader engagement in these types of developmental activities. In general, the literature has largely addressed leader self-development in terms of past engagement in self-development activities (e.g., Boyce, 2010; Maurer et al., 2003), and future intentions to engage in self-development activities (e.g., Maurer & Tarulli, 1994; Reichard, 2006). While frequency of engagement and intentions to engage are good proxies of leader self-development, it is also important to consider the chosen quality of the learning and development opportunities. Since self-development activities vary in terms of potential benefit, leaders who pursue high-quality learning and development opportunities are most likely to improve their leadership skills (Langkamer, 2008). By measuring frequency, intentions, and quality of engagement, I hope to gain an in-depth understanding of a leader’s participation in the self-directed learning process.

While leaders may actively participate in developmental learning activities, the benefits of their efforts are most likely achieved when both the individual employee and the organization both support the learning effort (Jeppesen, 2002). As an organizational strategy, leader self-development is clearly beneficial for both the individual engaged in the training, and the organization as a whole, as investment in continuous learning facilitates a leader’s ability to provide high-quality products and services that help the

organization to survive (Noe, Wilk, Mullen, & Wanek, 1997). In the following sections, I will discuss several different predictors of leader engagement in self-development activities.

Predictors of Leader Engagement in Self-Development Activities

Leader Characteristics

Most prior research on leader self-development has focused on better understanding the individual characteristics that predict whether a leader is likely to engage in self-development activities (Boyce et al., 2010; Cortina et al., 2004). Boyce et al. identified several individual difference variables related to leader self-development. For example, these researchers found that mastery orientation and career growth orientation predicted leader engagement in self-directed learning activities, but only indirectly through propensity to self-develop. This relationship is interesting for both theoretical and practical reasons.

Theoretically, this evidence shows a positive relationship between individual characteristics and leader propensity to self-develop, which helps support the claim that self-reported dispositional variables can be used to predict behavior (Day, Bedeian, & Conte, 1998). From a practical perspective, leader self-development is a cheap and time-efficient training alternative, compared to more traditional organizational leadership development programs (Goldstein & Ford, 2002). Consequently, early identification of individuals who possess dispositional characteristics that are predictive of leader self-development, may help organizations save money and increase organizational productivity in the long-term. In the current study, the following individual characteristics will be studied as antecedents of leader engagement in self-development

activities: developmental efficacy, learning adaptability, and general propensity to self-develop. Below, I develop conceptual justifications for each individual antecedent.

Developmental Efficacy

Self-efficacy is defined as an individual's belief in his or her own abilities to achieve a certain level of performance (Bandura, 1986). Two main types of self-efficacy are commonly studied: general self-efficacy and specific self-efficacy. While general self-efficacy (GSE) is defined as an "individual's perception of [his/her] ability to perform across a variety of situations" (Judge, Erez, & Bono, 1998, p. 170), specific self-efficacy (SSE) is defined as "beliefs in one's capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands" (Wood & Bandura, 1989, p. 408).

In general, researchers choose to study self-efficacy as either a stable dispositional trait (GSE) or a more temporary state (SSE), depending on the particular context. Bandura and Adams (1977) emphasized that when assessing self-efficacy, measures should be tailored to the specific domain being studied. This argument has received extensive empirical support, with research consistently demonstrating that specific self-efficacy is a better predictor of task-specific goals and performance behaviors, than general self-efficacy (e.g., Bandura, 1997).

In the context of training and development, research suggests that self-efficacious individuals feel more comfortable working on difficult assignments and assuming responsibility for their own development, such that people with high specific self-efficacy are more likely to challenge themselves in order to acquire new knowledge, skills, and abilities (Bandura, 1982; Bandura & Schunk, 1981; Gist & Mitchell, 1992; Stevens &

Gist, 1997). For example, extant research has investigated self-efficacy towards development as a predictor of an individual's attitude towards employee development programs (Maurer, Mitchell, & Barbeite, 2002; Maurer & Tarulli, 1994), learning motivation during training (Colquitt, LePine, & Noe, 2000), attitudes toward 360-degree feedback (Maurer et al., 2002), participation in developmental activities outside of work (Maurer et al., 2002; Maurer & Tarulli, 1994), and general motivation to continuously learn (Colquitt et al., 2000). Overall, these findings suggest that individuals with high self-efficacy for development are more likely to engage in developmental activities than are individuals who have low self-efficacy for development (Maurer et al., 2003).

Boyce et al. (2010) found a positive relationship between GSE and propensity to self-develop, suggesting that self-efficacy is an important predictor of whether a leader is likely to self-direct his or her own learning and development. These authors assessed self-efficacy as a stable, trait-like variable, in order to better understand a leader's confidence in performance abilities over the long-term (Chen, Gully, Whiteman, & Kilcullen, 2000). However, with extensive evidence in the motivation literature suggesting that SSE is more strongly related to task-specific performance (Bandura, 1997; Stajkovic & Luthans, 1998), it may be more meaningful to look at SSE for development (rather than GSE) as a predictor of specific leader development (i.e., engagement in self-development activities).

In the current study, SSE for development (also known as developmental efficacy) is defined as the belief in oneself to continually develop leadership knowledge and skills (Maurer et al., 2003). Only one prior study has looked specifically at developmental efficacy in the context of leader self-development (Reichard, 2006). In her study, Reichard explored whether comparing oneself to the leadership strengths and

weaknesses of a role model would affect the leader's own level of developmental efficacy. She found no support for the hypothesis that observational learning would influence self-efficacy. In the current study, I will investigate developmental efficacy not as an outcome variable, but as a predictor of whether one engages in self-development activities. Based on the literature on developmental self-efficacy (Maurer et al., 2003; Reichard, 2006), it is expected that individuals with higher developmental self-efficacy will be more likely to engage in leader self-development activities. Accordingly, I propose:

Hypothesis 1: Developmental efficacy will be positively associated with a leader's engagement in self-development activities.

Learning Adaptability

Work adaptability, or the ability to be versatile and tolerant of ambiguity in a continually dynamic and changing work environment, has been studied as one predictor of work effectiveness. Researchers (e.g., Cascio, 2003; Chen, Thomas, & Wallace, 2005; Pulakos, Arad, Donovan, & Plamondon, 2000) have studied adaptability using a variety of names (e.g., adaptive performance, role flexibility), definitions, levels of analysis (e.g., individual, team, and organizational levels), and in relation to many types of organizational variables (e.g., culture, technology, people).

Pulakos et al. (2000) used existing literature to create the first comprehensive taxonomy of adaptive performance. This taxonomy included eight different dimensions of adaptive performance, including: handling emergencies or crisis situations; handling work problems; solving problems creatively; dealing with uncertain and unpredictable work situations; learning work tasks, technologies, and procedures; demonstrating

interpersonal adaptability; demonstrating cultural adaptability; and demonstrating physically oriented adaptability. Additional research has supported this taxonomy (e.g., Pulakos, Schmitt, Dorsey, Arad, Hedge, & Borman, 2002).

Of the eight subscales, learning adaptability is the most relevant to the current study. Learning adaptability refers to the ability to learn new skills and knowledge in order to maintain a high level of performance in a perpetually changing work environment (Noe & Ford, 1992). Pulakos et al. (2000) characterized an individual high in learning adaptability as one who is able to quickly learn new tasks, adjust to changing job demands, and initiate and engage in development and training opportunities. Learning adaptability is related to self-development as the latter focuses on continuous learning and development as a means of preparing for future demands on the job (London & Mone, 1999, as cited in Pulakos et al., 2000). Together, learning adaptability and self-development suggest that in order to be an optimal performer in today's organizations, leaders need to exhibit adaptability by developing and enhancing their abilities and skills on a regular basis.

The current literature suggests that individuals high in learning adaptability are likely to search for new training and development opportunities as a means of adapting to challenging job demands and workplace changes (Pulakos et al., 2000). While Boyce et al. (2010) did not include adaptability in their study of predictors of leader self-development, they did recommend that future researchers assess the role of adaptability in the context of leader self-development. However, no existing study has looked at learning adaptability as an antecedent of leader engagement in self-development activities. In accordance with I-DAPT theory, learning adaptability will be studied as a

predictor of whether a leader engages in self-development activities. I-DAPT theory defines individual adaptability as “an individual’s ability, skill, disposition, willingness, and/or motivation, to change or fit different task, social, and environmental features” (Ployhart & Bliese, 2006, p. 13). It is expected that leaders with greater learning adaptability will be more likely to participate in learning activities (i.e., leader self-development) that are perceived to help them adapt to the changing work environment.

Hypothesis 2: Learning adaptability will be positively related to a leader’s engagement in self-development activities.

Propensity to Self-Develop

Research by McCloy, Campbell, and Cudek (1994) indicated that an individual’s motivation and abilities are direct determinants of actual performance. By applying McCloy et al.’s framework to the context of leader self-development performance, a leader’s engagement in self-development activities may be best understood as a function of an individual’s motivation, knowledge, and skills related to leader self-development (Boyce et al., 2010). Boyce et al. studied a leader’s propensity to self-develop (in terms of individual motivation, knowledge, and skills) as a predictor of leader engagement in self-development activities. Their findings showed that leaders’ propensity to self-develop explained why certain individuals were more likely than others to engage in self-directed learning activities. As defined by Boyce et al., propensity to self-develop refers to an individual’s tendency to perform self-development behaviors.

Consequently, Boyce et al. (2010) suggested that leaders high in propensity to self-develop have the necessary skills and motivation to engage in self-directed learning activities, whereas leaders low in propensity to self-develop may be less likely to engage

in self-directed learning activities because they lack the necessary skills and/or motivation. Thus, I hope to replicate Boyce et al.'s finding that propensity to self-develop is positively related to leader engagement in self-development activities, using a non-military sample.

Hypothesis 3: A leader's propensity to self-develop will be positively related to leader engagement in self-development activities.

Organizational Characteristics

While a leader may have every intention of utilizing self-development strategies for professional development, organizational characteristics may affect whether a leader desires, or is able, to engage in these developmental activities (Baskett, 1993; Boyce et al., 2010). In accordance with research on social cognitive theory (Baldwin & Magjuka, 1997; Bandura, 1989), an individual's behavior often affects, and is affected by, one's environment. Thus, in addition to identifying individual characteristics that predict leader self-development, it is also important to understand organizational characteristics that may affect whether a leader seeks out training and development opportunities. In general, organizational characteristics may either support or create barriers to individual development.

With research demonstrating a link between supportive organizational practices and developmental participation and performance (e.g., Baldwin, Magjuka, & Loher, 1991; Maurer & Tarulli, 1994), an organization that supports learning and development may be most suitable for creating and sharing knowledge and for fostering employee learning (Marsick & Watkins, 2003; Noe & Wilk, 1993; Salas & Von Glinow, 2008; Yang, 2003). Thus, the current study will explore several organizational characteristics

(i.e., support/barriers to development, learning environment) as antecedents of leader engagement in self-development activities. Below, I develop conceptual justifications for each organizational antecedent.

Support for and Barriers to Development

Organizational support theory suggests that “employees develop global beliefs concerning the extent to which the organization values their contributions and cares about their well-being” (Eisenberger, Huntington, Hutchison, & Sowa, 1986, p. 501). This theory implies that employees are more likely to feel attached to an organization and put forth greater effort to meet organizational goals when they expect some reward in return for their efforts (e.g., feeling valued and supported by the organization). Further, in the training evaluation literature, many researchers have studied the relationship between organizational support and employee learning and development, and evidence strongly suggests that learning and development experiences are more successful when employees believe that the organization is supporting their efforts (e.g., Mathieu, Tannenbaum, & Salas, 1992; Rouiller & Goldstein, 1993; Tracey, Hinkin, Tannenbaum, & Mathieu, 2001; Tracey, Tannenbaum, & Kavanagh, 1995).

In the context of leader self-development, organizational support theory implies that employees may be more inclined to initiate and direct their own learning when they perceive that the organization supports their engagement in self-directed development activities. Organizations may show support for self-directed development through such initiatives as providing the necessary financial, human, and technological resources to fully complete work assignments, information about the job, and additional resources that are required for learning.

Previous research suggests that organizational support for development is likely to influence employee engagement in self-development activities (e.g., Kozlowski & Hults, 1987; Noe & Wilk, 1993). For example, Maurer and Tarulli (1994) found that both prior engagement and future intentions to engage in self-development activities were influenced by characteristics of an employee's organization. While prior engagement in self-development activities was positively related to an individual's perception that the organizational policies and guidelines were in support of learning, an employee's future engagement in self-development activities was positively associated with the organization's general orientation towards learning and development. Furthermore, Noe and Wilk found that employees who perceived their work environment to be supportive of learning and development were more likely to report greater engagement in developmental activities.

A more recent study by Boyce et al. (2010) experimentally manipulated organizational support through the use of an online website that provided job-relevant resources and information to foster employee learning and development. Results from this study suggested that organizational support moderated the relationship between propensity to self-develop and leader engagement in self-development activities, such that leaders with low to moderately low propensity to self-develop were more likely to engage in self-development activities when they perceived greater organizational support. In sum, previous research suggests that organizational support plays a significant role in predicting whether an individual is likely to engage in self-development activities (e.g., Boyce et al., 2010; Maurer & Tarulli, 1994; Noe & Wilk, 1993). In the current study, organizational support will be measured by leader and follower perceptions of the

organization's support for learning and development.

Conversely, if employees do not feel supported by their organization, they may be less motivated to learn, less satisfied with their work experiences, and less successful at completing work-related tasks (e.g., Mathieu & Martineau, 1997; Peters & O'Connor, 1980). Noe and Wilk (1993) hypothesized that employees may develop more negative attitudes toward learning if organizational barriers prevent them from engaging in self-development activities. Their research confirmed this, as employees who perceived greater situational constraints desired to participate in fewer developmental activities than employees who perceived fewer situational constraints. In the current study, organizational barriers will be operationalized by looking at employee perceptions of the organization's barriers towards learning and development.

Based on previous research findings linking organizational characteristics to employee engagement in development and learning opportunities, it is evident that self-development is more likely to take place in a supportive work environment (Confessore & Kops, 1998). Thus, it is predicted that organizational support for learning will foster leader engagement in self-development activities, whereas organizational barriers to learning will hinder leader engagement in self-development activities.

Hypothesis 4: Organizational support for development will be positively related to a leader's engagement in self-development activities.

Hypothesis 5: Organizational barriers to development will be negatively related to a leader's engagement in self-development activities.

It is worth noting that organizational support for development and organizational barriers to development are conceptually distinct constructs (Noe & Wilk, 1993). In other

words, organizational barriers refer to more than just the absence of organizational support. As an example, employee training programs may be widely available in a particular organization (high level of organizational support); however, if the organization is understaffed, employees may not have the flexibility and time to attend these training sessions (high level of organizational barriers). Because an organization's barriers to development and learning are unrelated to an organization's support for learning and development, these constructs must be measured independently.

Learning Environment

A learning organization strives to acquire, improve, and integrate knowledge and learning among its members (Ellinger, Ellinger, Yang, & Howton, 2002; Senge, 1990), and also fosters a culture that reflects the importance of such learning and development experiences (Yang, 2003). While employees can choose to engage in learning activities on their own accord (Wilk & Noe, 1997/1998), management is ultimately responsible for establishing organizational structures that support employee learning (e.g., Schneider, 1994; Yang, 2003). Thus, an organization's learning environment may play a key role in whether employees actually participate in self-directed learning and development opportunities (Boyce et al., 2010).

If an organization does not create an environment that supports learning and development efforts, it may be difficult for leaders to engage in self-development activities. Therefore, in addition to possessing the necessary skills and competencies that facilitate leader effectiveness, a leader may benefit by working in an organization with an environment that promotes continuous learning and development (Tannenbaum, 1997).

Tannenbaum (1997) identified eight different dimensions of a learning environment: awareness of the ‘big picture’; assignment of tasks that provide the opportunity to learn; tolerant of mistakes; high performance expectations/accountability; minimal situational constraints; open to new ideas; supportive supervisors/coworkers; and supportive training policies/practices. These environmental features are described in more detail below.

Being aware of the ‘big picture’ has been emphasized by Senge (1990) who suggested that it is important to have a shared understanding among all employees of how their individual work fits in with the organization’s larger goals. It is also critical for employees to be assigned challenging tasks that give them the opportunities to apply what they have previously learned (Dubin, 1990), as doing so often helps maintain both learned skills and overall motivation to learn. Additionally, an organization that is tolerant of mistakes sends employees the message that making errors is part of the learning process (e.g., Gundry, Kickul, & Prather, 1994), and an organization that makes employees accountable for their own learning, yet still expects high-quality performance outcomes, sends the message that learning is essential for personal growth and business success (Rosow & Zager, 1988).

Furthermore, in a work environment, situational constraints (e.g., unclear assignments, lack of necessary resources) can interfere with and affect the learning process, so it is important to minimize these potential learning barriers (Peters & O’Connor, 1980; Schoorman & Schneider, 1988). Additionally, in a positive learning environment, new ideas should be valued and encouraged in order to emphasize that learning is everyone’s responsibility, and not just the responsibility of top management.

(McGill, Slocum, & Lei, 1992). Finally, a learning organization is characterized by supervisor and coworker support for individual learning efforts (Tracey et al., 2005), and training policies and practices that promote continuous learning (Baldwin & Magjuka, 1991). Together, these eight dimensions indicate whether an organization has a positive learning environment in which continuous learning is reinforced.

With research suggesting that organizational characteristics are likely associated with an employee's engagement in development and learning opportunities (e.g., Confessore & Kops, 1998), it is expected for self-directed learning to be more prominent in an organizational environment that supports employee development. Thus, it is predicted that an organization's learning environment will be related to whether a leader engages in self-development activities.

Hypothesis 6: An organization's learning environment will be positively related to a leader's engagement in self-development activities.

Furthermore, in the current study, I believe that the interaction of both individual and organizational characteristics will jointly predict whether a leader engages in self-development activities. In the training literature, there has been a large focus on both individual and situational influences of training effectiveness. For example, Mathieu and Martineau (1997) created a conceptual framework that looked at both individual and situational influences on training motivation, suggesting that individuals vary in level of training motivation because of the interactive effects of personal characteristics and the work environment. While dispositional characteristics are some of the most significant predictors of training outcomes (Fleishman & Mumford, 1989), the organizational context in which training occurs can also have profound effects on training effectiveness

(e.g., Baldwin & Magjuka, 1997; Tannenbaum & Yukl, 1992). With existing research demonstrating the interactive effects of personal and environmental characteristics on training outcomes, the current study will explore the interaction of both leader and organizational characteristics on leader engagement in self-directed learning activities.

Hypothesis 7: Leader and organizational characteristics will interact to positively predict leader engagement in self-development activities.

Context: The Nonprofit Sector

While self-directed learning is important for all organizations, it may be especially critical in the nonprofit sector. Over the last several decades, the nonprofit sector has experienced extraordinary growth (Salamon, 1994; Salamon, 2002), with over 1.4 million nonprofit organizations currently in the United States (Blackwood et al., 2008). According to a recent report from the Quarterly Census of Employment and Wages program, approximately 8.7 million individuals were employed by nonprofit organizations in the United States as of 2002 (Salamon & Sokolowski, 2005). Consequently, researchers have shown a renewed interest in studying nonprofit organizational performance.

While extensive research has focused on organizational and leadership performance in large for-profit organizations, much less research has examined these issues in the context of smaller nonprofit organizations (Thach & Thompson, 2007). With limited human and financial resources, nonprofit organizations experience challenges distinct from those faced by government and for-profit companies. One particular obstacle faced by nonprofit leaders is that they often fail to receive the necessary support and training needed to successfully manage their organizations (e.g., Corder, 2001;

Santora et al., 1999). Thus, in order to deal with current pressures and ensure survival of their organizations, nonprofit leaders are sometimes forced to implement management practices that have been successful in for-profit organizations, but never formally evaluated within nonprofit agencies (Eisenberg, 1997; Rojas, 2000).

With the current economic and societal pressures that modern organizations face, it is clear that more research is needed to identify successful management strategies for nonprofit leaders. While many for-profit organizations rely on structured leader development programs to deal with these organizational predicaments (Training, 2005), most nonprofit organizations are unable to afford such programs (Santora et al., 1999). Thus, more cost effective alternatives, such as leader self-development, may be particularly beneficial for developing the skills of nonprofit leaders and enhancing the effectiveness of these organizations.

Overall, this study aims to explore both leader and organizational level predictors of leader engagement in self-development activities. In particular, the current study will focus on nonprofit leaders, an under-studied population who may be particularly well-suited for informal self-directed learning and development experiences.

CHAPTER 2

METHOD

Participants

Participants in the current study are organizational leaders and followers from nonprofit agencies in Colorado. In the current study, a “leader” is defined as any individual who is responsible for important organizational processes and/or the direct supervisor of other organizational members/volunteers. “Followers” are defined as paid employees or volunteers who work in nonprofit organizations. Prior research suggests that there are no statistically significant differences between volunteer workers or paid employees in terms of motivation (e.g., Pearce, 1983) or work attitudes (e.g., job commitment and satisfaction; Laczko & Hanisch, 1999). Furthermore, analyses in the current study revealed no significant differences on any of the key study variables when volunteers were included. As such, survey respondents in the current study include both volunteers and paid employees working in the nonprofit sector.

A preliminary list of 324 nonprofit organizations was identified through electronic search engines (e.g., www.volunteermatch.org, <http://1-800-volunteer.org>, www.coloradononprofits.org) and personal contacts. After communicating with an agency contact person, 20 of these agencies were considered ineligible because they did not meet study criteria (e.g., too small, atypical organizational structure, staff located outside of Colorado, etc.). Of the eligible organizations that I contacted, there were many

that agreed to participate but did not provide enough data, many that did not respond to my initial participation request, and many that chose not to participate due to high work demands, lack of time, and/or lack of interest.

In total, complete data (defined as survey responses from at least three followers and one leader) were obtained from 77 nonprofit organizations, with an overall completion response rate of 25%. In other words, of the 304 eligible nonprofit agencies that I contacted, only 25% (or 77/304) of these organizations provided enough data to be included in the current study. Baruch and Holtom (2008) found an average response rate of 35.7% (with a standard deviation of 18.8) across studies utilizing data at the organizational level. The overall completion response rate for the current study falls within one standard deviation of Baruch and Holtom's findings, and is thus considered acceptable.

Ninety-four nonprofit leaders participated in this study. These individuals ranged in age from 24 to 72 years, with an average age of 48. Leaders worked an average of 43 hours per week ($SD=14.42$) and 86% were paid employees. 65% of this sample was female and 94% of this sample was Caucasian. The remaining leaders considered themselves to be Hispanic (4%) or Other (2%).

Three-hundred and forty followers also participated in this research study. They ranged from 19 to 71 years of age, with an average age of 39 (342 followers actually completed the survey but two of these individuals were excluded from analyses because they were under 18 years of age). These followers worked 29 hours per week on average ($SD=15.69$). 71% of these followers were paid employees and 29% of these followers were volunteer workers. The majority of this sample was female and Caucasian (81% and

89%, respectively). The remaining followers indicated their ethnicity as Hispanic (6.6%), Black (.3%), Asian (.6%), Native American (.3%), or Other (3.0%).

Procedure

An initial contact person was identified for each of the 324 nonprofit organizations in Central and Northern Colorado. If an email address was available, this contact person was emailed a recruitment letter and flyer that provided an overview of the current study (i.e., the purpose of the research project, who should complete the study, benefits of participation, instructions for how to participate). If an email address was unavailable, this individual was contacted via telephone by the author or her research assistant. This initial contact person was emailed/called a second time if there was no response over the following three weeks. If there was still no response after the second contact, another contact person was identified from the same nonprofit organization. This individual was then emailed up to two times as well. Nonprofit organizations were only eligible to participate if one leader and four or more employees or volunteers expressed an interest to participate in the study (with data from at least four employees/volunteers, anonymity is easier to maintain).

All interested organizations were then emailed two electronic survey links: one link contained the leader questionnaire (to be completed by the identified organizational leader) and the other link contained the employee/volunteer questionnaire (to be completed by the identified employees or volunteers). The leader questionnaire contained measures assessing leader characteristics, organizational characteristics, and leader engagement in self-development activities. The employee/volunteer questionnaire only contained measures that assessed organizational characteristics.

Although several agencies initially indicated that they had one leader and four employees or volunteers who were interested in the study, 12 nonprofit organizations had only three employees/volunteers complete the survey. Analyses reveal no significant differences on any of the key organizational-level variables among employees from organizations with three employee/volunteer responses and employees from organizations with at least four employee/volunteer responses. Thus, all organizational level analyses in the current study include data from nonprofit agencies with at least three employees or volunteers. Additionally, five participants completed the wrong survey version (i.e., an employee completed the leader survey instead of the employee/volunteer survey version) or only partially completed the electronic survey (e.g., a respondent terminated the survey when he/she had only 20 questions left to complete). These individuals were then asked to answer the correct survey version/finish the original survey items on a paper version of the survey. Responses from these individuals are included in all subsequent analyses.

Finally, I decided to include responses on organizational-level characteristics from only employees and volunteers (not organizational leaders), in order to reduce common method bias. In the multi-level analyses, level 1 consists of responses on the organizational characteristics measures and level 2 consists of responses on the leader self-development measures. With level 2 measures being completed by leaders, it does not make sense to also include leaders in level 1 (with employees and volunteers). If the leader responses were included in both level 1 and level 2, this would present a possible confounding variable. In other words, I would not be able to disentangle whether the multi-level findings are due to common method bias or the true relationship of interest.

Measures: Leader Characteristics

The following leader characteristics were measured in the current study: developmental efficacy, learning adaptability, and propensity to self-develop.

Developmental Efficacy (Reichard, 2006). Nine items from Reichard were used to measure developmental efficacy. One of these items was modified so that it was no longer specific to a military context (Rather than saying, “I am confident that I will benefit from the leadership development I receive in *the Army*”, this item was changed to “I am confident that I will benefit from the leadership development I receive in *my organization*”). These items were rated on a seven-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree), with higher scores representing greater developmental efficacy. In the current study, the internal consistency reliability estimate for this scale was .84.

Learning Adaptability (Ployhart, 2004, as cited in Ployhart & Bliese, 2006). The I-DAPT-M is a comprehensive self-report measure that assesses the eight dimensions of adaptability identified by Pulakos et al. (2000). While the I-DAPT-M contains 55 items, only the nine items that address learning adaptability were included in the current study. An example item is “I take responsibility for staying current in my profession”. Responses were indicated using a five-point Likert rating scale, ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores representing greater learning adaptability. In the current study, this subscale had an internal consistency reliability estimate of .87.

Propensity to Self-Develop (Boyce et al., 2010). This three-item measure was developed by Boyce et al. to assess a leader’s propensity to self-develop. A sample item

includes “If I were completely free to choose, I would prefer to determine and direct my own leadership development”. Responses were indicated using a five-point Likert rating scale, ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores representing greater propensity to self-develop. In the current study, this subscale had an internal consistency reliability estimate of .66. Since this internal consistency estimate is below the minimum alpha of .70 recommended by Nunnally and Bernstein (1994), one must interpret all findings based on this subscale with caution.

Measures: Organizational Characteristics

The following organizational characteristics were measured in the current study: organizational support for development, organizational barriers to development, and organizational learning environment.

Support for/Barriers to Development (Noe & Wilk, 1993). Twenty-four items from Noe and Wilk measured employee perceptions of support for development. Respondents were told to interpret the term “manager” as meaning “manager or employer”. A sample item was “My manager is supportive of my efforts to acquire new knowledge and skills”. These items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores representing greater perceptions of support for development. In the current study, the internal consistency reliability estimate for this scale was .93.

Eight items were also included to measure employee perceptions of barriers to development. A sample item was “I don’t have time in my job to try and strengthen my skill weaknesses”. These items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores representing greater

perceived barriers to development. One of the reverse-coded items on this scale (“My present job requires updating of my skills and abilities”) was dropped from analyses due to a very low, negative item-total correlation ($r = -.03$). The internal consistency reliability estimate for the remaining seven items on this scale was .78.

Learning Environment (Tannenbaum, 1997). The Learning Environment Survey measures ten dimensions of an organization’s continuous learning environment. Of these ten, only five dimensions were included in the current study (totaling 24 items): assigns to provide the opportunity to learn, tolerates mistakes as part of learning, high performance expectations/accountability, open to new ideas/change, and awareness of the big picture. The other four dimensions of the Learning Environment Survey (policies/practices support training, supervisors support training, coworkers support training, situational constraints) were not included in the current study because they focus on support/barriers to development (these constructs are addressed by other scales in the current study). A final dimension of the Learning Environment Survey (assigns to avoid errors) was not included in the current study because of its poor psychometric performance during the validation process (coefficient alpha of .52 and .44 in two different samples; Tannenbaum, 1997).

Examples of items in the current study are as follows: “My organization typically assigns people to positions that stretch them” (provides opportunity to learn), “My organization typically believes that people can learn from their mistakes” (tolerates mistakes), “My organization typically expects high levels of performance at all times (high performance expectations), “New ideas are highly valued at my company” (open to new ideas/change), and “I understand how my job relates to others in the organization”

(awareness of big picture). Responses were indicated using a seven-point Likert rating scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Due to high inter-correlations among these subscales (correlations ranged from .41 to .67), all five dimensions were combined to create a composite score, with higher scores representing greater perceptions of a continuous learning environment. In the current study, this measure had an internal consistency reliability estimate of .92.

Measures: Leader Engagement in Self-Development Activities

The following criteria were used to assess a leader's engagement in self-development activities: past self-development behaviors, intentions to self-develop, quality of engagement in self-development activities, and the number of hours engaged in self-development activities.

Past Self-Development Behaviors (Boyce et al., 2010). Four items asked leaders to self-report the extent to which they have engaged in self-development behaviors during a specified time period (e.g., during the last three months). These items were rated on a five-point Likert scale ranging from 1 (to a very little extent) to 5 (to a very great extent), with higher scores indicating greater engagement in self-development activities. An example item includes "During the last three months, I intentionally performed self-directed learning activities to acquire new leadership knowledge". In the current study, this scale had an internal consistency reliability estimate of .90.

Intentions to Self-Develop (Reichard, 2006). Leaders completed a 20-item measure that assesses the extent to which a leader intends to self-develop. A sample item is "In the next month, I will hold myself accountable for my leadership development." Responses were rated on a seven-point Likert scale ranging from 1 (not at all likely) to 7

(extremely likely), with higher scores indicating greater intentions to self-develop. One item from the original scale was dropped because it was not applicable in the current study context (e.g., “I will conduct After Action Reviews with my followers on leadership”). In the current study, the internal consistency reliability estimate for this scale was .95.

Quality of Leader Self-Development Activities (based on Langkamer, 2008 but modified by the author for the purposes of the current study). Three open-ended questions regarding the quality of one’s leadership development activities were included to provide additional information about a leader’s engagement in self-development activities.

Question one asked leaders to list all of the self-development activities they have participated in during the last three months. A summary of these activities is listed in Table 1. Question two asked leaders to provide a short description (two to five sentences) of each developmental activity listed in question one. Question three asked participants to describe the skills that were learned through participating in these self-development activities.

Three raters assessed the quality of leader engagement in self-development activities based on responses to the open-ended questions above. Raters were asked to make three different quality ratings for each nonprofit leader. The first quality rating focused on the number of self-development activities the leader engaged in and was rated on a 1 (engaged in no self-development activities) to 4 (engaged in 6+ self-development activities) rating scale. The second quality rating focused on the effort put forth by the leader to engage in self-development activities and was rated on a 1 (no effort spent on self-development activities) to 4 (extensive effort spent to engage in self-development

activities) rating scale. The third quality rating focused on the intrinsic value of the leader's engagement in self-development activities and was rated on a 1 (engaged in no self-development activities) to 4 (high value- clear, direct enhancement of job/leadership skills) rating scale.

To assess initial rater agreement, ratings were made for 20 of the 94 nonprofit leaders. The intraclass correlation coefficient was .87 (95% confidence interval 0.72, 0.95), showing good agreement in quality ratings of leader self-development activities across all three raters. As such, the raters were asked to complete ratings for the remaining 74 nonprofit leaders. Because of the high intraclass correlations for quality rating 1 (ICC= .95, CI= .93, .96), quality rating 2 (ICC= .91, CI= .87, .94) and quality rating 3 (ICC= .91, CI= .87, .94), and high correlations between these three different ratings of quality across all raters ($r=.69-.89$), I decided to average all three ratings made by each rater to create an overall quality score for each nonprofit leader.

The overall intraclass correlation coefficient was .96 (95% confidence interval 0.93, 0.97). With such high agreement across raters, a final observed quality score was calculated for each nonprofit leader by averaging all three raters' overall quality scores. This final score was used in all subsequent analyses.

Two additional self-report items were used to assess the quality of a leader's engagement in self-development activities. I created these items to provide a more quantitative assessment of 'quality'. The first item states, "Overall, I would rate the quality of my engagement in self-development activities over the last 3 months as _____", and was rated on a 1 (very low quality) to 5 (very high quality) Likert rating scale. The second item states, "Overall, I have learned a variety of new skills by engaging

in self-development activities over the last 3 months”, and was rated on a 1 (strongly disagree) to 5 (strongly agree) Likert rating scale. These items were averaged together to create a quantitative quality rating, with higher scores representing higher quality engagement in self-development activities. This subscale had an internal consistency reliability estimate of .75.

In summary, the current study includes two assessments of quality of leader engagement in self-development activities: (1) leader self-report scores of quality of engagement, and (2) rater-coded scores of quality of leader engagement. These two indicators of quality of leader self-development are significantly correlated with one another ($r=.6$).

Number of Hours Engaged in Self-Development Activities (Langkamer, 2008).

One survey item asked participants to indicate the total number of hours engaged in leader self-development activities over the last three months. This item was open-ended and participants were asked to fill in their response. This item asked, “During the last 3 months, approximately how many total hours did you spend performing leader self-development activities?” On average, study participants reported engaging in 17.18 hours ($sd=15.34$) of leader self-development activities over the previous three months.

CHAPTER 3

RESULTS

Descriptive statistics, zero-order correlations, and reliabilities for all variables measured in the current study can be found in Table 2 (leader-level variables) and Table 3 (organizational-level variables). Overall, leader-level analyses were conducted on 94 leaders and organizational-level analyses were conducted on 340 employees and volunteers.

Leader-Level Analyses

Harman's single-factor test (Podsakoff & Organ, 1986) was used to test for common method variance among leader-level variables. Using the 'eigenvalue greater than one' criterion, Harman's single-factor test revealed ten factors, with the first factor explaining 34.38 percent of the variance in the data. With no clear evidence for a single factor nor a general factor accounting for the majority of the variance, the effects of common method variance are considered minimal.

Hypothesis 1, which posited that developmental efficacy would be positively associated with a leader's engagement in self-development activities, was tested using simple linear regression. As shown in Table 4, developmental efficacy positively predicted past-self-development behaviors ($B=.61$, $F(1, 91)=14.73$, $p=.00$, $R^2=.14$), intentions to self-develop ($B=.82$, $F(1, 90)=26.04$, $p=.00$, $R^2=.22$), self-reported quality of self-development ($B=.36$, $F(1, 88)=8.38$, $p=.01$, $R^2=.09$), rater-coded quality of self-

development ($B=.31$, $F(1, 91)=5.95$, $p=.02$, $R^2=.06$), and the number of hours spent engaging in self-development activities ($B=8.19$, $F(1, 87)=10.21$, $p=.00$, $R^2=.11$). These findings indicate that developmental efficacy predicts a number of leader self-development variables, explaining between 6 and 22% of the variance in past self-development, intentions to self-develop, self-reported quality of self-development, rater-coded quality of self-development, and total number of self-development hours. Together, all of this evidence supports Hypothesis 1, with developmental efficacy significantly predicting five different indicators of leader engagement in self-development activities.

Hypothesis 2, which posited a positive relationship between learning adaptability and leader engagement in self-development activities, was also tested using simple linear regression. As shown in Table 4, learning adaptability had a significant, positive relationship with past-self-development behaviors ($B=.68$, $F(1, 90)=9.58$, $p=.00$, $R^2=.10$), intentions to self-develop ($B=.79$, $F(1, 89)=11.47$, $p=.00$, $R^2=.11$), self-reported quality of self-development ($B=.50$, $F(1, 87)=9.01$, $p=.00$, $R^2=.09$), rater-coded quality of self-development ($B=.37$, $F(1, 90)=4.67$, $p=.03$, $R^2=.05$), and the number of hours spent engaging in self-development activities ($B=6.98$, $F(1, 86)=3.81$, $p=.05$, $R^2=.04$). These findings indicate that learning adaptability is positively related to a number of leader self-development variables, explaining between 4 and 11% of the variance in past self-development behaviors, intentions to self-develop, quality of self-development, and total number of hours engaged in self-development activities. Collectively, these findings support Hypothesis 2, with learning adaptability significantly predicting five different indicators of leader-self development.

Finally, Hypothesis 3, which stated that propensity to self-develop would be positively associated with a leader's engagement in self-development activities, was tested using simple linear regression. As shown in Table 4, propensity to self-develop positively predicted past-self-development behaviors ($B=.42$, $F(1, 92)=6.98$, $p=.01$, $R^2=.07$), self-reported quality of self-development ($B=.28$, $F(1, 89)=5.22$, $p=.03$, $R^2=.06$), and the number of hours spent engaging in self-development activities ($B=5.20$, $F(1, 88)=4.22$, $p=.04$, $R^2=.05$), but had no significant relationship with intentions to self-develop ($B=.33$, $F(1, 91)=3.74$, $p=.06$, $R^2=.04$) or rater-coded quality of self-development ($B=.05$, $F(1, 92)=.16$, $p=.69$, $R^2=.00$). Together, these findings largely support Hypothesis 3, with propensity to self-develop significantly predicting three different indicators of leader self-development.

Organizational-Level Analyses

Hypotheses 4-6 were tested using MPlus 6 (Muthen & Muthen, 2010), in order to assess the multi-level relationship between organizational-level characteristics and leader-level outcomes. For the current study, multilevel latent covariate (MLC) modeling (Ludtke et al., 2008) was used to explore relationships among variables at different levels of analysis. While traditional multi-level approaches rely on manifest observed mean scores (e.g., hierarchical linear modeling), this can be problematic when only a small number of individual observations are aggregated to obtain the observed group average. In these instances, the aggregated responses likely will produce a biased (unreliable) estimate of the group-level effect. With MLC modeling, the group effect is estimated in such a way that it assumes an infinite number of available raters, helping to account for uncertainty of the group-level mean. In other words, MLC modeling treats the group

mean as a latent variable informed by individual responses, thus producing more reliable estimates of group-level effects than traditional multi-level modeling (Ludtke et al., 2008).

In order to justify examining between-level effects, intraclass correlations (*ICCs*) were calculated to assess the level of variance in learning environment, organizational support for development, and organizational barriers to development that were attributable to membership in a given nonprofit organization. *ICCs* are one way of determining whether aggregated individual-level ratings are reliable indicators of group-level constructs (i.e., organizational characteristics). This type of analysis breaks down the total variance in the organizational-level variables into variance attributable to individuals (within-organizational variance) and variance attributable to organizations (between-organizational variance).

The *ICC(1)* estimates the proportion of variance due to differences between organizations. In other words, the higher the *ICC(1)*, the more similar the ratings made by individuals within a single nonprofit agency. The *ICC(1)* for all three organizational-level variables were .08 (organizational support for development), .05 (learning environment), and .14 (organizational barriers to development). Thus, between 5 and 14% of the variance in learning environment, organizational support, and organizational barriers was located between organizations. The *ICC(1)* values are quite low, but in organizational research these values are seldom greater than .30 (Bliese, 2000).

While the *ICC(1)* provides an estimate of the reliability of a single individual's rating of the group-level effect, the *ICC(2)* indicates the reliability of the organizational-mean rating. The *ICC(2)* is analyzed by applying the Spearman-Brown prophecy formula

(Nunnally, 1978) to the *ICC*(1). The Spearman-Brown prophecy formula takes into account the average number of raters within each organization (for this study, the average group size was 4.40). The *ICC*(2) values were .27 for organizational support for development, .19 for learning environment, and .42 for organizational barriers to development. These estimates suggest that between 19 and 42% of the variance across individuals was accounted for by organizational membership. While these reliability estimates are low (below the critical value of .70; LeBreton & Senter, 2008; Ludtke, Trautwein, Kunter, & Baumert, 2007), MLC modeling corrects for unreliable measurement when estimating group-level effects from individual-level responses (Ludtke et al., 2008; Rabe-Hesketh, Skrondal, & Pickles, 2004), and is thus an appropriate analytical strategy for the current research study.

Hypothesis 4, which predicted that organizational support for development would be positively related to a leader's engagement in self-development activities, was tested using MLC modeling. As shown in Table 5, there was no significant relationship between organizational support for development and any of the indicators of leader self-development. Thus, Hypothesis 4 was not supported.

Hypothesis 5, which predicted that organizational barriers to development would be negatively related to a leader's engagement in self-development activities, was also tested using MLC modeling. As shown in Table 5, there was no significant relationship between organizational barriers to development and any indicators of leader engagement in self-development activities. As such, there was no evidence for Hypothesis 5.

Hypothesis 6, which posited a positive relationship between an organization's learning environment and leader engagement in self-development activities, was also

analyzed with MLC modeling. As shown in Table 5, there was no significant relationship between an organization's learning environment and any indicators of leader engagement in self-development activities. As such, there was no evidence for Hypothesis 6.

While I tested Hypotheses 4-6 at the organizational level of analysis, I also ran post-hoc analyses to examine the relationship between organizational characteristics and leader self-development at the leader level of analysis. Using simple regression, I found significant relationships between leader perceptions of organizational support, organizational barriers, and learning environment, and leader engagement in self-development activities. See Table 6 for more information regarding these post-hoc analyses. While these relationships are confounded by common method variance, they provide some evidence, at the individual level, that organizational variables predict leader self-development.

Interaction Analyses

Hypothesis 7 predicted that leader and organizational characteristics would positively interact to predict leader engagement in self-development activities. While initially I wanted to test this hypothesis using MLC modeling, I realized that it was impossible to create an interaction term using a level 2 latent variable and a level 2 observed variable (personal communication with Mplus tech support on September 10, 2010). Consequently, this hypothesis was tested using hierarchical regression, with the leader and organizational characteristics in step 1, the interaction term in step 2, and one of the five leader self-development indicators entered as the dependent variable. Each interaction term (e.g., developmental efficacy X organizational support for development) was tested separately, so with 9 interaction terms and 5 different dependent variables, I

ran a total of 45 analyses. These organizational variables were calculated by averaging the organizational characteristic scale scores across all respondents within a single organization. Thus, rather than being viewed as a latent variable, the organizational characteristics were measured as manifest variables in subsequent analyses.

Of all possible combinations of predictors and outcomes, only five interactions were found to be significant. The first significant interaction was between learning environment and learning adaptability in predicting past self-development ($\Delta R^2=.05$, $B=-1.53$, $t=-2.00$, $p=.05$). This interaction was negative, suggesting that the higher one's learning adaptability and the weaker one's learning environment, the more likely one is to engage in self-development activities. The second significant interaction was between learning environment and propensity to self-develop in predicting future intentions to engage in self-development activities ($\Delta R^2=.06$, $B=-1.29$, $t=-2.30$, $p=.03$). This interaction was negative, suggesting that the greater one's propensity to self-develop and the weaker one's learning environment, the more likely one is to engage in self-directed learning activities in the future. The third significant interaction was between organizational support for development and propensity to self-develop in predicting self-reported quality of self-development activities ($\Delta R^2=.07$, $B=-1.50$, $t=-2.34$, $p=.02$). This interaction was negative, suggesting that the greater one's propensity to self-develop and the lower one's organizational support for development, the higher the quality of engagement in self-development activities. The fourth significant interaction was between learning environment and propensity to self-develop in predicting self-reported quality of self-development activities ($\Delta R^2=.08$, $B=-1.02$, $t=-2.57$, $p=.01$). This interaction was negative, suggesting that the greater one's propensity to self-develop and the weaker

one's learning environment, the higher the quality of engagement in self-development activities. Finally, the fifth significant interaction was between learning environment and propensity to self-develop in predicting past self-development ($\Delta R^2=.05$, $B= -1.10$, $t=-2.03$, $p=.05$). This interaction was negative, suggesting that the greater one's propensity to self-develop and the weaker one's learning environment, the more likely one is to engage in self-development activities. These interactions can be viewed in Figures 2-6. While there were five significant interactions, they were not in the expected direction, and as such, Hypothesis 7 is not supported.

CHAPTER 4

DISCUSSION

The purpose of the current study was to better understand the individual and organizational antecedents of leader self-development. Data were collected from 94 nonprofit leaders and 340 nonprofit employees and volunteers on a number of variables related to leader engagement in self-development activities. Results revealed that developmental efficacy, learning adaptability, and propensity to self-develop significantly predicted multiple indicators of leader self-development. Furthermore, findings from this study failed to support the expected relationship between organizational-level characteristics (organizational support for development, organizational barriers to development, learning environment) and leader engagement in self-development activities. Finally, five interactions of leader and organizational characteristics (see earlier section for specifics) significantly predicted past self-development, intentions to self-develop, and self-reported quality of engagement in self-development activities.

Overall, this study makes several contributions to the leadership development literature. First, there has been limited research on individual and organizational antecedents of self-directed learning activities (see Boyce et al., 2010; Maurer & Tarulli, 1994; Noe & Wilk, 1993). The current research study addressed this gap by exploring three leader and three organizational predictors of leader self-development. Second, I examine leader self-development more comprehensively than previous researchers (e.g.,

Boyce et al., 2010; Langkamer, 2008; Reichard, 2006) by measuring the relative impact of five different indicators of leader engagement in self-development activities. Third, this study was the first to assess antecedents of leader self-development in the nonprofit sector. Finally, the current study utilized an innovative analytical technique known as MLC modeling (Ludtke et al., 2008) to assess the proposed multi-level relationships.

Overall, the results of this study demonstrated mixed support for my hypotheses. First, I found support that developmental efficacy positively predicted leader engagement in self-development activities. These findings suggest that a leader who is confident in his or her ability to develop leadership knowledge and skills is more likely to have engaged in self development activities, have future intentions to engage in self-development activities, engage in higher quality self-development activities (both self-reported and rater-coded assessments of quality), and spend more hours engaged in self-development activities.

Next, I found extensive support for my second hypothesis that learning adaptability would be positively related to leader engagement in self-development activities. Results from the current study indicate that a leader who is willing and able to learn new skills and knowledge in the workplace is more likely to have been previously involved with self-directed learning activities, have intentions to engage in self-development activities in the future, spend more hours on self-development activities, and engage in higher quality self-development activities (both in terms of self-reported and rater-coded assessments of quality). In general, these findings provide strong support that leaders with high learning adaptability are more likely to demonstrate self-directed and self-initiated learning and development behaviors in the workplace.

My final leader-level hypothesis was that a leader's propensity to self-develop would be related to leader engagement in self-development activities. I found positive, significant relationships between propensity to self-develop and past self-development, the number of hours spent engaged in self-development activities, and self-reported quality of self-development. In other words, I found significant support for a positive relationship between leader's attitudes towards certain behaviors (propensity to self-develop) and their engagement in certain behaviors (leader self-development). Existing theories, such as the theory of planned behavior (Ajzen, 1991), posit similar relationships. According to the theory of planned behavior, people's attitudes toward a certain behavior have a strong influence over their intentions and willingness to engage in that behavior. In other words, the stronger one's attitude to self-develop, the more likely one is to intend to, and ultimately engage in, self-development activities. Thus, these significant findings between propensity to self-develop and engagement in leader self-development activities aligns with previous theory.

The lack of significant relationships between propensity to self-develop and the other two indicators of leader self-development (rater-coded quality of self-development and future intentions to self-develop) warrants further attention. There are several possible reasons for these null findings. The first is that the current results are valid—perhaps there is no substantive relationship between propensity to self-develop and certain indicators of leader engagement in self-development activities (i.e., rater-coded quality of self-development and future intentions to self-develop). Although previous research by Boyce et al. (2010) suggests that there is a positive relationship between

propensity to self-develop and leader self-development in a military sample, it is possible that this relationship does not always hold true in the nonprofit sector.

A second plausible explanation involves the measurement of quality of leader engagement in self-development activities. While the self-report and rater-coded quality ratings were highly correlated ($r=.6$), they had differential relationships with a leader's propensity to self-develop. These inconsistent findings may be due to variety of reasons including but not limited to: inflated self-ratings of quality of engagement by nonprofit leaders (possibly a social desirability effect), a lack of content domain coverage by the two self-reported quality items, and/or an inaccurate coding scheme for raters who made the quality assessment ratings. To expand on this last point, I constructed the rater coding system for this study based on the content of the open-ended quality items and previous research on quality of leader self-development (Langkamer, 2008). It is possible there were other ways to code these open-ended responses besides the number of activities engaged in by the leader, the amount of effort put forth by the leader, and the value of the leader's engagement, methods that may have more fully captured the "quality" of each leader's self-development activities. Future research should aim to clarify the relationship between propensity to self-develop and the quality of leader self-development.

A third plausible explanation is that the true relationship between these variables of interest may have been attenuated in this sample due to the unreliability of the propensity to self-develop measurement scale. In the current study, this scale had an internal consistency reliability estimate of .66 (compared to an alpha of .89 in the Boyce et al. study). It is unclear why these reliability estimates are so disparate, but it is important to note that this scale is relatively new and may require additional

development. With such a small reliability estimate in the current study, one must interpret all findings based on this subscale with caution. Future researchers who are interested in better understanding an individual's propensity to self-develop should focus their efforts on strengthening the psychometrics of this scale.

Note that the correlations between propensity to self-develop and the leader self-development variables increase when corrected for unreliability. After applying the correction formula, the results are as follows: a .35 correlation between propensity to self-develop and past-self development (original correlation was .27), a .25 correlation between propensity to self-develop and intentions to self-develop (original correlation was .20), and a .34 correlation between propensity to self-develop and self-reported quality of self-development (original correlation was .24). While the hypothesized relationships cannot be tested with these corrected estimates, it is clear that the coefficients are larger once corrected for unreliability. These findings highlight the importance of continually improving the reliability of our measurement tools.

The next set of hypotheses looked at the relationship between organizational characteristics and leader self-development. Multi-level analyses suggested that there were no significant relationships between organizational support for development, organizational barriers to development, learning environment, and leader engagement in self-directed learning activities. There are several plausible reasons for these null findings.

The first explanation is that these findings may be valid in that there is no substantive relationship between organizational characteristics and leader self-development. While this explanation goes against previous theory (e.g., Baskett, 1993)

and prior findings (Boyce et al., 2010), it is possible that organizational characteristics do not influence leader self-development in the nonprofit sector.

A second explanation concerns the lack of agreement on the organizational-level. In the current study, I found that there was more within-organization variation than between-organization variation on the group-level constructs of organizational support for development, organizational barriers to development, and learning environment. With the MLC approach, within-group disagreement is taken into account when estimating the influence of the aggregated organizational ratings on leader engagement in self-development activities. Lebreton and Senter (2008) and Ludtke et al. (2007) consider *ICC(2)* values above .7 to be highly reliable, and my *ICC(2)* values were between .19 and .42. Despite assurances from Dr. Ludtke, the leading expert on MLC modeling, to proceed with the multi-level analyses, I believe that the lack of agreement evidenced in the current study is an issue, and likely limits the ability of these latent group means to predict my outcome of interest (i.e., leader engagement in self-development activities). How can one accurately estimate the magnitude of the proposed multi-level relationships when the predictor variables are unreliable and unstable?

Such ICC values raise the following question: Why is within group variability so high in the current sample? One answer to this question focuses on variability across organizations. Participants in the current sample were nonprofit workers from 77 diverse agencies that varied in organizational structure (flat vs. hierarchical), purpose (charity, education, religion, science, etc.), type of workers (mostly paid staff vs. mostly volunteers), and size (fewer than 5 workers to several hundred workers). With such likely different organizational environments, it is understandable that three to five survey

respondents may have varying perspectives about the organization's climate for development and learning. For example, it is highly likely that a volunteer who works one hour a week and a full-time paid employee who works 50+ hours a week will have completely different perceptions of the agency's developmental climate. Accordingly, aggregating across respondents may not only produce lower ICC values, but an inaccurate estimate of the true score on the variable. A replication of the current study on a more homogenous sample of organizations can test this hypothesis.

In summary, the obtained high levels of within-group variation make it difficult to discern whether the aggregated latent means are good representations of the organizational constructs measured in this study. Although there may not be any relationship between organizational support for development, organizational barriers to development, learning environment and leader self-development, it is possible that due to observed high levels of disagreement, these latent group means weren't adequate estimates of these organizational constructs, and thus the true relationship among these variables is still unknown.

A third explanation concerns a small average group size (the average number of followers from each organization was 4.40). The $ICC(2)$, the reliability of the group-mean rating, is a calculation based on $ICC(1)$, an estimate of the reliability of a single individual's rating of the group-level effect, and k , the average number of raters per group. In the current study, with an average of only four to five raters per organization, it is difficult to obtain a high $ICC(2)$. For example, in the current study, the $ICC(2)$ for barriers to development was .42. If I had an average group size of 30 (instead of 4.40), $ICC(2)$ would increase from .42 to .83. As such, with a more reliable group-level mean

(that can be obtained by increasing the sample size within each organization), I would be more likely to see the true effect of these organizational characteristics on leader engagement in self-development activities. The importance of having a large number of respondents from each organization is supported by simulation data from Ludtke et al. (2008), who showed that with small sample sizes, the MLC approach provided unstable parameter estimates.

A fourth explanation focuses on the measurement of organizational characteristics. Findings from the current study suggest that there is greater between-organization agreement than within-organization agreement on the three organizational characteristics assessed in this study. Within the organizational climate literature, there has been an ongoing debate about whether climate represents the perceptions of individual attributes or the perceptions of organizational attributes (Hellriegel & Slocum, 1974; James & Jones, 1974; Payne & Pugh, 1976). Because of the nature of the current sample, it may be more meaningful to explore these constructs as individual perceptions, rather than as organizational perceptions aggregated across individuals. Post-hoc analyses support this idea, with many significant relationships demonstrated between leader perceptions of organizational characteristics and leader self-development outcomes (vs. no significant relationship between organizational-level perceptions of organizational characteristics and leader self-development outcomes). Future research is needed to better understand the appropriate level of analysis for measuring organizational characteristics in the context of leader self-development. Overall, all of these alternative explanations are plausible and should be further examined in order to better understand the null findings of hypotheses 4, 5, and 6.

Hypothesis 7 was not supported, however there were five significant interactions between leader and organizational characteristics predicting leader self-development outcomes. These findings were not in the expected direction. For example, previous research suggests that development experiences are more successful when employees believe that the organization is supporting their efforts (e.g., Rouiller & Goldstein, 1993; Tannenbaum & Yukl, 1992; Tracey et al., 1995), and when leaders have the necessary skills and motivation (i.e., leaders are high in propensity to self-develop; Boyce et al., 2005). Such evidence suggests that the interaction of a supportive organizational environment (organizational support and learning environment) and high levels of leader skills and motivation to develop (propensity to self-develop and learning adaptability) would have positive effects on leader self-development. The current interaction results do not align with most previous research findings.

Interestingly, a recent study by Boyce et al. (2010) found unexpected interaction effects between propensity and support for development as well. Boyce et al. found that for leaders with high propensity to self-develop, an organizational support program actually hindered engagement in self-development activities. While these results were unexpected, Boyce et al. argued that having access to a website with developmental resources may have taught high-propensity leaders how to streamline their developmental efforts, which in turn led to fewer hours (a decrease) spent engaged in self-development activities. These surprising results due to the moderating effect of organizational support should be further explored in future research.

While contrary to my hypotheses, my findings have potential implications for leader-self development. First, these results suggest that a leader will engage in self-

development more frequently, engage in higher quality self-development activities, and be more likely to engage in self-development efforts in the future, if he/she has the necessary skills and knowledge to self-develop but has low organizational support or a weak learning environment. This may be true because individuals who have the desire to develop, but limited organizational assistance, may have to spend that much more effort on their own time trying to enhance their skill set. These particular findings should be explored in future research to better understand why these particular variables interact to predict leader self-development.

Limitations

The current study has several limitations. First, I've previously discussed how some patterns of results (e.g., lack of agreement within organizations and non-significant multi-level relationships) were likely due to the small number of participants from each nonprofit agency. While I had a large number of participating organizations ($n=77$), the average number of employees and volunteers from each nonprofit who completed my survey was small. In future studies, the focus should be on increasing the number of respondents from each organization in order to a) improve the *ICC(2)* which indicates the reliability of the organizational-mean rating (discussed previously), and b) enhance the likelihood that data are being collected from a representative sample of respondents from each organization.

To elaborate on the latter point, with only four to five respondents per agency, I may not have captured responses from a representative organizational sample. While some participating agencies had less than 5 employees, other nonprofit organizations that took part in this study had hundreds of employees. Greater efforts should be taken to

ensure that the respondents from each organization are accurate representatives of their entire agency.

A second limitation is that my leader-level findings may be affected by common method variance since both predictor and criteria information were obtained from a single source. However, this may not be a critical issue in the current study. I used Harman's single-factor test (Podsakoff & Organ, 1986) to test for common method variance among leader-level variables. Using the 'eigenvalue greater than one' criterion, Harman's single-factor test revealed ten factors, with the first factor explaining 34.38 percent of the variance in the data. With no clear evidence for a single factor nor a general factor accounting for the majority of the variance, the effects of common method variance are considered to be minimal. Nonetheless, future studies should examine strategies for varying methods or sources of the predictor and outcome variables analyzed in the current study. For example, researchers could utilize behavioral indicators of leader engagement in self-directed activities in order to limit reliance on self-report methodology.

A third limitation in this study focuses on the quality of the measurement tools. By and large, the scales used in the current study are relatively new but represent the best available measures that I could find. Being new, these scales have limited available psychometric evidence. Consequently, the true validity of these tools is still unknown. More testing should be done to better understand the statistical properties of these particular measures. This limitation highlights the need for solid assessment tools in order to better understand the area of leader self-development.

Finally, there may be some difficulty generalizing the findings of this study to all other nonprofit leaders in the United States due to the limited geographic diversity (all participants were from Central and Northern Colorado) and racial diversity (overwhelming majority of participants were white) of the current sample. The current study should be replicated using a national sample of nonprofit leaders, employees, and volunteers to assess whether these relationships still exist for more ethnically diverse nonprofit workers in different regions of the country.

Future Research

The findings from the current study can be extended in several ways. To answer my research questions, leader and organizational characteristics were individually explored as predictors of five indicators of leader self-development. These relationships were analyzed using simple linear regression and multi-level latent covariate modeling. An alternative strategy is to examine the relationships between latent predictors and latent outcomes using structural equation modeling (SEM). In other words, SEM could be used to better understand how a set of leader and organizational characteristics influences a set of leader self-development variables. This type of analytical strategy would allow researchers to identify the most important indicators of the latent constructs (i.e., leader characteristics, organizational characteristics, leader engagement in self-development activities). Although this was not my original research question, such findings could have important implications for organizations. For example, if developmental efficacy was found to have the strongest overall relationship with all indicators of leader self-development, then organizations could focus on either a) selecting nonprofit leaders who are high on developmental efficacy, since they have a higher propensity to engage in self-

development activities, or b) training leaders in ways to enhance their developmental efficacy (e.g., providing leaders with opportunities to lead new developmental efforts). By knowing how to facilitate leader self-development, organizations can enhance the knowledge and skills of their workforce without expending the time and money that often accompanies formal organizational training programs.

A second area for future research to further explore is the concept of a “nonprofit organizational climate for development”. In the current study, I found that there was more between-organizational agreement than within-organizational agreement on the climate factors explored in the current study (i.e., organizational support for development, organizational barriers to development, and learning environment). Furthermore, the standard deviations for all of these organizational variables were small (.52-.73). Together, these findings provide initial evidence for common organizational climate perceptions across different nonprofit organizations. Thus, it could be that there is a common organizational climate for development and learning among nonprofit agencies, and this common climate resulted in both higher between-organization agreement and less variance on the measured variables. In other words, there may be an overall nonprofit climate for development that is more salient to nonprofit workers than the climate specific to their individual organizations. This may be true because of the similar goals and values that individuals working in nonprofits tend to share.

In order to verify this hypothesis, researchers could replicate the conditions of the current study (using the same measurement tools) in a sample of for-profit organizations. If organizational support, organizational barriers, and learning environment have higher levels of within-organization agreement than between-organization agreement in this for-

profit sample, there would be initial evidence for different organizational learning and development perceptions between for-profit and non-profit agencies. This type of evidence would then suggest that for-profit organizations have more salient climates for development within individual organizations, while non-profits have more salient climates for development across organizations (in other words, supporting the presence of a ‘nonprofit organizational climate for development’). This nonprofit organizational climate concept could then be further explored to better understand a) how to best measure this type of climate and b) the influence of this type of climate on important organizational outcomes (e.g., turnover, absenteeism). The implications of such a study could help us to improve the design and delivery of organizational-level interventions in the nonprofit sector.

Finally, future researchers should address outcomes of leader self-development. Current theory on learning organizations suggests that it is important to apply what is known about adult learning and management practices in order to better understand the relationship between learning and leadership performance (Jeppesen, 2002). As such, it is important to assess whether engagement in self-development activities actually has an impact on leadership performance (Boyce et al., 2010).

Thus far, there has been limited research on the effects of leader engagement in self-development on performance. In one study, Langkamer (2008) found that leader engagement in self-directed learning activities was related to improved leadership effectiveness for two types of performance: adaptive and team performance. While the Langkamer (2008) study addressed the impact of self-development on leader perceptions of effectiveness, no study, to the author’s knowledge, has examined follower perceptions

of leader performance in the context of leader self-development. Additionally, variables such as leader retention in the organization, level of leadership attained, leader organizational commitment, and leader burnout could also be explored as outcomes of leader engagement in self-development activities. Gaining a more comprehensive picture of the impact that leader self-development can have on an organization is a fruitful avenue for future researchers to pursue.

Summary and Implications

In summary, this study adds to the self-development literature in several ways. To begin, this is the first study to explore both developmental efficacy and learning adaptability as antecedents of leader self-development, despite the existing literature that suggests this type of relationship should exist (e.g., Gist & Mitchell, 1992; London & Mone, 1999; Stevens & Gist, 1997). Observed relationships between these individual characteristics and leader self-development have important implications for organizations trying to encourage active participation in self-driven learning initiatives. These findings provide organizations with some specific suggestions to improve the skills and knowledge of their workforce: enhance leaders' levels of developmental efficacy and learning adaptability.

Secondly, the current findings extend existing leader self-development research by Reichard (2006), Langkamer (2008), and Boyce et al. (2010) by exploring the strategy of leader self-development in the nonprofit domain. Demonstrating nonprofit leader engagement in self-development activities has important implications for the nonprofit sector, because members of these organizations often fail to receive the support and training that is necessary to be successful (Corder, 2001; Santora et al., 1999). With

previous evidence suggesting that self-development strategies are associated with reduced training costs, higher profits, and lower turnover (Boyer & Lambert, 2008), and current findings suggesting that nonprofits leaders do take responsibility for their own developmental growth, we have ample support for the utility of leader self-development as a training strategy for nonprofit agencies.

In conclusion, the current study finds that nonprofit leaders high in developmental efficacy, learning adaptability, and propensity to self-develop, are most likely to engage in self-development activities. If organizations focus their efforts on training and developing leaders to attain high levels of these particular qualities, they are likely to experience innumerable long-term benefits from having a highly skilled and knowledgeable workforce.

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Table 1

Examples of self-development activities reported by leaders in the current study (only reporting activities with $n \geq 5$)

Leader self-development activity	Number of leaders engaging in these activities
1. Read relevant books, professional articles, reports, business journals, newspapers, magazines, etc.	44
2. Attended webinars, workshops, and seminars relevant to role/leadership.	22
3. Conversations, meetings, and networking with mentors, role models, experts, peers, board members, etc.	21
4. Attended conferences.	13
5. Attended non-mandatory staff trainings.	9
6. Attended education courses/class (face-to-face or online).	8
7. Conducted internet research on other similar organizations, available resources, organizational strategies, etc.	8
8. Engaged in community outreach.	6
9. Attended meditation/yoga classes.	5
10. Engaged in journaling/self-reflection exercises.	5
11. Facilitated trainings, workshops, seminar, and/or presentations.	5

Table 2

Means, standard deviations, and zero-order correlations for all leader-level variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. DE	5.67	.61	(.84)							
2. LA	4.22	.45	.51**	(.87)						
3. PROP	3.98	.63	.26*	.24*	(.66)					
4. SDPast	3.30	1.00	.37**	.31**	.27**	(.90)				
5. SDIntent	5.18	1.05	.47**	.34**	.20	.58**	(.95)			
6. SDQualitySR	3.54	.74	.30**	.31**	.24*	.69**	.41**	(.75)		
7. SDQualityRC	2.50	.75	.25*	.22*	.04	.46**	.26*	.57**	(--)	
8. SDHours	17.18	15.34	.33**	.21*	.21*	.47**	.43**	.37**	.34**	(--)

Note. $n = 91-94$. DE, developmental efficacy; LA, learning adaptability; PROP, propensity to self-develop; SDPast, past self-development behaviors; SDIntent, intentions to self-develop; SDQualitySR, self-report scores of quality of engagement; SDQualityRC, rater-coded scores of quality of engagement; SDHours, number of hours engaged in self-development activities.

* $p < .05$, ** $p < .01$. Numbers in the parentheses along the diagonal are reliability estimates (coefficient alphas).

Table 3

Means, standard deviations, and zero-order correlations for all organizational-level variables

Variables	<i>M</i>	<i>SD</i>	1	2	3
1. Support	4.04	.52	(.93)		
2. Barriers	2.40	.64	-.45**	(.78)	
3. Learning	5.53	.73	.72**	-.35**	(.92)

Note. $n = 339$ -340. Support, organizational support for development; Barriers, organizational barriers to development; Learning, learning environment.

** $p < .01$. Numbers in the parentheses along the diagonal are reliability estimates (coefficient alphas).

Table 4

Summary of regression analyses for predicting past self-development, intentions to self-develop, quality of self-development, and

Predictor	Past self development			Intentions to self-develop			Self-reported quality of self-development			Hours of self-development			Rater-coded quality of self-development		
	R^2	B	SE	R^2	B	SE	R^2	B	SE	R^2	B	SE	R^2	B	SE
DE	.14**	.61**	.16	.22**	.82**	.16	.09**	.36**	.13	.11**	8.19**	2.56	.06*	.31*	.13
LA	.10**	.68**	.22	.11**	.79**	.23	.09**	.50**	.17	.04*	6.98*	3.58	.05*	.37*	.17
PROP	.07**	.42**	.16	.04	.33	.17	.06*	.28*	.12	.05*	5.20*	2.53	.00	.05	.12
<i>hours of self-development from developmental efficacy, learning adaptability, and propensity to self-develop</i>															

Note. DE, developmental efficacy; LA, learning adaptability; PROP, propensity to self-develop. B represents the unstandardized regression coefficient for each regression analysis.

$N = 91-94$. * $p < .05$. ** $p < .01$.

Table 5

Predicting leader engagement in self-development activities: Results from multi-level modeling

	SDPast			SDIntent			SDQualitySR			SDQualityObs			SDHours		
	R^2	B	SE	R^2	B	SE	R^2	B	SE	R^2	B	SE	R^2	B	SE
Support	.01	-.62	1.33	.00	-.51	1.58	.01	.63	1.05	.08	-1.45	.81	.02	22.08	43.15
Barriers	.03	.76	.78	.03	.88	.80	.00	.15	.55	.03	.55	.45	.00	-5.83	20.15
Learning	.00	.40	1.55	.00	.21	1.39	.08	1.42	1.17	.03	-.81	.87	.01	8.83	47.75

Note. N for Level 1 = 339; N for Level 2 = 77. Average cluster size = 4.40. Support, organizational support for development; Barriers, barriers to organizational development; Learning, learning environment; SDPast, past self-development behaviors; SDIntent, intentions to self-develop; SDQualitySR, self-report scores of quality of engagement; SD QualityObs, rater-coded observed scores of quality of engagement; SDHours, number of hours spent engaged in self-development activities. None of these parameter estimates are statistically significant ($p > .05$).

Table 6

Summary of post-hoc analyses for predicting past self-development, intentions to self-develop, quality of self-development, and hours of self-development from organizational support, organizational barriers, and learning environment at the leader-level of analysis

Predictor	Past self development			Intentions to self-develop			Self-reported quality of self-development			Hours of self-development			Rater-coded quality of self-development		
	R^2	B	SE	R^2	B	SE	R^2	B	SE	R^2	B	SE	R^2	B	SE
SUPP	.07*	.54*	.20	.16**	.84**	.20	.06*	.36*	.15	.03	5.15	3.17	.01	.11	.15
BARR	.00	.00	.19	.09**	-.59**	.19	.01	-.12	.15	.00	.05	3.03	.00	-.01	.14
ENVIR	.14**	.55**	.14	.17**	.64**	.15	.10**	.35**	.11	.06*	5.57*	2.38	.00	.06	.11

Note. SUPP, organizational support for development; BARR, organizational barriers to development; ENVIR, learning environment.

B represents the unstandardized regression coefficient for each regression analysis.

$N = 90-94$. * $p < .05$. ** $p < .01$.

Figure 1.

Proposed model of the effects of leader and organizational characteristics on leader engagement in self-development activities.

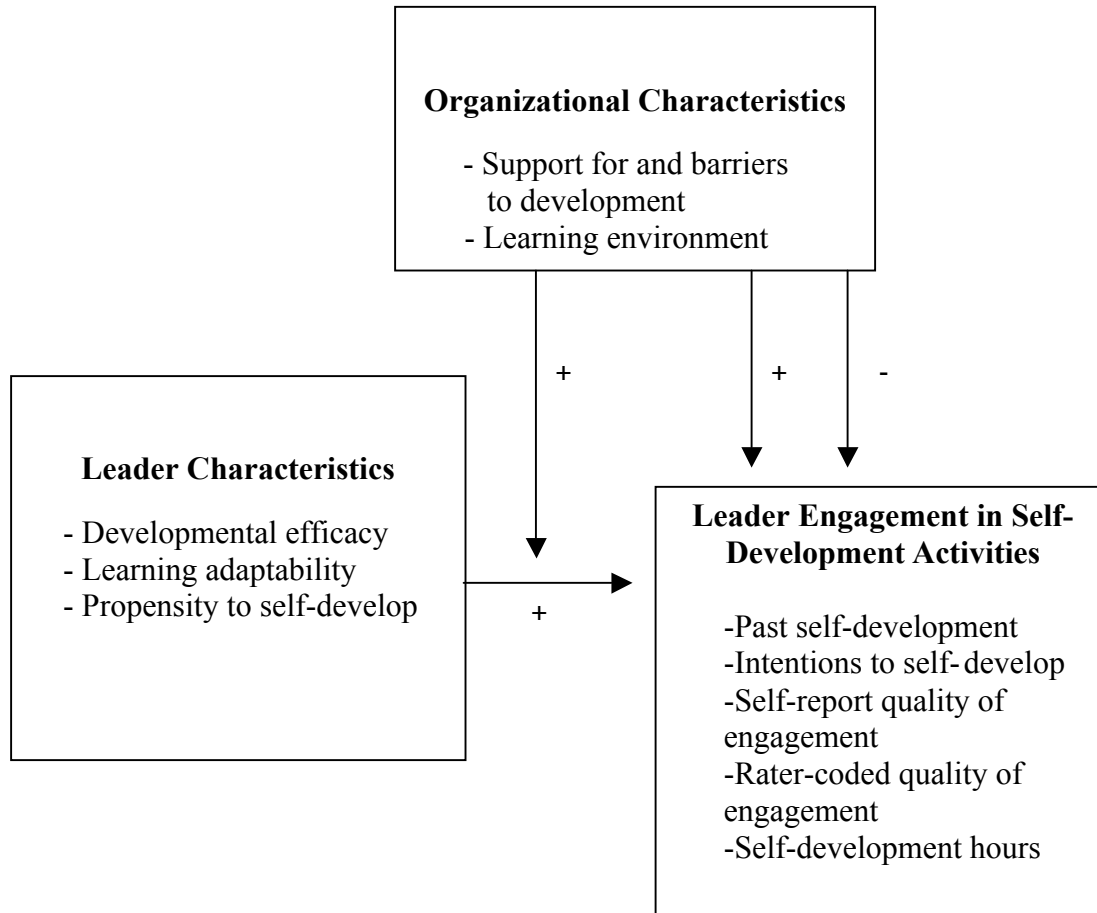


Figure 2.

Interaction between learning environment and learning adaptability in predicting past self-development.

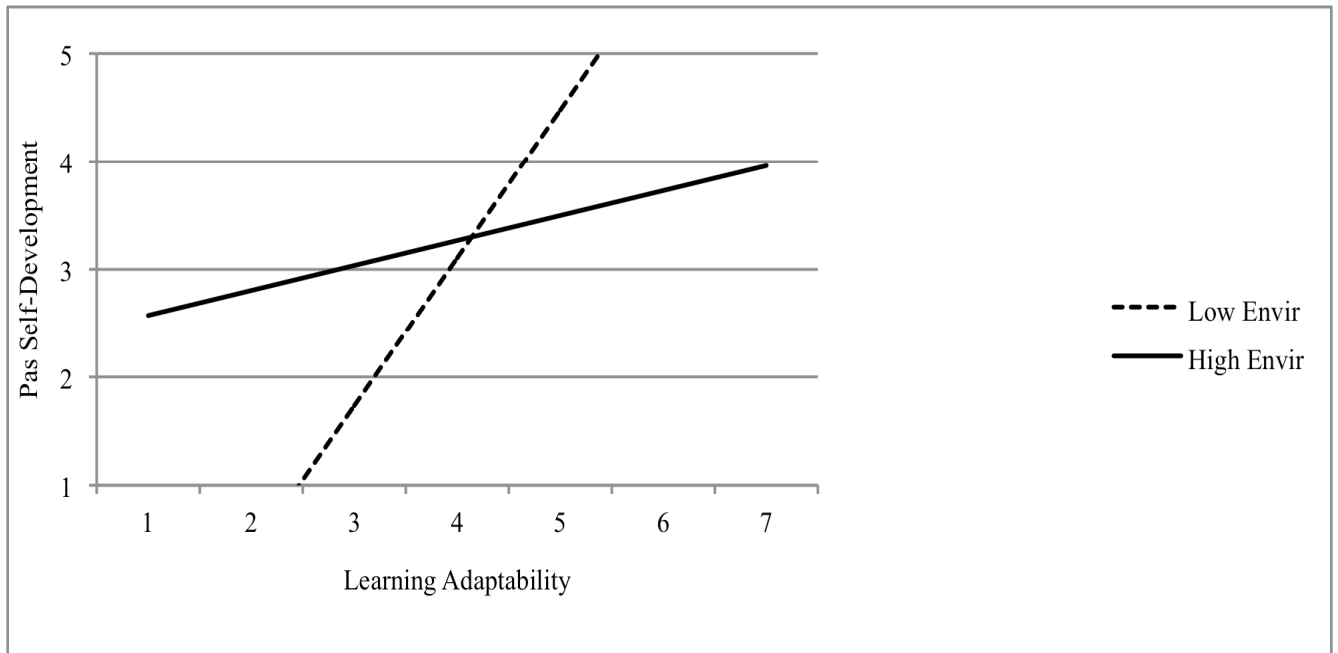


Figure 3.

Interaction between learning environment and propensity to self-develop in predicting future intentions to self-develop.



Figure 4.

Interaction between organizational support for development and propensity to self-develop in predicting quality of self-development.

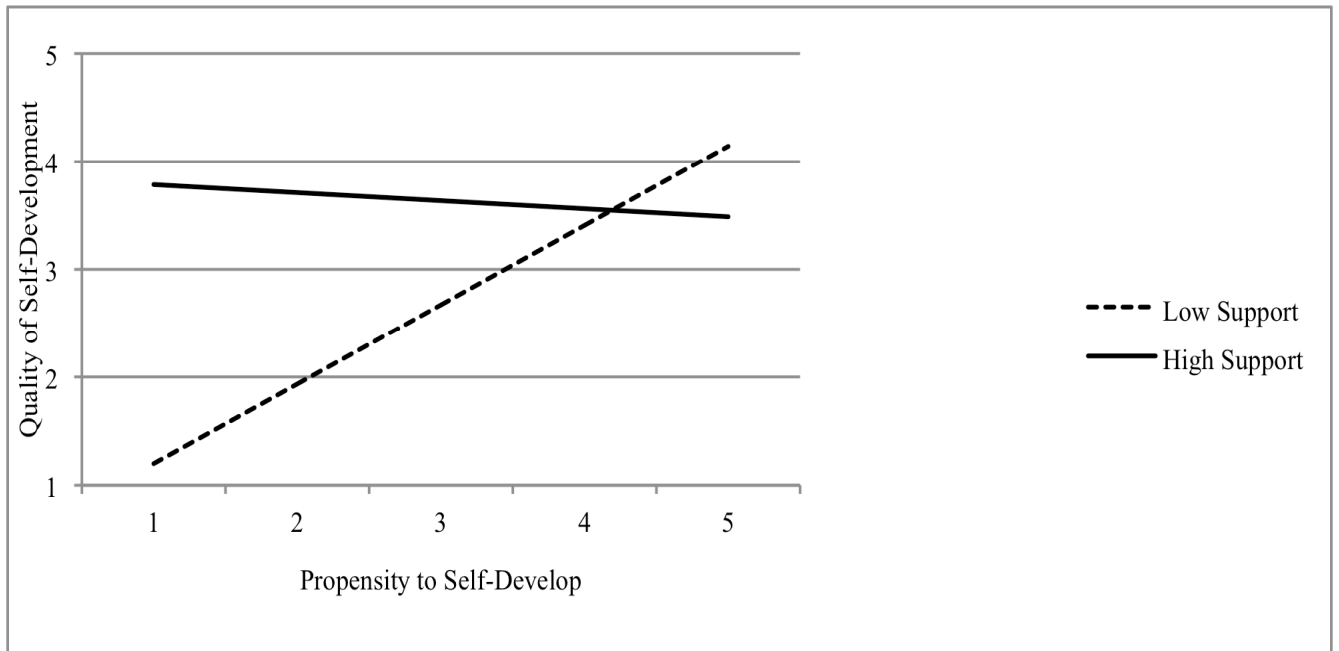


Figure 5.

Interaction between learning environment and propensity to self-develop in predicting quality of self-development.

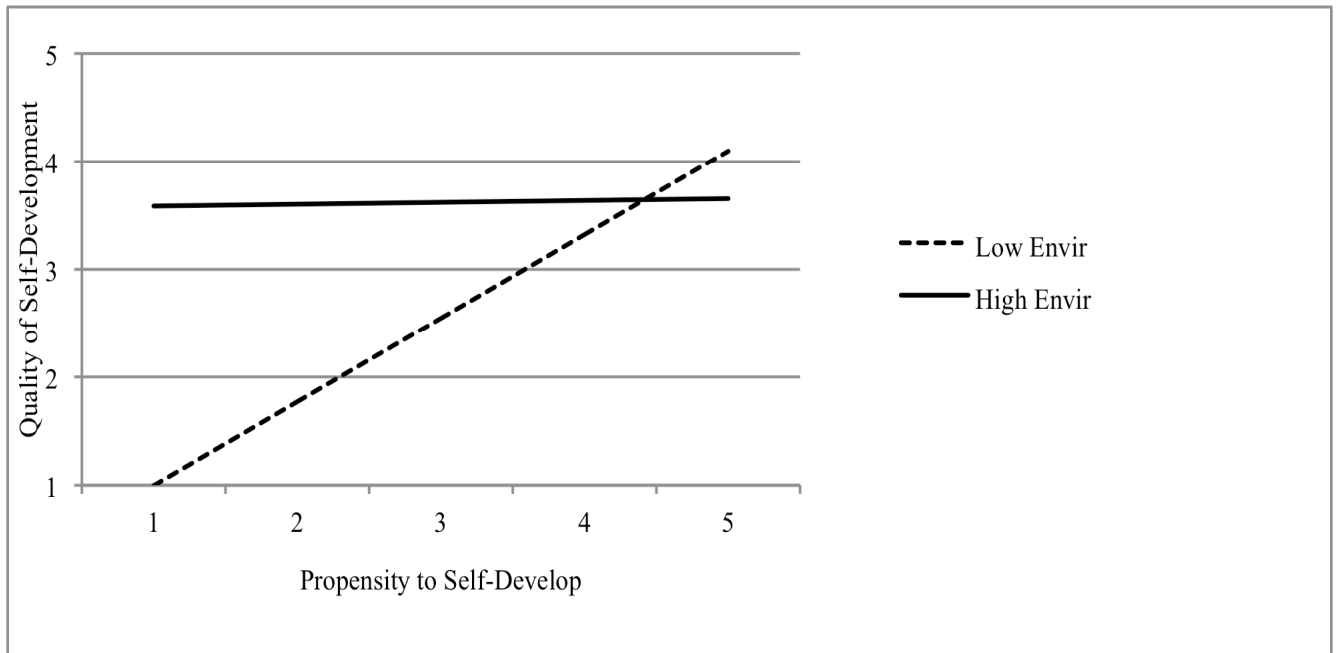
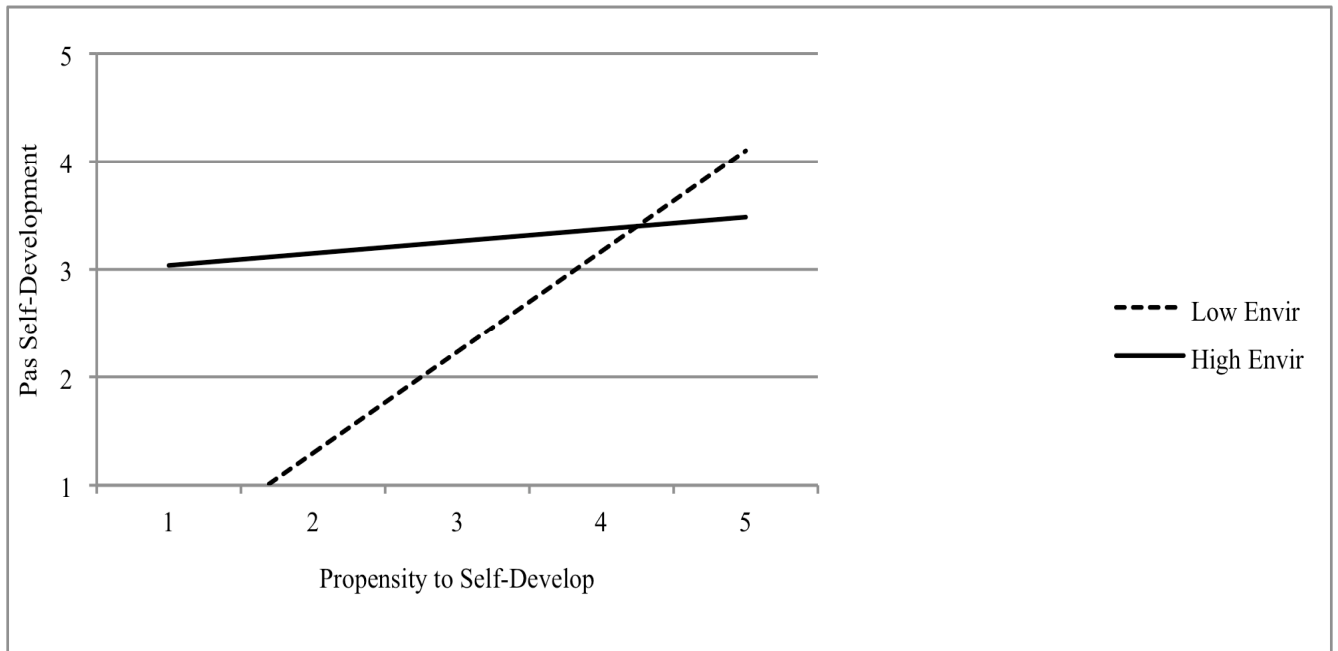


Figure 6.

Interaction between learning environment and propensity to self-develop in predicting past self-development.



Appendix A

****Leaders** will complete the following scales: developmental self-efficacy, learning adaptability, propensity to self-develop, organizational support for development, organizational barriers to development, learning environment, past self-development, future intentions to self-develop, quality of self-development, and interest in self-development workshop. **

****Followers (employees/volunteers)** will complete the following scales only: organizational support for development, organizational barriers to development, learning environment, and interest in self-development workshop. **

R= reverse-coded item

The purpose of this survey is to better understand how individuals learn and develop in different organizations.

Please think about your own personal leadership development. Use the rating scale below to indicate the degree to which you agree or disagree with the following statements:

Developmental Self-Efficacy (Reichard, 2006)

Rating Scale: 1 (very strongly disagree) to 7 (very strongly agree)

1. I am confident that I can achieve the levels of leadership ability that I aspire to.
2. I believe I have the ability to become an exemplary leader.
3. I am certain I can perform new leadership approaches well.
4. I do not perform new leadership tasks as well as I would like. **R**
5. I believe that, with training, I can develop into an exemplary leader.
6. I believe that I could become an exemplary leader.
7. I am able to learn new leadership approaches quickly.
8. I am confident that I will benefit from the leadership development I receive in my organization.
9. I have mastered new leadership approaches on a regular basis during my career.

Learning Adaptability (Ployhart, 2004)

Rating Scale: 1 (strongly disagree) to 5 (strongly agree)

1. I take responsibility for acquiring new skills.
2. I enjoy learning new approaches for conducting work.
3. I take action to improve work performance deficiencies.
4. I often learn new information and skills to stay at the forefront of my profession.
5. I quickly learn new methods to solve problems.
6. I train to keep my work skills and knowledge current.
7. I am continually learning new skills for my job.
8. I take responsibility for staying current in my profession.
9. I try to learn new skills for my job before they are needed.

Propensity to Self-Develop (Boyce et al., 2010)

Rating Scale: 1 (strongly disagree) to 5 (strongly agree)

1. If I were completely free to choose, I would prefer to determine and direct my own leadership development.
2. If I had no constraints (e.g., financial, time, etc.), I would perform self-development activities to become a better leader.
3. I am likely to develop my leadership skills through self-directed study.

Organizational Support for Development (Noe & Wilk, 1993)

Rating Scale: 1 (strongly disagree) to 5 (strongly agree)

1. I can count on my co-workers to provide me with help and services needed to complete my job assignments.
2. It is unreasonable to try and apply newly acquired skills or knowledge in my job because if I fail at something new it will affect my performance evaluation. **R**
3. I feel comfortable discussing my skill weaknesses with my manager.
4. My manager can be counted on to provide me with specific feedback regarding how well I am performing my job.

5. Co-workers can be counted on to help me develop the skills emphasized in training programs.
6. My manager can be counted on to help me develop the skills emphasized in training programs.
7. In general, my co-workers view training as a waste of time. **R**
8. My manager is supportive of my efforts to acquire new knowledge and skills.
9. My manager is usually willing to discuss any problems I am having trying to use new knowledge or skills in my work.
10. My employer values development of new skills or acquisition of new knowledge.
11. When I make a mistake, my manager usually treats it as a learning experience that can prevent failure and improve performance in the future.
12. I can expect my manager to assign me to special projects requiring use of skills and knowledge emphasized in training.
13. It will be difficult for me to try and work on improving my skills because of my relations with my co-workers. **R**
14. My manager shares information with me about problems or trends in the company that can influence my career plans.
15. My co-workers tend to resist my efforts to apply new knowledge or skills on the job. **R**
16. My manager enthusiastically supports my participation in training programs.
17. In the past, my manager has helped me understand how to perform my job more effectively.
18. My manager provides sufficient coaching and guidance to help me achieve my work objectives.
19. The frequency of feedback I get from my manager is just about right.
20. My manager believes advising or training are one of his/her major job responsibilities.
21. I would not hesitate to tell my manager of a training need I have in a particular area.
22. My manager makes sure I get the training needed to remain effective in my job.
23. My manager provides advice on specific opportunities for exposure or visibility on the job.
24. More experienced co-workers are usually reluctant to give me guidance. **R**

Organizational Barriers to Development (Noe & Wilk, 1993)

Rating Scale: 1 (strongly disagree) to 5 (strongly agree)

1. I don't have time in my job to try and strengthen my skill weaknesses.
2. My workload tends to make it difficult to try and use new knowledge and skills.
3. It is likely that the specific tools, equipment, or machinery needed to use the skills or knowledge emphasized in training programs in my work will be provided by my employer. **R**
4. Insufficient materials or supplies will likely inhibit the use of training content in my work.
5. Processes, rules, and methods change so quickly in my place of employment that it is not worthwhile to acquire new knowledge or skills.
6. My present job requires updating of my skills and abilities. **R**
7. On the job I have so much work to do that it makes it difficult for me to participate in training and development activities.
8. The demands of non-work activities make it difficult for me to participate in training and development activities.

Learning Environment (Tannenbaum, 1997)

Rating Scale: 1 (strongly disagree) to 7 (strongly agree)

1. Assigns people to positions that stretch them.
2. Provides people with the opportunity to learn new things.
3. Encourages people to assume difficult assignments.
4. Encourages people to assume assignments in which they have demonstrated previous success.
5. Tolerates mistakes when someone is first learning a new task or skill.
6. Encourages people to try different approaches to solve problems.
7. Believes that people can learn from their mistakes.
8. Views new problems and work challenges as opportunities to develop peoples' skills.
9. Monitors to see that people are performing at high levels.
10. Expects high levels of performance at all times.

11. Monitors to see that people continue to develop and learn throughout their career.
12. You can get ahead at my company without learning many skills. **R**
13. Employees are responsible for demonstrating on the job what they have learned in training.
14. New ideas are highly valued at my company.
15. At my company it is acceptable to question others about why things are done a certain way.
16. The successful people at my company continually try new things.
17. At my company you get in trouble if you try something new. **R**
18. At my company it is better to ignore problems than to suggest improvements. **R**
19. At my company everyone, just not management, is expected to solve problems and offer suggestions.
20. Maintaining the status quo is more important than learning new things at my company. **R**
21. I understand how my job relates to others in the organization.
22. I understand how my unit contributes to the goals of the organization.
23. I am clear about the goals of our organization.
24. I am familiar with the purpose and direction with our organization.

We are interested in learning about your participation in leader self-development activities.

Leader self-development activities are any **VOLUNTARY** activities that you deliberately perform in order to enhance your skills as a leader. These activities are **NOT** mandatory and are **NOT** required by a supervisor or the organization.

Some example self-development activities are listed below:

- Completing a voluntary training course provided by your organization
- Attending a course offered by a local university
- Watching a videotape related to some leadership skill you want to develop
- Reading a job-relevant book or magazine article
- Attending a conference

Past Self-Development (Boyce et al., 2010)

Rating Scale: 1 (to a very little extent) to 5 (to a very great extent)

During the last 3 months...

1. I intentionally performed self-directed learning activities to acquire new leadership knowledge.
2. I purposely attempted to learn new leadership skills through a personal development program.
3. I deliberately performed self-directed activities to improve my leadership abilities.
4. I have been actively engaged in self-development activities to help me become a better leader.
5. During the last 3 months, approximately how many total hours did you spend performing leadership self-development activities? (open-ended question)

Quality of Self-Development (based on Langkamer, 2008 but modified by the researchers for the purposes of the current study)

The following are open-ended questions.

1. In the space provided below, please list all of the leader self-development activities you have participated in during the last 3 months.
2. Please provide a short description (2-5 sentences) of each developmental activity that you listed in the question above. You may use bullet points versus writing in complete sentences.
3. Please describe the skills that you learned through these activities. You may use bullet points versus writing in complete sentences.

The following self-report questions were made up by the author to get a more quantitative assessment of quality.

Please answer the question below using the following rating scale:

1 (very low quality) to 5 (very high quality)

4. Overall, I would rate the quality of my engagement in self-development activities over the last 3 months as _____.

Please answer the question below using the following rating scale:

1(strongly disagree) to 5(strongly agree)

5. Overall, I have learned a variety of new skills by engaging in self-development activities over the last 3 months.

Future Intentions to Self-Develop (Reichard, 2006)

Rating Scale: 1 (not at all likely) to 7 (extremely likely)

In the next month...

1. I will ask peers for feedback on what I need to do to become a better leader.
2. I will develop the leadership of my followers.
3. I will implement my game plan/strategies for my leadership development.
4. I will hold myself accountable for my leadership development.
5. I will look for and accept leadership opportunities.
6. I will observe other (good or bad) leaders.
7. I will conduct self-assessments of my leadership development.
8. I will force myself to face my weaknesses.
9. I will seek different and new experiences (e.g., training/applied experiences, cultural events) to improve my leadership skills.
10. I will consciously attempt to focus my attention on developing my leadership ability.
11. I will seek jobs/positions that stretch my leadership skills.
12. I will ask experienced or senior leaders what I need to do to become a better leader.
13. I will learn my leadership strengths.

14. Even if not required, I will take advantage of all opportunities to improve my leadership.
15. I will seek out mentoring from one of my superiors.
16. I will visualize success and progress in my leadership.
17. I will reflect on my leadership experiences.
18. I will revisit to adjust my developmental goals and strategies.
19. I will engage in formal opportunities to develop my leadership skills (e.g., classes, training sessions).
20. I will review materials (e.g., videos, books, websites etc.) on leadership.

Interest in Self-Development Workshop

The researchers are offering a free leadership development workshop to all participants in the study. Please indicate below whether or not this voluntary training would be of interest to you. Please keep in mind that participation would be outside of normal working hours.

I would attend the free leadership development workshop, even if it is on my own time.
(no/yes)

Demographic Information

1. What is your age? _____
2. What is your sex? Male/Female
3. What is your ethnicity? Caucasian/Black/Asian/Native American/Hispanic/Middle Eastern/Other
4. What is the name of your organization? _____
5. Are you a: paid employee/volunteer?
6. What is your job title? _____
7. If you are considered a manager or leader in your organization, approximately how many people do you manage/lead? _____
8. On average, how many hours/week do you work at this organization? _____
9. Approximately how many people work for your organization? _____