Go For the Goal(s): Relationship Between Goal Setting and Transfer of Training Following Leadership Development

STEFANIE K. JOHNSON
Colorado State University, University of Colorado–Denver

LAUREN L. GARRISON
Colorado State University

GINA HERNEZ-BROOME
JOHN W. FLEENOR
JUDITH L. STEED
Center for Creative Leadership

We examine the relationship between goal setting and transfer of training as measured on a 360-degree survey collected 3 months after a 5-day leadership development program. Leaders set personal goals for behavior change during the program. For two of the three competencies measured (developing others, building and maintaining relationships), leaders who set a goal for change on a competency were perceived as having improved more on that competency than those who did not. Those who set more than one goal were perceived as having improved more across competencies than those who set only one goal.

Best-practice organizations (e.g., GE, Shell, Johnson & Johnson) view leadership development programs as a way to increase competitive advantage and support corporate strategy (Fulmer & Goldsmith, 2001). In 2008 alone U. S. organizations spent $34 billion on employee learning and development (ASTD, 2008) and over 20% of training dollars are specifically spent on leadership development and managerial or supervisor training (Bersin and Associates, 2008). Leadership development is also the most desired type of training among managers and executives (Corporate Training and Development, 2006), suggesting that individuals believe leadership development has a positive impact on

the leader and the organization. Although medium to large effects have been demonstrated for leadership development programs (Burke & Day, 1986; Collins & Holton, 2004), the need to demonstrate return on investment (Avolio, Avey, & Quisenberry, 2010) makes understanding the conditions under which leadership development is most likely to initiate behavior change particularly important (e.g., Avolio & Hannah, 2008).

Just as many organizations implement leadership development programs, many individuals return to school to study management and leadership as part of a management degree. Surveys of top business schools reveal that leadership is widely included as part of the business curriculum (Doh, 2003; Murphy & Johnson, 2011; Navarro, 2008). Although there is a great deal of variation in how leadership is taught in business schools (Murphy & Johnson, 2011), most scholars agree that leadership

555

education should mirror the types of activities typically utilized in organizational leadership development programs, including the use of feedback, coaching, and experiential activities (De Dea Roglio & Light, 2009; Doh, 2003; Navarro, 2008). This movement toward skill-based learning highlights the importance of enhancing the effectiveness and generalizability of skill acquisition in management education (Hoover, Giambatista, Sorenson, & Bommer, 2010; Rubin & Dierdorff, 2011; Rynes, Trank, Lawson, & Ilies, 2003).

A great deal of research has explored methods of increasing the impact of training on workplace performance, called *transfer of training* (Ford & Kraiger, 1995; Goldstein & Ford, 2002), including posttraining interventions such as goal setting (Baldwin & Ford, 1988; Blume, Ford, Baldwin, & Huang, 2010; Brown, 2005; Burke & Hutchins, 2007; Latham & Saari, 1979; Morin & Latham, 2000; Richman-Hirsch, 2001; Taylor, Russ-Eft, & Chan, 2005; Wexley & Baldwin, 1986; Wexley & Nemeroff, 1975). For example, Wexley and Baldwin (1986) found that goals, whether assigned or self-set, led to increased transfer of training. Having goals increases planning processes (Locke, 1996), can help direct cognitive and behavioral attention toward goals (Rothkopf & Billington, 1979), and can increase the number of strategies used in achieving goals (Wood & Locke, 1990). As a result, goal setting increases commitment, motivation, energy, and persistence toward goals (Locke, 1996; Locke & Latham, 2002).

Despite the efficacy of goal setting interventions in training (Blume et al., 2010), we know little about the extent to which goal setting leads to increased transfer of training in leadership development and management education. Our work here builds upon past research by examining the relationship between leaders' goals for behavior change and perceived improvement in their corresponding leadership behavior following leadership development. Although all leaders set goals for transfer, the content of those goals varied between leaders, and behavior change was assessed in relation to those goals, using 360-degree assessments. This study makes three main contributions to the literature. First, we extend past research on the goal setting and transfer of training to a leadership development context. Second, we add to that literature by examining behavior change relative to one's goals, rather than simply comparing leaders who set goals with those who did not. Third, we contribute to research on goal attainment by exploring the dynamics of having multiple goals, rather than a single goal, on behavior change. We will elaborate on each of these contributions.

First, although goal setting has been used as a transfer intervention in typical training research, it is important to clarify the effects of goal setting in a leadership development context for several reasons. The majority of transfer studies are based on the training of simple motor tasks and verbal skills (e.g., Adams, 1987; Baldwin & Ford, 1988). This is relevant given that goal setting tends to have larger effects on less complex tasks compared to more complex tasks (Wood, Mento, & Locke, 1987). Leadership is what Yelon and Ford (1999) call an *open skill*, which can be highly variable and multidimensional. In contrast to *closed skills*, which are applied consistently following standard rules or procedures, the use and application of open skills requires more motivation, discretion, and understanding of the transfer environment (Blume et al., 2010; Yelon & Ford, 1999). For relatively complex tasks, such those taught in leadership and management education, the variance in ability increases, decreasing the benefits of goals (Wood, 1986).

Moreover, the majority of past research has used self-report measures of transfer, which can inflate transfer data (Blume et al., 2010). Indeed, Blume and colleagues' (2010) meta-analysis revealed that transfer effects were smaller when transfer was not self-reported. However, in the case of leadership development, we expect that the leaders' coworkers also recognize behavior change. As such, we use a 360-degree assessment, where ratings are gathered from one's supervisor, peers, and subordinates, to assess behavior change. Also worth noting is that the majority of past research on transfer has used relatively short training interventions, ranging from 30 minutes to 4 hours (Blume et al., 2010). The brief nature of the training sessions in past research may explain the relatively weak effects of goal setting on transfer; therefore, we use data from a 5-day leadership development program.

Second, this study extends past research on goal setting, which has only examined differences between setting goals and not setting goals, ignoring potential differences in goal content. Given the complex nature of leadership development programs, it is likely that leaders have different goals from each other, even within a single leadership development program. For example, one may have a goal of improving communication through leadership development; whereas another leader may have the goal of improving self-awareness by participating in the same program. Testing the extent to which a goal of communication improves communication and a goal of self-awareness improves self-awareness offers a more rigorous test of goal

setting than simply comparing those who set goals with those who did not. We know that goals are most effective when they are specific to the desired behavior change because they guide one's behavior toward the completion of that goal (Locke & Latham, 2002). As such, we expect that leaders who set a goal for a competency will be perceived as having improved more on that competency than leaders who did not set a goal for that competency.

Third, we contribute to research on goal attainment by exploring the dynamics of having multiple goals on behavior change. Because past research has only examined differences between setting goals and not setting goals, it is yet unclear whether setting multiple goals would have a beneficial or detrimental effect on behavior change. Despite the fact that individuals are constantly working toward multiple goals (Dodge, Asher, & Parkhurst, 1989; Miller, Galanter, & Pribram, 1960), the impact of having multiple goals on goal attainment has been relatively ignored in goal-setting research (Austin & Vancouver, 1996; Louro, Pieters, & Zeelenberg, 2007; Schmidt & DeShon, 2007; Vancouver, Weinhardt, & Schmidt, 2010). Although it is possible for goals to detract from one another (Kanfer & Ackerman, 1989; Vancouver et al., 2010; Vancouver & Tischner, 2004), goals that are similar, overlapping, or mutually facilitating can actually aid in overall behavior change (Kruglanski, Shah, Fishbach, Friedman, Chun, & Sleeth-Keppler, 2002; Zhang, Fishbach, & Kruglanski, 2007). Consistent with the argument outlined for setting a single goal, we expect that leaders who set multiple goals will be perceived as having improved more across leadership competencies than those who set only a single goal.

THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Leadership Development

Leadership development can be defined as "the expansion of the organization's capacity to enact the basic leadership tasks needed for collective work: setting direction, creating alignment, and maintaining commitment" (VanVelsor & McCauley, 2004: 18). This is in contrast to _management development_, which is aimed at helping managers to acquire the specific knowledge and skills needed to enhance task performance in the management role (Day, 2000). Rather than focusing on technical job skills, leadership development initiatives usually deal with broader skills and competencies in an interpersonal context, such as flexibility, team building, change manage-

ment, self-awareness, or interpersonal skills (Day & Harrison, 2007). Development is a process that involves cultivating and leveraging strengths while understanding and minimizing weaknesses (Hernez-Broome & Hughes, 2004).

Goal Setting

Goal-setting theory states that conscious behavior is purposeful and it is regulated by goals (Latham & Locke, 1991; Locke & Latham, 1990). Individuals are constantly presented with different choices for what to pay attention to and how to act; therefore, they must choose what outcomes they desire and how to achieve the outcomes that they seek. When individuals set goals, they are more likely to achieve those goals because goal setting increases goal commitment, planning behavior, and motivation toward one's goal (Locke, 1996). Goal setting also helps to direct attention toward goal-relevant behaviors, both cognitively and behaviorally (Rothkopf & Billington, 1979) and can increase energy and persistence toward goal-directed behavior (Locke & Latham, 2002). Further, goals increase self-regulatory behaviors, such as setting standards for performance and engaging in self-monitoring, evaluative judgments, reflective self-appraisal, and self-reactions (Latham & Locke, 1991). For these reasons, goal setting has been used as an intervention in training research to increase transfer of training (Baldwin & Ford, 1988; Blume et al., 2010; Brown, 2005; Burke & Hutchins, 2007; Latham & Saari, 1979; Morin & Latham, 2000; Richman-Hirsch, 2001; Taylor et al., 2005; Wexley & Baldwin, 1986; Wexley & Nemeroff, 1975).

Goal Attainment Approach for Developing Competencies

Although past research on goal setting has primarily compared the benefits of setting goals with not setting them, there is reason to believe that leaders may have different individual goals from the same development program. Thus, it is possible to assess behavior change in relation to one's specific self-set goals for change. This approach, called a goal attainment approach, has been used in a variety of domains including counseling (Kiresuk & Sherman, 1968), occupational therapy (Ottenbacher & Cusick, 1990), health (Cox & Amsters, 2002), and coaching (Spence, 2007), demonstrating that unique, self-set goals influence goal-related behavior change. Likewise, work in management education has acknowledged the fact that learning is most effective when students are engaged in high-involvement learning (Hoover et al., 2010).

Consistent with theories of adult learning, high-involvement learning requires that students demonstrate personal responsibility, autonomy, and self-direction in guiding their learning goals. Indeed, Hoover et al. (2010) found that students involved in MBA coursework who were given more responsibility for designing and implementing their learning goals learned more than students in a traditional classroom setting.

There are several benefits to a goal attainment approach. Given that most leadership development programs and management courses focus on a multitude of competencies, it is likely that learners will have different development goals from one another, depending on their individual strengths, opportunities for development, or organizational needs. Whereas the objectives of a course might give us information about which competencies a leader might transfer to the job, leaders' self-set goals may be more indicative of which competencies they are most likely to transfer, given that motivation to transfer impacts the extent to which transfer of training occurs (Burke & Hutchins, 2007; Holton, Bates, Booker, & Yamkovenko, 2007). Goal-setting theory also suggests that goals are more effective when they are specific (e.g., improve feedback skills) than when they are more general (e.g., be a better leader). Moreover, if the outcomes being assessed (the criterion) are more narrow rather than broad, then the predictors of those behaviors should be equally narrow (Austin & Villanova, 1992).

Although leaders may show improvement on all competencies, we expect that leaders who set a goal for a competency will be perceived as having improved more on that competency than leaders who did not set a goal for that competency.

Hypothesis 1: Leaders who set a goal for behavior change on a particular competency (self-awareness, developing others, building and maintaining relationships) will be perceived as having improved more on that competency than leaders who did not set a goal for behavior change on that competency.

Multiple Goals

Thus far we have described the potential benefits of goal setting for increasing transfer and have suggested that leaders who set a goal for competency will be perceived as improving more on that competency than leaders who did not. In our work here, leaders were allowed to set multiple goals to improve their leadership behavior. As such, we can explore the dynamics of having one goal versus having multiple goals in overall improvement of leadership behavior. Individuals are constantly working toward multiple goals (Dodge et al., 1989; Miller et al., 1960) and are often confronted with the task of allocating their time across multiple goals (Gollwitzer, Heckhausen, & Steller, 1990). However, the impact of having multiple goals has been relatively ignored (Austin & Vancouver, 1996; Louro et al., 2007; Schmidt & DeShon, 2007; Vancouver et al., 2010). Self-regulation research suggests that individuals are generally adept at managing multiple goals and allocating their time between goals (Vancouver, 2008).

Based on the relative expectancies, values, emotions, goal-discrepancies, or deadlines individuals will allocate and reallocate their time toward and away from different goal pursuits (Klein, Austin, & Cooper, 2008; Louro et al., 2007; Schmidt & DeShon, 2007). For example, Köpetz, Faber, Fishbach, and Kruglanski (2011) found that individuals who have multiple goals seek out creative strategies to jointly achieve both goals, as long as it is feasible to do so and the goals are of equal importance. Given the similarity in direction between the goals in our study (i.e., all goals are aimed at improvement of one's leadership), we expect that individuals who have multiple goals will be perceived as improving to a greater extent, across competencies, than individuals who have only one goal.

Hypothesis 2: Leaders who set multiple goals will be perceived as having improved more across leadership competencies (self-awareness, developing others, building and maintaining relationships) than those who set only a single goal.

METHODS

Description of Leadership Development Program

The data analyzed here came from a well-respected leadership development program and institution in the western United States. The 5-day program is designed for mid- to senior-level managers to develop their leadership competencies through a feedback-intense learning experience. The program uses self-awareness tools and experiential activities to enhance participants' leadership capabilities. Learning strategies for continuous development are presented through the use of extensive assessment, group activities, self-reflection, and personal coaching. The program has three major components: a prework phase, a 5-day face-to-face classroom session, and support

for continued development once leaders return to their workplaces.

The prework period includes a battery of assessments and related data-gathering assignments to prepare the leaders for the program. The classroom portion focuses on developing self-awareness, facilitating understanding of one's leadership strengths and areas requiring development, understanding the unintended consequences of leader behaviors, and creating behavior change. Throughout the program, leaders receive feedback from expert coaches, other attendees in the program, and their coworkers. For example, leaders complete video-taped activities during the training on which they receive feedback. Such feedback may influence the eventual goals that leaders set for behavior change.

Goal Setting

On the final day of the program, leaders set goals for behavior change back on the job. The goals become part of a leader's personal development plan, and each leader presents these personal development plans to other participants, followed by a discussion of potential challenges and opportunities for implementing their development plans after returning to their organizations. Of the potential goals, three were explicitly included in the follow-up 360-degree questionnaires (self-awareness, developing others, building and maintaining relationships). The other potential goals, which were not explicitly included in the follow-up 360-degree questionnaire, were not coded for this study. All leaders in the sample set a goal for transfer, although the type of goal and the number of goals was left up to the leader to decide.

Follow-Up

Following their attendance in the 5-day face-to-face classroom session, leaders take part in a 10-week web-based follow-up goal management system that allows them to build on what they learned during the program. Three months after the program, leaders were asked to obtain postprogram (now) and retrospective (then) 360-degree ratings from their supervisor, peers, and direct reports. The prework and classroom attendance are mandatory, while participation in the postprogram support and assessment is optional though strongly encouraged and technologically supported. It is intended to be an interim look at their behaviors as they integrate and apply their program experience at work. Approximately 20% of leaders complete

the follow-up survey, similar to past studies of this program (e.g., Brutus, London, & Martineau, 1999), and the respondents did not differ from the nonrespondents in terms of demographic characteristics (race, gender, age, schooling, experience, number of employees, organizational type, or organizational level).

Description of Survey Method

Change Surveys

Change surveys are an evaluation tool that can be used to measure transformations in attitudes or behaviors as a result of training (Collins & Holton, 2004; Hannum, 2004). Although measuring behavior before and after a program is standard, collecting preprogram ratings at the same time as the postprogram ratings is an alternative to traditional pretest–posttest designs (Lam & Bengo, 2003; Pratt, McGuigan, & Katzev, 2000). However, it should be noted retrospective pretests are sensitive to several rater biases, such as being sensitive to socially desirable responding, implicit theories of change, and recall bias (Hill & Betz, 2005). For example, a rater may report change in a supervisor's behavior after the supervisor went to leadership development because the individual expects that the supervisor should have changed as a result of attending the program. Retrospective pretests are particularly cautioned against for self-ratings of socially desirable or undesirable behaviors and are not advised for use in program evaluation (Hill & Betz, 2005). However, if not used for evaluation purposes and if information is collected from other sources, rather than just the self, the retrospective pretest measure can be useful in assessing perceived behavior change, similar to a *perceived-change* method (Lam & Bengo, 2003).

360-Degree Surveys

Although leadership surveys can take many forms, 360-degree leadership assessments are among the most popular and useful leadership development tools (Atwater & Waldman, 1998; Day, 2000). In this approach, individuals rate their own performance (self-ratings) in addition to performance ratings gathered from one's supervisor, peers, and direct reports (Church, 2000). Then, the gathered information is used to provide feedback to the focal leader, in an effort to make performance strengths and deficits known (Goodstone & Diamante, 1998). As Craig and Hannum (2006) discuss in their review of the 360-degree assessment literature, 360-degree surveys are primarily used as development tools,

but also offer potential for use as administrative tools, given the rich information that they provide. Here, we use data from a 360-degree assessment to measure leadership change as a result of a broader leadership development program.

Sample

The sample consisted of 294 leaders and their subordinates, supervisors, and peers. Most leaders were White (81%). There were 207 male leaders and 84 female leaders (data were missing for 3 participants). Most leaders in the sample were upper middle management ($n = 112$) or executives/top level ($n = 116$), but there were also some middle managers ($n = 59$). The remaining 7 participants indicated that level was not relevant for them, that they were first level managers, or failed to respond. The sample was highly educated with 123 college graduates, 114 master's/professional-level degrees, and 29 PhDs. The remaining 28 leaders indicated that they had a high school education, associates degree, other, or failed to respond. Three sectors were represented in this sample: business ($n = 245$), private nonprofit ($n = 32$), and public ($n = 15$). Two participants failed to respond.

The leaders attended 81 different sessions at five different locations with an average of 3.60 leaders per session represented in the sample ($SD = 1.91$) over a 15-month period in 2006 and 2007. At the most, we had data from 8 leaders from a single session. Leaders came from 84 organizations with a range of 1–8 leaders per organization ($M = 3.48$, $SD = 1.87$). Multilevel modeling was used to test whether there were any differences in main effects or interactions by cohort or organization, although no differences were found.

Among the raters, 57% were men and 83% were White. On average, the raters reported that they interacted with the leader quite frequently ($M = 3.29$ out of 4, $SD = .76$), although in terms of how long they have known the leader, they reported only having known them for a moderate amount of time ($M = 1.89$ out of 4, $SD = .72$). Many of the raters were aware that the leader attended the program, although whether they shared their goals with others was up to the leaders.

Aggregation

In order to test our hypotheses, we aggregated across raters and sources (supervisor, subordinate, peer). The average number of peers per leader was $M = 2.99$ ($SD = .49$) and ranged from one to seven. The average number of subordinates per leader was $M = 3.69$ ($SD = .53$) and ranged from one to seven. Intraclass correlations (ICC1s and ICC2s) were calculated for each of the dependent variables (e.g., self-awareness before, self-awareness after). The ICC (1) statistic represents the amount of variance in an individual's responses that can be explained by their membership in a group (e.g., they are rating the same leader) and values over .12 are acceptable (James, 1982). The average ICC (1) across dependent variables was ICC (1) = .26. In addition, the ICC (1) for self-awareness before (.30), self-awareness after (.23), developing others before (.24), and developing others after (.19), building relationships before (.30), building relationships after (.27), were all acceptable. Next, the ICC (2) represents agreement at the group level and values greater than .70 are acceptable (Klein et al., 2000). The average ICC (2) was .75 and the ICC (2) for self-awareness before (.80), self-awareness after (.73), developing others before (.74), and developing others after (.68), building relationships before (.80), building relationships after (.77), were mostly acceptable.

It should be noted that it is not common to combine across-ratings sources, given that different sources in 360-degree feedback contexts may provide unique information to the focal leader. However, given that these ratings were used as a dependent variable to assess behavior change rather than an independent variable (e.g., to assess the impact of feedback on leader outcomes), we were not interested in differences between sources. All correlations between raters were statistically significant. The average correlation between rating sources at a single point in time was .31, $p < .001$ and ranged from .15 to .47 with the lowest correlations being between subordinate ratings and supervisor ratings for time 2.

In addition, the decision to aggregate across rating sources is supported by the fact that there are high levels of measure equivalence across raters in 360-degree rating contexts (Diefendorff, Silverman, & Greguras, 2005) and given that increasing the number of raters per focal leader increases the reliability of ratings (Hensel, Meijers, van der Leeden, & Kessels, 2010). More specifically, Hensel and et al.. (2010) found that six raters are needed to create a reliable measure of behavior in a 360-degree feedback context and because reliability puts an upper limit on validity, we found it most important to maximize the reliability of the ratings used here. Based on these data, the scores were aggregated, although they were weighted so that a one source (e.g., subordinate) would not outweigh another source (e.g., supervisor). Data were first aggregated within source and then across the three sources. Participants who did not have data

from at least two of the three sources were excluded from analyses.

Measures

Three scales from the 360-degree instrument were examined here because of their consistency with goals identified from the program: self-awareness, developing others, building and maintaining relationships. Although these three scales only comprise 10 items, raters actually completed 47 survey items. For each scale, leaders were rated retrospectively on their behavior before development (then) and their current behavior (now), although the measures were taken at the same time. The measures use a 9-point scale where 1 = *not at all*, 3 = *to a small extent*, 7 = *to a large extent*, and 9 = *completely*. Scores for both the then and now ratings ranged from 1 to 9, the full range of each of the scales.

Self-Awareness

The self-awareness scale consisted of three items: "This person understands how his/her management style impacts those with whom he/she works," "This person is aware of the impact of his/her behavior on others," and "This person learns how others perceive him/her." Internal consistency for this scale ranged from α = .87 (supervisor) to .90 (direct report and peer). Past research has demonstrated the validity of the scale as a measure of leadership, with validities of .74 and .89 for initiating structure and consideration, respectively (Kail, 2007).

Developing Others

The developing others dimension of the 360-degree assessment measures the extent to which leaders engage in behaviors aimed at providing a climate that supports the growth of others. The items were "This person provides ongoing feedback to direct reports," "This person is open with others about what he/she has learned from his/her mistakes," and "This person becomes a coach or mentor to others." The internal consistency of this scale ranged from α = .85 (peer) to .88 (direct report). Past research has demonstrated the validity of the scale as a measure of leadership, with validities of .78 and .90 for initiating structure and consideration, respectively (Kail, 2007).

Building and Maintaining Relationships

The building and maintaining relationships dimension of the 360-degree assessment consisted of four questions and measured the extent to which the person interacts with and responds to others in a way that creates and sustains positive relationships. The items were "This person supports and understands the needs of others," "This person displays patience with others in difficult situations," "This person is approachable and receptive to others," and "This person avoids being abrasive with others." The internal consistency of this scale ranged from α = .89 (peer) to .90 (direct report and supervisor). Past research has demonstrated the validity of the scale as a measure of leadership, with validities of .81 and .91 for initiating structure and consideration, respectively (Kail, 2007).

Confirmatory Factor Analysis

In order to confirm the uniqueness of the three measured variables, a confirmatory factor analysis was conducted using the entire dataset (regardless of goal or rater) of now ratings. There were a total of 3,869 raters in this dataset. The hypothesized model suggested that each of the items for each variable would load on the corresponding latent variable and all three variables would be correlated. The model fit the data relatively well. The root-mean-square error of approximation (RMSEA), a measure of residual fit, was .07. RMSEA values less than .08 indicate moderate fit (Browne & Cudeck, 1993; Hu & Bentler, 1995). The comparative fit index (CFI) was .97 and values over .93 indicate a good fit (Byrne, 2001). The chi-square-test for the model was statistically significant, $\chi^2(30) = 599.67, p < .001$, suggesting a poor fit of the model. With sample sizes over 200, chi square is usually significant (Schumacker & Lomax, 2004) so a sample size of 3,869 is likely to yield a significant chi square. In such cases, we rely on the other fit indices which are less sensitive to sample size. Moreover, a single factor model (all items loading on one latent variable) yielded a worse fit of the model on all indices ($\chi^2(33) = 1,493.14, p < .001$; CFI = .95; RMSEA = .11), supporting our suggestion that the variables represent three independent constructs.

RESULTS

Before testing the hypotheses, we examined the data for any demographic differences by including these variables as factors in the repeated measures ANOVAs. There was no effect for any of the demographic differences tested (leader race, gender, education, organizational level, industry). These variables did not have main effects on any of the competencies, nor did they interact with

TABLE 1
Means, Standard Deviations, and Intercorrelations Among Study Variables

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Self-awareness goal[a]	.19	.39	1									
2. Developing others goal[a]	.20	.40	-.07	1								
3. Relationships goal[a]	.62	.49	-.18**	-.07	1							
4. One or more goal[b]	1.25	.43	.35***	.53***	.19**	1						
5. Self-awareness then	4.96	.93	.02	-.11	-.14*	-.15*	1					
6. Self-awareness now	6.41	.80	.03	.06	-.11	-.04	.64***	1				
7. Developing others then	5.64	.99	.02	-.07	-.03	-.15*	.81***	.59***	1			
8. Developing others now	6.64	.82	.01	.02	-.06	-.05	.63***	.82***	.76***	1		
9. Relationships then	5.73	1.07	-.04	-.09	-.20***	-.20**	.82***	.47***	.69***	.55***	1	
10. Relationships now	6.78	.77	-.05	-.01	-.17**	-.12	.67***	.78***	.62***	.81***	.77***	1

Note. N = 294. *n* for one or multiple goals = 235. Relationships = Building and Maintaining Relationships.

[a] Goal was coded as 0 = *not set*, 1 = *set*.

[b] One or more goal was coded as 1 = 1 *goal*, 2 = *more than one goal*.

* $p < .05$. ** $p < .01$. *** $p < .001$.

change on any of the competencies (as tested using repeated measures ANOVAs). Means, standard deviations, and intercorrelations among study variables are included in Table 1.

In looking at the correlations, readers should note that there was a negative relationship between having a self-awareness goal and a building and maintaining relationships goal. This is likely due to the fact that most individuals set only one goal, but the correlation is not perfectly negative because it is possible to set both a self-awareness goal and a building and maintaining relationships goal. Further, individuals who set the goal of building and maintaining relationships had significantly lower self-awareness "then" scores than those who did not. It is possible that individuals who had this goal differed from others in some way. For example, it could be that their lower self-awareness makes it difficult to have successful relationships with others. It is also notable that individuals who set more than one goal had significantly lower "then" scores on all dimensions than individuals who set only one goal. It is possible that individuals who set more than one goal were aware of their greater need for development.

Analyses

We examined perceived change on three dimensions of leadership behavior: self-awareness, developing others, building and maintaining relationships. A series of repeated measures ANOVAs were conducted to explore the impact of time (comparing time 1, retrospective ratings with time 2, current state ratings) and goal setting (not set, set) on self-awareness, developing others, and build-

ing and maintaining relationships. Looking at just the main effect of perceived change, leaders were perceived as having improved in self-awareness (Wilks' λ = .30, $F(1,292)$ = 689.75, $p < .001$, η^2 = .70; Table 2), developing others (Wilks' λ = .33, $F(1,292)$ = 521.35, $p < .001$, η^2 = .64; Table 2), and building and maintaining relationships (Wilks' λ = .32, $F(1,292)$ = 630.15 $p < .001$, η^2 = .68; Table 2).

Hypothesis 1 suggested that leaders who set a goal for a competency would be perceived as improving more on that competency than leaders who did not set a goal for that competency. To test this hypothesis we examined the interaction between whether one set a goal for a given competency (0 = *not set*, 1 = *set*) with perceived change on that competency (retrospective then ratings, now ratings) using the repeated measures ANOVA.

TABLE 2
Relationship Between Goal Setting and Ratings of Leadership Behavior

	Wilk's λ	F	η^2
Self-awareness			
Perceived change	.30	689.75***	.70
Perceived Change × Goal	1.00	0.43	.00
Goal[a]	—	0.21	.00
Developing others			
Perceived change	.33	521.35***	.64
Perceived Change × Goal	.98	5.60*	.02
Goal[a]	—	0.26	.00
Building and maintaining relationships			
Perceived change	.32	630.15***	.68
Perceived Change × Goal	.99	4.51*	.02
Goal[a]	—	11.57***	.04

Note. N = 294.

[a] Goal was coded as 0 = *not set*, 1 = *set*.

* $p < .05$. ** $p < .01$. *** $p < .001$.
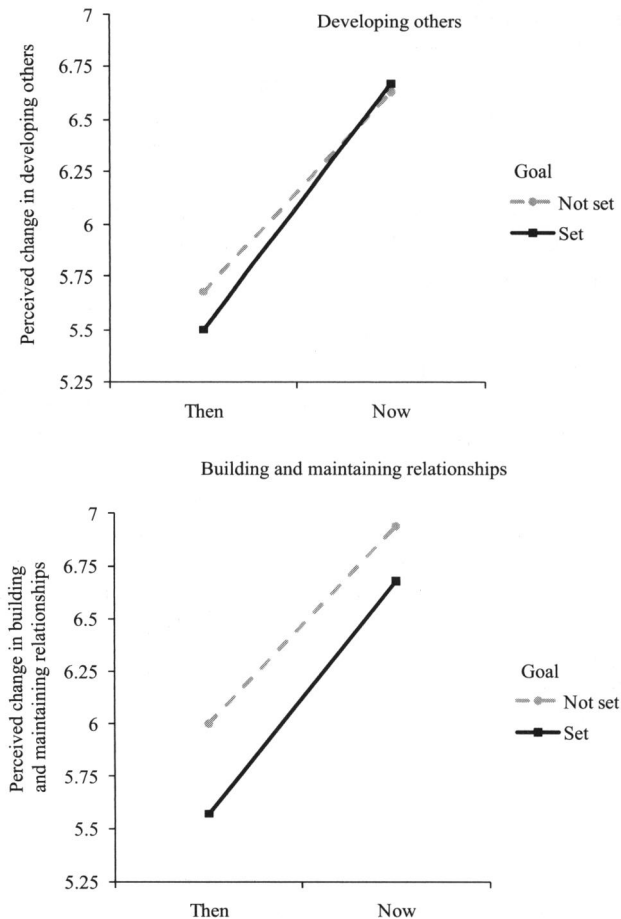
FIGURE 1
Perceived Change in Ratings of Developing Others and Building and Maintaining Relationships for Leaders Who Did and Did Not Indicate the Respective Competency as a Goal

For self-awareness, 55 leaders had the goal of improving in self-awareness. The hypothesis was not supported for this variable (Wilks' λ = 1.00, $F(1,292)$ = .43, $p > .05$, η^2 = .00; Table 2). Having a self-awareness goal was unrelated to perceived change in self-awareness.

Next we tested the hypothesis for developing others. Fifty-nine leaders set a goal of improvement in developing others. The hypothesis was supported (Wilks' λ = .98, $F(1,292)$ = 5.60, $p < .05$, η^2 = .02, Table 2; Figure 1). Leaders who set the goal of developing others were perceived as having greater improvement from the "then" ratings (M = 5.50, SD = .98) to the "now" ratings (M = 6.67, SD = .71) in developing others than leaders who did not set this as a goal (M = 5.68, SD = 1.00; M = 6.63, SD = .85).

Last, we tested the hypothesis for building and maintaining relationships. One hundred eighty-three leaders set the goal of building and main-

taining relationships. The hypothesis was supported (Wilks' λ = .99, $F(1,292)$ = 4.51, $p < .05$, η^2 = .02; Table 2, Figure 1). Leaders who set the goal of building and maintaining relationships showed greater improvement from the "then" ratings (M = 5.57, SD = 1.04) to the "now" ratings (M = 6.68, SD = .74) in building and maintaining relationships than leaders who did not set this as a goal (M = 6.00, SD = 1.07; M = 6.94, SD = .80).

Next, we tested Hypothesis 2 that leaders who had multiple goals would be perceived as having improved more than leaders who only had one goal. To test this hypothesis we ran a multivariate repeated measures ANOVA with all three dependent variables and the number of goals (one goal or more than one goal) as the independent variable. Of the leaders who indicated at least one of the three goals examined in this study, 176 of them chose only one goal and 59 chose more than one goal. The other leaders had a goal that was not examined in this study. The multivariate repeated measures ANOVA revealed a significant interaction between number of goals and perceived change, across the three dependent variables (Wilks' λ = .97, $F(3,231)$ = 2.64, $p < .05$, η^2 = .03). Leaders who set only one goal tended to have higher perceived "then" performance (M = 5.51, SD = .89) than leaders who set multiple goals (M = 5.15, SD = .83), although this difference was diminished for the "now" ratings (M = 6.63; 6.51, SD = .73. 68). The results support our hypothesis that having multiple goals would be related to greater perceived improvement than having only one goal (Table 3, Figure 2).

DISCUSSION

Despite the ubiquity of leadership development programs in organizations, surprising little research has focused on the conditions under which leadership development is most likely to initiate behavior change (e.g., Avolio & Hannah, 2008). Consistent with goal-setting theory and research on transfer of training, we found a relationship between goals and perceived behavior change for two of the three competencies studied (developing others and building and maintaining relationships). Leaders who set multiple goals were perceived as having improved more across competencies than leaders who only set one goal. These findings not only offer a useful method of enhancing transfer of training in leadership development and management education, but also add to our theoretical understanding of goal setting.

Previous research has demonstrated that goal setting can enhance transfer of training (Blume et

TABLE 3
Relationship Between Number of Goals and Ratings of Leadership Behavior

|	Wilk's λ	F	η^2
Perceived change	.23	251.46***	.76
Perceived Change × Number of Goals	.97	2.64*	.03
Number of goals[a]	.97	2.71*	.03

Note. N = 235.

[a] Number of goals was coded as 1 = *one goal*, 2 = *more than one goal*.

* $p < .05$, ** $p < .01$, *** $p < .001$.

al., 2010). Our work adds to those findings in several respects. We have demonstrated the relationship between goal setting and perceived behavior change on a complex task, leadership, using a long-term intervention and non-self-report measures of behavior change. Beyond that, we extend past findings by augmenting the transfer intervention from a simple difference between setting goals or not setting goals, to a more complex process of setting goals in targeted areas on which one felt the need to develop. It is naive to think that all leaders enter a development program with the same goals in mind. Using a goal attainment approach will allow leaders to get the most out of leadership development, and improve on the competencies that are most relevant to them.

Also of interest, individuals who set a goal in a given area were rated as having been lower in that area on the "then" ratings, suggesting that individuals were accurately assessing their developmental needs. Likewise, individuals who set multiple goals tended to have lower "then" scores than those who set only one goal. Individuals who set a
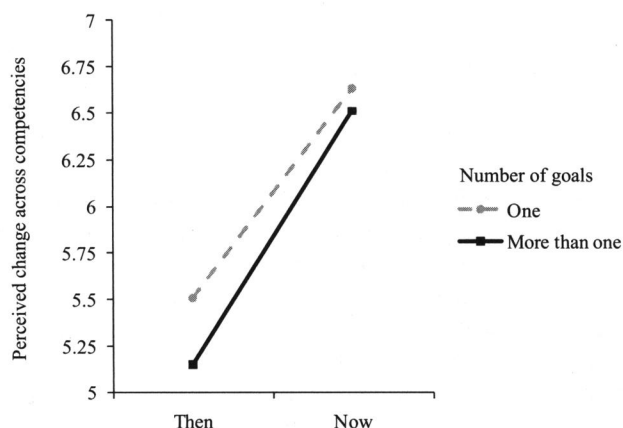
FIGURE 2
Perceived Change in Ratings of All Dependent Variables for Leaders Who Set One Versus More Than One Goal

goal for a given area (and those who set multiple goals) tended to improve more than those who had not set a goal for a given area (and those who set only one goal), but they still remained lower than or equal to their counterparts on those competencies. Although the ratings tended not to reach the top of the scales, an alternative interpretation of the results is that the individuals who set a goal for a given area were rated as having improved more than those who did not because of regression toward the mean or the fact that they had more room for improvement.

It is important to note that our hypothesis was not supported for one of the three competencies studied: self-awareness. Given that this competency is the least visible behavior, it is possible that raters were unable to detect change on this competency (Funder & Dobroth, 1987). On the other hand, it is possible that the heavy influence of the program on self-awareness means that all leaders improved on self-awareness to such a great extent that we were unable to detect differences between those who set a goal for that competency and those who did not.

Implications

The findings reported here are consistent with goal-setting theory (Locke & Latham, 2002). Goals can improve transfer of training by increasing planning processes (Locke, 1996), attention toward goals (Rothkopf & Billington, 1979), the number of strategies used in achieving goals (Wood & Locke, 1990) and commitment, motivation, energy and persistence toward goals (Locke, 1996; Locke & Latham, 2002). Although we did not compare specific goals with more general goals, goal-setting theory would suggest that greater specificity in goals, such as those created in the current study, should lead to greater behavior change than the more general goals examined in past research (Locke & Latham, 2002).

Further, we found an additive effect such that setting multiple goals was related to greater perceived improvement across competencies. This is relevant given theoretical work suggesting that moving toward one goal may mean moving away from another (Lewin, 1938; Miller, 1944; Muraven, Tice, & Baumeister, 1998; Shah, Friedman, & Kruglanski, 2002). However, as Kruglanski et al. (2002) note, the idea that goals are in competition is only one type of goal system configuration; different goals may facilitate one another or be complementary to each other. Therefore, when goals are complementary, such as when all goals relate to improvement in leadership, encouraging multiple

goals could result in greater transfer of training. This approach lends itself particularly well to leadership development programs, which often focus on a multitude of complementary skills.

Implications for Management Education

The findings presented here also have important implications for management education more broadly. Recent controversy on the applicability of management education to management behavior (e.g., Bennis & O'Toole, 2005; Pfeffer & Fong, 2002) has created increased interest in methods to enhance the effectiveness and impact of skill acquisition in management education (e.g., Hoover et al., 2010; Rubin & Dierdorff, 2011). A large-scale study of management education programs conducted by Rubin and Dierdorff (2009) revealed that behavioral competencies perceived to be the most important to managers were the least represented in MBA curricula. Recruiters also indicate a desire for students who have engaged in more behavioral coursework during the MBA (Rynes et al., 2003). As such, management scholars have issued a call for greater behavioral and skill-based coursework (Hoover et al., 2010; Rubin & Dierdorff, 2011; Rynes et al., 2003). Possibly for these reasons, courses in leadership are becoming increasingly popular as part of a degree in management (Doh, 2003; Murphy & Johnson, 2011; Navarro, 2008).

With a greater focus on skills and behaviors, like leadership, there is a need to ensure that the skills learned in management courses transfer back to the job (Hoover et al., 2010; Rubin & Dierdorff, 2011; Rynes et al., 2003). Goal setting could easily be used as a "posttraining" intervention in leadership development programs and management courses. Similar to the current study, efforts should be taken to ensure that learners have a minimum level of self-awareness before an intervention such as this one (see Sitzmann, Ely, Brown, & Bauer, 2010). As students engage in learning, they should be encouraged to think about their own development needs and interests and set goals for areas on which they choose to focus. Hoover et al. (2010) offer a useful approach for such a skill-based course. They found that students who went through a developmental assessment center and were encouraged to demonstrate personal responsibility, autonomy, and self-direction in guiding their learning goals actually learned more than students in a traditional classroom setting. The results from our work here would suggest that multiple goals are more effective than a single goal, although additional work on the complementari-

ness or competitiveness of those goals must be conducted.

Limitations and Future Research

As with any investigation, limitations exist that pose less than ideal circumstances for testing the hypotheses. There are drawbacks to using retrospective ratings. Again, retrospective ratings are made in present time about something in the past. Thus, the comprehensiveness of the rater's memory of past behaviors can affect the accuracy of his or her ratings of those behaviors. A better alternative would be to collect actual pretest ratings (before the development experience) and then posttest ratings (following the development experience) in order to assess behavior change. More ideally, a control group of individuals who did not receive development (or have not yet received development) would be included to help ensure that the effects are due to the development program itself. Individuals who did not receive development could also be asked to set goals to test the extent to which the behavior change was the result of the interaction of the goals and the program, and not simply the goals. This would have been particularly beneficial because it would have also allowed us to test for differences between individuals who responded to the follow-up survey and those who did not. Although we note that there were no demographic differences between respondents and nonrespondents, it is possible that there were differences in other areas that could have biased the results. For example, it is possible that individuals who set a goal in a given area but realized that they had not made any progress on the goal chose not to respond to the survey for that reason, inflating our results.

It is also possible that in our study the observed changes are unrelated to the development program but, instead, were the result of other efforts the individual undertook to improve on a given competency. Likewise, it is possible that the effects were not due to the goal-setting process but due to the individuals' goals, themselves. However, a wealth of research has demonstrated that having individuals engage in formal goal setting results in better performance (Locke & Latham, 1990) especially when goals are publicly stated (Hollenbeck, Williams, & Klein, 1989). As such, we believe that the findings presented here can be attributed, at least in part, to the formal goal-setting process in which leaders publicly stated their goals and engaged in goal-related planning. However, future studies might compare the effects of a goal attain-

ment approach in a more controlled setting to maximize internal validity.

It is possible that the leaders in this study shared their goals with their coworkers, causing the coworkers to note greater behavior change on those competencies. Despite this possibility, we feel that it is unlikely that this occurred for two reasons. First, given the large number of raters used for each leader, it seems unlikely that the leader would have shared his or her goals with all of the individuals who rated him or her on perceived behavior change (on average 7 coworkers rated each leader). Second, if the effect were truly driven by rater expectancy effects, then we would have expected to see our effect on all three leader competencies that we assessed. Yet, we did not see an effect for goal setting on perceived change in self-awareness. As such, we do not expect that rater expectancies would explain our effects, although we acknowledge it as a limitation of the study.

Another limitation may be found with the length of time between the end of the development program and the point when ratings were made. Behavior change can take a significant amount of time to materialize. People need opportunities to practice the behaviors and figure out how to incorporate them into their daily goings-on. The time-lapse in this study was 3 months. This may not be enough time to see the full behavioral impact of the development program, as some behaviors may take longer than 3 months to show significant change. This may explain some of the small effect sizes found for the interaction between goals and behavior change, which is of concern for the results reported here. Further, other individual difference variables, not measured in the current study, could have influenced the results. Future research may examine the moderating effects of variables such as motivation, general mental ability, or personality on the effects reported here.

CONCLUSIONS

It is very important to maximize transfer of training from leadership development and management education in order to get the greatest return on investment from such programs. The findings from this study suggest that goal setting may be a useful tool for increasing transfer of training following leadership development. Leaders who set a goal for behavior change on developing others or building and maintaining relationships were perceived as having improved more on those competencies than leaders who did not indicate those competencies as a goal for change. Moreover, leaders who

set multiple goals were perceived as having improved more, overall, than those who set only one goal. Recognizing that leaders may have different goals from one another may help researchers and practitioners interpret the impact of leadership development and management education on behavior change.

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Stefanie K. Johnson holds a PhD in industrial-organizational psychology from Rice University. She is currently an assistant professor of management at University of Colorado, Denver. Johnson's research interests primarily relate to leadership, including leader development, gender and leadership, and the role of emotions and cognitions in leadership.

Lauren L. Garrison received a MS in industrial-organizational psychology at Colorado State University, where she is currently finishing the requirements for a PhD. She currently works for Cognitive Change Concepts, a safety consulting firm, where she applies her expertise in instructional design, e-learning, leadership development, and evaluation methodology.

Gina Hernez-Broome is the dean and a faculty member for the School of Organizational Leadership at University of the Rockies. Hernes-Broome earned her PhD in industrial-organizational psychology at Colorado State University. Her research centers on executive coaching and leader development.

John W. Fleenor holds a PhD in industrial-organizational psychology from North Carolina State University. Fleenor is currently senior research faculty at the Center for Creative Leadership in Greensboro, NC. His research interests include multirater assessment and self–other rating agreement.

Judith L. Steed received her master's degree from Virginia Polytechnic Institute and State University. She is currently building on her extensive experience in the executive training industry at the Center for Creative Leadership, as well as pursuing her interest in values led leadership and organizational learning as a consultant with Work Horse Associates, LLC.