Leader influences on training effectiveness: motivation and outcome expectation processes

Anne Scaduto, Douglas Lindsay and Dan S. Chiaburu

Training effectiveness is a function of trainee characteristics, training design and contextual factors. Social exchanges in the work environment have received less attention compared with other training effectiveness predictors. We focus on the extent to which leaders (through their relationships and exchanges with followers) influence skill transfer, maintenance and generalization. We also examine two intervening processes (training motivation and outcome expectancy). Our findings, based on surveys from 495 employees, argue for the importance of leader–member exchange for training transfer, with training motivation and outcome expectancy as intervening mechanisms.

Training is one of the most frequently utilized human resource development interventions. According to Burke and Baldwin (1999), there is much evidence suggesting that a considerable part of organizations’ investment in training does not result in optimal transfer. To improve job performance, the skills and behaviors learned and practiced during training have to be transferred to the workplace, maintained over time, and generalized across contexts (Holton & Baldwin, 2003). As transfer of training remains an important issue for researchers and practitioners (Holton & Baldwin,
2003), it becomes essential to test models that include central, but less frequently studied training effectiveness predictors. For the purposes of the current study, training can be defined as ‘the systematic acquisition of skills, rules, concepts, or attitudes that result in improved performance in another environment’ (Goldstein & Ford, 2002, p. 1).

Researchers have called for more integrative models of training effectiveness, in an effort to include both individual and organizational contextual factors as antecedents of transfer of training (Baldwin & Ford, 1988; Colquitt et al., 2000; Kozlowski & Salas, 1997; Mathieu & Martineau, 1997; Quinones, 1997). For example, although work environment aspects are important for training transfer (e.g. Burke & Hutchins, 2007), they are not sufficiently examined in existing models. It has also been suggested that future studies look at the role of motivation in the relationship between contextual factors and learning, and other training outcomes (e.g. training transfer, maintenance and generalization). For example, Tracey et al. (2001) discuss the importance of future research examining the impact of training motivation on different effectiveness criteria, and similar research needs were suggested in other studies (Cheng & Ho, 2001; Colquitt et al., 2000; Mathieu & Martineau, 1997; Quinones, 1997; Tracey et al., 2001). Specifically, whereas acknowledging that individual characteristics are related to training motivation and training outcomes, Colquitt and colleagues (2000) maintain that researchers tend to ignore situational aspects. Therefore, there are calls for studies where the social context is connected with training motivation and transfer (Colquitt et al., 2000), and specifically for connecting leader–member exchange (LMX) and training dimensions; ‘despite the high level of scholarly interest in LMX theory development, researchers have not yet approached the phenomenon through the lens of HRD interventions such as individual training and development’ (Kang & Stewart, 2007, p. 553).

We take these suggestions into account and propose a model connecting the social context component (the relationship between the individual worker and his or her direct manager/leader, in the form of LMX), with training effectiveness dimensions. We also examine several individual components from the followers’ perspective (the resulting training motivation and outcome expectancy of the individual involved in training), which are positioned as mediators of the LMX to training transfer relationship. Concerning the outcomes, we are consistent with current trends in the literature, and view training effectiveness as a multidimensional construct (e.g. Baldwin & Ford, 1988; Colquitt et al., 2000). More specifically, training effectiveness outcomes include transfer of training, training maintenance and training generalization. Transfer of training is defined as ‘the degree to which trainees effectively apply the knowledge, skills, and attitudes gained in a training context to the job’ (Baldwin & Ford, 1988, p. 63). Training maintenance is defined as the reproduction of trained skills in a new setting, and training generalization refers to the adaptation of trained skills to a more complex task situation (Ford et al., 1998). Figure 1 presents our proposed model, and the arguments for specific hypotheses are presented below.

The leader as a component of the social context of work
Although components of the work social environment have been studied less frequently than individual characteristics, they are still important for understanding the process of transfer of training (Colquitt et al., 2000; Lim & Johnson, 2002). Although researchers proposed that supervisor support is positively related to training transfer (e.g. van der Klink et al., 2001; Velada et al., 2007), there are no empirical studies examining the relationship between a leader and a follower. This relationship is frequently referred to as LMX (e.g. Gerstner & Day, 1997; Murphy & Enscher, 1999). LMX theory (Dansereau et al., 1975) describes the supervisor–subordinate relationship as a dyadic social exchange process that is unique to each supervisor–subordinate pair (Graen & Uhl-Bien, 1995). Built into these exchange relationships is the fact that leaders form different relationships with each follower, making it possible that at any given time, a leader will have many different exchange relationships with his or her employ-
ees (Ilies et al., 2007). There has been strong empirical support for LMX and work outcomes, including performance (Gerstner & Day, 1997; Wang et al., 2005) and discretionary behaviors, or behaviors that go beyond formal task requirements (Ilies et al., 2007). In addition, LMX has been linked to many different organizational outcomes and has been found to have a positive relationship with job satisfaction (Murphy & Ensher, 1999), organizational commitment (Gerstner & Day, 1997) and a negative relationship with turnover (Gerstner & Day, 1997).

As related to training, Velada and coauthors (2007) recently investigated whether aspects of the work environment (performance feedback and supervisor support) predicted the transfer of training. Specifically, performance feedback from the supervisor that was received after training had a significant correlation with skill transfer. In their study, performance feedback was defined as an indication from management about how well an employee is performing on the job. Feedback concerning the newly acquired knowledge and skills, and how these relate to job performance, increases the probability of its transfer to the workplace (Velada et al., 2007). Although positively related to training transfer, the other component of the work context – supervisor support – did not predict skill transfer. This is a finding that is consistent with several other studies examining support coming from a vertical source (e.g. Chiaburu & Marinova, 2005; van der Klink et al., 2001).

These inconsistent results of supervisor support on training transfer may be because support dimensions are proximal and specific to training transfer aspects. For example, supervisors engage in discussions with the employees (Lim and Johnson, 2002) and provide feedback (Velada et al., 2007). Unfortunately, more distal aspects and diffuse support aspects, such as the relationship of the employee with one’s direct leader (or LMX) and its influence on training effectiveness, have received little empirical attention. Yet, conceptual advances persuasively relate LMX with human resource development aspects. For example, Kang and Stewart (2007) state that leaders who form high-quality social exchanges with their subordinates create an environment where subordinates have increased levels of trust, empowerment and performance. These dimensions are beneficial for training transfer.

The current study focuses on filling this gap and examining how LMX impacts training effectiveness. Overall, based on previously documented positive relationships between LMX and other organizational outcomes, including performance and discretionary behaviors (referred to as organizational citizenship behaviors), high levels of social exchanges with one’s leader should have a positive impact on training transfer.

![Figure 1: Hypothesized model.](image-url)
Examples of social exchanges include a subordinate knowing how satisfied a supervisor is with what he or she is doing at work, and a subordinate having confidence that a supervisor understands his or her problems and needs. Because of the social exchange relationship with their leaders and their mutual trust, employees will feel more empowered and motivated (Kang & Stewart, 2007). To some extent, they reciprocate to—and uphold—the positive social exchange relationship they have with their leaders. Thus, they will transfer skills learned in training, monitor their skill maintenance and utilize their skills in situations other than the ones they were trained for (i.e., generalization).

Hypothesis 1: LMX will be positively related to (a) training transfer, (b) training maintenance, and (c) training generalization.

**Processes leading to training effectiveness**

The current study focuses on training motivation and outcome expectancy as individual factors having an effect on training outcomes. For example, there are particular training characteristics that are essential preconditions for learning, such as training motivation (Goldstein & Ford, 2002), the first individual factor investigated in the present study. Training motivation refers to the ‘intensity and persistence of efforts that trainees apply in learning-oriented improvement activities before, during, and after training’ (Burke & Hutchins, 2007, p. 267). There is evidence suggesting that there are differences in the amount of training motivation among different trainees, and that it relates to the success of the trainees in the subsequent training program (Goldstein & Ford, 2002).

For example, Chiaburu and Tekleab (2005) investigated both individual and contextual predictors of training transfer, maintenance and generalization. Their findings suggest that training motivation is directly related to all components of training effectiveness (positive correlation with training transfer, maintenance and generalization). A more specific example demonstrating the link of training motivation to outcomes, comes from a study conducted by Facteau and colleagues (1995), who found a correlation of 0.45 between training motivation and training transfer. Researchers also examined specific components of training motivation (e.g., motivation to learn) as a factor influencing training outcomes, and have found it to be a key variable in linking training characteristics to training outcomes (Quinones, 1997). Lastly, Noe (1986) conducted studies in military settings and reported motivation to learn as having a probable impact on training effectiveness. Replicating these findings, we expect a positive relationship between training motivation and all our training effectiveness dimensions.

Hypothesis 2: Training motivation will be positively related to (a) training transfer, (b) training maintenance, and (c) training generalization.

How do leaders who foster positive social exchanges with their followers influence training effectiveness? In addition to the direct effects of training motivation on training effectiveness, we also propose that it has a mediating role. Because LMX is a dyadic relationship between the leader and the member, certain information is conveyed through the development and maintenance of this relationship. For that reason, it is possible that through this relationship, information about the importance and usefulness of organizational training is conveyed. If this is the case, then, a positive relationship with the leader could influence a person’s motivation concerning subsequent training, and would impact training outcomes. Furthermore, high-quality leader–member relationships have a positive influence on employees’ levels of empowerment, which are described by Kang and Stewart (2007) as a motivating factor (or ‘empowerment as motivation’, p. 539), and supported empirically in other studies (Liden et al., 2000).

In addition, because LMX relationships are based on social exchanges, there is a perceived commitment on the part of subordinates to reciprocate high-quality rela-
tionships (Hofmann et al., 2003). One way in which subordinates can reciprocate these relationships is by engaging in discretionary behaviors. Reciprocation is not limited to these behaviors, and employees can also engage in such behaviors as paying attention to skill application in a work setting. More importantly, employees will be motivated to maintain the skills in time (training maintenance), and will go the extra mile and generalize these skills to new situations (training generalization). Therefore:

Hypothesis 3: Training motivation will mediate the relationship between LMX and training outcomes (transfer, maintenance, generalization).

The second individual factor of interest influencing training effectiveness is outcome expectancy, which we position as a mediator of the relationship between LMX and training outcomes. Outcome expectancy was initially investigated in the field of social psychology and defined by Bandura (1977, 1986) as ‘a judgment of the likely consequence . . . behavior will produce’ (p. 391), and is more recently investigated in the field of industrial and organizational psychology (Frayne & Geringer, 2000; Riggs et al., 1994). From another perspective (e.g. Stone & Henry, 2003), outcome expectancy is defined as ‘the consequence of an act and not the act itself’ (p. 40). Concretely, the central idea of expectancy theories is that the influence on an individual to take on a specific behavior is a function of: (1) his or her expectations that the behavior will result in a specific outcome; and (2) the sum of the valences (or values) that he or she gains from the outcome (House, 1971).

In a training context, in most cases, learners who are motivated have two beliefs: (1) making an effort during training will result in learning; and (2) the material they learn will be useful for achieving valued outcomes back on the job (Brown & Ford, 2002). There is both theoretical and empirical support for the importance of this second belief, which is related to Vroom’s (1964) expectancy theory (Brown & Ford, 2002). This theory suggests that the motivating force behind specific choices originates mainly from perceptions of the utility or value of that choice (Brown & Ford, 2002). According to Vroom’s theory (1964), an individual is more likely to pursue choices, and make an effort, when he or she believes the result will be valued outcomes. Empirical support for the importance of utility perceptions demonstrated a high correlation between beliefs in the value of training and specific motivation to do well in training (Alliger et al., 1997; Warr & Bunce, 1995).

Leaders, through their complex relationships with followers, can have an influence on follower expectancies, in that they provide formal rewards for task performance and for discretionary behaviors (by having a choice on positioning specific employees in the in- or out-group through high or low LMX relationships). Therefore, a good relationship between the leader and the follower would include communication about what behaviors are tied to good – and bad – performance. If the organization has done a good job of aligning the training outcomes with necessary employee performance, then the benefits of training transfer would be apparent to the employee, subsequently adding to their outcome expectancy regarding the training. Put another way, if the leader and follower agree (through a good LMX relationship) on what is important from a performance standpoint, and if they see the training as contributing to this desired performance, then employee outcome expectancy would increase because training is a path to the performance desired by the leader (and the organization). The idea is cogently summed up by House and Dressler (1974) when they said, ‘The motivational functions of the leader consist of increasing personal payoffs to subordinates for their goal attainment, and making the path of these payoffs easier to travel by clarifying it, reducing roadblocks, and pitfalls, and increasing the opportunities for personal satisfaction en route’ (p. 31). Therefore, training becomes a mechanism for increase in performance, and the outcome expectancy of that training is clear through a good relationship with the leader.

Hypothesis 4: Outcome expectancy will mediate the relationship between LMX and training outcomes (transfer, maintenance, generalization).
Method

Participants and procedure

This study was conducted in a large organization in the Mid-Atlantic area of the United States. Data on the predictors and intervening variables were collected immediately after the employees attended professional development training courses in the organization, and data on the outcomes originate from a survey sent to the same participants 6–12 weeks after attending the training. The current sample consists of 495 responses matched across the two time periods (a response rate of 55 per cent, calculated based on the total of 897 respondents targeted initially). Of the participants, 76 per cent were men, 47 per cent had at least some college education, 49 per cent were 40 years or older and 46 per cent had worked for the organization for more than 8 years.

Measures

We used previously published scales to collect data relevant for the study. Unless otherwise indicated, all measures were assessed using a 5-point Likert-type scale (1-strongly disagree; 2-disagree; 3-neither agree nor disagree; 4-agree; and 5-strongly agree).

**Leader–Member Exchange (LMX):** This construct was measured with the LMX7 designed by Graen et al. (1982). It consisted of seven items; ‘I always know how satisfied my supervisor is with what I do’, α = 0.85.

**Training motivation** was measured using a scale developed by Noe and Schmitt (1986) (15 items, ‘I try to learn as much as I can from training programs’, α = 0.79). The training outcome expectancy was based on a scale developed by Stone and Henry (2003) and adapted for organizational outcomes (eight items, ‘Working with the techniques from this course will result in obtaining better work outcomes’, and ‘Knowing and applying skills learned in class will help advance my career’, α = 0.89).

**Training outcomes** were measured by training transfer (seven items, Xiao, 1996, ‘I can accomplish the job tasks better by using new knowledge acquired from the training course’, α = 0.83), training maintenance (seven items, Gist et al., 1991, ‘I have monitored my progress in the use/review of the skills’, α = 0.86) and training generalization (two items, Tesluk et al., 1995, ‘I make use of the acquired skills only in situations similar to those presented during the training program’ [reverse-scored], α = 0.78).

Results

Preliminary analyses

Means, standard deviations and correlations are presented in Table 1. Hypothesis 1 predicted direct positive relationships between LMX and the three performance outcomes. As expected, LMX was positively related to transfer (r = 0.16, p < 0.01), maintenance (r = 0.16, p < 0.01) and generalization (r = 0.13, p < 0.01) of training skills. Hypothesis 2 predicted a direct positive relationship between training motivation and the three performance outcomes. As expected, training motivation was positively related to transfer (r = 0.47, p < 0.01), maintenance (r = 0.57, p < 0.01) and generalization (r = 0.40, p < 0.01) of training skills. Therefore, Hypotheses 1 and 2 were supported. Additionally, outcome expectancy was positively related to transfer (r = 0.58, p < 0.01), maintenance (r = 0.53, p < 0.01) and generalization (r = 0.53, p < 0.01). Lastly, as shown in Table 1, LMX was positively correlated to both training motivation (r = 0.29, p < 0.05) and outcome expectancy (r = 0.31, p < 0.05).

Regression results

Hypothesis 1 was also supported from the regression analysis. As shown in Table 2, LMX is positively related to transfer (β = 0.21, p < 0.001), maintenance (β = 0.17, p < 0.01) and generalization (β = 0.15, p < 0.01).
Hypotheses 3 and 4 predicted a mediating effect of training motivation and outcome expectancy, respectively. According to Baron and Kenny (1986), the following relationships must be investigated in order to demonstrate mediation. First, the relationship between the predictor (LMX) and the outcome variables (transfer, maintenance and generalization) must be significant. As shown in Table 2, LMX was positively related to these outcomes. Second, the predictor must be related to the mediators. As shown in Table 1, LMX was positively correlated to both training motivation and outcome expectancy. Third, the path between the mediators and the criteria must be tested, and the positive relationships between training motivation and the transfer outcomes are supported (see Table 2, all correlation coefficients higher than 0.40, \( p < 0.01 \)). For Hypothesis 3, the effect of the LMX on the outcome variables, controlling for training motivation should decrease (for partial mediation), or become nonsignificant (for full mediation). After entering training motivation into the equation, the relationship

### Table 1: Means, standard deviations, correlations, and reliabilities

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Leader–member exchange</td>
<td>3.04</td>
<td>0.84</td>
<td>(0.85)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Training motivation</td>
<td>3.49</td>
<td>0.40</td>
<td>0.29*</td>
<td>(0.79)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Outcome expectancy</td>
<td>3.70</td>
<td>0.70</td>
<td>0.31*</td>
<td>0.56*</td>
<td>(0.89)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Training transfer</td>
<td>3.49</td>
<td>0.67</td>
<td>0.16*</td>
<td>0.47*</td>
<td>0.58*</td>
<td>(0.83)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Training maintenance</td>
<td>3.7</td>
<td>0.65</td>
<td>0.16*</td>
<td>0.57*</td>
<td>0.53*</td>
<td>0.51*</td>
<td>(0.86)</td>
<td></td>
</tr>
<tr>
<td>6 Training generalization</td>
<td>3.86</td>
<td>0.77</td>
<td>0.13*</td>
<td>0.40*</td>
<td>0.53*</td>
<td>0.51*</td>
<td>0.51*</td>
<td>(0.78)</td>
</tr>
</tbody>
</table>

* \( p < 0.01; n = 495 \).

SD = standard deviation.

### Table 2: Direct and mediated regressions for training transfer, maintenance, and generalization

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Training transfer</th>
<th>Training maintenance</th>
<th>Training generalization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1 (( \beta ))</td>
<td>Step 2 (( \beta ))</td>
<td>Step 1 (( \beta ))</td>
</tr>
<tr>
<td>Distal variable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leader–member exchange</td>
<td>0.21***</td>
<td>0.00</td>
<td>0.17**</td>
</tr>
<tr>
<td>Mediators</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training motivation</td>
<td>0.19***</td>
<td>0.40***</td>
<td>0.12*</td>
</tr>
<tr>
<td>Outcome expectancy</td>
<td>0.45***</td>
<td>0.28***</td>
<td>0.49***</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.04</td>
<td>0.34</td>
<td>0.03</td>
</tr>
<tr>
<td>( \Delta R^2 )</td>
<td>0.30</td>
<td></td>
<td>0.29</td>
</tr>
<tr>
<td>( F )</td>
<td>15.80***</td>
<td>58.17***</td>
<td>10.36**</td>
</tr>
<tr>
<td>( \Delta F )</td>
<td>75.91***</td>
<td>84.87***</td>
<td></td>
</tr>
</tbody>
</table>

* \( p < 0.05 \).

** \( p < 0.01 \).

*** \( p < 0.001 \).

Hypotheses 3 and 4 predicted a mediating effect of training motivation and outcome expectancy, respectively. According to Baron and Kenny (1986), the following relationships must be investigated in order to demonstrate mediation. First, the relationship between the predictor (LMX) and the outcome variables (transfer, maintenance and generalization) must be significant. As shown in Table 2, LMX was positively related to these outcomes. Second, the predictor must be related to the mediators. As shown in Table 1, LMX was positively correlated to both training motivation and outcome expectancy. Third, the path between the mediators and the criteria must be tested, and the positive relationships between training motivation and the transfer outcomes are supported (see Table 2, all correlation coefficients higher than 0.40, \( p < 0.01 \)). For Hypothesis 3, the effect of the LMX on the outcome variables, controlling for training motivation should decrease (for partial mediation), or become nonsignificant (for full mediation). After entering training motivation into the equation, the relationship
between LMX and transfer ($\beta = 0.00$, nonsignificant [ns]), maintenance ($\beta = -0.03$, ns) and generalization ($\beta = -0.05$, ns), became nonsignificant; hence, the mediating test was meaningful for all three of the outcome variables, supporting Hypothesis 3. Training motivation fully mediated the relationship between LMX and transfer ($\beta = 0.19$, $p < 0.001$), maintenance ($\beta = 0.40$, $p < 0.001$) and generalization ($\beta = 0.12$, $p < 0.05$).

Hypothesis 4 predicted a mediating effect of outcome expectancy. The same procedure used for the previous hypothesis was used to test this hypothesis (Baron & Kenny, 1986). In addition to the relationship between LMX and the criteria (demonstrated above, for Hypothesis 3), as shown in Table 1, LMX was positively related to outcome expectancy. The path between the mediator and the criterion must be tested using LMX and outcome expectancy as predictors of the outcome variables. After entering outcome expectancy into the equation, the relationship between LMX and transfer became, again, nonsignificant (with standardized coefficients close to zero); hence, the mediating test was meaningful for all three outcome variables. There was support for Hypothesis 4, and outcome expectancy fully mediated the relationship between LMX and transfer ($\beta = 0.45$, $p < 0.001$), maintenance ($\beta = 0.28$, $p < 0.001$) and generalization ($\beta = 0.49$, $p < 0.001$).

**Discussion**

**Theoretical and practical study contributions**

The purpose of the study was to examine the influence of one aspect of the social environment of work – exchanges with the direct leader (LMX) – on training transfer. We focus on this particular aspect of the work environment to compensate for the scarcity of research in this area (Burke & Hutchins, 2007) and attempt to contribute both theoretically and practically to the training effectiveness and leadership research domains. Concretely, we provide a model of training effectiveness with a focus on the leader–member exchanges, and relationships between leaders and followers. Our approach is similar to studies examining the influence of the work environment on training transfer (e.g. Awoniyi et al., 2002; Lim & Johnson, 2002), and we extend prior work where the role of supervisor was linked only to training motivation (e.g. Seyler et al., 1998), or took place in a specific context (e.g. teams; Smith-Jentsch et al., 2001).

We also advance previous work focused on how supervisors provide reinforcement (Gumuseli & Ergin, 2002), incentives and cues (Rouiller & Goldstein, 1993), recognition and credit (Tracey & Tews, 2005), or support (e.g. Chiaburu & Marinova, 2005; Velada et al., 2007), and focus on the more comprehensive leader–member relationship. This type of integration has been called for, and provided at a conceptual level in work explicating the connection between LMX and human resource development (Kang & Stewart, 2007). In this study, we provide a necessary empirical test. A broad focus on exchanges with the direct leader is important for creating more inclusive models of training effectiveness, and also speaks for the potential generalizability of our results. In most workplaces, leaders and followers have established relationships, and it is useful to know how these relationships impact multiple dimensions of training transfer. Exchanges with the supervisor are similar to a pool of available resources. Knowing where one stands with the supervisor, having the certainty that the manager will use his or her power to help the employee solve work issues and, more generally, having an effective work relationship with one’s leader (all aspects of LMX as evaluated in this study), are beneficial for training transfer.

Another important feature of the study is that we theorize on, and demonstrate empirically, mechanisms through which the relationship with the direct leader influences training transfer. As suggested in prior theories, but captured to a limited extent in empirical work in a training setting, leaders are powerful motivating forces and can manage the outcome expectancies of their followers (e.g. Guerrero & Sire, 2001). We demonstrate the importance of leader–follower relationships for follower training motivation and outcome expectations using multiple criteria of training effectiveness.
effectiveness (training transfer, maintenance and generalization). Showing processes through which the leader influences employees’ training effectiveness, especially in managing the performance–outcome link (conceptualized as outcome expectancy) is important. It adds to the studies connecting supervisor support for training with related outcomes (learning and training satisfaction) through a similar mechanism (Guerrero & Sire, 2001), and to work where the relationship between instrumentality and training outcomes has been demonstrated, although without an explicit connection to leaders as intervening on trainees’ expectancies (Chiaburu & Lindsay, 2008; Tziner et al., 2007).

Although practitioners are well versed in recognizing the importance of supervisor support for training (see empirical results in Hutchins & Burke, 2007; e.g. item 24, p. 250), less is known on particular aspects pertaining to the leader–follower relationship, as captured in this study. The practical contributions of this study are twofold. The first has to do with leadership. The existence of direct relationships between LMX and training outcomes has implications for the individual (in terms of training material learned and performed on the job) and for the organization. Therefore, less than ideal relationships and exchanges between employees and their supervisors can stall training transfer and related outcomes (maintenance, generalization). These point to the fact that the effectiveness of training programs and interventions extends beyond the individual participating in the training, the particular type of training and the intervention design features. The individual who has a good relationship with his or her supervisor (which enhances communication of organizationally relevant and important information) stands a much better chance of benefiting from the training, which will lead to positive outcomes, both for the individual and the organization.

The second aspect is related to training motivation and outcome expectancy as intervening processes. Leaders can directly influence their employees’ training motivation and this has a positive impact on how they transfer new skills, maintain them over time and how they use them in other domains of their jobs. Of importance here is the fact that employees do not enter, remain and exit the training situation in a neutral state. The entire experience is influenced by their perception of the relationship with the direct leader, and this can both enhance, and hinder in the case of a negative LMX relationship, their motivation. Leaders are also a source for trainees’ outcome expectancies, and our study shows the need to actively manage information in this particular domain. Practically, leaders can (and should) inform their followers on how their performance during training is related to outcomes of interest to the employees.

Limitations and future research directions

This study is not without limitations. First, the data were collected from only one source. Although inflation due to common method variance might be a concern, this problem is less of a threat than is commonly believed (Spector, 2006). In addition, for some of the constructs (i.e. the predictors and the intervening processes), individual employees are the only source from which researchers can collect this information. Future research can be conducted to replicate these findings using data from another source for the criterion variables. Second, we relied on a sample of trainees attending training in one organization, potentially limiting, thus, the generalizability of the results. Despite this limitation, our results are consistent with studies indicating (using constructs other than LMX) that supervisors are important in influencing training transfer (see Hutchins & Burke, 2007, for a review).

Furthermore, consistent with our main objective, we focused on one aspect of leader influence (e.g. LMX) for training transfer. Future work can expand on this model and examine both the interplay and relative importance of various forms of positive and negative leader actions: support (Chiaburu & Marinova, 2005), reinforcement (Rouiller & Goldstein, 1993) or punishment (Russ-Eft, 2002). In addition, LMX seems a distal and somewhat diffuse factor influencing training transfer, in the form of a relationship with the supervisor, when compared with more proximal and punc-
tual aspects, such as discussions with – and feedback from – the supervisor, also identified as critical for transfer (Brinkerhoff & Montesino, 1995; Lim & Johnson, 2002). A logical question then, is whether positive social exchanges with the direct leader (high LMX) compensate for the absence of such proximal aspects determining transfer (e.g. supervisor feedback). Conversely, assuming a positive leader–member relationship, should organizations invest resources and design proximal training support features (e.g. reinforcement; Rouiller & Goldstein, 1993)? These are all good questions for future inquiry.

Moving to a broader conceptualization of the work social environment, leaders are not the only ones from the employees’ work context who can support or impede training processes and outcomes. Coworkers also represent sources of support and antagonism for various performance and learning components (Chiaburu & Harrison, 2008). Future research can provide broader theories, specifying situations when lateral (e.g. coworkers), vertical (e.g. leaders) or organizational dimensions (e.g. perceived support) are most critical for transfer. Research shows that perceived support originating from coworkers, leaders and the organization are differentially related to workplace outcomes (e.g. attitudes, Ng & Sorensen, 2008). Similar distinctions may be beneficial for training transfer studies, especially in the light of findings indicating that support may be a function of the extent to which employees identify with various dimensions of the social environment (e.g. the organization, the workgroup or the supervisor; Pidd, 2004).

In conclusion, we advance our knowledge of training effectiveness and leader influence on training transfer. The social context of work is important, and we were set to examine a more complex model, connecting a relational predictor (LMX) with individual motivation factors, and training outcomes. Our results provide preliminary support for these relationships and, given the considerable complexity of factors influencing transfer (supervisor support, peer support, the nature of the task, etc.), training effectiveness predictors will continue to be important in both research and business settings, and future studies should explicate these relationships in greater detail.

References


