Extending Self-Efficacy Theory to Leadership:
A Review and Empirical Test

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Abstract

In this study Bandura's (1986) self-efficacy concept was extended to the leadership studies domain. The literature was reviewed to support the proposition that high leadership self-efficacy was a necessary, though not sufficient, factor contributing to leadership performance. Also, antecedents of leadership self-efficacy were identified based upon self-efficacy theory. Leadership self-efficacy was found to predict leadership behavior and distinguish leaders from non-leaders. Further, prior leadership experiences predicted leadership self-efficacy judgments. Finally, women reported significantly lower leadership self-efficacy than men. Implications for leadership education practices and future research are discussed.

Introduction

Self-efficacy, the belief that one has the personal capabilities and resources to meet the demands of a specific task, was first introduced by Bandura (1977). Since its introduction, self-efficacy theory has inspired a very large and diverse body of empirical research. In his book, Self-Efficacy: The Exercise of Control, Bandura (1997) reviewed nearly two thousand published studies examining the role of self-efficacy perceptions in an array of performance domains. For

example, beliefs about personal capabilities were found to affect academic achievement, athletic performance, career choice, drug and alcohol abstinence, entrepreneurship, decision making, organizational functioning, stress tolerance, teaching performance, and voter participation (for a review, see Bandura, 1997). In sum, confidence in one's task-specific abilities has been determined to be an important <u>causal</u> variable for understanding and improving performance in achievement settings. Its role in the job performance process has been examined as well, especially since the seminal article by Gist (1987) appeared that described the organizational implications of self-efficacy.

Over the last two decades, research findings have demonstrated a consistent relationship between self-efficacy and work-related performance. A recent review and meta-analysis by Stajkovic and Luthans (1998a) found that 28% of performance improvement could be attributed to an employee's task-specific confidence. In a companion article written for a practitioner audience regarding the practical implications of self-efficacy theory for workplace performance, Stajkovic and Luthans (1998b) declared:

> [P]racticing managers can be confident that employees with high self-efficacy will perform well. The challenge for both research and practice will be to further build on this foundation and select and/or develop high self-efficacy in today's and tomorrow's human resources (p.73).

Interestingly enough, none of the studies Stajkovic and Luthans (1998a) reviewed directly addressed leadership performance, the most investigated organizational behavior (Bass, 1990). Because of the causal influence of self-efficacy on work performance in general, extending the self-efficacy concept to the leadership studies domain appears warranted. A review of the relevant self-efficacy and leadership literatures will be presented in support of the proposition that high leader self-efficacy beliefs contribute to leadership performance. Next, Bandura's (1986) self-efficacy theory will be used to identify the factors and processes involved in the formation of leadership self-efficacy perceptions, given the proposed importance of this personal factor in the leadership process. Finally, hypotheses will be presented and then tested.

Self-Efficacy and Leadership Performance

Research based on self-efficacy theory has found that personal efficacy influences the goals people choose, their aspirations, how much effort they will exert on a given task, and how long they will persist in the face of difficulties, obstacles and disappointments (Maurer, 2001). Also, findings have linked self-efficacy with whether a person experiences self-hindering or self-aiding thought patterns, how well a person responds to taxing and threatening circumstances, and how resilient

a person is when faced with adversity and setbacks (see Bandura, 1997, for a review). In sum, efficacious individuals are motivated, persistent, goal-directed, resilient, and clear thinkers under pressure.

Coincidentally, individuals who have been successful in leadership roles have been described similarly (see Bass, 1990). Investigations of effective leaders have characterized them as highly committed, determined, resilient, goal-focused, resourceful, and effective problem solvers (Locke, 1991). Regarding these leadership findings in light of what is known about highly efficacious individuals suggest that what leadership researchers have been describing for years is a person with high self-efficacy for the leadership role. Indirect support can be found for this in the leadership literature that has explored the role of self-confidence in leader success.

One of the most reported findings in the leadership literature is the relationship between a leader's self-confidence and successful leadership. All major reviews list self-confidence as an essential characteristic for effective leadership (see Bass, 1990; House & Aditya, 1997; Northouse, 2001, Yukl & Van Fleet, 1992). As one reviewer concluded: "That self-confidence is a necessary trait for successful leadership is undisputed" (Locke, 1991a: 26). It is also an especially prominent variable in transformational leadership theory - the paradigm that has captured most of the attention in recent leadership research (Judge & Bono, 2000). For instance, House and Howell (1992) have contended that, "theoretically, charismatic leaders need to have a very high degree of self-confidence" (p. 87).

However, self-confidence and self-efficacy are not identical conceptually. Self-confidence is a generalized sense of competence that has been considered a personal trait; thus, it is not subject to change. In contrast, self-efficacy is a personal belief, a self-judgment about one's task-specific capabilities. Being a social cognition, it is subject to change, given appropriate conditions. But despite the conceptual differences, the two are related to some extent, as has been noted by others (see Brockner, 1988; Hollenbeck, 1991). Bass (1990), for instance, observed that: "Self-efficacy is closely allied with self-confidence" (p. 153). Also, various studies have linked self-confidence with situation-specific self-efficacy (see Williams, 1997). Further, Chemers' (1997), in his integrative theory of leadership, contended that an individual's estimate of his or her ability to engage in the leadership behaviors required by the situation (his or her leadership self-efficacy) is influenced by the person's self-confidence. What all this means is that a highly confident person who is in a leadership role would also likely report a high level of self-efficacy for the leadership task. Yet, according to self-efficacy theory, self-confidence does not directly contribute to leader success. Rather, it is the individual's belief regarding his or her capabilities to successfully perform the leadership task that is the key causal factor.

Additionally, findings in the self-efficacy literature (while small in number) also suggest that leader self-efficacy perceptions contribute to leader success. A series of studies by Bandura and his associates on managerial decision making revealed the important role that self-efficacy belief plays in the management process through its impact on task strategy development, a critical leadership activity (Chemers, 1997; Mintzberg, 1973). What makes these investigations noteworthy is they were all experimental designs, making it possible to draw causal inferences.

In the first study, Bandura and Dweck (as cited in Bandura, 1997) found that those participants who lacked confidence in their ability to cope with environmental demands tended to experience stress induced self-diagnostic thoughts, which obstructed and diminished their analytical thinking capabilities. In the second study, Wood and Bandura (1989a) explored the influence of perceived efficacy on decision making in a simulated business. Before study participants began the simulation, one group experienced a procedure that diminished their efficacy in their management capabilities, while a second group experienced a manipulation that increased their sense of efficacy. Those participants whose managerial efficacy had been initially depressed appeared to become more and more discouraged over a series of trials. Also, the quality of their analytic strategies declined, organizational outcomes aspirations (group performance goals) were progressively lowered, and organizational performance deteriorated steadily. In contrast, among the managers with an initially enhanced sense of capability, challenging performance goals were set and then met, and effective analytic strategies were developed that maximized group performance. Last, a path analysis revealed that perceived efficacy drove performance goal selection and analytic strategy development, and strategies impacted group performance through leader behaviors. These results have been replicated in two other studies (see Wood & Bandura, 1989b; Wood, Bandura, & Bailey, 1990).

These previously described studies by Bandura and his colleagues demonstrate that self-efficacy beliefs impact an important facet of the leadership activity, decision making. However, these investigations did not specifically measure leadership self-efficacy, a person's confidence in his or her abilities to successfully lead a group. In fact, the number of studies specifically examining leadership self-efficacy is sparse. A search of the business and psychology literatures identified only two articles. One by Murphy and Ensher (1999) found that for female supervisors, leadership self-efficacy predicted subordinates' ratings of leader-member exchange quality, a factor that contributes to subordinate performance and satisfaction. A second by Chemers, Watson and May (2000) determined that a measure of leader self-efficacy could be used to predict ROTC cadet performance at a U.S. Army summer training camp that took place six months later. Discussing their findings, Chemers et al. (2000) concluded that leader self-efficacy, "may be one of the most active ingredients in successful

leadership, and team performance" (p. 276), and that it "clearly contributes to leadership effectiveness" (p. 275). They went on to call for future research to confirm the validity of the leadership self-efficacy construct. One investigation they recommended was to determine whether an individual's self-perceived efficacy for the leadership task was related to leadership behaviors.

To begin validating the leadership self-efficacy construct as called for by Chemers et al. (2000), its association with an essential leadership behavior, attempting to lead (Bass, 1990), will be examined. Since there are extensive research results suggesting that the more confident one is that one can perform an activity successfully, the more likely it is that one will voluntarily participate in the activity (Maurer, 2001), the following hypotheses are presented.

Hypothesis 1: Leadership self-efficacy will be positively associated with the frequency of attempting to assume a leadership role.

Hypothesis 2: Individuals with high self-efficacy for the leadership task will attempt to assume leadership roles more frequently than those with low leadership self-efficacy.

A Model of Leadership Self-Efficacy Development

The proposition that high leadership self-efficacy is a necessary, though not sufficient, factor contributing to successful leadership raises the question: How do leadership efficacy perceptions develop? The answer is particularly relevant for leadership educators responsible for improving the quality of leadership in groups, communities, and organizations. A model of the factors and processes involved in the development of leadership self-efficacy beliefs is presented next, which is derived from Bandura's (1986) well-tested theory of self-efficacy development.

Efficacy beliefs are derived from experience, and Bandura (1986) has identified four major categories of experiences that influence the efficacy estimate. The first and most influential is personal performance accomplishments. Research has shown that succeeding in a challenging activity provides the strongest information for changing efficacy beliefs. The second category influencing the efficacy estimate is vicarious experiences, that is, exposure to models. By observing new skills and strategies in others, people enhance their task capabilities. In addition, watching a similar other successfully perform a task tends to raise the efficacy beliefs of the observer. Efficacy is also affected by the third category, positive feedback or the encouragement of a credible person such as a coach, a mentor, a teacher, or a parent. It is easier to build and sustain a sense of confidence if those we admire and respect express confidence in us as well. The fourth category is

physiological condition and mood states; hence, the better one feels physically and emotionally, the more efficacious one will feel.

While any of the four categories of experiences described above can affect the efficacy estimate, it is important to recognize that the actual influence of any one of these sources on a person's judgment of self-efficacy depends upon how the individual evaluates the information. It is not just the "objective" character of the information that matters, it is also the "subjective" interpretation of what has been experienced. Estimation of personal efficacy is a cognitive process. Thus, for example, successfully performing a task (an enactive mastery event) will not necessarily produce a positive change in the performer's self-efficacy. As Bandura (1997) points out, a number of personal, social and situational variables affect what performance experiences are selected and how they are interpreted and combined to form the efficacy estimate.

In summary, feelings of efficaciousness develop gradually through life experiences, and it is during these many experiences that the four determinants of self-efficacy are encountered and interpreted. As previously noted, the most potent determinant of the self-efficacy estimate is past performance accomplishments in the relevant task (Bandura, 1982). It is by doing and succeeding at doing that the individual builds the skills, coping strategies, and task knowledge necessary for proficient performance (Locke & Latham, 1994). This suggests that the more leadership role experiences a person has had, the higher will be his or her leadership self-efficacy, which leads to the following prediction.

Hypothesis 3: The number of leadership role experiences will be positively associated with leadership self-efficacy.

Furthermore, the amount and type of efficacy information a person is exposed to is affected by personal, social and situational factors. Gender, according to Bandura (1997), is one of the most influential of these factors. Each culture has expectations regarding the appropriate behaviors, personal qualities, and social roles for men and women. These role expectations, which are communicated to the individual through the family, peers, the educational system, and the mass media, can greatly affect what activities a person will choose to engage in (Hackett, 1995). In general, a person will take on only those roles that are gender-appropriate given the circumstances.

Given that leadership is regarded by society in general as a male task, (Eagly & Karau, 1991; Lord, De Vader, & Alliger, 1986), the capacity of the gender stereotype to influence gender differences in leadership self-efficacy development is potentially significant as demonstrated in a study by Megargee, Bogart and Anderson (1966). When a high dominant female was teamed with a low dominant

female in a problem solving task, the high dominant female emerged as the leader. However, when a low dominant male was teamed with a high dominant female, the male usually emerged as the team leader. And this result has been replicated by others (Carbonell, 1984; Fleischer & Chertkoff, 1986; Nyquist & Spence, 1986). Apparently, gender role pressures can discourage women from undertaking leadership role experiences, which, as previously discussed, are the most influential of the four kinds of efficacy information. This implies that women will have lower confidence in their leadership capabilities as a result of having fewer leadership role experiences.

Hypothesis 4: Women will report significantly lower leadership self-efficacy than men of similar age and education level.

Hypothesis 5: Women will report significantly fewer leadership role experiences than men of similar age and education level.

Method

A multipart questionnaire was used to collect basic information about study participants (sex, age, class rank) and obtain data regarding their previous leadership role experiences, leadership self-efficacy perceptions, and frequency of attempts to engage in leadership behaviors in group settings.

Participants

The study group was comprised of 223 junior and seniors recruited from undergraduate psychology classes at a major southwest university during the spring 1999 term. They were offered extra credit for participating. The mean age of the group was 21.9 years ($\underline{SD} = 2.61$), and 57% were female. There was no significant difference between males and females in terms of age and years of education. After being assured their responses would be confidential, all participants signed informed consent forms and then completed the survey. Later, they were given a written debriefing statement, and their participation was reported to their instructors so that they would receive extra credit.

Measures

Participants were asked to note their sex. Males were coded "1" and females were coded "2". Respondents were asked to recall the number of times they had acted in the role of a group leader responsible for organizing, directing, and motivating the actions of others in a variety of leadership settings (i.e., clubs, class projects, service groups, church, community, ROTC, etc.) during their high school and college years. Responses were made on a five-point scale ranging from "No

leadership experiences" (1) to "More than six experiences" (5). This single item measure was designed to determine the number of previous leadership role experiences a participant had had.

Next, participants were asked how often they had sought to be a group leader when they had been given the opportunity to assume a leadership role. A 5-point scale was used with the following behavioral anchors: "Never" (1), "Less than half the time" (2), "About half the time" (3), "More than half the time" (4), and "Always" (5). The purpose of this single item measure was to determine the frequency with which the respondent attempted to lead, as previously noted an important and essential leadership behavior (Bass, 1990).

Participants' leadership self-efficacy was assessed using a measure developed by Kane and Baltes (1998). It is an 8-item questionnaire which asks respondents to report their ability to perform the following functional leadership activities: (1) perform well as a leader across different group settings, (2) motivate group members, (3) build group members' confidence, (4) develop teamwork, (5) "take charge" when necessary, (6) communicate effectively, (7) develop effective task strategies, and (8) assess the strengths and weaknesses of the group. Response options ranged from 1 (no confidence) to 7 (100% confident). Item responses were summed and an average was calculated to arrive at an overall leadership efficacy score. Analyses indicated that the scale had high reliability ($\alpha = .90$).

Results

Data collected from this study were used to evaluate predictions. Table 1 shows the means, standard deviations, and correlations for the variables measured in this study. All significance tests were set *a priori* at $\alpha = 0.05$.

Table 1 Means, Standard Deviations, and Correlations of Study Variables

Variable	M	SD	1	2	3	4
1. Leadership Self-Efficacy	5.39	.97	--			
2. Attempted Leadership	3.00	.98	.60**	--		
3. Leadership Role Experience	3.66	1.19	.41**	.50**	--	
4. Gender [a]			-.28**	-.14*	-.16	--

Note: *n* = 223
[a] 1 = male; 2 = female
** p < .01
* p < .05

The first hypothesis was that leadership self-efficacy would correlate positively with participants' reported frequency of attempts to assume a leadership role if given the opportunity. As Table 1 reveals, leadership self-efficacy significantly correlated with attempted leadership (r = .60; p < .01). Over one-third of the variability in attempted leadership behavior was being accounted for by the leadership self-efficacy construct. The second hypothesis was that those with high leadership self-efficacy would attempt to take on a leadership role at a significantly greater frequency than those with low confidence in their leadership capabilities. The study sample was dichotomized into two groups, those with high leadership self-efficacy and those with low leadership self-efficacy, using a median split procedure. A two-group, one-way ANOVA revealed a significant difference in attempted leadership between the two groups, F (1, 211) = 51.71, p< .01. Those with high leadership self-efficacy (M = 3.42, SD = .85) tried to take charge more often as compared to those low in leadership self-efficacy (M = 2.56, SD = .90).

The third hypothesis explored the relationship between the number of previous leadership role experiences and reported leadership self-efficacy. Table 1 shows that there was indeed a significant association between the two variables (r = .41, p < .01). The fourth hypothesis examined the difference between males and females in their confidence regarding their abilities to successfully lead a group. A two-group, one-way ANOVA indicated that there was a significant difference between men and women in this sample, F (1, 221) = 19.04, p< .01. Men (M = 5.71, SD = .81) reported higher leadership self-efficacy than women (M = 5.16, SD = 1.00).

The fifth hypothesis tested whether male-female differences in leadership self-efficacy perceptions were due to differences in the number of previous leadership experiences. A two-group, one-way ANOVA was non-significant. While female participants reported a lower mean number of leadership experiences ($\underline{M}$ = 3.59, $\underline{SD}$ = 1.24) as compared to the males ($\underline{M}$ = 3.75, $\underline{SD}$ = 1.11), the difference between means was not large enough to reject the null. In sum, men and women in this study had essentially the same level of prior leadership role experiences, yet the females reported lower leadership self-efficacy.

Discussion

The purpose of this study was to present and explore a new leadership construct, leadership self-efficacy, one's self-perceived capability to successfully lead a group. The thesis of this report was that confidence in one's leadership capabilities influences functional leadership behaviors, which was operationalized in this study as attempted leadership. Drawing upon Bandura's (1986) self-efficacy theory, antecedents and consequences of leadership self-efficacy were proposed, and hypotheses tested.

Four of the five hypotheses were supported. Leadership self-efficacy was found to be highly related to the frequency with which a person reported attempting to assume a leadership role given the opportunity. This finding is consistent with the large body of research that has linked self-efficacy with a variety of achievement behaviors (Bandura, 1997), as well as different organizational behaviors (Luthans & Stajkovic, 1998a). Also, those participants high in leadership self-efficacy reported attempting to take on a leadership role at a significantly greater frequency than those categorized as low on leadership self-efficacy. This result indicates that high self-efficacy for the leadership task may indeed be a critical leadership factor as Chemers, et al. (2000) suggested, since actively trying to influence the actions of others is the essential task in the leadership process (Bass, 1990). Furthermore, the prediction that the number of leadership role experiences a person has had would be positively associated with his or her leadership self-efficacy belief was confirmed. Previous leadership experiences correlated highly with leadership self-efficacy.

Additionally, the hypothesis that women would report significantly lower leadership self-efficacy was supported. Female participants were less confident about their leadership capabilities than men of similar age and education. This finding is consistent with previous studies indicating that women in general have lower self-confidence than men. Furthermore, in the business area, female managers typically report lower self-confidence than their male counterparts (Morris, 1998; Morrison, 1992; Tsui, 1998; White, De Santis & Crino, 1981). If these results can be replicated in other settings involving women and leadership, it

may offer an additional explanation for the Glass Ceiling Effect, the underrepresentation of women in significant leadership roles (Ragins, Townsend, & Mattis, 1998). If a woman has low confidence in her leadership capabilities, she will be less likely to take on challenging leadership roles and more likely to project a less confident demeanor, regardless of her genuine capabilities. Thus, a woman's professional advancement may be being prevented by an internal psychological factor – given that self-confidence is often used as a criterion for management selection and promotion (Northouse, 2001).

Understanding why men and women would differ in their leadership self-efficacy beliefs was explored in the fifth and final hypothesis. Self-efficacy theory proposes that differences in task-specific confidence generally result from differences in task-specific experiences (Bandura, 1986). Because leadership is presently regarded by the wider culture as a male task (Lord, DeVader, & Alliger, 1986), social role pressures would likely cause women to avoid leadership roles. Thus, they would have fewer leadership role experiences. Surprisingly, this prediction was not supported. There was no significant difference between the men and women in this study in terms of the number of leadership role experiences reported. Yet, men reported a significantly greater leadership self-efficacy belief. Self-efficacy theory offers a possible explanation for this finding.

While the number of leadership roles experiences can affect the efficacy estimate, how the individual subjectively interprets the information also matters. Findings from a number of studies indicate there are gender differences in attributions for successful work performance (see Rosenthal, 1995). Men and women tend to see different causes for identical levels of their own performance. Men tend to interpret their performances in a more efficacy enhancing manner, while women tend to attribute their successful performances in a way that constrains efficacy growth. Further exploration of this attribution difference effect could help to explain the factors and processes contributing to women's unequal progression in management, since differences in task-specific self-confidence have been shown to account for differences in performance accomplishments (Bandura, 1997).

Implications for Leadership Education

The significance of the present researcher for leadership educators is threefold. First, by demonstrating that leadership self-efficacy is highly associated with a critical leadership behavior, attempting to lead, this study implies that enhancing the leadership self-efficacy beliefs of students and trainees should be an additional objective for leadership educators when they design and deliver courses, seminars, and workshops. Training that causes increased task self-efficacy produces improved performance (Bandura, 1997). In fact, a measure of leadership

self-efficacy change would be an excellent criterion for evaluating the success of a leadership development intervention.

Second, the finding that prior leadership role experiences predicted leadership self-efficacy suggests a possible strategy for increasing the leadership capabilities of students and trainees. Bandura (1997) refers to it as guided mastery experiences. It involves creating leadership role opportunities for students and providing them with the instruction and coaching needed to help them succeed. Such successful role experiences will in general lead to heightened leadership self-efficacy beliefs.

Third, the fact that female participants in this investigation reported substantially lower leadership self-efficacy beliefs than the males is a noteworthy finding. Of even greater significance was the finding that this male-female difference in leadership self-efficacy was not due to differences in previous leadership role experiences. The women reported having had about the same number as the men. This difference could be due to male-female differences in attributional styles (Rosenthal, 1995). There does exist a convincing body of empirical research indicating that women tend to attribute their successes to luck or the help of others rather than to their own capabilities. Such an attributional style leads to a restrained sense of self-efficacy. Thus, it may be necessary for leadership educators to incorporate into their leadership development programs some kind of re-attribution training for female participants to ensure that their leadership self-efficacy perceptions will be positively impacted.

Two study limitations should be noted. First, the sample was comprised of college students who agreed to participate for extra course credit. Therefore, some caution is warranted regarding the generalizability of the results. Nevertheless, since it involved junior and senior level students who were approaching graduation, their leadership self-efficacy belief would probably influence whether they would actively pursue jobs that positioned them for management progression. Further research is required to determine if the results can be replicated in other settings involving older, more experienced men and women.

Second, there is the issue of common method variance. When relationships among variables are explored using the same method, results can be biased (Spector, 1987). This can be a significant problem if constructs are evaluated with single item measures. In the present study, all the variables were measured with a self-report instrument, and two of the variables, prior leadership role experiences and attempted leadership, were measured with single item scales. Different methods for evaluating these two variables should be incorporated in any future study designed to replicate this investigation.

Conclusion

In conclusion, the study of leadership self-efficacy and its role in the leadership process is just beginning. The present investigation confirmed that confidence in one's leadership capabilities was related to a critical leadership behavior, attempting to lead. Further, it presented and tested a model of the factors and processes involved in the development of leadership self-efficacy perceptions, thus extending Bandura's self-efficacy theory to the leadership studies field. Finally, findings regarding male-female differences in leadership self-efficacy judgments suggests that the Glass Ceiling Effect may be in part due to women being less confident about their leadership abilities than men. Further investigations based upon the results of this study are warranted.

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