

An Empirical Examination of Posttraining on-the-Job Supplements for Enhancing the  
Effectiveness of Interpersonal Skills Training

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### **Abstract**

This study examined the impact of 2 posttraining on-the-job supplements to a training program focused on interpersonal skill development for newly hired managers—self-coaching and upward feedback. Utilizing a sample of 87 trainees from 75 units of a national restaurant chain, the impact of these supplements was assessed by examining posttraining performance across 4 training conditions in a quasi-experimental framework: (1) classroom training only, (2) classroom training with self-coaching, (3) classroom training with upward feedback, and (4) classroom training with self-coaching and upward feedback. The results demonstrated that both supplements are useful extensions to formal classroom training for enhancing trainees' interpersonal performance. These findings are discussed along with directions for future training effectiveness research.

*Keywords:* training, interpersonal communication, skills, performance evaluation

## **An Empirical Examination of Posttraining On-The-Job Supplements for Enhancing The Effectiveness of Interpersonal Skills Training**

One of the primary means to promote effective interpersonal relations in the workplace is through formal classroom training (Taylor, Russ-Eft, & Chan, 2005; Training Magazine, 2004). Despite widespread investments in interpersonal skills training, however, the desired impact may not be realized. Some researchers have questioned whether trainees fully develop interpersonal skill proficiency during formal training and whether trainees successfully apply, or transfer, these skills on the job (Burnaska, 1976; Georges, 1996; Russell, Wexley, & Hunter, 1984). It has been argued that formal classroom training produces individuals who are only able to perform crude and forced imitations of target behaviors (Georges, 1996). Further, meta-analytic evidence suggests that the posttraining impact of interpersonal skills training is modest (Taylor et al., 2005).

A potentially viable means of increasing the impact of interpersonal skills training is through supplements beyond the formal classroom environment. Fundamentally, training effectiveness is grounded in the proper design of the formal learning experience. However, researchers have argued that training should not be an isolated classroom activity if the benefits of training are to be fully realized (Baldwin & Ford, 1988; Baldwin & Magjuka, 1991; Chao, 1997; Kozlowski & Salas, 1997). Pretraining supplements may motivate and prepare individuals for learning within the classroom, whereas posttraining supplements may motivate transfer and promote further skill development.

This study extends research on training interventions beyond the classroom by examining the impact of posttraining supplements in the context of interpersonal skill development. Building on a corporate training program focused on developing the supervisory skills of newly hired

managers from multiple units of a national restaurant chain, this study examined the effectiveness of two supplements. One supplement was a self-coaching program, and a second was upward feedback. Both were designed to reinforce training content, provide relevant performance feedback, and direct skill application and further development when the trainee managers returned to the field.

### **Prior research on posttraining supplements**

Two general types of posttraining supplements have often been examined in previous research. One is goal-setting supplements that aim to promote transfer by focusing trainees on the implementation of training content (Reber & Wallin, 1984; Richman-Hirsch, 2001; Wexley & Badlwin, 1986; Wexley & Nemeroff, 1975). The rationale for utilizing such supplements is that competing demands and interests inhibit transfer, and thus, mechanisms are necessary to direct skill application. Goal-setting supplements have addressed the importance of transfer, characteristics of effective goals, and specific implementation priorities. Some goal-setting supplements have been implemented within the classroom (e.g., Richman- Hirsch, 2001), whereas others have involved meetings with trainers or supervisors after training has been complemented (e.g., Reber & Wallin, 1984; Wexley & Badlwin, 1986; Wexley & Nemeroff, 1975). On the whole, goal-setting supplements have been found to have a favorable impact on transfer beyond the effects of classroom training only.

Self-management training is a second commonly researched supplement to promote transfer. This training is related to goal-setting with a focus on the implementation of training content. However, self-management training specifically aims to equip individuals with skills to overcome obstacles to transfer (Marx, 1982; Richman-Hirsch, 2001; Wexley & Baldwin, 1986).

Proponents of self-management training assume that trainees will encounter obstacles on the job, such as time pressure or lack of social support, and then relapse into previous patterns of behavior. This training is implemented within the classroom, and it typically focuses on identifying obstacles to transfer, establishing performance maintenance goals, identifying strategies to overcome obstacles, monitoring progress toward goal attainment, and self-administering rewards and punishments. Support for this posttraining supplement has been mixed. Although some research has demonstrated a posttraining impact for self-management training in comparison to classroom training only (e.g., Noe, Sears, & Fullenkamp, 1990; Tziner, Haccoun, & Kadish, 1991), other studies have not (e.g., Burke, 1997; Gaudine & Saks, 2004; Richman-Hirsh, 2001; Wexley & Baldwin, 1986).<sup>1</sup>

Despite the degree of support for the supplements examined previously, examination of alternatives is warranted. In one respect, research is necessary to examine supplements that address not only the implementation of training content but also further skill development, as interpersonal skills are not necessarily fully developed within the formal classroom (May & Kahnweiler, 2000). In another respect, research is warranted to examine additional supplements appropriate for individuals who work largely autonomously and where structured guidance from others is not administratively feasible. Yelon and Ford (1999) have argued that a key consideration in designing transfer supports is the degree of trainee autonomy on the job. Even though the benefits for posttraining goal setting supplements have been demonstrated, these activities usually involved the active participation of trainers and/or supervisors to facilitate goal setting (Reber & Wallin,

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<sup>1</sup> Additional research by Gist and colleagues (Gist, Bavetta, & Stevens 1990, Gist, Stevens, & Bavetta 1991) has examined the effectiveness of posttraining goal-setting and self-management training supplements relative to one another. However, classroom training only control groups were not utilized. Thus, the incremental impact of these supplements beyond the formal learning context cannot be determined.

1984; Wexley & Baldwin, 1986; Wexley & Nemeroff, 1975). Self-management training could be appropriate for autonomous trainees, but this type of supplement has not always been effective. Selfmanagement training may place too much emphasis on trainee control in the work environment, whereas more structured on-the-job supplements could have a stronger impact on transfer.

### **Self-coaching and upward feedback**

The effectiveness of two on-the-job posttraining supplements to enhance the impact of interpersonal skills training are examined in this study, specifically training focused on supervisory skills for new managers. One supplement is a self-coaching program that is a new supplement that has not been examined in prior research. The second is upward feedback, which has been studied in previous research as a means to enhance interpersonal skills but not as a posttraining supplement directly linked to formal training content.

#### **Self-coaching.**

The self-coaching program is an autonomously managed supplement in which trainees reflect on their performance and establish transfer enhancement goals for several weeks upon completion of training. The program comprises three components. The first is an assessment in which trainees examine the extent to which they engaged in desired behaviors addressed in training through a standardized checklist. For example, trainees reflect on how often they established clear and specific goals for subordinates, praised performance improvements, and worked with subordinates to develop performance improvement strategies. In turn, the second component is an assessment in which trainees reflect on specific interpersonal incidents by answering open-ended

questions (e.g., “Describe the most challenging employee situation you encountered this week. In what ways did you manage the situation well, and how would you handle a similar situation differently in the future?”). These open-ended questions are included to facilitate deeper-level processing. The final component is a goal-setting module, in which trainees establish performance maintenance and performance improvement goals to translate trainee insight into successful future performance. In sum, the self-coaching program represents a regular self-appraisal linked to on-the-job performance expectations addressed in training.

The medium for the self-coaching program is a workbook with written assessments and exercises to facilitate the above self-reflective and goalsetting efforts. This instructional medium may be effective for several reasons (Walker, 1985). First, written analysis helps individuals to distance themselves from their daily routines and focus on personal growth and development. Second, the act of writing helps individuals become more conscious of their strengths and areas for improvement. Third, written documentation allows individuals to monitor their progress over time. Although individuals may engage in activities to facilitate performance improvement informally, a workbook provides structure for doing so.

The self-coaching program is distinct from previously researched supplements. Compared to goal-setting supplements, the program differs with its focus on autonomy and corresponding emphasis on self-reflection to facilitate independent goal-setting. The program is thus well suited for autonomous employees. Compared to self-management training, the selfcoaching program differs in two aspects. First, the self-coaching program is implemented on the job, whereas self-management training occurs within the classroom. Accordingly, the self-coaching program could provide greater control over posttraining behavior. Second, the self-coaching program is broader with an emphasis on performance assessment, identification of strengths and weaknesses, and the

development of performance improvement goals; whereas self-management training is focused on overcoming obstacles to transfer. Consequently, the self-coaching program is thought to be a more effective means to promote further development and successful transfer.

### **Upward feedback.**

The second supplement examined is upward feedback, a variant of multisource feedback, in which individuals receive feedback from subordinates. Multisource feedback has been widely used to enhance interpersonal skills, and a number of studies have examined the effectiveness of multisource feedback in facilitating a variety of performance outcomes. Smither and colleagues' (2005) meta-analysis found that multisource feedback facilitated improvement on such outcomes as behavioral change, objective performance measures, and subordinate attitudes. The largest, although modest, effect sizes were found for the impact of upward and supervisor feedback. The corrected mean effect sizes were .15 for both forms of feedback. The corrected mean effect sizes for peer and self-ratings were .05 and -.04, respectively.

Two arguments support the use of multisource feedback systems. One, different raters and raters beyond an employee's supervisor, the traditional rater in the appraisal process, have valid insights into an individual's performance (Borman, 1991). Two, a formal system, in which raters provide written feedback under conditions of anonymity, facilitates the sharing of information that might not otherwise be communicated. Given that interpersonal feedback may be perceived as "personal," individuals may not share this feedback informally. Further, in the context of supervisorsubordinate interactions, subordinates may be less likely to provide feedback due to the legitimate authority and reward power supervisors possess. Structured assessments, though, provide a medium for feedback to be provided, and providing feedback anonymously allows information to be shared with less fear of negative repercussions.



Multisource feedback has typically been used and researched as a stand-alone development tool. A notable exception was the work of Seifert, Yukl, and McDonald (2003), where the impact of formal training after receiving multisource feedback was examined. This training focused on the interpretation of feedback reports, discussion of key behaviors, presentation of video models, and exercises to practice key behaviors. In contrast to individuals who received no formal training and no feedback and those who only received a feedback report, individuals who received formal training after feedback exhibited significant positive behavioral change. Although this work suggested that multisource feedback coupled with formal learning was superior to multisource feedback only, research is needed to examine whether formal training coupled with multisource feedback has a favorable impact on performance outcomes beyond formal training alone (Smither, London, & Reilly, 2005). This study aims to answer this question.

A key consideration in rater selection in multisource feedback systems is a potential rater's opportunity to observe a ratee's performance on focal dimensions (Rothstein, 1990). Given that the formal training in this study focuses on supervisors' interpersonal skills directed toward subordinates, subordinates are the primary raters. Hence, the multisource feedback system examined herein is an upward feedback system.

The upward feedback supplement examined herein involves three primary components. First, the trainees are provided with data regarding the frequency in which they engaged in behaviors addressed during training. Second, they are provided with written comments from subordinates on their performance. Third, and parallel to the self-coaching program, trainees are directed to establish performance maintenance and performance enhancement goals to translate insight gained from the feedback received into future performance.

### **Operating mechanisms**

The self-coaching and upward feedback supplements may facilitate posttraining interpersonal skill performance in several respects. On a general level, posttraining supplements may serve as an organizational signal to denote the importance of transfer and thus motivate the application of training content. Rouiller and Goldstein (1993) highlighted the importance of trainees' perceptions of cues in the work environment to promote transfer. In an interpersonal context, supplemental cues are important as such performance may not be "hard coded" into individuals' work and may be perceived as discretionary. In the absence of such cues, individuals may neglect interpersonal responsibilities and focus on what is perceived to be more central aspects of their work.

The posttraining supplements are also argued to enhance the impact of interpersonal skills training by reinforcing content addressed in the formal classroom. Research has highlighted that knowledge and skill decay may occur over time (Arthur, Bennett, Stanush, & McNelly, 1998), suggesting the need for "refresher" training. Reflecting on performance expectations via self-coaching and upward feedback serves as a form of refresher training and could thus favorably impact posttraining performance.

The self-coaching and upward feedback supplements are also believed to promote further skill development in a natural learning environment. Practice opportunities within the classroom, such as role-playing exercises, are limited in promoting full skill acquisition because trainees are not confronted with the same pressures and consequences for their actions that they face on the job (Georges, 1996). As such, trainees may not always perceive these exercises as serious learning endeavors, or they may not experience the difficulties and complexities that might otherwise impact their performance. In either case, trainees might not perform as they otherwise would in a

natural context and receive meaningful developmental feedback. However, posttraining supplements provide opportunities to develop focal skills more completely by adding realism to the learning experience.

Given that successful interpersonal performance requires adaptive expertise, or skill in adapting one's performance to novel situations (Smith, Ford, & Kozlowski, 1997; Yelon & Ford, 1999), the challenge of achieving proficiency in the classroom is compounded. There is often no exact standardized approach to manage interpersonal interactions. In many situations, individuals must adapt their behavior based on different situational demands and choose from a variety of alternatives. For example, there are a number of ways to manage the performance of a substandard employee. The approach one adopts could be contingent upon the severity of the problem, the frequency with which the problem has occurred, and characteristics of the employee. Achieving interpersonal skill proficiency may require trial and error over time as individuals learn to adapt general principles from the classroom to specific applied contexts.

With respect to self-regulation, the self-coaching and upward feedback supplements may facilitate improved posttraining performance by directing trainees to engage in specific transfer enhancement strategies. Such strategies include practicing focal skills, reflecting on one's performance, establishing performance enhancement goals, and developing strategies to achieve performance success (Machin & Fogarty, 2004). The supplements are believed to direct engagement in such activities as trainees review and complete their respective materials, and the content of the supplements may direct trainees' engagement in these activities throughout their regular workdays.

Finally, the self-coaching and upward feedback supplements could improve posttraining performance by enhancing trainees' self-efficacy beliefs. Defined as individuals' judgments of

their capabilities to organize and execute specific courses of action (Bandura, 1986), self-efficacy is a central motivational variable in employee performance (Stajkovic & Luthans, 1998). Self-efficacy influences individuals' choices regarding which behaviors to undertake, how much effort to expend, how long to persist in overcoming obstacles, and, ultimately, levels of performance (Bandura, 1986). The supplements may enhance *task-specific* self-efficacy beliefs (i.e., beliefs in the ability to successfully interact with others in the present context) as the trainees may perceive the supplements as providing the resources to execute superior performance. Further, the supplements may enhance task-specific self-efficacy as a result of realizing better performance throughout the course of the study period. It has been argued that mastery experiences, or performance accomplishments, are the strongest contributors to enhanced self-efficacy beliefs (Kozlowski et al., 2001).

## **Hypotheses**

Based on the above discussion, the first hypothesis asserts that trainees who participate in either supplement beyond formal training will demonstrate better posttraining performance than those who attend classroom training only.

**Hypothesis 1:** Participation in self-coaching or upward feedback will have a more favorable impact on posttraining performance than formal classroom training only.

The second hypothesis examines which supplement has a stronger performance impact. Answering this question is useful in determining whether self-coaching or upward feedback is the better single supplement. Self-coaching and upward feedback differ in certain respects that may lead to a different performance impact. For example, self-coaching spans a longer duration and therefore extends development over a greater period. The self-coaching program involves completing assessments and goal-setting activities for several weeks on the job, whereas upward

feedback involves the receipt of feedback and goal setting at one point in time. In turn, upward feedback involves the receipt of feedback from others beyond the trainees themselves. Individuals may be somewhat blind to their strengths and areas for improvement and may require feedback from others to facilitate interpersonal growth (Luft, 1969). The supplements' strengths may offset each other and lead to similar performance effects, but one supplement's strengths could be more effective in facilitating posttraining than the other's.

**Hypothesis 2:** One supplement may be superior to the other in facilitating posttraining performance.

A final question to be answered is the impact of combining selfcoaching and upward feedback as a posttraining supplement. Because selfcoaching and upward feedback include shared and distinct features, the supplements could provide mutual reinforcement, while also enhancing performance through unique means. However, utilizing two posttraining supplements could provide no additional benefit over utilizing one. This alternative would be likely when skills have already been close to fully developed. However, because the focal training is targeted toward new managers and the challenge of fully developing interpersonal skill proficiency, combining self-coaching and upward feedback is argued to have a superior posttraining impact.

**Hypothesis 3:** Participation in a combined supplement will have a more favorable posttraining impact than either selfcoaching or upward feedback.

In addition to assessing the direct influences of self-coaching and upward feedback on posttraining performance, the mediating influences of trainees' engagement in transfer enhancement strategies and self-efficacy in facilitating the impact of the supplements on posttraining performance are assessed. As discussed beforehand, the supplements may facilitate better posttraining performance by directing individuals to engage in specific activities to improve

transfer and by enhancing their beliefs in their abilities to execute successful performance.

**Hypothesis 4:** The relationship between the posttraining supplements and posttraining performance will be mediated by engagement in transfer enhancement strategies.

**Hypothesis 5:** The relationship between the posttraining supplements and posttraining performance will be mediated by self-efficacy beliefs.

### **Method**

The research sponsor for this study was an organization that owns and operates approximately 120 casual-theme restaurants in the United States. Each restaurant employs 56 individuals on average and has an annual turnover of 108%. The trainees were new managers who worked in a restaurant management team of three to five people. The management team for each restaurant includes a general manager, an assistant general manager, and one to three entry-level managers. Regardless of qualifications, all new managers enter the organization as entry-level managers.

All new managers ( $n = 96$ ) in the organization during the study period participated in this research. Nine managers left the organization prior to the completion of the study, yielding a sample of 87 trainees from 75 restaurants. Of the valid sample, the average age was 31 years, and the trainees averaged 7 years of experience. Seventy-six of the trainees were male. Seventy-two trainees were Caucasian, eight were African-American/Black, four were Hispanic/Latino, and one trainee was Asian/East Indian. Two trainees reported their ethnic background as “other.”

#### **Focal training**

An established program conducted in the organization’s centralized corporate training

center focused on developing supervision skills was the foundation for this study. Through this training, the organization aimed to develop five general skill sets: (a) clarifying expectations (clearly and regularly communicating performance expectations); (b) monitoring (observing employee performance); (c) rewarding (providing frequent praise and recognition); (d) correcting (addressing performance problems effectively); and (e) inspiring (creating enthusiasm for hard work and effort). The formal training spanned approximately 8 hours and included lectures, discussions, video, and role-playing activities.

Table 1 presents five target performance dimensions with behavioral indicators that serve four purposes in this study. One, these items reflect the learning points used during training to guide classroom discussion and practice activities. Two, they provide the foundation for the standardized behavioral assessment in the self-coaching program. Three, they serve as one component in the upward feedback assessments. Four, they comprise the posttraining performance dependent variable.

The items for four of the dimensions—clarifying expectations, monitoring, rewarding, and inspiring—are based on the work of Yukl, Wall, and Lepsinger (1990). Slight wording modifications were made to reflect the specific training objectives and organizational context. Items for the correcting dimension were developed for this study and corresponded to the training program's objectives.

## **Research design**

This research employed a quasi-experimental posttest-only, control group design to examine the impact of the posttraining supplements on trainees' performance. A posttest-only design was employed because pretraining performance measures could not be obtained for the newly hired trainees. A quasi-experimental design was used, in which blocks of trainees rather

than individuals were assigned to treatment conditions, to simplify administrative and coordination efforts. The research sponsor conducted formal training sessions once approximately every 2 months. Four groups were used over a 7-month period, and each group was randomly assigned to one of the following conditions: (a) classroom training only (control), (b) classroom training with self-coaching, (c) classroom training with upward feedback,

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**Insert Table 1**

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or (d) classroom training with self-coaching and upward feedback. A trainee's start date within the organization was the only criterion for his or her assignment to a training condition; an individual attended the first available session following his or her start date. The first training group served as the control. Subsequent groups were assigned to the upward feedback, self-coaching, and combined supplements, respectively. The number of trainees per treatment condition was 21, 22, 23, and 21. Analyses of variance demonstrated no significant differences across the groups regarding age ( $F = .79, p = .50$ ) and years of previous management experience ( $F = 1.30, p = .28$ ). Further, chi-square analyses demonstrated no differences across groups with respect to gender ( $X^2 = 6.54, p = .36$ ) and ethnic background ( $X^2 = 14.46, p = .49$ ).

There was limited potential for trainees to have had knowledge of other trainees' participation in the alternative designs. Thus, compensatory rivalry, where individuals in different treatments knowingly "compete" (Shadish, Cook, & Campbell, 2002), was not expected to bias



the results of this study. Trainees participating in later training designs likely were not influenced by previous designs because they were not yet employed as managers in the organization. Further, the trainees were distributed in different restaurants. Sixty-three of the 87 trainees were employed in different restaurants across the country. Four pairs from the same restaurants participated in the same treatment condition concurrently. Sixteen trainees were employed in the same restaurant as another trainee but participated in a different treatment condition at a different time.

This research focused on a 10-week posttraining period on the job. The self-coaching trainees received their workbooks during the first week and completed their materials over the following 5 weeks. The upward feedback trainees received a packet for administering their feedback assessments during the third week. These trainees were required to complete survey administration within a week's time and return the assessments to the researchers (i.e., "the external consultants") via prepaid overnight express delivery for compilation of their feedback reports. The upward feedback trainees received their feedback reports approximately during the fifth week via overnight express delivery. Final measures for all trainees were assessed at the end of the 10-week period.

## **Treatment administration and design**

### **Self-coaching.**

The self-coaching program spanned 5 weeks and included four sections. The first section of the workbook was the standardized behavioral assessment with the five performance dimensions in which the trainees assessed their own performance from the previous week. The second section included four open-ended questions to facilitate self-reflection (see Appendix A). The third section was a development plan worksheet in which the trainees were directed to establish three goals for the following week. This worksheet instructed trainees to establish (a) a

“continuance” goal (a goal to continue or improve upon something one does well), (b) a “stop” goal (a goal to minimize or engage in a behavior less frequently that impedes effective performance), and (c) a “start” goal (a goal to engage in a specific behavior or activity to improve one’s performance). The final section was a development plan follow-up worksheet to help trainees assess the extent to which their goals from Section 3 were achieved. The materials were identical from week to week with two exceptions: (a) Week 1 did not include a development plan follow-up worksheet because trainees had just begun the program; and (b) Week 5 did not include a development plan because it was the final week of the program. To help ensure compliance, every week each trainee was required to obtain his or her general manager’s signature on a verification form that confirmed that the trainee completed that week’s materials. The form was then faxed to the corporate office to track each trainee’s progress.

#### **Upward feedback assessment.**

The upward feedback assessment packet included the feedback assessments, materials for returning the assessments to the researchers (“the external consultants”), and an accompanying cover letter from the vice president of Human Resources and Training detailing administration procedures. The feedback assessments included one self-report survey, seven surveys for dining room staff, and seven surveys for kitchen staff. Both the trainee and subordinate surveys included the items from Table 1. The subordinate survey also included a section to provide written comments. Specifically, the subordinates were instructed to provide examples of (a) behaviors the trainee performs well and should continue, (b) behaviors the trainee should start engaging in, and (c) behaviors the trainee should engage in less frequently. The subordinates returned their assessments to the trainees in sealed envelopes, which were then returned to the researchers. The trainees were requested to obtain at least five assessments for both dining room and kitchen staff

members. An average of 12 usable subordinate surveys was obtained per trainee, yielding a response rate of 86% and reflecting on average 21% of the employees in a restaurant.

### **Upward feedback report.**

The upward feedback report included five sections. The first three sections presented data on the five performance dimensions, including the self-report ratings, average subordinate ratings, and self-subordinate gaps. The first section provided composite scores for the five dimensions, and the second section provided scores for the individual items. The third section identified the five highest and lowest self-report ratings, average subordinate ratings, and self-subordinate gaps. The fourth section presented the subordinates' comments. The fifth section was a development plan worksheet. Parallel to the self-coaching workbook, the trainees were directed to establish "continuance," "stop," and "start" goals. The sixth section was a development plan follow-up worksheet to later assess goal attainment.

### **Organizational support.**

The research sponsor instituted several supports to help ensure compliance with the posttraining supplements. The sponsoring organization's vice president of Human Resources and Training strongly supported the implementation of the supplements. He conducted the formal classroom training sessions. At the end of which, he introduced the posttraining supplements and emphasized the value of extending development beyond the classroom. In addition, he conducted conference calls with general managers across the country to educate them on the supplements so they could ensure trainee compliance. Moreover, corporate administrative staff monitored trainee compliance and followed up with trainees via e-mail and telephone in the event materials were not submitted in a timely fashion.

## **Control Variables**

Several variables were included in the analyses to enhance control in this quasi-experimental design. These variables were general mental ability, the Big Five personality dimensions (Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness), pretraining self-efficacy, and previous management experience. General mental ability measures were obtained from personnel records, and measures of personality, previous management experience, and self-efficacy were obtained at the beginning of the formal training sessions.

### **General mental ability.**

General mental ability was assessed with the 126-item Thurstone Test of Mental Alertness (Thurstone & Thurstone, 2001). The test was administered under the standard 20-minute, timed protocol.

### **Personality.**

The Big Five were measured with the NEO Five-Factor Personality Inventory, Form S (Costa & McCrae, 1991). Twelve items comprised each dimension, and respondents indicated the extent to which the items described themselves. Response choices ranged from = *strongly disagree* to = *strongly agree*. Chronbach's alphas for the Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness dimensions were .86, .73, .72, .69, and .84, respectively.

### **Previous management experience.**

Trainees indicated their years and months of previous experience managing others.

### **Self-efficacy.**

Pretraining self-efficacy beliefs were assessed with a seven-item measure adapted from Martocchio and Webster (1992). A sample item includes: “I feel confident in my ability to manage the performance of employees.” Response choices ranged from = *strongly disagree* to = *strongly agree* ( $a = .80$ ).

### **Posttreatment assessment**

Posttreatment data were obtained following administration guidelines similar to the upward feedback assessments. Trainees provided ratings of engagement in transfer enhancement strategies and self-efficacy. Subordinates provided ratings of the trainee performance. An average of 11 usable subordinate assessments was obtained per trainee, yielding a response rate of 79% and reflecting on average 20% of the employees in a restaurant.

#### **Transfer enhancement strategies.**

The trainees’ engagement in transfer enhancement strategies was assessed with an 11-item measure based on the work of Machin and Fogarty (2004). Specific strategies include: “I spent time thinking about how to use my people management skills in my daily work” and “I discussed with my coworkers ways to develop my people management skills.” Response choices ranged from 1 = *never* to 5 = *daily* ( $a = .83$ ).

#### **Self-efficacy.**

The identical pretraining measure was utilized for the posttreatment assessment ( $a = .79$ ).

#### **Posttraining performance.**

For the 25 items from Table 1, subordinates indicated how often trainees engaged in the specific behaviors with a scale ranging from 1 = *never* to 5 = *frequently, if not always*. Confirmatory factor analyses supported a single dimension, higher-order model; the results are

presented below. The average interrater agreement index (James, Demaree, & Wolf, 1984) was .81 ( $\alpha = .96$ ).

## Results

### Factor analyses.

To examine the factor structure of the five performance dimensions, an approach parallel to Erez and Judge (2001) was utilized. Two alternative models were examined with confirmatory factor analyses. One was a first-order model in which 25 scale items loaded on their five respective dimensions (i.e., clarifying expectations, monitoring, etc.) with the five dimensions uncorrelated. The second model extended the first by allowing the five performance dimensions to load onto a higherorder latent performance construct.<sup>2</sup> Support for the first model would call for five distinct measures in examining the impact of the posttraining supplements, whereas support for the second would lend credence to a single composite measure.

The analyses were conducted in Amos 7.0 utilizing the 973 subordinate ratings of trainee performance. Model fit was evaluated using the sample variance-covariance matrix of the 25 items as input and a maximum likelihood solution. The following fit indices were examined:  $\chi^2$ ,  $\chi^2/df$ , normed fit index (NFI), incremental fit index (IFI), Tucker-Lewis index (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA).<sup>3</sup> On all criteria, the second-order model performed better. The first-order model fit statistics were  $\chi^2 = 4751.26$  ( $p < .01$ );  $\chi^2/df$

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<sup>2</sup> Accordingly to Erez and Judge (2001), examining a first-order *correlated* model is unnecessary because it is mathematically and functionally equivalent to a second-order model (Bollen, 1989). If supported, a second-order model is preferable to a first-order correlated model because it explicitly considers the structural relationships (Gerbing & Anderson, 1984).

<sup>3</sup> A smaller  $\chi^2$  represents better fit, and  $\chi^2/df$  below 3.00 is desirable (Carmines & Mclver, 1981). In addition, NFI, IFI, TLI, and CFI values equal or greater than .90 reflect good fit, as well as RMSEA values equal or less than .06 (Hu & Bentler, 1999).

= 12.60; NFI = .77; IFI = .79; TLI = .75; CFI = .79; and RMSEA = .11. In turn, the second-order model fit statistics were  $\chi^2 = 1854.68$  ( $p < .01$ );  $\chi^2/df = 4.99$ ; NFI = .91; IFI = .93; TLI = .92; CFI = .93; and RMSEA = .06. In addition, a chi-square difference test indicated that the second-order model fit better ( $\chi^2 = 2896.58$ ,  $p < .01$ ). In both models, all individual item loadings were significant ( $p < .01$ ), with an average of .78 and a range from .60 to .90. Further, the five dimension loadings on the overall performance construct in the second-order model were significant ( $p < .01$ ): clarifying (.82), monitoring (.88), rewarding (.81), inspiring (.87), and correcting (.88).

Following the CFA results, which indicated a single higher-order performance dimension, a single dependent variable was constructed for subsequent analyses. To determine weights for the five dimensions in creating the composite measure, principal components analysis (PCA) was performed.<sup>4</sup> The five dimensions were subjected to PCA, yielding a single factor. This factor explained 72.53% of the variance with an eigenvalue of 3.62. The overall performance measure was computed as an average of the product of the dimension scores and their respective factor weights.

## **Descriptive Statistics**

Descriptive statistics are presented in Tables 2 and 3. Table 2 presents internal consistency estimates (Cronbach's alpha) and correlations among the study variables. Table 3 presents the means and standard deviations of trainee performance across the experimental conditions.

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<sup>4</sup>Factor weights from confirmatory factor analyses cannot theoretically be utilized to create factor scores because latent constructs are modeled to predict the indicators in such analyses as opposed to the converse.

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**Insert Table 2**

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**Insert Table 3**

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### **Tests of Hypotheses**

Multiple regression was used to test the hypotheses. Regression was used rather than analysis of covariance (ANCOVA) to more parsimoniously assess the impact of the supplements and control variables.

Participation in self-coaching, upward feedback, or the combined supplement was indicated with three dummy variables, in which “1” represented participation in a supplement and “0” did not. Regression coefficients for the supplements provided estimates for their magnitude and direction beyond classroom training only. A similar coding scheme in ANCOVA would have provided an F-statistic for each supplement with no indication of effect size or direction. Similarly, with respect to the control variables, regression coefficients provided an estimate of the magnitude and direction for the effect of each, whereas ANCOVA would have provided a general F-statistic. Variables were entered into the regression model in three steps: (a) control variables, (b) posttraining supplements, and (c) transfer enhancement strategies and self-efficacy. For the final model predicting trainee performance,  $R^2$  was .33 and the F-statistic was 2.72 ( $p < .01$ ). See Table 4.

Hypothesis 1, which proposed that participation in self-coaching or upward feedback



would have a positive impact on posttraining performance beyond classroom training only, was supported. The standardized regression coefficient was .22 for self-coaching ( $p < .05$ ) and .43 for upward feedback ( $p < .01$ ).

Hypothesis 2, which proposed a difference in the effectiveness of selfcoaching and upward feedback, was not supported. This hypothesis was examined by assessing the significance of the difference between the selfcoaching and upward feedback regression coefficients utilizing the formula outlined by Paternoster, Brame, Mazerolle, and Piquero (1998) for testing the equality of regression coefficients. A two-tailed significance test was executed because it was not articulated *a priori* which supplement would be more effective; competing arguments were presented why each supplement could be superior. Although the upward feedback coefficient was larger, the difference between the coefficients was not statistically significant ( $t = 1.20, p = .23$ ).

Hypothesis 3, which proposed that participating in the combined supplement would be better than participating in one posttraining supplement, was partially supported. Following the formula from Paternoster et al., participating in the combined supplement was superior to self-coaching ( $t = 1.93, p < .05$ ). However, a statistically significant difference in posttraining performance between the combined supplement and upward feedback was not demonstrated ( $t = .77, p = .22$ ).

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**Insert Table 4**

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Hypotheses 4 and 5, which proposed mediating influences of engagement in transfer

enhancement strategies and self-efficacy, respectively, in the relationships between the supplements and posttraining performance, were not supported. These relationships were assessed by examining the extent to which four requirements set forth by James and Brett (1984) and Baron and Kenny (1986) were met: (a) significant relationships between the initial independent and dependent variables, (b) significant relationships between the initial independent variables and proposed mediators, (c) significant relationships between the proposed mediators and dependent variables with the inclusion of the independent variables, and (d) nonsignificant or reduced relationships between the initial independent and dependent variables with the inclusion of the proposed mediators (full and partial mediation, respectively).

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**Insert Table 5**

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All four criteria were not met for either Hypothesis 4 or 5; thus, neither hypothesis was supported. The supplements were related to posttraining performance (Requirement 1). However, no significant relationships between the supplements and engagement in transfer enhancement strategies were found, and only self-coaching was significantly related to self-efficacy (Requirement 2). See Table 5 for an examination of support for Requirement 2. Both transfer enhancement strategies and self-efficacy were nonsignificant when the posttraining supplements were included (Requirement 3). Finally, the point estimate for the impact of upward feedback on posttraining performance remained constant when the proposed mediators were included, whereas the point estimates for self-coaching and the combined supplement fell modestly.

## Discussion

This study has contributed in several ways to training research. One, this study examined supplements in the applied work environment not previously examined as posttraining supplements. The self-coaching program represented a unique supplement, and upward feedback had not been examined previously as a direct extension of formal training. Two, this research validated the utility of the focal supplements within an experimental design framework, overcoming limitations of some previous work that utilized cross-sectional survey designs to examine posttraining support (e.g., Rouiller & Goldstein, 1993; Tracey, Tannenbaum, & Kavanagh, 1995). Three, this study specified posttraining supplements appropriate for a specific skill set and context—interpersonal skills performed under autonomous working conditions. This research has helped address the need for more context-dependent transfer enhancement systems (Yelon & Ford, 1999).

The self-coaching and upward supplements were designed to further develop and enhance the transfer of interpersonal skills, and the data demonstrated that both supplements were successful in achieving this end. Trainees who participated in either supplement exhibited better performance than those who attended classroom training only. Further, trainees participating in both supplements as a combined intervention were more effective performers than the self-coaching trainees. However, trainees participating in the combined supplement were not found to be significantly better performers than the upward feedback trainers, despite the positive point estimate.

The results indicate that self-coaching and upward feedback are similar in their posttraining impact. Although the point estimate for upward feedback was almost twice as large the self-coaching estimate, a statistically significant difference was not found. The supplements do share a

common framework for evaluating performance and goal-setting to direct performance enhancement efforts. Further, the supplements' relative strengths (i.e., the longer duration of the self-coaching program and the receipt of feedback from key constituents with upward feedback) may offset each other. To more fully determine whether the supplements are equivalent or whether one is superior to the other, additional research is necessary using larger samples to obtain effect sizes with less sampling error and to assess potential differences with greater statistical power.

Beyond considering the impact of the supplements, practitioners should consider available resources when electing to adopt either selfcoaching or upward feedback. For example, consideration should be paid to the degree of expertise within an organization to design and implement a posttraining supplement. An upward feedback system requires more expertise than a self-coaching program. Among other things, implementing an upward feedback system requires skill in survey design and administration, data collection and analysis, and developing systems to efficiently return results. Implementing a self-coaching program also requires expertise, yet such expertise is limited to the initial design of the program. In addition, attention should be paid to trainee effort required and necessary administrative follow-up. The upward feedback supplement required less effort by the trainees and less administrative follow-up than the self-coaching program. The upward feedback trainees were required to complete self-assessments and obtain feedback from their subordinates at one point in time. In comparison, the self-coaching program required more trainee effort and administrative follow-up as the trainees were required to complete and submit materials on a weekly basis.<sup>5</sup>

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<sup>5</sup> The research sponsor is redesigning its new hire training for managers. Accordingly, neither supplement is currently being utilized. However, it plans to reinstitute the upward feedback because it requires less trainee effort and administrative follow-up in comparison to the self-coaching program.

Further research is necessary to examine the mechanisms by which the supplements operate to improve posttraining performance, as neither engagement in transfer enhancement strategies nor self-efficacy was demonstrated to have an impact. The inability to demonstrate these mediating influences could be attributed to limitations of the measures because they were obtained at the end of the study period. Due to imperfect recall or self-serving biases, these measures may not have reflected trainees' true use of such strategies and self-efficacy beliefs during the intervention period. In future work, it is recommended to assess these variables on a regular basis over a shorter duration, such as through an experience sampling procedure where subjects respond to questions on a palmtop computer at random intervals throughout a workday (Miner, Glomb, & Hulin, 2005). Further, to overcome self-report biases with respect to engagement in transfer enhancement strategies, it may be advantageous to obtain measures of observable strategies from others (e.g., discussing with supervisors, coworkers, and subordinate employees ways to facilitate skill enhancement).

Interestingly, the self-coaching program, but not upward feedback, was related to enhanced self-efficacy beliefs at the end of the study. A nonsignificant impact for upward feedback is noteworthy given that the upward feedback trainees' performance was demonstrated to be better than those who attended classroom training only. It is possible that the feedback may have initially had a negative impact on trainees' beliefs in their competence. For example, any corrective feedback or feedback revealing inflated self-report ratings could have lowered such beliefs. The trainees may have improved their performance based on the feedback and perceived themselves as more competent. However, self-efficacy improvements may not have been detected because early self-efficacy beliefs initially declined. Further, the upward feedback trainees may have lacked sufficient positive feedback on their performance improvements prior to the assessment of

posttreatment self-efficacy beliefs.

Two strategies might prove effective in enhancing self-efficacy beliefs in upward feedback systems. One strategy is to provide feedback at regular intervals, highlighting performance improvements, as opposed to limiting upward feedback to a one-time intervention. As such, individuals could monitor performance improvement over time. A second strategy is supplementing upward feedback with self-coaching after, rather than before, individuals receive feedback. In the absence of additional feedback from others, a self-coaching program could be a resource for individuals to provide themselves with self-generated positive reinforcement.

One primary limitation of this study was the lack of random assignment of trainees to the treatment conditions and their posttraining restaurants. Ideally, all individuals would have attended formal classroom training at one point in time, each trainee would have been randomly assigned to one of the four treatment groups, and the trainees would have been randomly assigned to one of the organization's restaurant units. Cohort effects are possible where the trainees may have differed in their pretraining levels of interpersonal skill proficiency. However, the research sponsor maintained consistent selection standards when hiring the new managers, and several variables were used to help control for potential differences in interpersonal proficiency.

### **Future Directions**

One avenue for future research is examining the impact of the supplements over time. This research provided support for the impact of selfcoaching and upward feedback on performance assessed several weeks after completion of these training supplements. However, their impact over time is unknown. Although they may have had long-term effects, trainees' skills and motivation to apply training content may have decayed over time. Previous research has found that skill decay does occur over time in a variety of cognitive and physical skill domains (Arthur et al., 1998), but

the degree of skill decay with respect to interpersonal skills has not been a topic of concerted research attention. An understanding of the rate of such decay would provide guidance for determining how often supplements should be implemented as a form of refresher training.

Examining self-coaching and upward feedback pretraining supplements to enhance motivation to learn and skill development within the classroom is another opportunity for research attention. Self-coaching and upward feedback prior to training could familiarize individuals with program content, instill within trainees the need for continued development, and provide a resource for assessing training needs based on applied experience. As such, pretraining developmental exercises could make the formal learning experience more effective.

The generalizability of the supplements could be also examined for different skill sets and contexts. For example, self-coaching and upward feedback could be examined as supplements to enhance the effectiveness of team-training efforts, a growing area of interest in the training and development domain (Salas, Burke, & Cannon-Bowers, 2002). In addition, it may be valuable to examine skill sets where posttraining supplements may not be necessary. Such supplements may not be necessary for interpersonal skills that are more explicitly in-role dimensions of performance, such as customer service skills, or where interpersonal skills are more closely supervised by others. In such circumstances, individuals may be more motivated to apply their skills on the job and receive relevant feedback to facilitate performance improvement. By knowing where posttraining supplements are most beneficial, they may be judiciously implemented.

A final research recommendation is examining the impact of additional context-dependent transfer enhancement systems. One size does not fit all, and continued research is necessary to validate more refined systems of training interventions. Such work will continue to enhance the theoretical basis for training design and will provide clearer guidance for applied practice. As this

study examined supplements appropriate for interpersonal skills performed under autonomous working conditions, future research should examine interventions appropriate for other knowledge and skill domains and working environments.



## References

1. Arthur W, Jr., Bennett W, Jr., Stanush PL, McNelly TL. (1998). Factors that influence skill decay and retention: A quantitative review and analysis. *Human Performance*, 11, 57-101.
2. Baldwin TT, Ford JK. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology*, 41, 63-105.
3. Baldwin TT, MagjukaRJ. (1991). Organizational training and signals of performance: Linking pretraining perceptions to intentions to transfer. *Human Resource Development Quarterly*, 2, 25-36.
4. Bandura A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice-Hall.
5. Baron RM, Kenny DA. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
6. Bollen KA. (1989). *Structural equations with latent variables*. New York: Wiley.
7. Borman WC. (1991). Job behavior, performance, and effectiveness. In Dunnette MD, Hough LM (Eds.), *Handbook of industrial/organizational psychology* (pp. 271-326). Palo Alto, CA: Consulting Psychologists Press.
8. Burke LA. (1997). Improving positive transfer: A test of relapse prevention training on transfer outcomes. *Human Resource Development Quarterly*, 8, 115-128.
9. Burnaska RF. (1976). The effects of behavior modeling training upon managers' behaviors and employees' perceptions. *Personnel Psychology*, 29, 329-335.

10. Carmines EG, McIver JP. (1981). Analyzing models with unobserved variables: Analysis of covariance structures. In Bohrnstedt GW, Borgatta EF (Eds.), *Social measurement: Current issues* (pp. 65-115). Beverly Hills, CA: Sage.
11. Chao GT. (1997). Unstructured training and development: The role of organizational socialization. In Ford JK, Kozlowski SWJ, Kraiger K, Salas E, Teachout MS. (Eds.), *Improving training effectiveness in work organizations* (pp. 129-151). Hillsdale, NJ: Erlbaum.
12. Costa PT, McCraeRR. (1991). *NEOfive-factor inventory: Form S*. Lutz, FL: Psychological Assessment Resources .
13. Erez A, Judge TA. (2001). Relationship of core self-evaluations to goal setting, motivation, and performance. *Journal of Applied Psychology*, 86, 1270-1279.
14. Gaudine AP, Saks AM. (2004). A longitudinal quasi-experiment on the effects of posttraining transfer interventions. *Human Resource Development Quarterly*, 15, 5776.
15. Georges JC. (1996). The myth of soft-skills training. *Training*, 33, 48-54.
16. Gerbing DW, Anderson JC. (1984). On the meaning of within-factor correlated measurement errors. *Journal of Consumer Research*, 11, 572-580.
17. Gist ME, Bavetta AG, Stevens CK. (1990). Transfer training method: Its influence on skill generalization, skill repetition, and performance level. *Personnel Psychology*, 43, 501-523.
18. Gist ME, Stevens CK, Bavetta AG. (1991). Effects of self-efficacy and post-training intervention on the acquisition and maintenance of complex interpersonal skills. *Personnel Psychology*, 44, 837-861.
19. Hu L, Bentler PM. (1999). Cutoff criteria in fit indexes in covariance structure analysis:

- Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 155.
20. James LR, Brett JM. (1984). Mediators, moderators, and tests for mediation. *Journal of Applied Psychology*, 69, 307-321.
21. James LR, Demaree RG, Wolf G. (1984). Estimating within-group inter-rater reliability with and without response bias. *Journal of Applied Psychology*, 69, 85-98.
22. Kozlowski SWJ, Salas E. (1997). A multilevel organizational systems approach for the implementation and transfer of training. In Ford JK, Kozlowski SWJ, Kraiger K, Salas E, Teachout MS (Eds.), *Improving training effectiveness in work organizations* (pp. 247-287). Hillsdale, NJ: Erlbaum.
23. Kozlowski SWJ, Toney RJ, Mullins ME, Weissbein DA, Brown KG, Bell BS. (2001). Developing adaptability: A theory for the design of integrated-embedded training systems. In Salas E (Ed.), *Advances in human performance and cognitive engineering research* (Vol. 1, pp. 59-123). Amsterdam: JAI/Elsevier Science.
24. Luft, J. (1969). *Of human interaction*. Palo Alto, CA: National Press Books.
25. Machin MA, Fogarty GJ. (2004). Assessing the antecedents of transfer intentions in a training context. *International Journal of Training and Development*, 8, 222-236.
26. Martocchio JJ, Webster J. (1992). Effects of feedback and cognitive playfulness on performance in microcomputer software training. *Personnel Psychology*, 45, 553-578.
27. Marx RD. (1982). Relapse prevention for managerial training: A model for maintenance of behavioral change. *Academy of Management Review*, 7, 433-441.
28. May GL, Kahnweiler WM. (2000). The effects of a mastery practice design on learning and transfer in behavior modeling training. *Personnel Psychology*, 53, 353-373.

29. Miner AG, Glomb TM, Hulin C. (2005). Experience sampling mood and its correlates at work. *Journal of Occupational and Organizational Psychology*, 78, 171-193.
30. Noe RA, Sears JA, Fullenkamp AM. (1990). Relapse training: Does it influence trainees' post-training behavior and cognitive strategies? *Journal of Business and Psychology*, 4, 317-328.
31. Paternoster R, Brame R, Mazerolle P, Piquero A. (1998). Using the correct statistical test for the equality of regression coefficients. *Criminology*, 36, 859-866.
32. Reber RA, Wallin JA. (1984). The effects of training, goal-setting, and knowledge of results on safe behavior: A component analysis. *Academy of Management Journal*, 27, 544-560.
33. Richman-Hirsh WL. (2001). Posttraining interventions to enhance transfer: The moderating effects of work environments. *Human Resource Development Quarterly*, 12, 105— 120.
34. Rothstein HR. (1990). Interrater reliability of job performance ratings: Growth to asymptote level with increasing opportunity to observe. *Journal of Applied Psychology*, 75, 322-327.
35. Rouiller JA, Goldstein IL. (1993). The relationship between organizational transfer climate and positive transfer of training. *Human Resource Development Quarterly*, 4, 377-390.
36. Russell JS, Wexley KN, Hunter JE. (1984). Questioning the effectiveness of behavior modeling training in an industrial setting. *Personnel Psychology*, 37, 465-481.
37. Salas E, Burke CS, Cannon-Bowers JA. (2002). What we know about designing and delivering team training: Tips and guidelines. In Kraiger K (Ed.), *Creating, implementing, and managing effective training and development* (pp. 234-259). San Francisco: Jossey-Bass.
38. Seifert CF, Yukl GA, McDonald RA. (2003). Effects of multisource feedback and a feedback facilitator on the influence behavior of managers towards subordinates. *Journal of Applied*

- Psychology*, 88, 561-569.
39. Shadish WR, Cook TD, Campbell DT. (2002). *Experimental and quasi-experimental designs*. Boston: Houghton Mifflin.
40. Smith EM, Ford JK, Kozlowski SWJ. (1997). Building adaptive expertise: Implications for training design strategies. In Quinones MA, Ehrenstein A (Eds.), *Training for a rapidly changing workplace* (pp. 89-118). Washington, DC: American Psychological Association.
41. Smither JW, London M, Reilly RR. (2005). Does performance improve following multisource feedback? A theoretical model, meta-analysis, and review of empirical findings. *Personnel Psychology*, 58, 33-66.
42. Stajkovic AD, Luthans F. (1998). Self-efficacy and work-related performance: A metaanalysis. *Psychological Bulletin*, 124, 240-261.
43. Taylor PJ, Russ-Eft DF, Chan DWL. (2005). A meta-analytic review of behavior modeling training. *Journal of Applied Psychology*, 90, 692-709.
44. Thurstone LL, Thurstone TG. (2001). *Thurstone test of mental alertness*. Chicago: Pearson Reid London House.
45. Tracey JB, Tannenbaum SI, Kavanagh MJ. (1995). Applying trained skills on the job: The importance of the work environment. *Journal of Applied Psychology*, 80, 239-252.
46. Training Magazine. (2004). *2004 industry report*. London: Reed Business Information Limited.
47. Tziner A, Haccoun R, Kadish A. (1991). Personal and situational characteristics influencing the effectiveness of transfer of training improvement strategies. *Journal of Occupational Psychology*, 64, 167-177.

48. Walker D. (1985). Writing and reflection. In BoudD, Keogh R, Walker D (Eds.), *Reflection: Tuning experience into learning* (pp. 52-68). New York: Nichols Publishing.
49. Wexley KN, Baldwin TT. (1986). Post-training strategies for facilitating positive transfer: An empirical exploration. *Academy of Management Journal*, 29, 508-520.
50. Wexley KN, Nemeroff W. (1975). Effectiveness of positive reinforcement and goal-setting as methods of management development. *Journal of Applied Psychology*, 60, 446-450.
51. Yelon SL, Ford JK. (1999). Pursuing a multidimensional view of transfer. *Performance Improvement Quarterly*, 12, 58-78.
52. Yukl G, Wall S, Lepsinger R. (1990). Preliminary report on validation of the managerial practices survey. In Clark KE, Clark MB (Eds.), *Measures of Leadership* (pp. 223-233). Greensboro, NC: Center for Creative Leadership.

**APPENDIX A: *Self-Coaching Program Open-Ended Questions***

1. Describe the most challenging employee situation you encountered this week. In what ways did you manage the situation well, and how would you handle a similar situation differently in the future?
2. Describe your most successful interaction with an employee this week. What made this encounter particularly effective?
3. Consider an employee situation that you executed “almost right.” What worked well, and how could your performance be improved in the future?
4. What behaviors or practices (e.g., clarifying expectations, monitoring, rewarding, etc.) do you feel you executed too little or too much this past week? Please explain why you feel you executed these behaviors or practices too much or too little.

TABLE 1  
*Training Performance Dimensions and Corresponding Scale Items*

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Clarifying expectations	<ol style="list-style-type: none"> <li>1. Clearly explains employees' job responsibilities</li> <li>2. Clearly explains what results employees are expected to achieve</li> <li>3. Clearly specifies when specific tasks need to be completed</li> <li>4. Meets with employees to set clear and specific goals</li> <li>5. Clearly explains what aspects of work have the highest priority</li> </ol>
Monitoring	<ol style="list-style-type: none"> <li>1. Follows up after making a request to verify that it was done</li> <li>2. Walks around to observe how employees' work is going</li> <li>3. Checks on the quality of employees' work (e.g., inspects it, speaks with customers)</li> <li>4. Checks employees' work against established expectations to see if it's on target</li> </ol>
Rewarding	<ol style="list-style-type: none"> <li>1. Compliments employees for demonstrating creativity, initiative, persistence, or skill</li> <li>2. Gives credit for helpful ideas and suggestions</li> <li>3. Expresses personal appreciation when something is done that requires special effort</li> <li>4. Recognizes special contributions and important achievements by acknowledging them publicly</li> <li>5. Praises improvements in performance</li> <li>6. Rewards employees meaningfully when they perform especially well or complete a large project</li> </ol>
Inspiring	<ol style="list-style-type: none"> <li>1. Communicates convincingly the importance of high levels of productivity and service</li> <li>2. Develops enthusiasm for hard work through competition, such as contests and games</li> <li>3. Proposes challenging but realistic goals to motivate performance</li> <li>4. Inspires hard work by setting an example through his/her own behavior</li> <li>5. Develops enthusiasm for hard work by assigning challenging tasks</li> </ol>
Correcting	<ol style="list-style-type: none"> <li>1. Shows genuine interest in improving employee performance</li> <li>2. Clearly explains where performance needs to improve</li> <li>3. Clearly shows employees how to improve their performance</li> <li>4. Works with employees to develop performance improvement strategies</li> <li>5. Provides the necessary resources and support to improve performance</li> </ol>

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*Note:* The scale items for the clarifying expectations, monitoring, rewarding, and inspiring dimensions are based on Yukl, Wall, and Lepsinger (1990). Items for the correcting dimension were specifically developed for this study and corresponded to the training content.



TABLE 2  
Internal Consistency Estimates and Intercorrelations Among Study Variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Posttraining performance <sup>a</sup>	3.45	.32	(.84)										
2. Transfer enhancement strategies	3.64	.59	.02	(.83)									
3. Posttreatment self-efficacy	4.06	.44	.20*	.24*	(.79)								
4. Previous experience	6.82	6.64	.12	.04	.53**	—							
5. General mental ability	70.06	11.36	-.14	-.22*	-.10	-.07	—						
6. Neuroticism	1.04	.59	-.17	-.12	-.56**	-.30**	.06	(.86)					
7. Extraversion	2.98	.42	.04	.03	.36**	.25*	.00	-.38**	(.73)				
8. Openness to Experience	2.45	.49	-.12	.05	.00	-.16	.12	.07	.14	(.72)			
9. Agreeableness	2.88	.42	-.01	.17	.31**	.13	-.05	-.31**	.37**	.13	(.69)		
10. Conscientiousness	3.24	.44	.22*	.29**	.36**	.13	-.06	-.60**	.37**	.11	.27**	(.84)	
11. Pretraining self-efficacy	3.96	.52	.08	.22*	.66**	.50**	.00	-.46**	.36**	.03	.15	.28**	(.80)

Note: Internal consistency estimates appear on the diagonal in parentheses. Significance levels reflect one-tailed tests.

\* $p < .05$ .

\*\* $p < .01$ .

$n = 87$ .

<sup>a</sup>Subordinate responses were aggregated for each of the 87 trainees/managers; internal consistency estimate is based on the 973 subordinate employee assessments.

TABLE 3  
*Means and Standard Deviations of Posttraining Performance Across  
 Experimental Conditions*

	Mean	SD	<i>n</i>
Classroom only	3.23	.29	21
Classroom with self-coaching	3.40	.30	23
Classroom with upward feedback	3.52	.26	22
Classroom with combined supplement	3.63	.29	21

TABLE 4  
*Regression of Posttraining Performance on Posttraining Supplements*

Predictor	Step 1	Step 2	Step 3
	$\beta$	$\beta$	$\beta$
Previous experience	.08	.02	-.02
General mental ability	-.12	-.18*	-.18*
Neuroticism	-.03	-.03	.02
Extraversion	-.04	.02	.01
Openness to Experience	-.10	-.15	-.16
Agreeableness	-.07	.01	.00
Conscientiousness	.23	.14	.15
Pretraining self-efficacy	-.01	.05	-.02
Self-coaching	—	.25*	.22*
Upward feedback	—	.43**	.43**
Combined supplement	—	.58**	.55**
Transfer enhancement strategies	—	—	-.03
Posttreatment self-efficacy	—	—	.18
$R^2$	.09	.32	.33
$F$	1.01	3.15**	2.72**
$\Delta R^2$	—	.22	.01
$\Delta F$	—	8.15**	.70

*Note:* Significance levels reflect one-tailed tests.

\* $p < .05$ .

\*\* $p < .01$ .

$n = 87$ .

TABLE 5  
*Regressions of Transfer Enhancement Strategies and Self-Efficacy on  
 Posttraining Supplements*

	Transfer enhancement strategies		Self-efficacy	
	Step 1	Step 2	Step 1	Step 2
Predictor	$\beta$	$\beta$	$\beta$	$\beta$
Previous experience	-.09	-.09	.23*	.18*
General mental ability	-.22*	-.21*	-.07	-.08
Neuroticism	.21	.25*	-.25*	-.25*
Extraversion	-.17	-.21	.01	.00
Openness to Experience	.00	.01	.03	.02
Agreeableness	.16	.11	.12	.10
Conscientiousness	.36**	.40**	.02	.01
Pretraining self-efficacy	.30*	.34*	.41**	.45**
Self-coaching	—	.12	—	.19*
Upward feedback	—	.04	—	.02
Combined supplement	—	-.16	—	.11
$R^2$	.21	.26	.59	.61
$F$	2.66**	2.42**	13.74**	10.78**
$\Delta R^2$	—	.05	—	.03
$\Delta F$	—	1.61	—	1.78

*Note:* Significance levels reflect one-tailed tests.

\* $p < .05$ .

\*\* $p < .01$ .

$n = 87$ .