The Constraining Effect of Pre-Training Leadership Self-Efficacy Beliefs on Change in Post-Training Leadership Self-Efficacy Beliefs

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Abstract

In a non-equivalent control group design 280 student volunteers participated in a an examination of the impact of a leadership training on the development of leadership self-efficacy perceptions among trainees. The training was designed to present multiple exposures to four kinds of efficacy information Bandura (1997) proposes influences the self-efficacy estimate. One-half of the group completed a 15-week undergraduate leadership class while the other half completed various undergraduate psychology classes. Pre- and post-training measures were collected. The results showed the training group perceived having experienced more leadership related efficacy information than the control group. A test for main effects of training indicated no significant change in LSE. Those participants' low in initial LSE showed a significant increase in post-training LSE. The greater plasticity of individuals low in LSE suggests the practical utility of leadership training on trainees' LSE is influenced by their pre-training LSE.

Introduction

Self-efficacy is "an individual's convictions (or confidence) about his or her abilities to mobilize the motivation, cognitive resources and courses of action

needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, p. 66). Introduced by Bandura (1997), self-efficacy has been found to affect achievement-oriented behavior in three ways. It affects task-related coping behavior, individual effort, and persistence. Since leadership can be regarded as achievement-oriented behavior and, furthermore, since high self-efficacy beliefs have repeatedly been found to be associated with high performance (Stajkovic & Luthans, 1998), a number of researchers have extended self-efficacy to the leadership studies domain (Luthans, Luthans, Hodgetts, & Luthans, 2001; McCormick, 2001; McCormick & Martinko, 2004; Murphy, 2002).

Leadership self-efficacy, sometimes referred to as leadership confidence, is a new construct in the leadership studies domain. Essentially, it reflects the confidence a person has regarding his or her capability to be successful in the leadership role. Initial studies suggest that, "leadership confidence…may be one of the most active ingredients in successful leadership and team performance" (Chemers, Watson, & May, 2000, p. 276). It has been found to predict: (a) leader behaviors, task strategy development, and the performance goals group leaders set for their groups (Kane, Zaccaro, Temble, & Masuda, 2002), (b) decision making processes (Wood & Bandura, 1989), (c) leadership performance under stress (Murphy, 2000), (d) ratings of leadership performance (Chemers, Watson, & May, 2000), and (e) motivation for leading change (Paglis & Green, 2002).

These findings suggest that enhancing leadership self-efficacy perceptions may be a useful strategy for improving leader effectiveness. In fact, Popper and Lipshitz (1993) went so far as to declare that, "Developing self-efficacy is the basis of any program of leadership development" (p. 23). However, whether leadership self-efficacy (LSE) can be enhanced with training has never been explored and reported in the literature. Yet, there is evidence that appropriately designed training interventions can change trainees' self-efficacy (Bandura, 1997), particularly if one or more of the four sources of efficacy information identified by Bandura are provided during the training experience. Efficacy expectations are derived from experience, and Bandura has identified four kinds of experiences that influence the self-efficacy estimate. From most to least influential they are: (a) enactive mastery, (b) vicarious experiences, (c) social persuasion, and (d) emotional and physical states.

The first, enactive mastery, consists of repeated personal performance accomplishments. It is by doing and succeeding at doing that individuals build the confidence to perform the task in the future. The second is vicarious experience, or the observation of others (i.e., models). Models are particularly important for developing interpersonal skills (like leadership) and can be a source of inspiration

when the model is a highly regarded other (Hollenbeck, 1997). The third is social persuasion. This consists of positive performance feedback and the positive opinions of important others like coaches, peers, parents, and bosses. In short, it is easier to sustain a belief in one's capabilities if knowledgeable and credible others express confidence in one's capabilities (Eden & Zuk, 1995). The fourth is physiological and emotional states. Studies have shown that participants efficacy beliefs can be positively altered by improving physical conditioning, reducing stress levels, and controlling negative emotional tendencies (Cioffi, 1991).

Training is a type of personal experience in which efficacy information can be encountered, if the training is designed to enhance trainees' efficacy beliefs (Saks, 1995). However, the effect of a training intervention on trainees' self-efficacy estimates can be influenced by pre-existing efficacy beliefs. This is because such beliefs create attentional, interpretive and memory biases in the processing of efficacy relevant information (Bandura, 1997). One example of the influence of pre-existing efficacy beliefs on efficacy change is the behavioral plasticity effect.

Brockner (1988) has assembled findings that indicate that persons who are low in self-esteem are more likely to be influenced by external influences such as experimenters, *trainers*, managers and other respected sources than are individuals whose self-esteem is high. He dubbed this the *behavioral plasticity effect*. Currently, there is no theoretical explanation for the behavioral plasticity effect. Nevertheless, it has been observed in a number of studies (Brockner, 1988; Eden & Aviram, 1993; Saks, 1995). Additionally, it has been extended to the self-efficacy enhancement literature.

Although, the behavioral plasticity effect was originally observed in the context of self-esteem enhancement interventions, there is empirical support for extending it to the efficacy enhancement context. Eden and Aviram (1993) determined that measures of self-esteem and self-efficacy are highly correlated such that, "each of these variables can serve as a proxy for the other" (p. 353). Furthermore, either can be used to test for the behavioral plasticity effect. Thus, the behavioral plasticity effect is likely to be present in leadership development activities in which leadership self-efficacy (LSE) change is one of the outcomes variables being measured.

Behavioral plasticity has two important implications that have been largely overlooked by leadership training designers. First, efficacy enhancing interventions that work with lows may not work with highs. If it can be shown that a well designed and delivered leadership development class positively impacts the LSE of the initially low LSE trainees but has no beneficial effect on

the high LSE participants, training time and costs could be saved by not assigning those with high LSE to leadership training. Furthermore, training effectiveness could be improved by finding out what does work for those with high LSE.

Second, the behavioral plasticity effect has implications for the evaluation of leadership training and development programs that are designed, (in addition to other training goals), to affect trainees' personal beliefs about their capabilities for the leadership task (that is, their leadership self-efficacy). The behavioral plasticity effect implies a moderated relation between training condition and self-efficacy change.

As previously noted, because of the behavioral plasticity effect, those with a low initial task self-efficacy belief are more likely to demonstrate change than those with a high initial self-efficacy status. As observed by Eden and Aviram (1993), "Such a moderated relation is masked [italics added] in analyses of all participants together" (p. 353). Put another way, the main effect of a training intervention will be obscured by the presence of the behavioral plasticity effect such that measuring at the individual level of change will be more likely to reveal change, than those evaluated at the group level. Based on the preceding discussion, we predict that:

- H1: Given the behavioral plasticity effect, group level analysis of a 15-week leadership development class on trainees' LSE will demonstrate no main effect for training.
- H2: Given the behavioral plasticity effect the influence of a 15-week leadership development class on trainees' leadership self-efficacy beliefs (LSE) will be influenced by trainees' pre-training leadership self-efficacy beliefs. Training will have a greater positive impact among participants' who are initially low in LSE than among the highs.
- H3: Given the behavioral plasticity effect, subgroup level analysis of a 15-week leadership development class on trainees' LSE will reveal significant change of LSE among those trainees who are initially in the low LSE group and will be greater than those in the high LSE group.

Method

A pre- and post-test nonequivalent control group design was used to evaluate the influence of training condition on the development of leadership self-efficacy beliefs. Pre- and post-training data from a naturally occurring group (a junior/senior level leadership class) were contrasted with identical measures from a control group matched on class rank and time of training to test hypotheses. An individual level analysis of change was also conducted using a methodology recommended by Cascio (1998).

Participants

Two groups of participants were studied. The training group consisted of volunteers from a semester-long (15 weeks) leadership development course offered at a major southwest university during a semester term. From among the 240 students enrolled in this class, 208 volunteered to participate in the pretest, and of that number 140 completed the post-test. This represented a 67% return rate. The mean age of this group was 22.2 (SD = 1.30) and 51% were female. The control group was comprised of volunteers recruited from undergraduate psychology classes at the same university during the same semester. They were offered extra credit for participating. Because the leadership class was restricted to juniors and seniors, members of the control group were also third and fourth year students. One hundred sixty-three students completed the pretest and 140 returned to participate in the post-test which was an 86% return rate. The mean age of the control group participants was 22.0 (SD = 2.86) and 58% were female. A central concern of any study that employs a non-equivalent control group design is the comparability between the experimental and control groups on pre-intervention variables that might affect the outcome of interest (Cook & Campbell, 1979). To test for inter-group similarity, a series of t-tests were conducted. A testwise alpha of .005 was adopted. Analysis revealed no significant differences between the groups in age, gender composition, previous leadership experience and training, and, most importantly, pre-training leadership self-efficacy. Possible differential attrition effects were also considered.
Since about a third of the training group study participants as well as 14% of control group study participants were lost to the study, the possibility of a differential attrition effect was considered. Differential attrition can be a problem if the remaining sample differs on variables that could also explain the results of the study (Cook & Campbell, 1979). Logistic regression was used to test for possible correlates of attrition (i.e., took post test or not). Results showed that attrition was unrelated to any demographic variables. This suggests that attrition may have been due simply to absenteeism resulting from factors external to the study like the demands of other classes, indifference, work or illness.

Measures

A multi-part questionnaire was used to obtain basic information about study participants and evaluate their leadership self-efficacy. The questionnaire was organized into subparts to reduce confusion and facilitate coding. General demographic information. Basic information such as participants' social security number, sex, age, ethnicity, class rank, and previous leadership training and experience were obtained. Participants were also asked to identify which group

they were in, either the control group or the leadership training group. Those in the control group were coded "0" and those in the leadership class were coded "1."

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

Leadership Efficacy Information Score. The post-training questionnaire also included a seven-item measure which was intended as a manipulation check. It was designed to measure trainees' perceptions of any leadership efficacy information experienced by them in their classes during the semester. They were instructed by the experimenter to respond to these items within the context of the specific course for which they were participating in the study. For instance, some of the control group members were enrolled in an introductory psychology class and had volunteered to participate as part of their course requirements. They were asked to complete Part 5 based upon only what they learned and experienced in that introductory course related to leadership and not as a result of activities external to the classroom.

Participants responded on a seven-point Likert type scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (7) to such questions as "Because of this course, I have had opportunities to observe other students acting as group leaders" and "I never received any positive encouragement or feedback regarding my leadership capabilities" (reversed scored). Participants' LEI scores were determined by averaging their responses across the seven items. Higher scores indicated that a student perceived having experienced a greater amount of leadership-related efficacy information. The coefficient alpha for this measure was .89.

It is noteworthy that the correlation between a participant's training condition (control versus leadership training) and their LEI score was significant and large ($r = .74$, $p < .01$). Since it would be reasonable to expect that the leadership class

would provide students with more opportunity to experience leadership-related efficacy information than the control classes, the fact that the LEI score does correlate strongly with the treatment condition variable offers some evidence for the validity of the seven-item scale as well as the success of the manipulation.

Procedures

Leadership Training Course. The format for the leadership course was two hours of lecture and one hour of leadership applications lab per week for 15 weeks. In the lecture students were introduced to selected leadership theories and different models of the leadership process such as trait theory, contingency theory, situational leadership, and the two-factor model. Topics related to leadership including leadership styles, motivation, power and influence, decision-making, risk taking, group dynamics, group roles, and followership were also covered.

The purpose of the lectures was to increase trainees' knowledge regarding the leadership process. Previous studies indicate that giving individuals a thorough understanding of task attributes, complexity, and task environment results in enhanced self-efficacy for the task being trained (Bandura, 1997; Gist & Mitchell, 1992). For instance, in one study supervisors who had been trained in procedural justice theory reported higher self-efficacy concerning their ability to administer employee discipline than a group of untrained supervisors (Cole & Latham, 1997).

In the lab, students met in small groups once per week under the supervision of a trained group facilitator/trainer. Activities in the lab, which were highly interactive and experiential, consisted of group exercises and projects designed to facilitate skill development, knowledge retention, and self-awareness building. The various lab exercises afforded trainees opportunities to role-play as group leaders (enactive mastery experiences), observe others perform as small group leaders (modeling), receive feedback on their leadership performance (social persuasion), and discuss what had been learned during the lab session (social comparison).

As previously noted, the four kinds of efficacy information are enactive mastery, vicarious experiences, social persuasion, and physiological arousal. Interventions that incorporate one or more of these efficacy sources have been shown to increase self-efficacy perceptions (Bandura, 1997). The group exercises and leadership simulations that took place in the lab sessions were expected to provide trainees with enactive experiences, modeling events, and social persuasion

messages regarding their leadership capabilities. In addition, several videotapes depicting individuals successfully performing leadership tasks were screened. This represented a type of modeling which previous research suggests will increase perceived self-efficacy (Bandura, 1986). Furthermore, the course and lab instructors reinforced the theme that leadership was a learnable set of social skills, a social persuasion manipulation which research has shown will facilitate the development of positive efficacy beliefs (Wood & Bandura, 1989b). However, because of practical constraints, the fourth source of efficacy information, physiological arousal, was not included in the manipulation.

Data Collection. Data collection was conducted in two waves: during the first two weeks and during the last two weeks of classes. Those in the training group were asked by the course instructor to participate in a study designed to gather information about students who enroll in the leadership training class. They were assured that all information they provided would be confidential, and that the instructor herself will not be given any information regarding individual students during or after the semester. Two hundred eight agreed to participate. Signed informed consent forms were obtained from each participant. Then the pre-training questionnaire was distributed, completed and returned. Approximately two weeks before the end of the semester, the experimenter returned and distributed the post-training questionnaire. One hundred forty useable questionnaires were collected, and each trainee was given a written debriefing statement regarding the purpose of the study.

One hundred sixty three juniors and senior level psychology students acted as control group members. They too signed informed consent forms, and completed the pre-training instrument after being assured their responses would be confidential. About two weeks before the end of the semester, 140 returned to complete the post-training measure. They were given a written debriefing statement, and their participation was reported to their instructors so that they would receive extra credit.

Results

Data collected from this quasi-experiment was analyzed to evaluate predictions. Table 1 shows means, standard deviations, and correlates for variables measured in this study. All significance tests were set at the .05 Type I error rate.

Table 1
Means, standard deviations, and correlates of study variables

Variable	M	SD	1	2	3	4
1. Training Condition	1.50	.50	--			
2. Pre-training LSE	5.42	.94	.04	--		
3. Leadership Efficacy Information Score	4.52	1.58	.74**	.10	--	
4. Post-training LSE	5.47	.85	.08	.80**	.22**	--

Note: n = 180; * p<.05, ** p<.01

Analysis

Manipulation Check: Individuals rely on various sources of information to form self-efficacy judgments. One important method for changing self-efficacy is training (Saks, 1995), especially if the training presents all four sources of efficacy information that Bandura (1997) identified. An important question is: Did the 15-week leadership training course provide leadership training participants (N = 140) with a greater level of leadership efficacy information based on participants perceptions than members of the control group (N = 140). In an attempt to answer this question, data were subjected to an independent sample t-test. As Table 2 indicates, a statistically significant difference between the two groups was detected.

Table 2
Test for difference between groups on leadership efficacy information score

Group	M	SD	t	df	d
Leadership Training	5.68	0.58	18.35**	277	2.20
Control	3.35	1.24			

n(training) = 140, n(control) = 140; ** p< .01

Table 2 shows that the leadership training condition had a very large effect (d = 2.20) on trainees' self-reported leadership efficacy information score. Thus, the leadership training class perceived themselves as having received more leadership efficacy related information than did control group participants, which is what the class was designed to do in addition to teaching basic leadership knowledge and skills. Therefore, for the purposes of this analysis, the 15-week course will be regarded as having been well designed and delivered.

All analyses were done using SPSS 13.0. Data were scrutinized graphically, descriptively, as well as inferentially for outliers, influential points and normality. All values were within acceptable ranges.

Hypothesis 1: In assessing the first hypothesis, data were subjected to a paired-sample t-test. Results of the paired-sample t-test t(139) = -1.652, p = 0.101, (see Table 3) indicted that there were no significant changes from pre- to post-test on leadership self-efficacy (LSE) at the group level. Thus, hypothesis one was supported in that no significant effect was detected due to training when evaluated at the group level. In fact, with a Pearson's r between pre- and post-test score of 0.80 (r2 = .64) one could conclude that the scores obtained from pre- to post-test are very stable. But, what if there were more than just one group of participants based on initial LSE level, one group with high pre-training LSE beliefs and one with low pre-training LSE beliefs?

Table 3
Effect of training on LSE measured at the group level

Pair	N	Mean	t	df	Sig. (2-tailed)
Pre training LSE	140	5.4598	-1.652	139	0.101
Post training LSE	140	5.5429			

Hypothesis 2: The plausibility of multiple groups (which the behavioral plasticity effect suggests and a moderated relationship implies) was investigated and it was decided to split the data set into two groups (those reporting low pre-training LSE and those reporting high pre-training LSE). In order to construct two groups, a median split procedure was done on the entire data set. That is, the median (5.68) was computed for the pre-test scores and was used as the cutoff point to split the file into two groups (low and high). The resulting sample sizes were 76 and 64 for the low and high groups, respectively. The means and standard deviations for each of the groups are presented in Table 4.

Table 4
Means and standard deviations for low and high groups

Low Group (n = 76)				High Group (n = 64)			
Mean	SD	Mean	SD	Mean	SD	Mean	SD
4.85	0.704	5.11	0.587	6.19	0.389	6.06	0.507

An independent sample t-test on the resulting groups revealed a statistically significant mean difference between the two groups (t(138) = 3.998, p = .000, see

Table 5). In fact, the low group showed a positive gain (mean change = 0.258) going from pre- to post-test whereas the high group showed a loss (mean change = -0.125) going from pre- to post-test. In other words, the low group was positively affected by the training whereas the high group was negatively, adversely affected by the training. This finding supports Hypothesis 2.

Table 5
Effect of training on LSE perceptions measured between subgroups

LSE2-LSE1 Change score	Group	n	Mean	t	df	Sig. (2-tailed)
	Low	76	0.2582	3.998	138	0.000
	High	64	-0.1250			

To determine whether these mean differences were statistically significant, separate dependent sample t-tests were performed on the two groups (see Table 6).

Table 6
Effect of training on LSE within subgroups

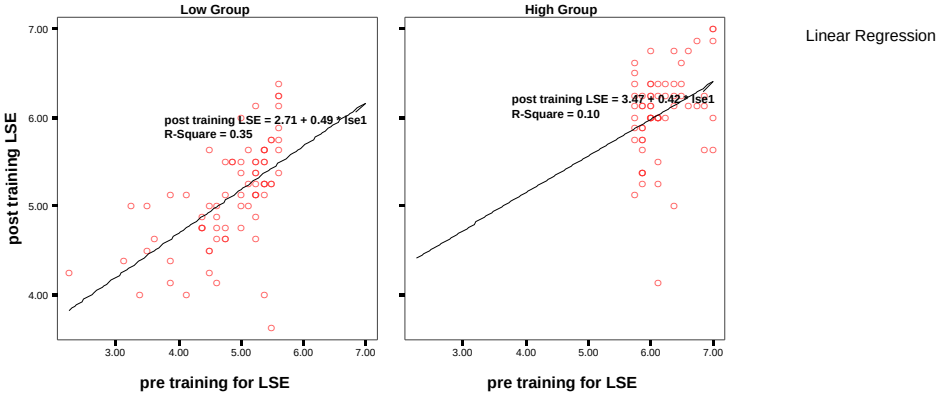
Group	Pair	n	Mean	T	df	Sig. (2-tailed)
Low	Pre training LSE	153	4.7753	-4.256	152	0.000
	Post training LSE	153	4.9812			
High	Pre training LSE	152	6.1924	3.114	127	0.002
	Post training LSE	152	6.0615			

Results of the separate dependent sample t-tests indicated statistically significant results for each group. That is, statistically significant mean differences were found between pre- and post-test for the low group ($t(152) = -4.256$, $p = 0.000$) as well as for the high group ($t(127) = 3.114$, $p = 0.002$, see Table 6). Thus, indicating that although at the group level (see Table 3) no statistically significant mean differences were found, when data were analyzed by subgroups (see Table 4), statistically significant mean differences were found. Therefore, one could conclude that when change was evaluated at the group level, the results were masked by the trainees' pre-training LSE level, which lends support to the behavioral plasticity hypothesis.

Hypothesis 3: To further investigate the reliability of these results, pre training LSE was regressed on post training LSE by group (i.e., low and high groups). Although pre training LSE was a statistically significant predictor of post training LSE for both groups of subjects, the R-square for the models were substantially different. For example, the R-square for the low group was 0.35. Thus,

approximately 35% of the variation in the post training LSE scores of the low group can be attributed to the variation in the pre training LSE scores (Hinkle, Wiersma, Jurs, 1994). However, only 10.3% of the variation in the post training LSE scores of the high group can be attributed to the variation in the pre training LSE scores (see Figure 1).

Figure 1
LSE regressed on post-training LSE



Additionally, as evidenced in Figure 1, subjects in the low group start off lower. However, as indicated by the slope coefficients, the low group has a greater rate of increase providing support for Hypothesis Three. Findings shown in Table 5 also lend support to Hypothesis 3. Change in LSE was greater in the low group than among the high group.

Discussion

This study extends previous research regarding the use of training to enhance trainees' self-efficacy perceptions to the leadership training and development domain. In addition, it examines the influence of the behavioral plasticity effect on change in trainees' leadership self-efficacy beliefs. Finally, the study demonstrates that given the behavioral plasticity effect, measuring for LSE change at the group level may indicate a non-significant finding when there was in fact significant change among a subgroup of trainees. Thus, researchers who design and implement efficacy enhancing training interventions should test for the behavioral plasticity effect before testing for the main effects of training on trainees' self-efficacy beliefs. Otherwise, the behavioral plasticity effect could mask significant change.

Findings supported all three hypotheses. A 15-weeks leadership class appeared to have no impact on trainees' post-training LSE when measured at the group level (see Table 3). Yet, when trainees were assigned to subgroups (those with low initial LSE and those with high initial LSE) analysis revealed that the lows reported significant positive change in their LSE beliefs, while the highs actually showed a loss of LSE, or a lower post training LSE score. This finding may be due to the highs recalibrating their beliefs regarding their capabilities for the leadership role once they have learned about all the complexities of leadership. In sum, they realized it was a more challenging task then they initially believed it to be. In short, the training experience dampened these trainees' initial overconfidence, which in the long run may be to their benefit, since leader arrogance has frequently been associated with leader ineffectiveness (Locke, 1991).

The pattern of results revealed by the analysis is highly suggestive, but not confirmatory of behavioral plasticity, since the highs did show significant change, though downward, in their LSE, while the lows demonstrated significant positive change, a findings that supports the behavioral plasticity effect. Furthermore, these findings are similar to those reported by Saks (1995) and Eden and Aviram (1993), both revealing that pre-training self-efficacy moderated the impact of the training intervention such that significant change was limited to only those trainees who were initially low in their task self-efficacy beliefs. A number of implications and questions arise from the findings of this study.

First, given the presence of the behavioral plasticity effect, the main effect of the leadership training (see Table 3) was not significant. Had we not considered the possibility of the plasticity effect, we would have inferred that the 15-week class had no impact on students' LSE.

Second, although the results cannot resolve the state-trait debate, they do suggest that the LSE factor is malleable; that is, changeable given an appropriately designed intervention. It also supports the assertion that leadership self-efficacy is a state open to development as proposed by Luthans, Luthans, Hodgetts, and Luthans (2001). In addition, the findings support Luthan's (2002) hypothesis that leadership development activities that include one or more of the four sources of efficacy information identified by Bandura (1997) will impact trainees' leadership confidence.

Third, this study, to the authors' knowledge, is one of the first to systematically apply Bandura's model of efficacy change to the leadership development process.

The study itself included a carefully designed training intervention that was structured to provide efficacy information. Results indicate that the intervention was highly successful in achieving this (see Table 2). This implies that Bandura's model of efficacy change may indeed be a good approach to changing the leadership confidence of trainees. Further research is needed to replicate this finding before a definite conclusion can be drawn.

Fourth, given that the plasticity effect was present during a leadership development activity, this begs the question: Who should receive leadership development interventions? The current findings point to persons with low initial LSE as prime beneficiaries of leadership development activities. Since previous research (McCormick, Tanguma, & Sohn, 2003) has found that women report lower LSE than men, women may be better candidates for early leadership development activities.

Fifth, further research is needed to address three questions. One, is there a limit or ceiling to the level of LSE attainable with training? Two, are different techniques required to raise high LSE still higher? At present we know what works for the lows but not the highs. Three, are other leadership development programs ineffective among highs? If so, then some kind of pre-training screening process would be advisable, otherwise, limited organizational resources may be wasted. Several study limitations should be noted. First, participants in this study consisted of college students who agreed to participate for extra course credit. Therefore, some caution should be used in generalizing study findings. However, the results should, at a minimum, be generalizable to other groups of undergraduate students who enroll in a college-based leadership training program similar to one here. Further research is required to determine the extent to which the findings of this investigation generalize to other leadership training interventions with groups such as supervisors, managers, or executives. A second concern is the measure used to evaluate participants' level of LSE. It is a simple 8-item scale that asks respondents to evaluate their self-confidence on eight, large leadership task clusters (Kane & Baltes, 1998). While data analysis revealed that the scale had high reliability ($\alpha = .90$), the validity of the instrument has not been thoroughly examined. Thus, further development of the LSE scale is warranted.

Conclusion

In conclusion, the results of this study suggest that LSE is a personal belief that can be altered with training. And since LSE has been theoretically and empirically connected to leader effectiveness (Luthans, Luthans, Hodgetts, & Luthans, 2001; Chemers, Watson, & May, 2000), then raising leader self-efficacy with training could be a practical method of enhancing leader success.

Furthermore, the behavioral plasticity effect must be considered when one goal of training is to enhance trainees' task specific self-efficacy perceptions. Finally, organizations that are investing in leadership development might be wise to screen candidates for their current level of LSE. There is mounting evidence (Brockner, 1988; Eden & Aviram, 1993; Saks, 1995) that those who report low self-efficacy for a task benefit more from training than those initially reporting high task-specific self-efficacy.

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