

## A Multilevel Analysis of Relationships Between Leaders' and Subordinates' Emotional Intelligence and Emotional Outcomes

KONSTANTINOS KAFETSIOS<sup>1</sup>  
*University of Crete  
Crete, Greece*

JOHN B. NEZLEK  
*College of William & Mary*

AIKATERINI VASSIOU  
*University of Thessaly  
Thessaly, Greece*

The present study examined relationships between leaders' emotional intelligence (EI) and subordinates' emotion and work attitudes and between leaders' and subordinates' EI and work outcomes. School directors and educators completed measures of EI, affect at work, job satisfaction, and burnout. A series of multilevel analyses found that leaders' use of emotion was positively related to subordinates' work emotionality and attitudes, whereas leaders' emotion regulation and self-emotion appraisal were negatively related to subordinates' emotion and work attitudes. Leaders' and subordinates' own EI was positively related to their own work emotionality and job satisfaction. These findings support a social interactionist perspective on emotions at work and a multilevel understanding of the effects of leaders' emotions intrapersonally and interpersonally.

Do leaders' emotion-related skills influence employees' emotions and psychological states, and if so, via what processes? Despite voices of skepticism (e.g., Conte, 2005), an evolving research literature in social and organizational psychology suggests that emotional intelligence (EI) skills are important for employees' emotion-related processes and outcomes at different levels of management (Ashkanasy, Härtel, & Daus, 2002; Mayer, Roberts, & Barsade, 2008). Nevertheless, research on the effects of leaders' emotional skills on employees' emotions and work attitudes is limited (Bono, Foldes, Vinson, & Muros, 2007). The few existing studies examining such questions typically conclude that leaders' overall EI is positively related to both leaders' and subordinates' well-being and performance at work (Sy, Tram, & O'Hara, 2006; Wong & Law, 2002).

<sup>1</sup>Correspondence concerning this article should be addressed to Konstantinos Kafetsios, Department of Psychology, University of Crete, 74100, Gallos, Rethymnon, Greece. E-mail: k.kafetsios@psy.soc.uoc.gr

However, EI is a multifaceted construct that comprises several different abilities and skills (Mayer & Salovey, 1997). The present study extends the existing research by examining the multilevel relationships between different facets of leaders' EI skills and subordinates' emotions and job satisfaction. Our approach stresses the social and communicative functions of emotions (Keltner & Haidt, 2001), and our study is intended to advance our understanding of the social and interpersonal processes within which leader-subordinate emotional exchanges take place.

Like others (e.g., Humphrey, 2002; Pirola-Merlo, Härtel, Mann, & Hirst, 2002), we conceptualize *leadership* as a process of social influence through which a leader affects subordinates' feelings, perceptions, and behavior. Leaders' emotions and emotional skills (e.g., recognition of followers' emotional states, expression of positive and negative emotion by the leader, regulation of emotion) can influence subordinates' emotion, emotional regulation, and motivation. Such an interactionistic approach to leadership is consistent with various theoretical frameworks. For example, the emotion labor literature suggests that emotional displays in social interaction can have a significant impact on employees' behavior (e.g., Hochschild, 1983). Taking this idea a step further, affective events theory (Weiss & Cropanzano, 1996) explicitly considers leaders as sources of affective events in the workplace, through which they can influence their employees' attitudes and behaviors.

Research has found that managers' displayed emotions exert an influence on employees' perceived reactions to their supervisor, thus affecting their behavior (e.g., Newcombe & Ashkanasy, 2002). Brundin, Patzelt, and Shepherd (2008) found that managers' displays of positive emotions enhanced employees' willingness to act entrepreneurially, whereas displays of negative emotions diminished employees' willingness. Sy, Côté, and Saavedra (2005) found support for the emotion contagion hypothesis (Hatfield, Cacioppo, & Rapson, 1994) in the workplace: Leaders' moods influenced subordinates' moods.

Existing research and theory have suggested that affect may be part of a process that links leaders' EI skills with subordinates' outcomes at work (Barsade, Brief, & Spataro, 2003). For example, various models of the motivational, social, and cognitive processes at work attempt to explain how affect influences organizational behavior (see Wright & Staw, 1999). Along these lines, George (2000) described the importance of affect in the workplace, specifically emphasizing EI as a component of leadership. Consistent with George's argument, Ashkanasy et al. (2002) pointed out that transformational leadership resembles the dimensions of EI: Transformational leaders consider and support employees' needs, motivate them cognitively and emotionally, and provide inspirational goals. Empirically, Mandell and Pherwani (2003) found that, overall, trait EI was positively related to the use and adoption of a transformational leadership style.

Conceptually, EI is typically thought of as a multicomponent construct that reflects the extent to which a person attends to, processes, and acts on information of an emotional nature, intrapersonally and interpersonally (Mayer & Salovey, 1997). This definition (and others similar to it) conceptualizes emotional intelligence as an ability (typically with the use of Mayer, Salovey, & Caruso's, 2002, Emotional Intelligence Test or MSCEIT): a set of cognitive-emotional information-processing skills. In contrast, others conceptualize EI within a more general framework of individual, self-perceived emotionality and emotion efficacy (e.g., Petrides & Furnham, 2000) or focus on adaptation to environmental demands (e.g., Bar-On, 1997). Similar to previous research on EI within the context of relationships between leaders and subordinates (Sy et al., 2006; Wong & Law, 2002), we used the Wong–Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002) that conceptually adheres to the ability approach measuring four self-perceived EI abilities: awareness of emotion in self, awareness of emotion in others, use of emotion, and emotion regulation.

There is limited research however, about relationships between leaders' EI and subordinates' affect and work attitudes. This lack of research is particularly noticeable, given consistent evidence that leaders influence subordinates' affective reactions at work (e.g., Bono et al., 2007). Recently, there has been some evidence concerning relationships between leaders' EI and subordinates' job satisfaction and performance. Wong and Law (2002) found that managers' EI was positively related to subordinates' job satisfaction. These findings were supported and extended by Sy et al. (2006), who found that managers' self-perceived EI was positively related to subordinates' job satisfaction and performance, independent of subordinates' Big Five personality traits. Moreover, they found an interaction between subordinates' and managers' overall EI, such that subordinates with lower overall EI profited more from leaders' EI.

Our study is intended to build on this research while providing two important advantages: one substantive, and the other methodological. Substantively, we distinguish the different components of EI for leaders, whereas previous research on the topic has not done so. Although it can be useful and appropriate to consider EI as a single, global construct, considerable theory and research have suggested that it is also useful to distinguish the different facets or specific skills that comprise the global construct (Mayer & Salovey, 1997). Methodologically, in previous studies on the topic in which observations were collected at two levels of analysis (i.e., leader and subordinate) simultaneously, the data were analyzed using ordinary least squares (OLS) regression (e.g., Sy et al., 2006) when the data should have been analyzed using a multilevel model.

It is quite clear that such OLS analyses provide less accurate (and sometimes misleading) estimates of relationships, compared to the estimates

provided by comparable multilevel modeling procedures. Such advantages are explained by Raudenbush and Bryk (2002), and a discussion of these issues as they pertain to social psychological research can be found in Nezlek (2008). Therefore, we will review evidence for relationships between separate EI dimensions and work-related affect, both at the employee level and the leader level, and we will discuss research relevant to understanding cross-level leadership effects on employee (i.e., relationships between leaders' EI and subordinates' outcomes).

For our present purposes, we will treat subordinates as nested within leaders because leaders typically have numerous subordinates under them, as is the case with our data. Such treatment is standard within the multilevel modeling literature, and within that context, data describing subordinates constitute Level 1 observations, while data describing leaders constitute Level 2 observations.

### Emotional Intelligence and Work-Related Outcomes

A growing body of research has indicated that employees' EI skills are positively related to their job satisfaction and affect (Carmeli, 2003; Lopes, Grewal, Kadis, Gall, & Salovey, 2006; Nikolaou & Tsaousis, 2002, however, for contextual qualifications of this proposition, see Elfenbein & Ambady, 2002). Among the four EI skills, emotion regulation has been singled out as an important predictor of employee outcomes (Kafetsios & Zampetakis, 2008). In a longitudinal study, Côté and Morgan (2002) found positive relationships between employees' emotion-regulation strategies and job satisfaction and turnover intentions. Emotion regulation and awareness of emotion in the self have been discussed as providing a basis for regulating stressful reactions at work; in turn, improving emotions at work, lowering stress, and increasing job satisfaction for subordinates and leaders alike (e.g., Sy et al., 2006; Wong & Law, 2002).

### Influence of Leaders' EI Skills on Subordinates' Emotionality and Work Attitudes

From an interactionist–communicative perspective (Riggio & Reichard, 2008), there is evidence suggesting that leaders' EI skills and subordinates' work outcomes are related. First, awareness of emotion in the self can contribute to a clarification of emotions, and clarification of emotions has been shown to contribute to low stress levels (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). Rosete and Ciarrochi (2005) found that leaders'

ability to perceive one's own emotions were positively related to leadership effectiveness and to leaders' actual performance. Their results also included the ability to perceive other people's emotions as a predictor of leaders' performance. Similarly, Kerr, Garvin, Heaton, and Boyle (2006) found that managers scoring higher on the experiential area of the ability MSCEIT (which includes perceptions of others' emotion) were rated as more effective leaders by their employees.

Transformational leadership theories consider the ability to understand others' emotions as a skill that effective leaders need (Bass & Avolio, 1994). Researchers examining the relationship between EI and leadership have argued that empathy, as a key aspect of EI, contributes to effective leadership (Kellett, Humphrey, & Sleeth, 2006; Wolff, Pescosolido, & Druskat, 2002). Using the WLEIS (Wong & Law, 2002; an instrument that we also employed in the present study), Wong and Law found that managers' self-reported accuracy in perceiving others' emotions was positively associated with employees' job satisfaction.

There is some evidence that leaders' use of emotion may have beneficial effects for followers. In Kerr et al.'s study (2006), the MSCEIT dimension of using emotion was related more positively to employees' ratings of leaders' effectiveness than leaders' emotion-recognition abilities. Although the research evidence on the effects of this particular dimension of leaders' EI skills is limited, related theory and research (e.g., Brundin et al., 2008; Newcombe & Ashkanasy, 2002) has suggested that using emotions has beneficial outcomes on employees' motivation, through cognitive and affective routes. For example, Sy et al. (2005) demonstrated experimentally that leaders' affectivity could raise (or lower) followers' moods.

Finally, emotion regulation is considered an important leadership skill that influences subordinates' positive work emotion and attitudes (Newcombe & Ashkanasy, 2002). *Emotion regulation* refers to the process of modifying one's own emotions and the expression of emotions (e.g., Gross & John, 2003). Glasø and Einarsen (2008) found that leaders regulate their emotions more than do followers, and Zampetakis and Kafetsios (2010) found that subordinates' perceptions of the emotion-regulation skills of their leaders were positively related to subordinates' entrepreneurial behavior.

### The Current Study

In the present study, we used a multilevel approach to examine (a) cross-level effects of leaders' EI dimensions (i.e., being aware of one's own emotions, being aware of other people's emotions, using emotions, emotion regulation) on followers' emotional states and job satisfaction; and (b) same

(or within-level effects of relationships between people's EI skills their own emotion-related work outcomes at two different levels of management: leader and subordinate). EI skills were measured independently from subordinates' work affectivity and job satisfaction. We decided to focus on leader–follower social interactions within an educational setting because this is an organizational setting in which emotion labor and affect at work play important roles for employee outcomes. For example, school directors are considered the main source of subordinates' positive and negative affect at work (Schmidt, 2000), and emotion-contagion processes are important for teachers' burnout and work outcomes (Bakker & Schaufeli, 2000).

We measured EI using the WLEIS (Wong & Law, 2002), a self-report measure of EI that has been used in several related studies and that allowed us to distinguish four EI abilities. The measure has been found to have good discriminant and predictive validity in organizational settings. Research has shown that the scale is distinct from the Big Five personality factors and has convergent validity with other EI ability-related measures, such as the Trait Meta-Mood Scale (Law, Wong, & Song, 2004). In a recent study (Law, Wong, Huang, & Li, 2008), the use and regulation of emotion dimensions of the WLEIS were associated with the MSCEIT dimension of managing emotions. Research has found that EI as measured with the WLEIS is related to job satisfaction in different organizational settings, including education (e.g., Kafetsios & Zampetakis, 2008; Wong & Law, 2002). Finally, our operationalization of work affectivity relied on a broad definition of *affect* as a subjective feeling state that can include mood, dispositional affect, and emotions (Ashforth & Humphrey, 1995).

### Study Hypotheses

Taken as a whole, the existing research suggests that (a) workers' EI is positively associated with own emotionality and work attitudes; and (b) leaders' overall EI skills and several of its facets (i.e., appraisal of emotion in self, appraisal of emotion in others, use of emotion, emotion regulation) contribute to subordinates' positive outcomes in terms of work attitudes and emotion at work. Note that Hypothesis 1 concerns relationships within levels (separately in leaders and subordinates), whereas Hypotheses 2a and 2b concern relationships between leaders' EI and measures describing subordinates (i.e., across levels). We propose the following:

*Hypothesis 1.* Emotional intelligence skills (appraisal of emotion in self, appraisal of emotion in others, use of emotion, emotion regulation) will be positively related to leaders' and

subordinates' own job satisfaction and positive affect, and will be negatively related to negative affect and burnout.

*Hypothesis 2a.* Directors' emotional intelligence skills (appraisal of emotion in self, appraisal of emotion in others, use of emotion, emotion regulation) will be positively related to employees' positive emotions and job satisfaction, and will be negatively related to burnout and negative affect at work.

Given the lack of related studies, we are not certain which leaders' skills will be most strongly related to subordinates' outcomes. Based on previous studies (e.g., Sy et al., 2006), we predict the following:

*Hypothesis 2b.* Relationships between subordinates' emotional intelligence and subordinates' outcomes will vary as a function of leaders' EI.

In terms of multilevel modeling, this is frequently called a *cross-level interaction* because a relationship at one level of analysis (i.e., at the subordinate level) varies as a function of a variable at another level of analysis (i.e., the leader). Given the lack of research on such interactions and the lack of theory concerning such cross-level relationships, we examine these relationships on an exploratory basis.

## Method

### *Participants*

Participants were 33 school directors/supervisors (26 men, 7 women) and 179 teachers (i.e., subordinates; 59 males 120 females) from schools in secondary and primary education in northern and central Greece. Directors' mean age was 50.3 years ( $SD = 6.4$ ) and subordinates' mean age was 40.4 years ( $SD = 6.5$ ).

Within each school, we collected data from the director and a sample of teachers. In 9 schools, we collected data from 2 to 4 subordinates; in 21 schools, we collected data from 5 to 7 subordinates; and in 3 schools, we collected data from 9 to 10 subordinates. Directors and subordinates were approached independently to participate in a study of "emotions at work." No one declined to participate, and we did not provide a monetary incentive.

### *Measures*

All scales were translated into Greek by the first author. They were blindly back-translated by a Greek graduate student, with some items modified to enhance the naturalism of the translations.

*Job satisfaction.* We used the Greek version of the General Index of Job Satisfaction (Brayfield & Rothe, 1951). The scale includes 18 items ( $\alpha = .92$ ), such as “I am generally satisfied with my current job,” and “I consider my job rather unpleasant.”

*Emotional intelligence.* We used the self-report WLEIS (Wong & Law, 2002; in Greek, Kafetsios & Zampetakis, 2008). The scale includes 16 items and has four subscales corresponding to the four components of EI, as suggested by Mayer and Salovey (1997). The Self-Emotion Appraisal (SEA) subscale measures people’s self-perceived ability to understand their own emotions (e.g., “I have a good sense of why I have certain feelings”). The Appraisal of Others’ Emotion (AOE) subscale measures a person’s ability to perceive other people’s emotions (e.g., “I always know my friends’ emotion from their behavior”). The Use of Emotion (UOE) subscale measures the self-perceived tendency to motivate oneself to enhance performance (e.g., “I would always encourage myself to try the best”). The Regulation of Emotion (ROE) subscale measures individuals’ ability to regulate their own emotions (e.g., “I am able to control my temper and handle difficulties rationally”). Coefficient alphas for the four subscales were .83, .77, .79, and .83 for the SEA, AOE, UOE, and ROE, respectively.

*Positive and negative affect at work.* To assess affect at work, we used the Job Affect Scale (JAS; Brief, Burke, George, Robinson, & Webster, 1988). The scale consists of 20 emotion adjectives assessing participants’ positive and negative affect at work during the previous week on a 5-point Likert-type scale ranging from 1 (*not at all*) to 5 (*very much*). In the present study, we used 17 of these adjectives: 9 positive (JAS–Positive Affectivity: *active, excited, enthusiastic, calm, happy, energetic, relaxed, at rest, strong*) and 8 negative (JAS–Negative Affectivity: *distressed, fearful, sad, scornful, hostile, nervous, sleepy, jittery*). Both subscales were reliable ( $\alpha$ s = .75 and .77, for positive and negative, respectively).

*Burnout.* The Greek version of the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986; Greek version, Anagnostopoulos & Papadatou, 1992) consists of 22 items that measure three constructs: emotional exhaustion, depersonalization, and personal accomplishment. The emotional exhaustion (EE) subscale (9 items) assesses feelings of emotional vulnerability and exhaustion by one’s work. The depersonalization (DP) subscale (5 items) assesses impersonal response toward the objects of one’s work. The personal accomplishment (PA) subscale (PA; 8 items) assesses feelings of competence and successful achievement related to one’s work. High scores in the EE or DP scales, or low scores in the PA scale, indicate high levels of burnout. The scales’ reliabilities were adequate: EE,  $\alpha = .70$ ; DP,  $\alpha = .60$ ; and PA,  $\alpha = .61$ .

## Results

Hypothesis 1 concerned within-level relationships between EI and outcomes. For supervisors, these relationships were examined with a series of OLS regressions in which work emotions and other outcomes were the dependent measures and measures of EI were the independent measures. For subordinates, the same relationships were examined with a series of multi-level analyses.

### *Within-Level Relationships Between Emotional Intelligence and Outcomes: Leaders*

In confirmation of Hypothesis 1, the zero-order correlations between EI dimensions were positive for job satisfaction, personal accomplishment, and positive affect at work; and they were negative for emotional exhaustion, depersonalization, and negative affect. These correlations are presented in Table 1. The relative strength of the relationships between measures of the four EI dimensions and work affect and job satisfaction were examined with a series of multiple regression analyses (using a forward stepping procedure;  $p < .05$ ). To control for possible sex differences in EI (e.g., Byron, 2008) supervisors' sex was allowed to enter the models.

Despite the fact that in terms of the zero-order correlations, for four of the six outcomes more than one measure of EI was significantly related to an outcome, in all of the final models, only one measure of EI was included. For job satisfaction, this was self-emotion appraisal ( $\beta = .67$ ), model  $F(1, 31) = 25.68, p < .001$ . Regulation of emotion was the sole predictor for both personal accomplishment ( $\beta = .37$ ), model  $F(1, 31) = 4.88, p < .05$ ; and positive affect ( $\beta = .47$ ), model  $F(1, 31) = 8.89, p < .01$ . Appraisal of others' emotion was the sole predictor for negative affect ( $\beta = -.48$ ), model  $F(1, 31) = 9.26, p < .01$ ; and emotional exhaustion ( $\beta = -.39$ ), model  $F(1, 31) = 5.42, p < .05$ . Sex was not part of any final model, and consistent with the lack of a significant zero-order correlation between depersonalization and any outcome, no measure of EI met the entry criterion when depersonalization was the dependent measure.

### *Within-Level Relationships Between Emotional Intelligence and Outcomes: Subordinates*

In terms of examining relationships at the teacher level, the data from this study constitute a nested data structure in which teachers (subordinates) were

Table 1  
Zero-Order Correlations at Supervisor Level

	1	2	3	4	5	6	7	8	9
1. SEA	—								
2. AOE	.48**	—							
3. UOE	.55**	.53**	—						
4. ROE	.42*	.49**	.62**	—					
5. Job satisfaction	.67**	.54**	.52**	.35*	—				
6. Personal accomplishment	.14	.12	.26	.37*	.24	—			
7. Depersonalization	-.26	-.34	-.32	-.27	-.29	-.14	—		
8. Emotional exhaustion	-.22	-.39*	-.28	-.38*	-.18	-.06	.19	—	
9. Positive affect	.18	.45**	.44**	.47**	.43*	.40*	-.28	.06	—
10. Negative affect	-.24	-.48**	-.37*	-.41*	-.23	-.24	.38*	.39*	-.59**

Note. SEA = self-emotion appraisal; AOE = appraisal of others' emotions; UOE = use of emotion; ROE = regulation of emotion.  
\* $p < .05$ , \*\* $p < .01$ .

Table 2

*Subordinate-Level Measures: Multilevel Summary Statistics*

	<i>M</i>	Within-leader variance	Between-leader variance
Job satisfaction	4.03	.19	.01
Personal accomplishment	4.83	.68	.03
Depersonalization	0.62	.53	.03
Emotional exhaustion	1.56	.85	.03
Positive affect	3.44	.44	.03
Negative affect	1.46	.22	.02

treated as nested within directors (supervisors), so the first hypothesis for subordinates was tested with a series of multilevel analyses (for a description of using multilevel modeling for social psychological research, see Nezlek, 2008). To provide a context for understanding the present results, descriptive statistics for the subordinate-level measures were estimated by a series of unconditional models. These analyses estimated the mean and the percentage of variance that was within- and between-groups. These results are presented in Table 2, and the model is presented here:

$$y_{ij} = \beta_{0j} + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + u_{0j}$$

In this model,  $y_{ij}$  is a subordinate (teacher) level measure for Teacher  $i$  in Group  $j$ , and  $\beta_{0j}$  is a random coefficient representing the mean of  $y$  for each Group  $j$  (across the  $i$  teachers in each group), and the variance of  $r_{ij}$  constitutes the within-group variance. At Level 2,  $\gamma_{00}$  is the grand mean (the mean of the group means,  $\beta_{0j}$ ), and the variance of  $u_{0j}$  constitutes the group level variance.

Relationships between subordinates' EI and outcomes were examined by including measures of subordinates' EI and subordinate sex at Level 1. In these analyses, sex was entered uncentered at Level 1, and the EI measures were entered group-mean centered (for a discussion of centering in multilevel models, see Enders & Tofighi, 2007). These analyses had no predictors at Level 2 (i.e., director or supervisor level). Initially, all coefficients were modeled as random, and coefficients were fixed, according to the guidelines suggested by Nezlek (2001).

Table 3

*Relationships Between Subordinates' Emotional Intelligence and Subordinates' Outcomes*

	Sex	Subordinates' EI			
		SEA	AOE	UOE	ROE
Job satisfaction	.00	.02	.16**	.08*	.00
Personal accomplishment	.08	-.18**	.20**	.33**	.16**
Depersonalization	-.02	-.06	-.10	.00	-.11
Emotional exhaustion	.11	-.01	-.09	.00	-.11
Positive affect	-.13**	.10	.19*	.27**	.14**
Negative affect	.06	.08	-.09	-.04	-.17**

*Note.* EI = emotional intelligence; SEA = self-emotion appraisal; AOE = appraisal of others' emotions; UOE = use of emotion; ROE = regulation of emotion. Intercept not included (see Table 1 for estimates of means). Coefficients marked with a single asterisk (\*) were significantly different from 0 and  $p < .05$ . Coefficients marked by two asterisks (\*\*) were significantly different from 0 at  $p < .01$ .

Significance tests of the mean relationships between subordinates' EI and outcomes (coefficients  $\beta_{2j}$  through  $\beta_{5j}$ ) were conducted at Level 2 (coefficients  $\gamma_{20}$  through  $\gamma_{50}$ ). These coefficients are conceptually similar to the average coefficient across groups from a regression analysis performed within each group, with subordinate outcome as the dependent measure and subordinate EI as the independent measure. The results of these analyses are summarized in Table 3.

$$y_{ij} = \beta_{0j} + \beta_{1j}(\text{Sex}) + \beta_{2j}(\text{SEA}) + \beta_{3j}(\text{AOE}) + \beta_{4j}(\text{UOE}) + \beta_{5j}(\text{ROE}) + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + u_{0j} \dots \beta_{5j} = \gamma_{50} + u_{5j}$$

In confirmation of Hypothesis 1, the results indicate that relationships between subordinates' EI and their job-related outcomes were generally positive, although they varied somewhat as a function of the specific outcome and the aspect of EI being considered. Subordinates' perceived ability to use emotions (UOE) was positively related to job satisfaction, personal accomplishment, and positive affect. Subordinates' ability to appraise others' emotions (AOE) was also positively related to their job satisfaction, personal accomplishment, and positive affect. Similarly, ability to regulate own

emotions (ROE) was positively related to their sense of personal accomplishment and positive affect, and was negatively related to negative affect. Unexpectedly, self-emotion appraisal (SEA) was negatively related to personal accomplishment.

*Cross-Level Relationships Between Supervisors' Emotional Intelligence and Subordinate Measures*

The multilevel framework presented previously was used to examine cross-level relationships between supervisors' and subordinates' measures (Hypotheses 2a and 2b). The first set of analyses examined relationships between supervisors' EI and subordinates' outcomes (Hypothesis 2a). These analyses had no predictors at Level 1 (the subordinate level), and they included supervisors' EI and sex at Level 2 (i.e., supervisor level), and the four measures of supervisors' EI were standardized prior to analysis. Supervisors' sex was included (entered uncentered; 1 = female, -1 = male) to control for possible sex differences in EI. The results are presented in Table 4. When interpreting the coefficients, keep in mind that because measures of supervisors' EI were standardized, the coefficient for a measure of supervisors' EI

Table 4

*Relationships Between Supervisors' Emotional Intelligence and Subordinates' Outcomes*

	Sex	Supervisors' EI			
		SEA	AOE	UOE	ROE
Job satisfaction	.13**	.00	.00	.10*	-.06*
Personal accomplishment	.07	-.14*	.02	.28**	-.10
Depersonalization	-.14	.14**	-.07	-.26**	.16**
Emotional exhaustion	-.11	.08	.01	-.12	.18**
Positive affect	.15**	-.09	.02	.25**	-.07
Negative affect	-.15	.07	-.02	-.19**	.15**

*Note.* EI = emotional intelligence; SEA = self-emotion appraisal; AOE = appraisal of others' emotions; UOE = use of emotion; ROE = regulation of emotion. Intercept not included (see Table 1 for estimates of means). Coefficients marked with a single asterisk (\*) were significantly different from 0 and  $p < .05$ . Coefficients marked by two asterisks (\*\*) were significantly different from 0 at  $p < .01$ .

represents the expected change in a subordinate outcome associated with a 1 *SD* increase in that measure of supervisors' EI.

$$y_{ij} = \beta_{0j} + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Sex}) + \gamma_{02}(\text{SEA}) + \gamma_{03}(\text{AOE}) + \gamma_{04}(\text{UOE}) + \gamma_{05}(\text{ROE})\gamma_{01} + u_{0j}$$

The results indicate that relationships between supervisors' EI and subordinates' outcomes varied as a function of the aspect of supervisors' EI being considered. On the one hand, supervisors' ability to use emotions (UOE) was positively related to all five subordinate outcomes that we considered. Supervisors' UOE scores were positively related to subordinates' job satisfaction, sense of personal accomplishment, and positive affect; and they were negatively related to subordinates' sense of depersonalization and negative affect. In contrast, supervisors' ability to appraise their own emotions (SEA) was negatively related to subordinates' outcomes. Supervisors' SEA was negatively related to subordinates' sense of personal accomplishment, and positively related to subordinates' sense of depersonalization. Similarly, supervisors' ability to regulate their own emotions (ROE) was negatively related to subordinates' outcomes. Supervisors' ROE was negatively related to subordinates' job satisfaction, and was positively related to subordinates' sense of depersonalization and teachers' negative affect.

The next set of analyses examined how supervisors' EI moderated relationships between subordinates' EI and subordinates' outcomes (Hypothesis 2b). For these analyses, subordinates' EI was represented by a single, overall score.<sup>2</sup> The model used for these analyses is presented here:

$$y_{ij} = \beta_{0j} + \beta_{1j}(\text{Sex}) + \beta_{2j}(\text{Total EI}) + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Sex}) + \gamma_{02}(\text{SEA}) + \gamma_{03}(\text{AOE}) + \gamma_{04}(\text{UOE}) + \gamma_{05}(\text{ROE})\gamma_{01} + u_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Sex}) + \gamma_{12}(\text{SEA}) + \gamma_{13}(\text{AOE}) + \gamma_{14}(\text{UOE}) + \gamma_{15}(\text{ROE})\gamma_{11} + u_{1j}$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\text{Sex}) + \gamma_{22}(\text{SEA}) + \gamma_{23}(\text{AOE}) + \gamma_{24}(\text{UOE}) + \gamma_{25}(\text{ROE})\gamma_{01} + u_{0j}$$

<sup>2</sup>Technically, we did not have enough observations at the teacher level to model the error terms and other parameters properly when all four EI subscales were included at the teacher level. The analyses we present reflect our interest in understanding how supervisors' EI moderated relationships between teachers' EI and teachers' outcomes; and an overall measure of general EI at the teacher level was sufficient to answer this question.

Table 5

*Supervisors' Emotional Intelligence as a Moderator of Relationship Slopes Between Subordinates' Outcomes and Overall Emotional Intelligence*

	Mean slope	Sex	Supervisors' EI			
			SEA	AOE	UOE	ROE
Job satisfaction	.20**	-.03	-.11	-.02	.05	-.02
Personal accomplishment	.59**	-.05	-.19**	-.13	-.10	.06
Depersonalization	-.36**	-.01	.20**	-.08	.00	-.16**
Emotional exhaustion	-.29**	-.08	.11	-.10	.25	-.08
Positive affect	.58**	.06	-.25**	.11	.05	-.01
Negative affect	-.29**	.00	.12**	-.20**	.10	-.03

*Note.* EI = emotional intelligence; SEA = self-emotion appraisal; AOE = appraisal of others' emotions; UOE = use of emotion; ROE = regulation of emotion.

\* $p < .05$ . \*\* $p < .01$ .

Initially, all coefficients were modeled as random, and coefficients were fixed according to the guidelines suggested by Nezlek (2001). The results of these analyses are summarized in Table 5.

To understand the moderating role of supervisors' EI on relationships between subordinates' outcomes and overall EI requires understanding the basic nature of the relationships between subordinates' outcomes and overall EI. These relationships are presented in Table 5 in the column labeled "Mean Slope." The results of these analyses are similar to the results of the previous analyses in which relationships between subordinates' outcomes and the components of EI were examined. As can be seen from these coefficients, subordinates who had higher EI had more positive outcomes. The moderating roles of supervisors' EI (separately for each subscale) are summarized in the next four columns of Table 5. As can be seen from these coefficients, supervisors' SEA was the most consistent moderator of relationships between subordinates' outcomes and subordinates' EI. SEA significantly moderated the EI–outcome slope for four of the six outcome measures. In each case, the moderating relationship was such that the relationship between EI and outcomes was weaker for subordinates who had supervisors with higher SEA scores, compared to subordinates who had supervisors with lower SEA scores.

## Discussion

Recently, leadership scholars have argued for the necessity of examining the effects leadership traits have at different levels of analysis in social and organizational contexts (e.g., Zaccaro, 2007). Our study adopted such a multilevel approach and used more appropriate analytical methods than those used in the past to examine relationships between leaders' EI skills and subordinates' work affect and job satisfaction, and to examine relationships between subordinates' own EI and their work outcomes. We approached leadership skills as emotional and communication abilities that influence leader–follower interaction (e.g., Bono et al., 2007; Riggio & Reichard, 2008).

As expected, supervisors' EI skills were related to subordinates' emotion states and job satisfaction; although somewhat contrary to our expectations, some of these relationships were negative. In terms of positive relationships, supervisors' use of emotion was the facet of EI that was most consistently and uniformly associated with positive outcomes for subordinates. Supervisors' UOE was positively related to subordinates' positive affect at work and job satisfaction, and was negatively related to depersonalization and negative affect at work.

Such relationships are consistent with the results of both cross-sectional (Kerr et al., 2006) and experimental (Sy et al., 2005) studies that have demonstrated the importance of leaders' expression of affectivity on subordinates' emotions. The consistent positive relationships we found between subordinates' emotion outcomes and supervisors' use of emotion highlights the social dimensions of the expression of emotion. Such relationships are understandable, given research demonstrating the benefits of expressing emotions. Expressing emotion helps to coordinate social interactions by signaling how the expresser is feeling, by eliciting appropriate emotional responses from others, and by rewarding or deterring certain behaviors in interaction partners (Kennedy-Moore & Watson, 2001). Positive affect, in particular, is a source of human strength (Isen, 2003); and positive affect predisposes people to cognitions, feelings, and actions that promote the building of personal and social resources (Fredrickson, 2001; Lyubomirsky, King, & Diener, 2005).

Although supervisors' skill in appraising others' emotion was not directly related to subordinates' emotion and work outcomes, it did have an indirect relationship to subordinates' negative affect. Supervisors' appraisal of others' emotions moderated relationships between subordinates' EI and subordinates' negative affect. The nature of this moderating relationship was such that subordinates with higher EI skills who had supervisors who appraised others' emotions more reported less negative affect at work, compared

to subordinates with lower EI skills whose supervisors appraised others' emotions less. This finding suggests that leaders' empathic abilities can benefit subordinates, albeit indirectly, as a function of subordinates' EI.

Contrary to our expectations, two of supervisors' EI skills seemed to influence subordinates' work affectivity and job satisfaction adversely. Greater emotion regulation by supervisors led to lower job satisfaction for subordinates; and higher levels of subordinates' depersonalization, emotional exhaustion, and negative affect. Similarly, subordinates who had supervisors with greater emotional awareness of self had less positive outcomes, as compared to subordinates who had supervisors with lower emotional awareness of self. They were more depersonalized and felt less of a sense of personal accomplishment.

How can one explain these unexpected findings? A possible explanation may lie in the details of leader–follower exchanges. Subordinates' negative emotional and attitudinal reactions may have been a consequence of construing supervisors with high self-appraisal and emotion regulatory skills as less genuine. It has been argued that authentic leaders adopt positive, other-oriented emotions; and that other-directed emotions and leaders benefit subordinates (Michie & Gooty, 2005). Our findings are consistent with this argument, and they suggest that self-oriented emotion skills (e.g., self-emotion appraisal, emotion regulation) may lead to negative outcomes for subordinates, whereas leaders' other-oriented skills (e.g., use of emotion, others' emotion appraisal) may lead to positive outcomes for subordinates. Supervisors who are very aware of their emotions or who regulate their own emotions very well may be seen as manipulative or insincere; perhaps seen as too much in control.

It may also be the case that the reverse causal relationship between leader EI and subordinate outcomes is possible. Supervisors who have subordinates who themselves have less positive attitudes and affect may find it necessary (and adaptive) to regulate their own emotions or to be more aware of them, particularly if these emotions reflect their disapproval of their subordinates. Similar to many others, we have tacitly assumed that EI is a trait-like construct (or at least relatively stable across time and situations), and that individual differences in affect and job attitudes spring from or reflect these differences in EI. Moreover, in terms of the multilevel analyses we conducted, the language and structure of the analyses tends to presume a causal relationship from Level 2 (leaders) to Level 1 (subordinates). Our study was not designed or intended to examine such a possibility, and this is a question that should be addressed in future research.

When considering these negative relationships between leaders' EI and subordinates' outcomes, it is important to keep in mind that there were no negative relationships between EI and outcomes at the within-leader level of

analysis; and all but one of the relationships between EI and outcomes were positive at the within-subordinate level of analysis. That is, with only one exception, greater EI was associated with better outcomes when relationships between an individual's own EI and his or her own outcomes were examined. Moreover, such positive relationships are consistent with considerable previous research demonstrating the advantages of greater EI across a variety of domains (Mayer et al., 2008).

The inconsistency of EI–outcome relationships at different levels of analysis (i.e., across levels vs. within levels) was unexpected and clearly requires further research. It may be that EI has different implications for interpersonal and intrapersonal processes and outcomes. Moreover, it is also possible that relationships between EI and other outcomes vary as a function of the specific environment or context within which such relationships are examined.

In addition to our findings about EI per se, we also found that subordinates who had female directors reported higher work affectivity and job satisfaction than did those who had male directors. This is consistent with the results of recent studies, such as Byron (2008), who found that women had more positive effects on employees' emotion outcomes at work than did men. If the frequently cited sex difference in emotional sensitivity is valid (see Hall & Bernieri, 2001), and women are more attuned to the emotional aspects of life, then such sex differences further emphasize the importance of the emotional aspects of the workplace.

Irrespective of how one explains the processes responsible for our results, they contribute meaningfully to the development of EI theory in social and organizational psychology. One of these contributions is the result of the fact that we extended previous work on relationships between leaders' EI traits on subordinates' emotions, well-being, and job satisfaction in supervisor–subordinate exchanges (Sy et al., 2006; Wong & Law, 2002) by examining different aspects of EI. Our results suggest that EI should not be conceptualized unidimensionally as a single trait, but researchers examine the effects that different components of EI abilities have in work contexts (for supportive evidence, see Kafetsios, Maridaki-Kassotaki, Zammuner, Zampetakis, & Vouzas, 2009).

Some of our findings are inconsistent with research that has found that managers' overall EI is positively related to subordinates' job satisfaction (Sy et al., 2006; Wong & Law, 2002) and performance (Sy et al., 2006). Methodologically, in Sy et al.'s study, the data should have been analyzed using a multilevel model, calling into question the accuracy of their results. Study 3 of Wong and Law consisted of data from one director and one subordinate, a design that does not provide the basis needed to draw conclusions about group effects per se. Beyond such differences in analyses and

study design, our study was conducted in Greece, a culture that is characterized by greater distance between persons from different statuses (Hofstede, 2001) than the U.S., where the other two studies took place. Perhaps this power distance may augment the adverse effects of leaders' emotional skills evidenced in this study.

Certainly, the present study has its limitations. The use of a self-report instrument of EI skills is limiting, since it may suffer partly from the same problems of EI scales that follow the trait approach. Also, issues of validity could be raised, particularly regarding assessment of the ability to appraise others' emotions. Nonetheless, evidence that the four EI skills had positive effects for both leaders' and followers' work outcomes at a different level of analysis—but not when examining leadership effects on followers' work emotionality and attitudes—attests to the validity of the measures we used. Certainly, the small number of directors is a limitation, especially with regard to supervisor-level results.

Despite its limitations, we believe that the present study contributes to our understanding of the roles of emotions in social interactions by demonstrating the differential function of emotional propensities at different levels of analysis, intrapersonally and interpersonally (Keltner & Haidt, 2001). The results have important implications for management practice. They call for closer consideration of the practical consequences of the managerial role of regulating and controlling own emotionality for subordinates' emotionality and work outcomes, as well as for the organization. Importantly, the results demonstrate the importance of considering the interaction between organizational roles and person-level emotional attributes, an issue that has recently raised considerable interest (see Lindebaum, 2009). Finally, theoretically, the results highlight the roles emotions play in organizational settings and address the issues that are the focus of several theories of emotion at work (e.g., affective events theory, emotional intelligence, emotional labor).

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