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## **Self-efficacy intervention, job attitudes, and turnover: A field experiment with employees in role transition**

*D. Brian McNatt and Timothy A. Judge*

### **ABSTRACT**

Based on self-efficacy theory, this field experiment provides a test of the effectiveness of a non-fictitious self-efficacy intervention on bolstering professionals' job attitudes (i.e. job satisfaction, commitment, and intention to quit) and reducing turnover. Seventy-one newcomer and recent insider financial accounting auditors were randomly assigned to treatment and control conditions. Results showed that the self-efficacy intervention consisting of an interview and subsequent written communications from firm management augmented auditors' self-efficacy and raised the job attitudes of insiders, and reduced insiders' turnover five months later. Organizations and organizational research often focus on newcomers; however, the results of our experiment suggest that recent insiders may be a high-potential and yet underutilized target for job attitude and retention interventions.

### **KEYWORDS**

field experiment ■ intervention ■ job attitudes ■ job socialization  
■ role transitions ■ self-efficacy

As a theory of self-regulation, self-efficacy (SE) has been defined as 'people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances' (Bandura, 1986: 391). As such, SE interventions have been found to impact outcomes such as job search SE, behaviors and re-employment (Caplan et al., 1989; Choi et al.,

2003), idea generation (Gist, 1989), and athletic performance (Mathieu et al., 1993). Although many studies have examined SE's relationship to task performance (see Stajkovic & Luthans, 1998), Bandura (1997: 36) stressed that 'efficacy beliefs are concerned not only with the exercise of control over action but also with the self-regulation of . . . affective and psychological states'. Although the theory thus links SE to people's attitudes, nevertheless relatively few studies have explored its relationship with job attitudes.

Employees' job attitudes are increasingly important to organizations and organizational scholars due to the large amount of money spent on recruiting, training, and benefits, and due to employees' impact on organizational performance. Unfortunately, though, there are several factors that undermine employee attitudes. Often these occur during periods of role transition such as organizational entry or changing job responsibilities (Wanous, 1992). Although such transitions may cause initial excitement and improved job attitudes, subsequent unmet or unrealistic expectations have been found to lead to lower satisfaction and higher turnover (e.g. Wanous et al., 1992). In fact, Louis (1980) described the organizational entry transition process as a reality shock characterized by disillusionment, disorientation, and sensory overload. As well, during the first few years at a job, new responsibilities may be assigned to existing employees before they have developed extensive expertise. This can cause uncertainty, stress, and apprehension regarding their ability to successfully accomplish the job requirements (Louis, 1980). Such feelings have been linked to poorer job attitudes, intentions to leave the organization, and reductions in performance (Nelson et al., 1988; Wanous, 1992).

Although SE theory explicates relationships between SE and affective processes and states such as job attitudes, relatively little research has examined the connections. Therefore, researchers have called for more work in this area, believing that any connections may be particularly important during employee role transitions such as newcomer adjustment or increasing job demands (Gruman et al., 2006; Jones, 1986; Saks, 1995). For example, higher levels of SE are thought to enable employees to deploy coping responses (Waung, 1995), and have been related to greater job satisfaction, commitment and proactive behaviors, and lower intent to quit (e.g. Gruman et al., 2006; Saks, 1995).

Given a posited relationship between SE and job attitudes, there may be attitudinal benefits from SE-boosting interventions. Although studies have examined the impact of SE interventions on performance-related outcomes, there has been little work examining whether employees' job attitudes can be positively impacted by an SE intervention. Moreover, SE scholars have indicated that one of the two most important areas for future SE research is to examine the malleability of SE – how, and to what extent it can be changed (Gist & Mitchell, 1992).

Therefore, building upon past SE and socialization-intervention research, the purposes of our experiment were a) to attempt to improve employee job attitudes and turnover through using an SE intervention, and b) to test whether such interventions are differentially effective between new hires and existing employees. This experiment then, is of value for several reasons. First, it provides constructive replicative testing (Eden, 2002) of SE theory by examining the impact of a novel SE intervention on crucial job adjustment criteria. Second, the results provide information on the potential usefulness of the intervention methods as a management tool to impact employee job attitudes and turnover. Third, our sample includes two groups of employees in transition, new hires and promoted second-year employees with new task responsibilities and functions. This allows us to examine differential responses to the intervention due to differing transitions and some tenure within an organization. Fourth, domain-related researchers have called for more empirical research especially in field settings, with experimental designs, and in the context of complex, permanent jobs – all of which our experiment does (McNatt, 2000; Wanous & Reichers, 2000). Finally, many SE interventions that did not use training as the intervention have instead relied upon false information (e.g. informing participants that their test scores indicate that they are better than others when such is not the case). Since researchers have indicated that interventions need to be shown to be effective through non-deceptive means (Eden, 1990; White & Locke, 2000), the non-training intervention in the present experiment used factual information.

### **Job attitudes and employee adjustment interventions**

Consistent with previous research (e.g. Ashforth & Saks, 1996; Saks, 1995), we chose to examine the following job attitude variables: *job satisfaction*, individuals' positive feelings or attitude toward their overall job; organizational and professional *commitment*, defined as 'the relative strength of an individual's identification with and involvement in a particular organization or profession' (Mowday et al., 1979: 226); and *intention to quit*, defined as the extent to which persons are thinking about or are planning to leave their current organization or profession. Due to the interrelatedness of these constructs they are often referred to collectively as job attitudes or employee adjustment (e.g. Thoresen et al., 2003). We also examined employee *turnover* – those who leave an organization.

Although researchers have studied job attitudes at various tenure levels, attempts to improve employee adjustment have traditionally been fairly close to the time of organizational entry (Wanous, 1992). One of these

methods is realistic job previews (RJPs) – interventions prior to entry aimed at reducing turnover through self-selection and by producing a vaccination effect to increase satisfaction and commitment (Meglino et al., 1988). Phillips's meta-analysis (1998) showed that RJPs have only a very modest effect. Second, researchers have examined the effectiveness of inside recruitment sources (i.e. rehiring former employees, referrals by current personnel, and in-house job postings) versus recruiting persons with no connection to the organization. Zottoli and Wanous (2000) examined 21 such studies and found only a very small effect on increased tenure and reduced turnover among those hired through these 'internal recruitment sources'. Third, researchers have argued that institutionalized socialization methods provide information that should help employee anxiety and personal adjustment, and therefore should be related to more positive job attitudes (Jones, 1986; Van Maanen & Schein, 1979). Some studies have shown these tactics to be related to job satisfaction, organizational commitment, and lower intentions to quit (e.g. Ashforth & Saks, 1996; Jones, 1986).

A fourth approach which has received less attention is a coping orientation (Waung, 1995). Although relatively few such studies have been conducted, the goal is an intervention during transition periods after entry that includes warnings of common negative emotional reactions and suggestions of how to deal with them (Wanous & Reichers, 2000). The benefits of coping orientations have been inconclusive at best with some studies reporting improvements in job survival (e.g. Horner et al., 1979) and others not (e.g. Githens & Zalinski, 1983). A fifth, and least tested approach, is an SE intervention. We believe that SE-related interventions may be particularly beneficial as they could be used with employees after organizational entry as well. Although all of these interventions have characteristics in common, our intervention was based on recommendations from the SE literature, and thus is most accurately classified as a SE intervention versus an adjustment or socialization intervention.

### **Self-efficacy and job attitudes**

We now review the theoretical and empirical support for a relationship between SE and job attitudes and turnover. Self-efficacy theory states that SE can have an influence on affective or attitudinal outcomes via its influence on cognitive and action-oriented responses to anxiety and coping (Bandura, 1997). First, SE may influence cognitive controlling of perturbing trains of thought. Bandura argues that if people can regulate what they think, this will influence how they feel and behave. For example, individuals who exercise

control over potentially undesirable or threatening situations do not conjure up problems in their mind, and thus may maintain more positive attitudes. However, individuals with low SE likely view problems as unmanageable, dwelling on their own inadequacies, and magnifying the severity of potential threats that rarely happen, thereby potentially distressing their affective states. For example, Churchill and McMurray (1989) found that individuals with greater SE had lower levels of distress caused by intrusive and unpleasant thoughts. In addition, Judge and Locke (1993) used a cognitive theory approach like our experiment does and found a direct link between dysfunctional work-related thought processes and job satisfaction. Thus, it is likely that a SE intervention could help employees have more positive self-talk, more favorable assessments of the work situation, and thus greater *job satisfaction*.

Second, since people with greater SE believe that they can impact their environment, they should be more pro-active in seeking problem resolution, which should lead to better situations and thus more committed attitudes. Stated differently, Bandura reasoned that 'efficacy beliefs [may] regulate emotional states by supporting effective courses of action' (1997: 137) to deal with situations in ways that create more positive emotional responses. Indeed, Gruman et al. (2006) found newcomer SE was positively related to proactive behaviors. Thus, increasing SE may help employees deploy coping responses in stressful situations and persist during adversity (Waung, 1995). It follows then that since persons with greater SE feel better equipped to handle the challenges of the job environment, they should be less stressed about being able to meet job demands, and be more committed. For example, Ashforth and Saks (2000) found that employees with greater SE reacted with a problem focus that decreased their sense of helplessness resulting in greater job involvement and organizational commitment. Similarly McDonald and Siegall (1992) and Saks (1995) found SE linked to organizational and professional commitment. In addition, Meglino et al. (1988) reasoned from a social exchange perspective that employees who perceive that time, effort, or resources have been spent to help them adjust (like from a SE intervention) should become more committed in an effort to repay the organization. Thus, an intervention increasing employees' SE should also lead to greater *commitment*.

Third, Bandura (1997) indicated that SE could affect attitudes via one's choice of environment. For example, employees with low SE may elect to initially call in sick and then later quit, rather than face the frustration of a job they feel unable to do. On the other hand, high SE employees should feel better able to handle the surprise, disappointment, and stress of the workplace, and thus be less likely to feel the need to escape an otherwise

unpleasant situation. Therefore, increasing employees' SE may also lower their *intention to quit* and reduce actual *turnover*.

Nevertheless, there has been almost no research directly attempting to *improve* job attitudes and retention through a SE intervention. In the one known coping orientation experiment attempting to raise newcomer job attitudes and SE (Waung, 1995), the experimental treatment did not boost SE nor four of the job attitudes tested. Therefore, for our experimental intervention we used two sources that have been shown to be effective in non-training interventions to raise SE: verbal persuasion and vicarious experience/modeling (see Bandura, 1997, for a description of how and why these sources affect SE). Using these combined sources is consistent with SE interventions in similar studies (e.g. Eden & Kinnar, 1991; Eden & Zuk, 1995). Therefore, based on the theory and empirical research detailed above, we hypothesized:

*Hypothesis 1a:* Self-efficacy boosting interventions improve job satisfaction.

*Hypothesis 1b:* Self-efficacy boosting interventions improve commitment.

*Hypothesis 1c:* Self-efficacy boosting interventions reduce intentions to quit.

*Hypothesis 2:* Self-efficacy boosting interventions reduce employee turnover.

### **Moderating effect of organizational tenure**

Employee adjustment research has primarily focused on organizational entry. However, we also sought to test the extent to which role transitions influence the effect of a SE intervention on employee job attitudes and turnover of employees with some organizational tenure. The socialization stage literature describes this first group as 'newcomers' – those in the encounter stage which 'typically occupies . . . the first 6 to 10 months on the job' (Louis, 1980: 231). Employees then enter the adaptation stage and become 'insiders', 'as they are given broader responsibilities and autonomy' (Louis, 1980: 231). Note that our experiment focuses on newcomers and employees who have recently become insiders and not employees with extended tenure. We examined the following theoretical rationales and empirical results to ascertain whether the

intervention should have a greater effect on SE and on job attitudes for newcomers or for recent insiders.

First, the support related to enhancing the level of SE was mixed, favoring both newcomers and insiders. SE theory (Bandura, 1997) supports the claim that inasmuch as newcomers are coming into a new environment and experiences, they should have lower initial SE and thus more room for an intervention to have an effect. In addition, Chen and Klimoski (2003) have noted that in socialization periods that expectations are more malleable early on and then stabilize over time. Thus, newcomers' SE level should be easier to influence; whereas, insiders' SE may be more firmly planted and more reticent to change. On the other hand, as insiders transition into new roles, their SE may become more malleable again. Additionally, researchers have examined that through recruitment and selection processes organizations often communicate to candidates that they are elite and valuable, which could in turn elevate newcomers' SE prior to entry and thus create less room for a further intervention effect (Riordan et al., 2001; Rynes et al., 1991). Given these counterbalancing arguments, we made no hypothesis related to SE.

Next, when considering an intervention's effects on job attitudes, the socialization stage theory, along with related theory and empirical evidence, supported a greater effect among insiders than with newcomers (Van Maanen & Schein, 1979). Although new recruits may have lower SE, Louis (1980) has summarized studies documenting the unrealistically high and inflated expectations and feelings that newcomers have as they begin employment with an organization. This should make it difficult for any kind of intervention to further boost their job attitudes. However, thereafter disillusionment, reality shock, and surprise ensue from the unmet expectations that follow (Hughes, 1958; Louis, 1980). Employees who have gone through this encounter stage have thus been found to have lower job satisfaction, greater intentions to leave their organization, and higher turnover (Nelson et al., 1988; Wanous et al., 1992). This letdown might be compared to the phenomenon known as 'sophomore slump' documented among college students after their first year (Richmond & Lemons, 1985). Given the lower job attitudes of these new insiders, there should be more room for an intervention to boost their sagging attitudes.

Socialization theory's notion of 'contrast' can also be used to understand how an SE intervention might differentially impact employees' job attitudes. Contrast is the notion that that which differs from the past or from what is expected should have a greater effect (Louis, 1980). As indicated above, newcomers often have very high expectations of the experiences they will receive in their new job as a result of typical organizational recruiting



practices (Ward & Athos, 1972). Rynes et al. (1991) documented that job candidates are often made to feel important and valuable as they are wooed into organizations by well-planned and attentive recruitment procedures where applicants meet with high-status individuals within the organization and receive special treatment. Based on signaling theory, they found that new recruits interpret that level of treatment as symbolic of what they will experience as an employee. For many newcomers then, positive organizational actions like the communications that comprise our SE intervention, are likely already anticipated, may not stand out, and so may have less of an effect.

However, because insiders have encountered the 'unmet expectations . . . that inevitably accompany the experience of entering a new organizational setting', they may lower their expectations and job attitudes to reflect the actual lesser experience they receive from the organization (Louis, 1980: 228). Any new experiences then that are more positive than usual, like our SE intervention, would create a contrast and thus may produce a greater effect in boosting job attitudes. Similarly, inasmuch as these recent insiders have been experiencing the lower-than-initially expected organizational actions for some time, these employees should be more psychologically and emotionally needy for efficacy-boosting recognition from their firm, and thus respond more to such an intervention. However, over time, very long tenured employees' job attitudes may become entrenched and thus less malleable (Chen & Klimoski, 2003).

Next, researchers have indicated that individuals may be more susceptible to influence during role transitions (Ashforth & Saks, 1996). At first glance this seems to equally support a greater effect for both groups of employees in our experiment – newcomers in organizational entry and insiders in new positions with greater role demands. However, Louis (1980) has indicated that greater contrast, and thus more malleable situations, may occur for employees transitioning from similar old roles. She explains how each activity triggers a memory of the corresponding activity in the former role, thus creating many contrast experiences and malleable openings. This supports the possibility of a greater effect for the recently promoted insider.

In addition, as indicated previously, SE theory explains that SE is related to job attitudes in part by helping people to deal with anxiety and stress; and researchers have found that role transitions can increase such distress symptoms (Ashforth & Saks, 1996; Nelson et al., 1988). Again, this could apply to both newcomers and insiders. However, based on the recruitment and socialization literatures (Riordan et al., 2001; Rynes et al., 1991; Wanous, 1992) the role transition process within an organization appears to be typically met with much less naturally occurring SE and attitude-boosting behaviors from the organization than the transition for newcomers from

without to within an organization. Thus, more distress and pressure may be present for the recent insider with increased role demands. Therefore, during insiders' transitions into higher role demands with greater responsibilities, SE interventions might be especially salient, and thus may have a greater effect on the job attitudes of such insiders.

Taken as a whole, the various studies and theoretical rationale indicated that a SE intervention should have a greater effect on the work adjustment of recent insiders. Therefore, we hypothesized:

*Hypothesis 3a:* Tenure moderates the effectiveness of SE interventions on job satisfaction, being more effective with recent insiders than with newcomers.

*Hypothesis 3b:* Tenure moderates the effectiveness of SE interventions on commitment, being more effective with recent insiders than with newcomers.

*Hypothesis 3c:* Tenure moderates the effectiveness of SE interventions on intention to quit, being more effective with recent insiders than with newcomers.

*Hypothesis 4:* Tenure moderates the effectiveness of SE treatments on turnover, being more effective with recent insiders than with newcomers.

## **Method**

### **Sample, design, and measures**

Participants were all (71) first- and second-year auditors from three offices of the same Big-Four accounting firm in the Midwest. All were college graduates, with a mean age of 24 and two years of work experience prior to organizational entry, and 52 percent were female. Forty-four were brand new or recent hires with between zero to four months with the firm (mean = .77 months), and 27 were beginning their second year with between 11 to 14 months (mean = 12 months). The former were experiencing role transition into the organization, while the latter were experiencing role transition and promotion into In-charge Auditors responsible for leading audit engagements.<sup>1</sup> Some research indicates that employees' tenure relative to others in an organization may be more predictive than their absolute tenure; and that

the stage that employees view themselves in and how other employees see them may also be important (Rollag, 2004). However, there is not a consensus within the literature. We chose to use Louis's (1980) common definition and method. Specifically, we used the term 'newcomer' to refer to the new hires who were on average in their first month and 'insider' to all those in their second year – In-charge Auditors who had been promoted to the next rank.

The study was a field experiment with a longitudinal design. The intervention consisted of an interview followed by written communications at weeks 3, 6, and 9. Survey data (SE, conscientiousness, and job attitudes) were collected one week before the intervention interview and at the end of the same day as the intervention interview; and turnover data were collected at five months. Newcomer and insider participants were randomly and evenly assigned to the treatment ( $n = 35$ ) or control ( $n = 36$ ) conditions.

*Self-efficacy* was measured using 37 items from Saks's (1995) Self-efficacy Inventory for Entry-level Public Accountants. A 10-point scale ranging from 1 = *I completely lack the required ability* to 10 = *I have the ability to do extremely well* measured how capable participants felt they were to successfully perform tasks such as 'Approach client personnel to ask questions' ( $\alpha = .95$ ). The remaining measures used a seven-point response scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. *Job satisfaction* was measured using Judge et al.'s (1998) five-item scale. A sample item is 'I find real enjoyment in my work' ( $\alpha = .91$ ). *Organizational commitment* and *professional commitment* were both measured with the same five items as each other from the Organizational Commitment Questionnaire (Mowday et al., 1979) – rewording the questions when asking about professional commitment. A sample item is 'For me this is the best of all possible organizations for which to work' ( $\alpha = .76$  and  $\alpha = .85$ ). *Intention to quit* was also measured relating to both the *organization* and the *profession* using Colarelli's (1984) three-item scale. A sample item is 'If I have my own way, I will be working in this firm one year from now' ( $\alpha = .81$  and  $\alpha = .89$ ). To provide additional corroborating evidence that the newcomer and insider auditors were similar in ways that might influence outcomes, we collected data regarding their level of conscientiousness (an important personality trait) and their aptitude/ability. *Conscientiousness* was measured using Goldberg's (1997) 10-item scale. Auditors indicated their level of agreement to statements such as 'Do just enough work to get by' ( $\alpha = .86$ ). *Aptitude* was measured using auditors' overall university Grade Point Average (GPA) obtained with consent from their alma maters. Next, we obtained auditors' start dates from firm management and calculated *tenure with firm* as the number of months auditors had worked at the firm previous to the

beginning of the experiment. Firm management also provided us with *turnover* information.

### Experimental procedures

The intervention consisted of a one-on-one interview with the first author followed by three researcher-drafted written communications sent from the recruiting manager and partner at each office at weeks 3, 6, and 9. One and a half weeks before the interviews we sent packets to the auditors' homes containing a cover letter from the contact partner at their office explaining their firm's involvement in a research project, what they could expect (e.g. interview, surveys), and encouraging their participation. It also included a letter from us describing our research as gathering data about job attitudes, along with the first survey. The interviews were conducted at the firm's offices and lasted approximately 15–20 minutes each. Although somewhat brief, this is similar to related previous research: Eden and Zuk (1995) used 'brief interviews'; Waung (1995) used an additional 10 minutes in an interview, and Eden and Ravid (1982) used a five-minute personal interview. Auditors completed the post-interview survey later at the end of the day.

Experimental group auditors later received a letter from their offices' recruiting manager at week 3, a letter from their offices' recruiting partner at week 6, and an e-mail again from their recruiting manager at week 9. All letters were mailed to the auditors' homes. At those times control group auditors instead received non SE-related informational mail from the same firm management. Five months after the initial interview, management provided the turnover data.

From study inception through implementation, we designed and conducted the experiment so as to maintain its integrity and to avoid any experimenter effect among the participants. We crafted all communications to participants to avoid disclosing the real intent of the project, never used the terms experiment, treatment or control group, and sent all letters to the participants' residences. Next, almost all of the participants worked on different audit engagements in different client locations from one another, so they had very little opportunity for contact with each other.

### Experimental intervention

The experimental intervention was designed to enhance the auditors' SE through verbal persuasion and modeling. We followed SE intervention theory (Gist, 1987) in constructing the intervention. First, the success of verbal persuasion is thought to be influenced by the sincerity, credibility and

expertness of the source, consensus among multiple sources, and the familiarity of the source with task demands (e.g. Gist & Mitchell, 1992). Second, models have been found to be most influential when the participant perceives the model to be similar to him or herself, the model succeeds after overcoming initial difficulty (versus succeeding easily), and when the model produces results that are clearly identified as success (e.g. Bandura, 1997). We also patterned the intervention after the ones used by Eden and Kinnar (1991) and Eden and Zuk (1995). The ways we used these SE intervention literature recommendations and the content of the intervention are outlined below.

Our intervention provided sincere messages from top management who were credible, expert sources and were familiar with task demands; the researcher established his credibility in the interview by referring to his accounting background (i.e. accounting degrees, CPA certification, and auditor experience); the messages from the researcher, managers, and partners were consistent with one another in order to form a consensus; and we repeated the messages over time. In addition, in their letters, managers framed themselves as models by stressing the similarity between themselves and the employee, communicating that they understood the employee's concerns and that they had felt them as well, referring to some of their own challenges and successes after overcoming some initial difficulty, and indicating that they had the same positive expectations for the auditors.

We drafted the content for the intervention by gathering information from senior management and from firm-provided copies of each auditor's resume to refer to experiences and strengths that would contribute to their success. The content of the intervention included information regarding common emotions the auditors might experience such as feeling unsure or overwhelmed. It stated that they would continually be asked to take on new responsibilities, and gave management suggestions such as being proactive, frequently asking questions of their senior colleagues, and maintaining a good attitude. The intervention also communicated support and reassurance by indicating reasons why the auditors should have confidence in themselves. Specifically this stressed a) details of the competitive selection process through which they had been hired, b) that they possessed the qualifications and skills to be successful at auditing, that experience had shown that individuals of their caliber had excelled within the firm, and that management had the same expectation (belief) for them, and c) reminding them of their successes that might relate to and help them be successful in their present job.

This content was used in the word-for-word interview script and in the three letters. In addition, the interview script started with an introduction and questions about the auditors' important achievements in life and what

they worried about related to their job (followed by attributions of their successes to their ability and effort). We had our contact partner and academic peers review the script and letters for accuracy, sincerity, and persuasiveness. We made revisions to the intervention based on this feedback. The first author then practiced the interview with a confederate to ensure natural delivery. Interviews with control group auditors did not include the content or efficacy-enhancing exchange described above, but were conducted by the same author, were of equal length and consisted of the introduction and additional questions about the auditors and their current job. Experimental group auditors then received three SE-enhancing communications from management at weeks 3, 6, and 9; while control-group auditors received informational mail from management at those times.

## Results

To ensure pre-treatment equivalence between the experimental and control groups, in addition to random assignment, we regressed the pre-treatment SE and job attitude scores on the treatment for the sample as a whole and for insider auditors and newcomer auditors separately. None of the effects were significant (average  $\beta$ s = .02, .15, .07 respectively, NS). Next, to provide additional corroboration that newcomer and insider auditors were similar in important ways outside of tenure and tenure-related experiences, we regressed auditors' conscientiousness score and university cumulative GPA on the tenure grouping (newcomer versus insider) and found that the auditors in each tenure level were comparable ( $\beta$ s = .17, .06 respectively, NS). We also examined all variable scores across the three offices and found no significant differences (average  $\beta$  = .15, NS). To test our hypotheses, we used hierarchical moderated multiple regression and logistic regression. Consistent with recommendations for interpreting interactions, we centered the independent variables at their means before calculating the interaction term (Stone, 1988). To detect the nature of the interactions, the impact of the treatment was analyzed for participants low and high ( $\pm 1$  SD) on the proposed moderators (Aiken & West, 1991). This allowed us to interpret how the treatment differentially related to the criterion depending on the value of the moderator. We provide descriptive statistics, reliabilities, and inter-correlations among the study variables in Table 1, and means and standard deviations by experimental and control conditions for the overall sample in Table 2 and for insiders and newcomers in Table 3.

As a manipulation check to verify whether the SE intervention impacted auditors' SE, we regressed the auditors' level of post-intervention

**Table 1** Mean, standard deviations (SD), scale reliabilities and intercorrelations among study variables

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Treatment			—							
2. Tenure with firm (months) <sup>a</sup>	5.04	(5.60)	.04	—						
3. Self-efficacy	7.92	(1.20)	.21	.24	<b>.96</b>					
4. Job satisfaction	5.51	(1.05)	.14	-.34	.09	<b>.89</b>				
5. Organizational commitment	4.97	(.51)	.07	-.38	.05	.58	<b>.77</b>			
6. Professional commitment	5.59	(1.12)	.06	-.28	.12	.55	.66	<b>.86</b>		
7. Intent to quit organization	1.91	(1.27)	-.08	.61	-.10	-.66	-.61	-.50	<b>.78</b>	
8. Intent to quit profession	1.80	(1.19)	-.02	.45	-.05	-.68	-.61	-.73	.68	<b>.89</b>
9. Turnover	1.11	(.32)	-.14	.29	.09	-.28	-.26	-.33	.49	.37

Note: <sup>a</sup> Mean tenure for newcomers was .77 months (range = 0–4 months) and 12 months (range = 11–14 months) for insiders; Coefficient alpha reliability estimates are on the diagonal;  $n = 71$ ; for  $r \geq .20$ ,  $p < .05$ ; for  $r \geq .29$ ,  $p < .01$ .

**Table 2** Means, standard deviations and overall effect sizes

Variables	Experimental			Control			Effect Size (d)		
	Pre		Post	Pre		Post			
	Mean	SD	Mean	SD	Mean	SD			
Self-efficacy	7.70	(1.17)	8.17	(1.01)	7.75	(1.10)	7.73	(1.03)	.43
Job satisfaction	5.36	(.97)	5.68	(1.05)	5.34	(1.00)	5.38	(1.06)	.28
Organizational commitment	4.83	(.70)	5.01	(.48)	4.87	(.73)	4.94	(.54)	.14
Professional commitment	5.47	(.90)	5.63	(1.07)	5.51	(1.05)	5.56	(1.18)	.12
Intent to quit organization	2.11	(1.37)	1.80	(.92)	2.05	(1.65)	2.00	(1.50)	.16
Intent to quit profession	1.87	(1.41)	1.77	(1.03)	1.84	(1.83)	1.82	(1.31)	.04
Turnover			1.06	(.25)			1.15	(.36)	.29

Note: Self-efficacy was measured on a 10-point scale; other self-report variables on a seven-point scale; and turnover 1 = no; 2 = yes. For experimental group auditors,  $n = 32$ ; 5; for control auditors,  $n = 34$ –6. Negative sign reversed for intent to quit and turnover effect sizes.



**Table 3** Means, standard deviations and effect sizes for insiders and newcomers

Variables	Experimental				Control				Effect Size (d)
	Pre		Post		Pre		Post		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
<i>Insider auditors</i>									
Self-efficacy	8.08	(.78)	8.44	(.81)	8.02	(.86)	8.07	(.89)	.37
Job satisfaction	3.81	(1.10)	5.45	(1.23)	3.75	(1.30)	3.77	(1.34)	1.32
Organizational commitment	4.22	(.58)	4.88	(.52)	4.18	(.50)	4.20	(.64)	1.17
Professional commitment	4.20	(.99)	5.60	(1.08)	4.15	(1.29)	4.13	(1.38)	1.21
Intent to quit organization	4.80	(1.60)	2.58	(1.28)	4.70	(1.85)	4.67	(2.05)	1.26
Intent to quit profession	3.85	(1.53)	2.21	(1.36)	3.79	(1.97)	3.83	(2.12)	.95
Turnover			1.09	(.30)			1.38	(.50)	.67
<i>Newcomer auditors</i>									
Self-efficacy	7.42	(1.20)	7.96	(1.13)	7.50	(1.08)	7.52	(1.11)	.46
Job satisfaction	5.80	(1.03)	5.93	(.99)	5.75	(.72)	5.80	(.75)	.09
Organizational commitment	5.09	(.63)	5.14	(.47)	5.13	(.59)	5.21	(.40)	-.05
Professional commitment	5.98	(.95)	5.88	(1.10)	6.10	(1.03)	6.14	(.94)	-.14
Intent to quit organization	1.35	(.48)	1.37	(.59)	1.29	(.65)	1.29	(.67)	-.04
Intent to quit profession	1.40	(.92)	1.45	(.88)	1.34	(.63)	1.29	(.67)	-.13
Turnover			1.05	(.22)			1.00	(.00)	-.32

Note: Self-efficacy was measured on a 10-point scale; other self-report variables on a seven-point scale; and turnover 1 = no; 2 = yes. For experimental group auditors,  $n = 32$ ; 5; for control auditors,  $n = 34$ –6. Negative sign reversed for intent to quit and turnover effect sizes.

SE on the experimental treatment and their level of initial SE. The results confirmed that the intervention was effective in raising auditor SE ( $\beta = .22$ ,  $p \leq .05$ ) – see Table 4. This can be considered a medium-sized effect ( $d = .43$ ) – see Table 2. To test the first group of hypotheses, we examined whether the SE intervention also had a favorable impact upon auditors' job satisfaction, commitment, and intention to quit. The regressions revealed that the intervention had an overall weak main effect on these job attitudes.

With the exception of the two marginal effects on job satisfaction ( $\beta = .17$ ,  $p \leq .10$ ) – H1a, and intention to quit ( $\beta = -.12$ ,  $p \leq .10$ ) – H1c, the intervention did not have a significant impact on auditors' job attitudes as a whole – see Table 4. Effect sizes ranged from .02 to .28. Though the results were suggestive of a positive intervention effect, H1a–c were mostly unsupported. Next, we examined the impact of the SE intervention on employee turnover using logistic regression. Although the results indicated that the intervention reduced the amount of turnover within the treatment group (Exp (B) = .30; Wald statistic = 1.73,  $p \leq .10$ ; see Table 4), this did not reach significance at the .05 level. Thus, H2 was not fully supported.

**Table 4** Regression of the treatment and tenure with the firm

Variables	Step 1 Main Effect	Step 2 Interaction
<i>Self-efficacy</i>		
Initial self-efficacy	.83**	
Treatment	.22*	
R <sup>2</sup>	.71	
F	81.50**	
<i>Job satisfaction</i>		
Treatment	.17†	
Tenure with firm	-.36**	
Tenure with firm × treatment		.28**
R <sup>2</sup>	.14	.22
ΔR <sup>2</sup>		.08
F	5.66**	6.12**
<i>Organizational commitment</i>		
Treatment	.09	
Tenure with firm	-.39**	
Tenure with firm × treatment		.25*
R <sup>2</sup>	.15	.21
ΔR <sup>2</sup>		.06
F	6.28**	6.09**

Table 4 Continued

Variables	Step 1 Main Effect	Step 2 Interaction	
<i>Professional commitment</i>			
Treatment	.04		
Tenure with firm	-.28**		
Tenure with firm × treatment		.30**	
R <sup>2</sup>	.08	.17	
ΔR <sup>2</sup>		.09	
F	2.80	4.37**	
<i>Intention to quit organization</i>			
Treatment	-.12†		
Tenure with firm	.61**		
Tenure with firm × treatment		-.31**	
R <sup>2</sup>	.38	.47	
ΔR <sup>2</sup>		.09	
F	20.85**	19.85**	
<i>Intention to quit profession</i>			
Treatment	-.05		
Tenure with firm	.46**		
Tenure with firm × treatment		-.29**	
R <sup>2</sup>	.21	.29	
ΔR <sup>2</sup>		.08	
F	8.78**	8.85**	
<i>Turnover (logistic regression)</i>			
Treatment	.30	1.73†	
Tenure with firm	1.19	5.70**	
Tenure with firm × treatment		.64	2.85**
χ <sup>2</sup>	7.22*	12.75**	

Note:  $n = 71$ . Entries for variables are standardized betas ( $\beta$ ) or Exp (B) and Wald Statistic for logistic regression. Exp (B) above 1.0 indicates a positive effect, and below 1.0 indicates a negative effect. Tenure is measured in months; turnover as 1 = no; 2 = yes.

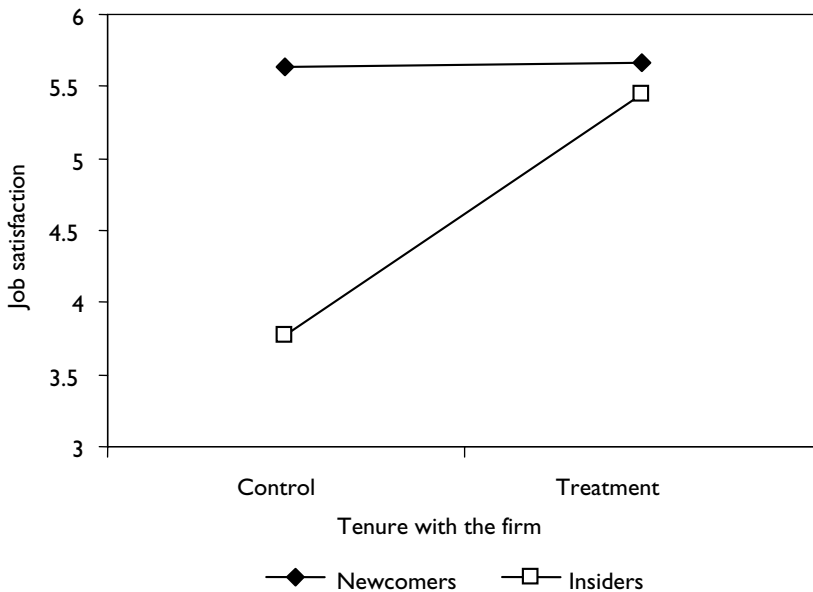
†  $\leq .10$ . \*  $p \leq .05$ . \*\*  $p \leq .01$ .

Finally, we tested whether the intervention differentially helped the job attitudes and turnover of employees with some tenure. We found significant interaction effects for all five job attitudes. These included auditors' job satisfaction ( $\beta = .28$ ,  $p \leq .01$ ), organizational and professional commitment ( $\beta = .25$ ,  $p \leq .05$ ;  $\beta = .30$ ,  $p \leq .01$ ), and the intention to quit the organization and profession ( $\beta = -.31$ ,  $p \leq .01$ ;  $\beta = -.29$ ,  $p \leq .01$ ). The logistic regression interaction effect was also significant for turnover (Exp (B) = .64; Wald

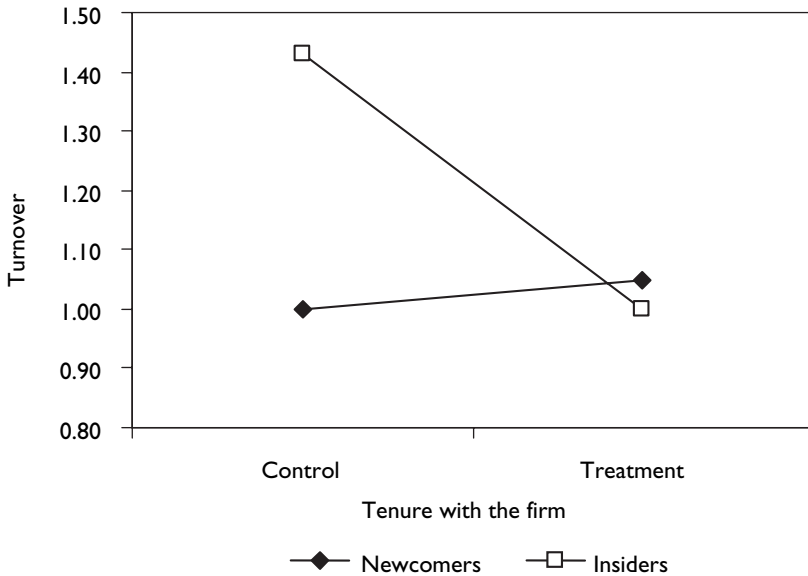
statistic = 2.85,  $p \leq .05$ ). Analysis of the nature of the interactions revealed that the treatment raised job attitudes and reduced turnover among the insiders. To illustrate the overall moderator effect, we graphed the results for each of the six variables, all of which clearly displayed the interaction effect. For space consideration we include the graphs for two of the variables – job satisfaction and turnover (see Figures 1 and 2). These graphs depict how, in essence, the treatment bolstered the job satisfaction and commitment and reduced the intentions to quit and actual turnover of the insider auditors to match the robust attitudes and retention of the newcomers. In fact, treatment group insiders' job attitudes were over one standard of a deviation greater (average  $d = 1.18$ ) than their control colleagues across the five job attitudes. Thus, H3a–c and H4 were supported.

## Discussion and conclusion

In this section we discuss what can be learned from our experimental results and the implications for theory and practice, along with some limitations and suggestions for future research. In summary, our results indicated that a



**Figure 1** Interaction between the treatment and tenure with the firm for job satisfaction



**Figure 2** Interaction between the treatment and tenure with the firm for turnover

non-training SE intervention can raise employees' SE and can improve the job attitudes (albeit perhaps temporarily) and reduce turnover among recent insider employees.

Over the five months, the combined effect of the interview and subsequent personal letters and e-mails from a partner and manager positively influenced insider auditors' decision to stay with the firm. Apparently, efficacy-enhancing communications can help mitigate factors that otherwise contribute to some employees leaving a company. Next, although the SE intervention had a relatively small effect on the job attitudes and turnover of all auditors as a whole (from  $d = .04$  to  $d = .29$  with an average effect of  $d = .17$ ), these results were similar to or larger than the small effects found by other organizational entry interventions. For example, the effect of RJPs has been meta-analytically estimated to be  $d = -.02$  for job satisfaction,  $d = .02$  for organizational commitment, and  $d = .10$  for turnover (Phillips, 1998). Similarly, a meta-analysis of recruiting sources estimated the effect of internal sources on withdrawal-related outcomes to be  $d = .18$  and on performance to be  $d = .08$  (Zottoli & Wanous, 2000). As well, similar experiments within the SE and coping orientation domains have likewise not found statistically significant effects (e.g. Waung, 1995). Nevertheless, the findings from ours and these other experiments still add value by testing viable theory to help delineate the parameters of the relative effectiveness of

given interventions (Pfeffer, 2007). In addition, 'even though self-efficacy effects may at times be rather small does not mean that they have no utility. Sometimes small effects can be important; and practically, one advantage of self-efficacy is its malleability' (Judge et al., 2007: 118).

One likely reason for the small effects was the strength of the context for the newcomers. We recognized this before our experiment but did not fully appreciate the magnitude of the impact. The newcomers were recent university graduates starting their first jobs and professional careers with a prestigious, Big Four accounting firm. This condition acted as a powerful naturally occurring intervention causing newcomers to initially score themselves so high on the work attitude measures, that it left little room for 'improvement' regardless of any experimental intervention. It appears then that attempting to improve newcomer employee attitudes through RJPs, inside recruiting sources, coping orientation strategies, or SE interventions may only go so far. Researchers are recognizing that larger effects may result after job attitudes begin to decline, and when organizations change the environment that their employees operate in to make them more satisfying (Waung, 1995). For example, survey results indicate that companies with extremely satisfied employees are doing more than preparing and vaccinating employees against the negative realities of the job and organization, and are instead conscientiously working to develop satisfying places to work (Levering & Moskowitz, 2005).

This condition of unrealistically high job attitudes for newcomers was also likely responsible for suppressing the reported relationships between those variables and SE. Saks (1995) also reported similarly low non-significant relationships between SE and job attitudes for beginning accountants. However, after the employees had six months on the job, he found significant correlations. We tested this notion by examining only the recent insiders in our sample, and likewise found significant correlations between SE and job satisfaction, organizational commitment, and intention to quit the organization. As Saks (1995) noted, there are many factors that influence job attitudes and turnover intentions other than SE (see, for example, Farkas & Tetrick, 1989) – among them inflation-causing newcomer excitement and expectations.

Next, our significant moderator results with recent insiders provide additional insight into SE and role transition theories. The insiders were beginning the new role of In-Charge Auditors responsible for directly leading the operations of audit engagements. These high role demands likely produced anxiety and thus a receptivity to the intervention. Although newcomers were also going through an anxious role transition, as mentioned their job attitudes were already so high as to negate any incremental benefit

of the treatment. What was perhaps the key, however, is that the insiders on the other hand, were positioned with lower job attitudes and organizational expectations to thus benefit from the efficacy-enhancing messages. It was among these who were more likely to leave the firm (employees with some tenure in the firm) that the treatment was able to have an impact. This was reflected in better job attitudes and lower employee turnover. Thus, our results indicate that during anxious role transitions and when employees' job attitudes are low, that SE interventions can help improve job satisfaction and commitment and can reduce intentions to quit and turnover. Certainly this could be advantageous to organizations.

As well, due to the centrality of SE, especially during role transitions, and the importance of job attitudes and employee retention, our experiment makes a meaningful contribution inasmuch as it was a field experiment attempting to bolster employee job attitudes and reduce turnover with a SE intervention. Given that it is very difficult to get organizations to agree to a controlled experiment including treating employees differently from one another, experiments such as the present one are rare. As a 'constructive replication' then (Eden, 2002), our experiment extends generalizability by producing an effect among professional auditors and with a novel treatment constructed using participants' factual previous accomplishments.

Several limitations of the study also merit discussion. First, the tenure range was small. This was intentional in order to make comparisons between newcomers and insiders in the early period within an organization. However, the effects we found for recent insiders with one to two years may not generalize to individuals with greater tenure (e.g. five or ten years). In addition, we confined our investigation of role transitions to organizational entry and increasing job responsibilities. There are other transitions such as job loss, demotions, and geographical moves that could be examined in future research. As well, the sample size was relatively small which should signal some caution interpreting the findings. At the same time, the statistical analyses take sample size into account. In addition, our sample size was consistent with research in this area (e.g. Eden & Zuk, 1995,  $n = 25$ ; Gist, 1989,  $n = 59$ ; Waung, 1995,  $n = 61$ ).

Next, the effect of the intervention on job attitudes was not measured longitudinally. Our data show that a SE intervention can raise insider auditors' job attitudes for 5–7 hours. This could be meaningful in that there are times in organizations when even a short-term boost in attitude could be very beneficial. However, we can make no claim beyond that time period and it may be that job attitudes returned to former levels. Our experiment did provide some evidence of the longitudinal effect of the intervention by finding reduced turnover among insider auditors at five months (approximately

three months after the end of the intervention). Although this effect was a result of the SE intervention, we cannot confirm that it was due to the increase in auditors' SE. For example, receiving letters from a manager and partner may have increased auditors' sense of job security which then caused them to decide to stay (however, promotion is almost automatic in the first few years in accounting firms so job security should have already been high).

For completeness, we also discuss two items related to the SE intervention. First, inasmuch as the management suggestions stated in the interview included 'maintaining a good attitude', this might constitute a deviation from a pure SE intervention. However, given that most SE interventions contain a wide variety of actions, communications, and exercises, and that the attitude statement in our intervention represented only 2–3 seconds of the 15–20 minute interview, we believe that any confounding concerns are justifiably mitigated. Second, having an author conduct the interview might raise concerns of experimenter effects leading to a threat of internal validity. However, our intervention is consistent with similar expectation intervention research where the first author conducted the intervention interviews (e.g. Davidson & Eden, 2000; Dvir et al., 1995; Oz & Eden, 1994). This does not create a confound since expectation enhancing interventions are unlike other experimental interventions in that treating participants differently *is* the intervention – the effect of this different treatment is what is being tested. The limitation is that the results can only be generalized to situations where the person engaging in the intervention is trying to increase others' expectations. However, when considering the practical application, this limitation is essentially void given that managers engaging in SE enhancing actions would certainly do so with the intent and hope of raising their employees' SE.

Additional theoretical and empirical work could further explore the connections between SE and affective variables such as job attitudes, including when and with whom the connections might vary. Next, more longitudinal research is needed to test the possible duration of any interventions. Our research also underscores role transitions on the job as crucial periods. Researchers and managers should continue to look for ways that organizations can better manage the stress, demands, and surprise/unmet expectations of their employees during transitions. Perhaps in addition to 'under promising' (RJPs), management can, if not over deliver, at least deliver more. This may be in attempting to modify *what* employees experience as well as in managing *how* they experience it. Management could be involved in helping employees substantively and positively interpret the transitions they experience.



One area that merits future investigation is the role that managers' social support for their employees might play. Fisher (1985) found that social support helped reduce the level of unmet-expectation stress and facilitate adjustment among newly graduated nurses. Similarly Duffy et al.'s (2002) study of police officers found social support had significant effects on job attitudes. As well, some interventions that augment SE may also have a component that communicates social support. For example, Davidson and Eden (2000) found that recruits for whom higher expectations or beliefs were held, felt greater social support and increased in SE. From the socialization literature examining institutionalized orientation tactics, Jones (1986) modified his measure of the investiture tactic to focus on the extent to which the organization was accepting and supportive of the employee. He found this social support-flavored measure to be related to more positive job attitudes. In the present experiment, as evident by the intervention description, the content was meticulously crafted based on SE theory; and so, although there was some tone of general encouragement or care, the emphasis was clearly on building auditors' assessment of their ability to perform required financial auditing tasks. In addition, the control group effectively received some level of management expression of care through the interviews and written information received. Thus, the improvements in retention for the experimental group are more likely a result of the SE component of the interventions than any other factor. However, inasmuch as we did not measure social support, future research should examine how manager social support might benefit employees' job attitudes and retention, as well as tease out to what extent communicating beliefs in ability (SE interventions) also communicates social support and which has a greater effect.

Finally, organizations often go out of their way to 'wine and dine' potential hires, providing special attention, recognition, and otherwise communicating to job candidates their value and importance (Rynes et al., 1991). This appears to be an effective intervention in creating positive job attitudes upon organizational entry. Then, after employees come to work, much of this treatment seems to be discontinued while employees simultaneously experience the frustrations and challenges of their jobs and the organization. Although the organizational entry literature focuses on newcomers, our experiment suggests that recent insiders may be a high-potential and yet underutilized target for job attitude interventions. Of course, communications need to be combined with management efforts to establish and maintain a work environment that is congruent with such communications. Therefore, additional research and management practice could focus on insiders and ways to maintain or reignite the spark that was once there.

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## Note

- 1 Like many professional firms, accounting firms often follow a lock-step promotion scheme that uses an 'up or out' process. At various points employees are either advanced to the next level or leave the firm. During the first several years, however, promotion is essentially automatic. After that, the higher the level the more selective the process. Auditors typically advance to in-charge or senior status near the beginning of their second or third year. They are responsible for performing and leading the audit tasks on a daily basis while higher-ranked supervising seniors and managers engage in planning and audit oversight and review.

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