The moderating role of self-efficacy in the organizational culture–training transfer relationship

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This paper aims to examine the combined effects of self-efficacy and organizational culture on employees' transfer of knowledge/skills acquired through training. The questionnaires were distributed to 252 newly hired employees working in a service organization in Greece. Each of the independent variables examined added incrementally to the prediction of training transfer. Moreover, self-efficacy was found to act as a moderator in the organizational culture–training transfer relationship. High self-efficacy was found to strengthen both achievement culture–training transfer as well as humanistic culture-training transfer relationships, whereas low self-efficacy weakened these relationships. The study has practical implications by providing insights into ways of engaging employees in transferring the skills acquired during training. This investigation extends previous research by demonstrating that self-efficacy acts as an accentuating factor in the relationship between organizational culture orientations and new hires' transfer of training.

Introduction

The transfer to work practice of knowledge and skills acquired in training has traditionally been considered one of the key criteria for evaluating training's effectiveness in influencing organization-level outcomes (see Grossman & Salas, 2011, for a review of the transfer literature). The wide research interest in the subject can be explained by the amounts of money invested by organizations in employees' training programs and the fact that learning acquired through training is not often 'translated' into sustained workplace performance (see, for example, Baldwin & Ford, 1988).

The following three types of factors have been found to be the main antecedents of training transfer: (1) trainee characteristics, (2) training design, and (3) work environment, including the learning environment. Among the trainee characteristics that have

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been examined as predictors of training outcomes, self-efficacy has proved very popular in the literature, whereas, in regard to work environment characteristics, the research focus has been placed on what has been referred to as 'transfer of training climate'. However, in general, trainee characteristics and work-environment features have mainly been studied independently of each other (Holladay & Quinones, 2003; Smith-Jentsch *et al*., 2001; Tziner *et al*., 2007). In particular, although both self-efficacy and organizational culture have been demonstrated to play a pivotal role in enhancing training effectiveness, no previous study appears to have examined the combined effects of these two factors on such effectiveness.

The present study sets out to fill this gap. By drawing on social cognitive (Bandura, 1986) and social exchange approaches (Blau, 1964), it seeks to extend previous research by examining the combined effects of self-efficacy and organizational culture on training transfer in a large, Greek service organization. In doing so, it addresses recent calls for multidimensional models of training transfer that will incorporate both situational and individual variables as well as their joint effect on training transfer (for example, Burke & Hutchins, 2007; Ford & Weissbein, 1997). Moreover, the study extends existing research by exploring *newcomers*' training, which is particularly important because findings suggest that early job training plays a critical role in the socialization and adjustment of newcomers (Jones, 1986). Newcomers are defined here as new members/employees entering an organization.

Theoretical framework

Training transfer

Most commonly, transfer of training has been defined as the application to the job of knowledge, skills and attitudes learned from training and subsequent maintenance of them over a certain period of time (Xiao, 1996). Given the fact that a gap between the employee training and the transfer of such training back to the workplace has been reported (for example, Baldwin & Ford, 1988; Facteau *et al*., 1995), researchers have attempted to identify the factors facilitating or impeding the transfer of training, whereas practitioners have focused on designing interventions that support the effectiveness of organizational training.

One of the dominant models in the field has been that put forward by Baldwin and Ford (1988) and this has also been tested by many empirical studies. According to this model, training effectiveness is contingent upon three set of variables. The first one refers to training design and delivery and includes principles of learning and learning goals, training content, its sequence and similarity with the actual job. The second one refers to trainee characteristics with a focus on ability, motivation to learn or to transfer, self-efficacy and certain personality characteristics. The third set of variables concerns work environment characteristics, mainly supervisor and colleague support and opportunities to use what has been learned. According to Kirkpatrick's (1987) taxonomy, trainee reactions, learning, behaviour and organizational results constitute four major indicators that need to be assessed for training evaluation. Another influential conceptual model in the field has been Kontoghiorghes' (2004) framework, which, although falling within the three broad categories of the factors put forward by Baldwin and Ford, offers an expanded and more systemic model of the training framework in the sense that it incorporates work environment factors that relate not only to the immediate learning environment but also to employee and organizational performance in general (for example, high-performance team environment, organizational commitment).

It becomes apparent from this review of existing frameworks that the need to examine training transfer as a multidimensional construct has started gaining momentum. However, there are still calls for researchers to elucidate relationships among situational and individual factors (see, for example, Burke & Hutchins, 2007) while reviews have indicated the need for empirical studies to use employees rather than college students (see, for example, Cheng & Ho, 2001).

Organizational culture

Organizational culture, which refers to a system of shared meanings and manifestations of organizational behaviour (Kopelman *et al.*, 1990), is critical to all forms of organizational activity, as it represents a core set of values governing the attitudes, interactions and behaviours employees adopt towards their work environment and, consequently, their decision regarding training transfer. Even though recent empirical research has acknowledged the importance of work environment's effect on training transfer (for example, Burke & Hutchins, 2007), organizational context factors (as compared with trainee characteristics and training design) have received limited attention from training transfer research designs (Alvarez *et al.*, 2004; Cheng & Ho, 2001; Kontoghiorghes, 2004).

While organizational culture has theoretically been acknowledged as a primary work environment factor influencing training transfer, it has generally been operationalized in terms of either (1) training transfer climate or (2) learning culture. As far as *training transfer climate* is concerned, it has generally been defined as the organization's facilitation of the use of skills acquired in training on the job (Ford *et al.*, 1992). The features of organizational transfer climate, which have received most attention, have been an opportunity to perform, performance feedback and supervisor/peer support (Cromwell & Kolb, 2004; Ford *et al.*, 1992; Kontoghiorghes, 2004; Xiao, 1996; Smith-Jentsch *et al.*, 2001). As far as *learning culture* is concerned, relevant literature has operationalized it in terms of its focus on (1) open exchange of information and (2) encouragement of learning/training application in the pursuit of organizational goals. Learning culture has been found to be associated with trainees' increased efforts in applying the newly acquired knowledge and skills in the workplace (Awoniyi *et al.*, 2002; Bates & Khasawneh, 2005; Egan *et al.*, 2004). Although there is an extensive literature on the role of training transfer climate in employees' decision to make use on the job of what has been learned in training (for example, Kontoghiorghes, 2004; Lim & Morris, 2006; Tracey *et al.*, 1995), there have been relatively few empirical investigations examining the role of other core sets of values on training transfer.

According to Cooke and Rousseau's (1988) framework of organizational culture, one can distinguish between destructive and constructive culture orientations; achievement and humanistic cultural patterns belong to the latter. *Humanistic organizations* operate in a person-oriented way whereas organizational members are expected to be supportive towards each other and help each other to grow. The humanistic orientation involves employee participation in decision-making and the organization's members being open to influence in their dealings with each another; in humanistic organizations, priority is given to teamwork, active involvement and empowerment. In organizations, which espouse an *achievement culture orientation*, emphasis is placed on the pursuit of a standard of excellence, and the members are expected to set and accomplish their own goals.

Employees' sense of self-development is likely to be enhanced through their membership of social entities in which they enjoy their membership. Following the reciprocity norm of social exchange theory (Blau, 1964), it thus seems plausible to suggest that employees who work in organizations embracing 'positive' group norms, such as social support, teamwork and goal achievement, are more likely to experience feelings of being obligated to increase their positive outputs and actively collaborate to achieve the company's goals. In the context of the present study, therefore, they might be more likely to transfer to the job the skills/knowledge acquired during training.

In particular, regarding *humanistic* cultural orientation, support from the supervisor and colleagues has already been found to be associated with trainees' transfer of newly acquired skills back to the job (for example, Chiaburu *et al.*, 2010). Moreover, employees have been found to reciprocate organizational support through their performance as well as citizenship behaviour and more involvement (such as transferring knowledge/skills to a work situation) (Coyle-Shapiro, 2002; Simosi & Xenikou, 2010). Although only organizational 'functional' support (that is, provision of feedback) has been examined so far (which has often been called 'transfer climate'), it seems plausible

to suggest that an organization that encourages teamwork support among its members as well as active involvement in their work is more likely to instil in its employees a sense of reciprocation by applying to the job the knowledge acquired through training.

Hypothesis 1: Humanistic and achievement organizational culture orientations are positively associated with training transfer.

Self-efficacy

Because trainees' characteristics have been found to influence training outcomes, a variety of trainees' characteristics have been examined in relation to the transfer of training, among which self-efficacy constitutes a widely researched variable. According to Bandura (1986, 1997), self-efficacy alludes to an individual's beliefs in his/her capabilities to meet task-specific demands and to successfully carry out a particular course of action; it refers to a *generative* capability according to which resources and skills are tuned into successful performance. In this respect, self-efficacy is a cognitive process that is considered to play a motivational role towards performance improvement.

The concept of self-efficacy has been advanced by drawing from social cognitive theory, according to which behaviour is motivated and regulated by one's cognitions. Employees' self-efficacy beliefs are thus likely to influence their thoughts, emotional reactions, and motivational and behavioural patterns. If employees feel that they can take action to solve a problem, then they are more likely to do so, and they acquire a sense of control over their environment. Social cognitive theory attempts to explain organizational behaviour in terms of reciprocal causation between an employee's unique personality characteristics, his/her behaviour and the environment (Stajkovic & Luthans, 1998). Employees do not respond immediately to their environment, but they self-regulate and plan future courses of action while anticipating likely consequences of such actions (Bandura, 1997).

Perceptions of self-efficacy are particularly relevant to employees' organizational performance because employees with high self-efficacy will devote more effort to their planned future actions; for instance, a strong sense of managerial self-efficacy has been found to influence managers' organizational attainments (for example, Wood & Bandura, 1989). Self-efficacy is thus associated with the existence, or absence, of self-aiding thought patterns that determine the level and persistence of effort; for instance, trainees with confidence in their own skills are likely to redouble their efforts when faced with challenges (for example, Bandura, 1997); on the contrary, trainees with low task competence have been found to tend to withdraw their efforts (Elliott & Dweck, 1988). As regard training, employees with high confidence in the skills they possess are more likely to learn the contents of the training, have positive expectations about it and also have the intention to apply the newly acquired skills on the job (Quiñones, 1995).

Self-efficacy has been found to predict skill acquisition and maintenance (Chen *et al*., 2006; Ford *et al*., 1992; Gist *et al*., 1991; Tannenbaum *et al*., 1991), while it has also being associated with overall work performance (for example, Judge & Bono's, 2001, meta-analytic study). In regard to training transfer, numerous studies have demonstrated that self-efficacy is positively related to transfer, or at least to intention to transfer (for example, Axtell *et al*., 1997; Chiaburu & Marinova, 2005; Gist *et al*., 1989; Saks, 1995; Stevens & Gist, 1997). Similarly, according to Switzer *et al*. (2005), trainees with low self-efficacy are less open to new situations and thus less likely to benefit from their participation in a training program.

The moderating effect of self-efficacy on the relationship between organizational culture and training transfer

As the review of the literature has illustrated, self-efficacy and organizational culture/climate have each been found to be primary predictors of training transfer when tested

independently; however, little is known about how self-efficacy interacts with organizational culture to enhance transfer. In particular, and apart from its direct effects on training and performance outcomes, there have been few studies that illustrated the role of trainees' self-efficacy in mediating or moderating work-related behaviour (for example, Gist & Mitchell, 1992; Gist et al., 1991; Saks, 1995). In Saks' (1995) study, self-efficacy was found to partially moderate the relationship between training and newcomers' adjustment. Research has also demonstrated the mediating role of self-efficacy in the organizational climate – training transfer relationship (Chiaburu et al., 2010; Sookhai & Budworth, 2010): trainees who perceived their work organization as being supportive had an increased sense that they could transfer skills (self-efficacy) and reciprocated through increased motivation to transfer.

Although the above findings suggest that the work environment has a tendency to increase the worker's confidence in the learned skill, organizational factors may affect employees differently (for example, Peters et al., 1985). For instance, within any particular organizational environment, trainees with low self-efficacy have been reported to find limited opportunities to apply new skills (Ford et al., 1992). In the Ford et al. study, airmen with high self-efficacy reported obtaining more opportunities to perform trained tasks and opportunities to perform more complex and more difficult tasks than low self-efficacy trainees.

As regards achievement orientation, it seems reasonable to suggest that a work organization, which is experienced as placing value on goal setting, the accomplishment of objectives and the pursuit of a standard of excellence, through the means of reciprocation (that is, felt obligation to return favourable treatment received by the organization), will prompt trainees to apply the newly acquired skills back on their job. However, such application is likely to be increased for employees with heightened sense of self-efficacy who are likely to experiment and 'take advantage' of the existence of relevant environmental 'cues' to apply their new skills back on the job, as compared with employees with low self-efficacy. This appears to be particularly applicable to achievement-oriented organizations that set high standards of excellence that are likely to be demanding. According to Bandura (1986), coping and perseverance in the face of difficulties and obstacles have been found to be affected by the person's self-efficacy; similarly, Ford et al. (1992) found that trainees high in self-efficacy are more likely to perform complex and difficult tasks, a finding that is particularly relevant to achievement-oriented work environments that set high standards of excellence.

In regard to humanistic culture, it seems plausible to suggest that a work environment that is perceived as being supportive towards its employees, participative and person-oriented, through the norm of reciprocity (that is, exchange of resources) will induce higher levels of trainees' transfer initiative. However, even though they feel comfortable performing all of the trained tasks, as they experience organizational support, trainees with low confidence that the tasks can be successfully performed are less likely to actively seek opportunities to apply to perform (and consequently improve) their trained skills (for example, Hill et al., 1987). Opportunities to apply to their jobs what they have learnt in training ensure that a greater amount of training content is finally transferred (Ford et al., 1992). As a consequence, humanistic work environments are expected to initiate increased training transfer; however, such a tendency is expected to be higher for trainees with increased confidence in their newly acquired skills than for trainees with low levels of self-efficacy.

> *Hypothesis 2*: Self-efficacy has a moderating effect on the association between organizational culture (that is, humanistic and achievement) orientations and training transfer, the relationship being stronger for those who experience higher rather than lower levels of self-efficacy.

However, because previous empirical research has argued for the mediating role of transfer climate on the relationship between self-efficacy and training transfer (for example, Sookhai & Budworth, 2010), mediation analysis was also performed to examine the possible mediating role of each organizational culture orientation on the self-efficacy–training transfer relationship.

Method

Participants and procedures

For the purpose of the present study, questionnaires were distributed during training to 252 newly hired employees working in a Greek, public sector, financial service organization. This was a convenience sample. All completed and returned usable questionnaires. The respondents worked in various business units of the organization. Sixty-six per cent of the participants were male, and 34 per cent were female. Regarding their age, 11 per cent of the sample were between 18 and 25 years old, 58 per cent were between 25 and 30 years old, 23 per cent were between 30 and 35 years old, whereas 8 per cent were above 35 years old. In regard to their educational level, all participants had a higher education degree.

Organizational context and training content

Study participants (organized in groups of around 20 people) participated in a four-week mandatory training course that was divided into two rounds. Three months after the first round of training sessions, which lasted two weeks, new hires participated in the second round of sessions. The survey was conducted on the first day of the second round of training sessions. Before the session started, trainees were handed a letter describing the study and inviting participation. As noted above, all trainees returned usable questionnaires.

The training methods used was a combination of lecture, role practice and instructor feedback; the training content as well as instructional methods used were the same for each group of trainees. Following Yelon and Ford's (1999) classification, the particular training program combined training for both closed as well as open skills. The former skill requires the worker to respond in one particular way on the job according to a set of rules implemented in a precise fashion. The latter skill requires no single correct way for action, relying on the worker's own choice regarding what and how to apply their training to the job. Informal discussion with the training manager as well as examination of the training material indicated that training content focused on the acquisition of task-related skills/information (such as service and sales tasks) and secondarily on knowledge of organizational goals and values. Because training design, delivery (for example, instructional techniques and learning principles) and issues related to training content (such as relevance) have been found to influence training transfer (see, for example, Burke & Hutchins, 2007), the study was deliberately designed so that its sample consisted of employees who attended the same training course.

Measures

Training transfer

This was assessed using five items from Xiao's (1996) scale and using two items from Facteau *et al*.'s (1995) scale on training transfer. A sample item is as follows: 'My productivity has improved due to the skills that I learned during training'. Cronbach's estimate for the scale in this study was 0.86.

Self-efficacy

This was assessed in terms of newcomers' expectations of role mastery and performance capability. For the purpose of this study, self-efficacy was measured with five items developed by Jones (1986) for a sample of newly hired employees. A sample item reads: 'My new job is well within the scope of my abilities'. The Cronbach's estimate was 0.84.

Culture orientations

Two culture orientations, namely humanistic and achievement, were measured with six items each, which were included in the two subscales of the Organizational Culture

Inventory (OCI; Cooke & Lafferty, 1989). The OCI was designed to measure behaviours that are expected or implicitly required by members of an organization and has been regarded as a reliable and valid measure of organizational culture (Cooke & Rousseau, 1988; Cooke & Szumal, 1993; Xenikou & Furnham, 1996). The achievement subscale contains items measuring whether or not the organization places value on goal setting, the accomplishment of objectives and the pursuit of a standard of excellence. A sample item reads 'employees are expected to be oriented towards goal achievement'. The humanistic subscale contains items examining whether or not the organization puts emphasis on co-operation and supportive interpersonal relations. A sample item reads 'employees are expected to be friendly and pleasant when dealing with others'. Cronbach's estimate was 0.90 for achievement and 0.83 for humanistic culture orientations. All scales ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Control variables

Control variables such as demographic characteristics of gender and age were also recorded. A Harman's (1967) one-factor test was performed to account for the possibility of existence of multicollinearity. All theoretical variables examined were entered into a principal components factor analysis with varimax rotation. Examination of the scree plot and the eigenvalues stemming from the principal axis factor analysis indicated that four factors were extracted, which accounted for 59.41 of the total variation. Although no single factor accounted for most of the variance, the results of this analysis suggested that common method variance may have been minimized. Moreover, the fact that analysis revealed the existence of weak correlations between certain variables may be seen as an indication that common method variance did not constitute a problem.

Results

Descriptive statistics

Descriptive statistics, Cronbach's alphas and correlations among the variables examined are illustrated in Tables 1 and 2. As indicated in Table 1, the particular sample of employees appears to be slightly positively skewed as far as its perception regarding achievement and humanistic culture orientation is concerned. Correlation analyses indicated that self-efficacy as well as the two organizational culture orientations examined were associated with employees' training transfer. Training transfer demonstrated a moderate statistically significant positive correlation with self-efficacy (0.29, $p < 0.001$), and strong correlation with achievement cultural orientation (0.60, $p < 0.001$) as well as humanistic cultural orientation (0.50, $p < 0.001$). Both cultural orientations were found to be strongly associated with each other (0.48, $p < 0.001$), a finding that is supported by existing literature (Xenikou & Simosi, 2006).

Regression analyses

Hierarchical regression analyses were performed to examine the strength of the effect of each independent variable examined (that is, self-efficacy and achievement/

Table 1: Means, standard deviations (SD) and Cronbach's alpha coefficients of the variables

Variables	M	SD	Alpha
Training transfer	14.79	4.58	0.86
Self-efficacy	11.05	2.53	0.84
Achievement culture orientation	14.62	4.01	0.90
Humanistic culture orientation	13.76	2.61	0.83

n = 252.

Table 2: Correlation coefficients of the variables

Variables		(1)	(2)	(3)	(4)	(5)	(6)
Training transfer	(1)	–					
Self-efficacy	(2)	0.29***	–				
Achievement culture	(3)	0.60***	0.11+	–			
Humanistic culture	(4)	0.50***	0.18**	0.48***	–		
Age	(5)	−0.06+	0.04+	−0.06+	−0.03+	–	
Gender	(6)	−0.02+	−0.07+	−0.06+	0.03+		–

$n = 252$.
* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$. + = non-significant.

Table 3: Results of regression analysis examining the additive effect of self-efficacy and culture orientations on training transfer

	Training transfer				
	R^2	Adj R^2	ΔR^2	F change	β
Step 1					
1. Achievement culture	0.36	0.36	0.36	141.77	0.46***
Step 2					
2. Humanistic culture	0.42	0.41	0.06	24.37	0.24***
Step 1					
1. Self-efficacy	0.46	0.45	0.04	17.32	0.20***

Method: step-wise.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

humanistic cultural orientations) as well as their combined contributions to training transfer. To minimize problems of multicollinearity, all variables were centred before calculating the regression statistics (Aiken & West, 1991). As indicated in Table 3, the results illustrated that each independent variable examined explained a statistically significant proportion of incremental variance in training transfer ($\Delta R^2 = 36$ per cent for achievement cultural orientation, $\Delta R^2 = 6$ per cent for humanistic orientation and $\Delta R^2 = 4$ per cent for self-efficacy). Whereas achievement orientation explained the largest proportion of the incremental variance, humanistic orientation as well as self-efficacy were also found to have a significant main effect on training transfer when entered in the equation; these findings are suggestive of the predictive validity of each of the predictor variables on new hires' transfer of skills acquired through training.

Regarding the moderating effects of self-efficacy (Hypothesis 2), Baron and Kenny's (1986) procedure was followed. For this purpose, two separate moderated regression equations were performed (Table 4; models 1 and 2). At the first step, each of the two culture orientations examined, and the hypothesized moderator (self-efficacy) were both entered as predictors. At the next step, the cross product of each culture orientation and self-efficacy were regressed on the outcome variable to test for interaction effects.

The results of the moderated regression analyses are shown in Table 4. As illustrated, both interaction terms added significantly to the prediction of new hires' training transfer. The positive effect of achievement culture orientation on new hires' training transfer was found to be stronger under high self-efficacy than under low self-efficacy (F change = 4.13 $\Delta R^2 = 0.01$, $p < 0.05$) (model 1). Similarly, a significant moderating effect of self-efficacy was found on the relationship between humanistic culture orientation and training transfer (F change = 7.17, $\Delta R^2 = 0.02$, $p < 0.01$). The nature of the

Table 4: Results of hierarchical regression analysis, examining the moderating effect of self-efficacy on the relationship between organizational culture orientations and training transfer

	R	Adj R^2	R^2 change	F change	β
Model 1					
Step 1					
Achievement culture orientation	0.60	0.36	0.36***	141.77***	0.56***
Self-efficacy	0.64	0.41	0.05***	21.70***	0.22***
Step 2					
Achievement culture orientation x self-efficacy	0.65	0.42	0.01*	4.13*	0.09*
Model 2					
Step 1					
Humanistic culture orientation	0.50	0.25	0.25***	82.65***	0.46***
Self-efficacy	0.54	0.29	0.04***	14.80***	0.20***
Step 2					
Humanistic culture orientation x self-efficacy	0.56	0.30	0.02*	7.17**	0.14**

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Note: 'βs' are taken from the last equation.

Figure 1: Effects of achievement culture orientations on training transfer at different values of self-efficacy.

interaction effects of self-efficacy on the relationship between culture orientations and training transfer were further clarified by two separate plots, which were drawn for individuals whose scores on self-efficacy were one standard deviation below the mean and one standard deviation above the mean (Aiken & West, 1991). As depicted in Figure 1, the slopes (betas), which depicted the relationships between self-efficacy, achievement culture and training transfer, were found to be positive and significant. This finding suggests that newcomers experiencing high self-efficacy who perceive their employing organization as a high-achievement work context are more likely to transfer the skills acquired through training back to their job, when compared with newcomers with low confidence in their own skills who perceive their organization as a high-achievement work environment. Similarly, when high self-efficacy newcomers experienced their organization as being supportive and person oriented, they also reported high levels of training transfer (Figure 2). The above results support Hypothesis 2.
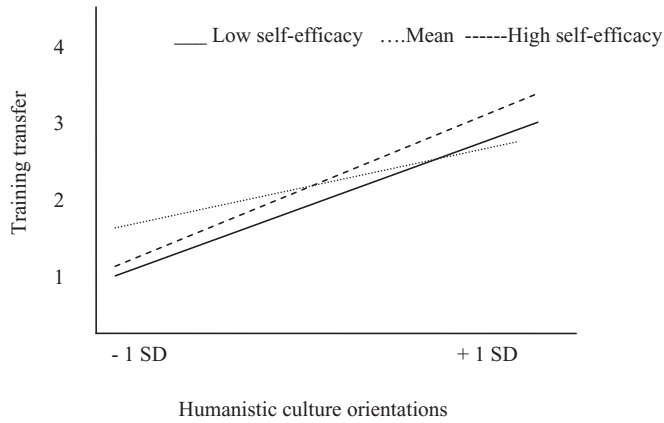
___ Low self-efficacy   ….Mean ------High self-efficacy

Training transfer

4

3

2

1

- 1 SD   + 1 SD

Humanistic culture orientations

Figure 2: Effects of humanistic culture orientations on training transfer at different values of self-efficacy.

Table 5: Results of hierarchical regression analysis, examining the mediating effect of organizational culture orientations on the relationship between self-efficacy and training transfer

	Training transfer	Achievement culture	Humanistic culture
Models and variables			
Model 1			
Self-efficacy	0.29***		
Model 2			
Self-efficacy		0.11+	0.18**
Model 3			
Humanistic culture orientation	0.46***		
Self-efficacy	0.21***		
ΔR^2	0.29***		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Regression analyses were also performed to test possible mediating effect of organizational culture on the relationship between self-efficacy and training transfer (see Table 5). No such mediating effect was found.

Discussion and conclusions

The present study examined the role that self-efficacy and organizational culture play in relation to training transfer, as reported by trainees. The study compliments earlier research that indicated a relationship between self-efficacy and training transfer. While the bivariate correlations, which were found to exist between self-efficacy and training transfer, were weaker ($r = 0.29$) than those reported in relevant studies (for example, around 0.40 in Velada *et al.*'s, 2007, study and in Sookhai & Budworth, 2010), a recent meta-analysis by Gegenfurtner (2011), which used data from 148 studies, illustrated the existence of population correlation estimates of 0.29 for pre-training and 0.31 for post-training self-efficacy.

As far as the first hypothesis of this study is concerned, the findings suggest that organizational cues indicating that the work organization is oriented towards either

goal achievement or teamwork and social support appear to encourage the application of newly trained skills and behaviours on the job. This finding is consistent with the literature on transfer climate/learning culture, which highlights the existence of a strong significant positive relationship between the latter and the transfer of training (for example, Tziner *et al.*, 2007). Similarly, employees' perceptions of the organization as being a supportive context that encourages participation and active involvement in decision making has also been found to be linked with training transfer (for example, Lucas & Ogilvie, 2006). Moreover, and as far as the direct relationships of the independent variables with training transfer are concerned, the findings indicate that achievement culture orientation explains a great percentage of the variance on training transfer ($\Delta R^2 = 0.36$), as compared with humanistic orientation ($\Delta R^2 = 0.6$) and self-efficacy ($\Delta R^2 = 0.4$); this finding suggests that achievement-oriented culture is the stronger predictor of training transfer as compared with the other two variables examined in the present study. Nevertheless, while the step-wise regression analysis indicated that achievement culture remained the most influential variable affecting training transfer, both self-efficacy and humanistic culture explained additional variance of new hires' transfer of training knowledge/skills above and beyond the effect of achievement culture. This finding, which is at odds with some existing research (for example, Gaudine & Saks, 2004; Rouiller & Goldstein, 1993; Tziner *et al.*, 1991) illustrating that either self-efficacy or organizational support/transfer climate *alone* is not sufficient for training transfer, indicates that both factors are independent contributors to training transfer. This finding may also be attributed to the sample used in this study (that is, new hires), the type of knowledge trained and the instructional methods during training as well as the use of self-assessments and/or assessment criterion used (that is, application of knowledge/skills learned and subsequent maintenance of them over a period of time). In this regard, it is noted that Gegenfurtner's (2011) meta-analytic study has illustrated that the motivation–transfer relationship differed as a function of the type of knowledge trained, instruction (learner-centred vs. knowledge-centred environment) as well as assessment source (self-assessment vs. other-assessment sources) and criterion (for example, frequency of use vs. increased effectiveness of work performance).

Regarding the second hypothesis, the findings of this study suggest that there is a moderating effect of self-efficacy on the relationship between each of the two cultural orientations examined and transfer of training back to the job. In regard to the moderating role of self-efficacy on the achievement culture orientation – training transfer relationship, the findings suggest that, when trainees feel confident of their ability to perform, it becomes more likely that they will take advantage of the high standards of excellence set by an achievement-oriented work environment and practise the skills/knowledge acquired through training. Similarly, trainees with high levels of self-efficacy are more likely to 'use' the support offered by their work environment to demonstrate increased practice of their knowledge and newly acquired skills. In both achievement and humanistic work environments, 'positive' group norms are still likely to induce employees' training transfer; however, such tendency is likely to be less strong in the case of trainees who did not feel that they could succeed in their tasks.

Limitations and implications of the study

This study was conducted using data from a single organization, which may limit the generalizability of the results to other work settings, industries or even cultural contexts. It is thus important to examine whether or not findings similar to these of the present study are found in different work samples (for example, managers), other work settings or cultures. Moreover, the present study used data drawn from the same respondents at a single point in time using the same collection method. Regarding the single-source bias, recent research has indicated that self-report and objective outcome measures have often been found to yield similar results (for example, Spector, 2006; Tharenou *et al.*, 2007). Nevertheless, it would be advisable to conduct a study using multiple sources of data collection, especially as far as training transfer is concerned.

Moreover, given the cross-sectional nature of the present investigation, causal effects among the variables examined cannot be detected.

Another limitation of the present study refers to its sample that consists of new hires. New hires constitute a special training population in the sense that training is essential to them to perform their job satisfactorily. Under these circumstances, training might have acted as a great incentive to them to transfer what they have learned within the training program because they needed the particular knowledge/skills acquired during the induction training to perform their job well. For this reason, future research would need to examine the same factors in a work context within which the transfer incentive is not so high.

The present study has both theoretical and practical implications. The results extend the research on organizational socialization by providing evidence that self-efficacy moderates the relationship between organizational culture and new hires' training transfer. This link had not been made in previous work on work–family research. In this respect, this study is in line with social cognitive theory tenets according to which although a great deal of employees' knowledge and behaviours are generated by their work environment, employees process and act upon such information differently due to their own unique characteristics. Moreover, the findings of this study bear implications for the development of theoretical frameworks of training transfer by encouraging the use of multidimensional models for the understanding of training transfer. Such theoretical models need to acknowledge the central role of both self-efficacy and organizational culture in the transfer process. Because of the eclectic nature of the framework proposed here, a more comprehensive model would warrant inclusion of more theoretical constructs (see, for example, Kontoghiorghes, 2004), whereas future research may also expand the study's framework by including other variables as possible moderators of the relation between organizational culture and training transfer. The finding that achievement culture orientation explains a great percentage of the variance on training transfer suggests that a theoretical framework needs also to take this cultural orientation into account when attempting to explain the transfer process.

This study also has practical implications because the design of effective training programs may be facilitated by a better understanding of personal and situational factors, as well as their interrelationships. These factors interact to influence employees' training transfer. First, the findings referring to the direct (that is, non-moderated) effects of self-efficacy and positive group norms (that is, achievement and humanistic cultural orientations) on training transfer are particularly important especially in cases where employees either work under adverse work conditions or have low self-efficacy. In an unsupportive work environment, the organization needs to enhance trainees' self-efficacy in an attempt to compensate for the lack of 'positive' group norms and to induce training transfer. In this regard, and given that self-efficacy is a malleable characteristic that may change as a result of new experiences (see, for example, Gist *et al*., 1991), training/induction programs, which match trainees' self-efficacy levels, need to be devised as a means of increasing transfer of training back to the job. For instance, training performance could be enhanced using differential training methods and processes to instruct trainees with low self-efficacy, as such methods have been found to offer greater benefit for the latter (see, for example, Saks, 1995). In particular, behavioural modelling, mastery experiences and vicarious learning have been found to be more effective in their case (for example, Bandura, 1986; Morin & Latham, 2000). In the meantime, organizations can enhance training transfer (especially in the case of low self-efficacy employees) by providing a work environment with 'positive' group norms that instil in trainees increased willingness to transfer what they have learned back to their job. For instance, provision of supportive feedback as part of the training intervention, verbal persuasion and goal setting after training has been found to be effective means of increasing self-efficacy in the case of low self-efficacy trainees (see, for example, Bandura, 1982, and Gist *et al*., 1991).

The function of self-efficacy as a moderating variable explaining even a small amount of the organizational culture–training transfer relationship (ΔR^2 ranging from 0.01 to 0.02) has also practical implications by contributing to practitioners' knowledge of the

mechanism by which self-efficacy and organizational culture may foster training transfer. In regard to the interrelationship between self-efficacy and organizational culture, the findings of the study suggest that organizations should not rely solely on trainee characteristics or context to transfer newly learned skills to the job. On the one hand, employees' level of self-efficacy may have limited utility in terms of transferring the learned skills on the job in the case of absence of constructive organizational norms; on the other hand, 'positive' organizational norms may be less effective for low self-efficacy trainees where the organization does not provide differential training methods and supportive feedback as part of the training intervention. Finally, to maximize the benefits with regard to training and development, it is essential to explore further possible interrelationships between personal and organization-related factors so as trainees will take full advantage of the training experience and performance of training programs will be maximized.

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