Evidence that emotional intelligence is related to job performance and affect and attitudes at work

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The relation between emotional intelligence, assessed with a performance measure, and positive workplace outcomes was examined in 44 analysts and clerical employees from the finance department of a Fortune 400 insurance company. Emotionally intelligent individuals received greater merit increases and held higher company rank than their counterparts. They also received better peer and/or supervisor ratings of interpersonal facilitation and stress tolerance than their counterparts. With few exceptions, these associations remained statistically significant after controlling for other predictors, one at a time, including age, gender, education, verbal ability, the Big Five personality traits, and trait affect.

Evidencia de que la inteligencia emocional está relacionada con el rendimiento laboral y con el estado de ánimo y las actitudes en el trabajo. La relación entre inteligencia emocional, evaluada con una medida de habilidad, y los resultados positivos en el lugar de trabajo fue examinada en 44 empleados analistas y oficinistas del departamento de finanzas de una compañía de seguros. Los individuos emocionalmente inteligentes recibieron mayores aumentos salariales por sus méritos y ocuparon puestos más altos en la compañía que sus compañeros. Además, en la evaluación realizada por sus iguales y/o por sus supervisores, fueron mejor valorados en facilitación interpersonal y tolerancia al estrés que sus compañeros. Con algunas excepciones, estas asociaciones continuaron siendo significativas tras controlar uno a uno otros predictores, incluidos la edad, el sexo, la educación, la habilidad verbal, los cinco grandes factores de personalidad y el estado de ánimo como rasgo.

Evidence is accumulating that emotional intelligence is associated with important outcomes such as high quality social relationships (Lopes, Brackett, Nezlek, Schütz, Sellin, & Salovey, 2004; Lopes, Salovey, Côté, & Beers, 2005) and represents a distinct theoretical construct (Brackett & Mayer, 2003). There is a paucity of research, however, on emotional intelligence and workplace outcomes. Recent findings suggest that emotionally intelligent persons are better performers than their counterparts (Law, Song, & Wong, 2004; Van Rooy & Viswesvaran, 2004), but most of these associations are based on self-report measures of emotional intelligence. Moreover, past research has focused on a limited set of criteria, and little is known about how emotional intelligence is related to outcomes such as salary and affect at work. Numerous authors have theorized that emotional intelligence contributes to people's capacity to work effectively in teams and manage work stress (e.g., Caruso & Salovey, 2004; Goleman, 1998). Yet, empirical research has lagged behind both media hype and academic interest, and many critics have lamented the lack of solid empirical evidence showing that emotional intelligence is related to positive workplace outcomes (e.g., Matthews, Zeidner, & Roberts, 2002). The goal of the present study was to test theoretical

associations between emotional intelligence and multiple indicators of work performance (including salary, merit increase, and company rank, as well as ratings of interpersonal facilitation, and affect and attitudes at work).

The present study was based on Mayer and Salovey's (1997) theory of emotional intelligence, viewed as a set of four interrelated abilities involved in the processing of emotional information. The ability to perceive emotions in oneself and others entails identifying internal cues of emotional experience and emotional information in facial expressions, voice, music, designs, and other stimuli. The ability to use emotions to facilitate thinking entails integrating emotional information with «cold» cognitive processes. The ability to understand emotions entails appreciating emotional dynamics and blends of emotions and how these influence thinking and behavior. The ability to manage emotions entails regulating emotional experience in oneself and in interpersonal situations to attain personal goals and adaptive outcomes.

Emotional intelligence and work performance. Emotional intelligence may contribute to work performance (as reflected in salary, salary increase, and company rank) by enabling people to nurture positive relationships at work, work effectively in teams, and build social capital. Work performance often depends on the support, advice, and other resources provided by others (Seibert, Kraimer & Liden, 2001). Emotional intelligence may also contribute to work performance by enabling people to regulate their emotions so as to cope effectively with stress, perform well under pressure, and adjust to organizational change.

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Emotional intelligence and interpersonal facilitation. Interpersonal facilitation pertains to «interpersonally oriented behaviors that contribute to organizational goal accomplishment» (Van Scotter & Motowidlo, 1996, p. 526). Emotional intelligence may contribute to the quality of people's relationships at work because emotions serve communicative and social functions, conveying information about thoughts and intentions, and helping to coordinate social encounters (Keltner & Haidt, 2001). Emotion-related abilities should help people choose the best course of action when navigating social encounters. For example, the ability to decode facial expressions of emotion can help one to evaluate how other people respond to one's words and actions, yielding important information for adjusting one's behavior (Nowicki & Duke, 2001). The ability to use emotions to guide thinking can help one to consider both emotions and technical information when evaluating an interpersonal problem. The ability to manage emotions should help individuals experience and express emotions that contribute to favorable social encounters, in part through emotional contagion (Hatfield, Cacioppo, & Rapson, 1994).

Emotional intelligence, affect, and attitudes. Despite important exceptions (Parrott, 1993), people are usually motivated to seek pleasant feelings and avoid unpleasant emotions. The ability to manage emotions can help people nurture positive affect, avoid being overwhelmed by negative affect, and cope with stress (Mayer & Salovey, 1997). Other emotional abilities, such as perceiving and understanding emotions, also contribute indirectly to the quality of emotional experience by helping people to identify and interpret cues that inform self-regulatory action. Therefore emotional intelligence should contribute to positive affect and attitudes at work.

Hypotheses

In light of previous theory and research, we hypothesized that emotional intelligence is related to company indicators of job performance (salary, percent merit increase, company rank) as well as ratings of interpersonal facilitation (interpersonal sensitivity, sociability, positive interaction, negative interaction, contribution to a positive work environment, and liking) and affect and attitudes at work (job satisfaction, mood, and stress tolerance).

Method

Participants

Participants were 44 analysts and clerical/administrative employees from the finance staff for the Eastern region of a Fortune 400 insurance company. Participants' ages ranged from 23 to 61 years (*M*= 40.3, *SD*= 10.7); 86% were female; 93% were white/Caucasian, 2% African-American, and 4% «other». The sample included 64% junior analysts and 36% clerical/administrative employees. Sixty-eight percent had a college degree or higher, 16% had some college training and 16% had a high-school diploma only. All were native English speakers. Salaries for the year 2002 ranged from $16,390 to $62,500 (*M*= $40,748, *SD*= $11,192). The average tenure of the participants at the company was 10.5 years (*SD*= 10.4).

Procedure

We advertised the study as an opportunity to receive feedback about non-technical skills. All the staff in the financial division were handed an envelope containing a cover letter, a consent form, instructions, and a battery of assessments that included measures of emotional intelligence and verbal ability, and questionnaires about oneself and co-workers. Management identified 13 different groups of 5 to 8 people who interacted frequently on the job. Participants were asked to rate their peers from these groups. Due to time constraints, participants who belonged to one of the few groups comprising more than six people were asked to rate only five randomly selected colleagues. Leaders were asked to rate all their direct subordinates. We assured participants that all responses were confidential and that no one at their company would have access to individualized data. We provided participants with stamped envelopes addressed to the senior investigator.

Measures

Demographics. Participants indicated their age, gender (male= 0, female= 1), education (1= some high school, 2= high school diploma, 3= some college, 4= college degree, 5= master's degree or higher), marital status, position in the organization, tenure, average hours worked per week, and whether English was their native language.

Emotional intelligence. We administered the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT V2.0; Mayer, Salovey & Caruso, 2002). The MSCEIT includes eight tasks. To assess Perceiving Emotions, respondents identify the emotions in photographs of faces and in designs and landscapes. For Using Emotion, respondents describe emotions with non-emotional vocabulary and indicate the feelings that might facilitate or interfere with the successful performance of various cognitive and behavioral tasks. Understanding Emotions is assessed with tasks concerning the manner in which emotions evolve and transition over time and how some feelings are produced by blends of emotions. Managing Emotions is assessed through a series of scenarios in which people rate the effectiveness of various strategies to regulate their own feelings and the feelings of others in social situations. The MSCEIT assumes that people must have knowledge about emotional processes to exhibit emotionally intelligent behavior. Additional information and sample items appear in Lopes et al. (2005) and Mayer, Salovey, Caruso and Sitarenios (2003).

The MSCEIT can be scored using both expert and consensus norms. Expert scores reflect the agreement between participants' responses and those of an expert panel of 21 emotion researchers from various nations. For example, if someone answers «A» to the first question and 24% of experts also answered «A», this person obtains a raw score of .24 for the first question. Consensus scores reflect the agreement between participants' responses and those of the normative sample, which consists of 5,000 English-speaking people from various nations. Scores based on consensus norms correlate highly (*r*>.90) with those based on expert norms (Mayer et al., 2003). In the present study, all analyses used expert scores because they are slightly more reliable (Mayer et al., 2003). Scores computed by the test publishers are standardized (*M*= 100, *SD*= 15).

Company indicators of work performance. We obtained data on salary, percent merit increase and company rank from company records. Salaries for the year 2002 were transformed by taking the base-10 logarithm to attenuate the characteristic skewness of salary distributions. We calculated the average percent merit increase for the period 2000 to 2002. Company rank was assigned by the company separately for two categories of staff: administrative

employees and analysts. We coded company rank on a scale from 1 to 6, with ranks 1 to 3 representing administrative positions of increasing responsibility and ranks 4 to 6 representing analyst positions of increasing responsibility. Company officials confirmed that our scale reflected increasing prestige.

Interpersonal facilitation. To alleviate concerns related to common method biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), peers and supervisors provided ratings of six indicators of participants' interpersonal facilitation: interpersonal sensitivity, sociability, positive interaction, negative interaction, contribution to a positive work environment, and liking.

Interpersonal sensitivity and *sociability* were assessed using the Bar-On EQ-360 (Bar-On, 1997). Peers and supervisors completed the empathy and social responsibility scales (totaling 11 items) of the Bar-On EQ-360 to measure *interpersonal sensitivity*. A sample item is «This person is sensitive to the feelings of others.» Peers and supervisors completed the interpersonal relations scale of the Bar-On EQ-360 to measure *sociability*. A sample item is «This person is sociable.» All ratings were provided on five-point scales ranging from «very seldom or not true of this person» to «very often true or true of this person.»

We obtained peer reports on *positive interaction* and *negative interaction* using an adapted and abridged version of the Network of Relationships Inventory (Furman & Buhrmester, 1985). Peers answered 10 items (5 for positive and 5 for negative interaction) about their relationship with each member of their group, on 1 (*not at all*) to 7 (*extremely*) scales. We reworded some items to adapt them to a workplace setting. The items included for positive interaction assessed liking, instrumental aid, and admiration; a sample item was «How much does this person like you?» The items included for negative interaction assessed conflict and antagonism; a sample item was «How much do you and this person get on each other's nerves?»

Both peers and supervisors rated participants' *contribution to a positive work environment* using the item «Does this person contribute to a positive work atmosphere?» on a 1 (*not at all*) to 7 (*extremely*) scale. Also, supervisors rated their *liking* of the participants on two items: «How much do you like this person?» and «How much do you and this person get on each other's nerves?» on 1 (*not at all*) to 7 (*extremely*) scales.

Affect and attitudes at work. We obtained three indicators of participants' affect and attitudes at work: job satisfaction, mood, and stress tolerance. We used a five-item, self-report measure of *job satisfaction* (Brayfield & Rothe, 1951). A sample item includes: «I feel fairly satisfied with my present job.» Participants indicated their agreement with each item on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Peers rated participants' *mood* on the items «Is this person often in a good mood?» and «Is this person often in a bad mood?» on a 1 (*not at all*) to 7 (*extremely*) scale. Finally, peers and supervisors rated participants' *stress tolerance* on the 11 items from the stress tolerance and flexibility scales of the Bar-On EQ-360, again on 1 (*very seldom or not true of this person*) to 5 (*very often true or true of this person*) scales. A sample stress tolerance item is «This person handles stress without getting too tense» and a sample flexibility item is «This person can adjust to new situations as they arise».

Control variables. We administered an abridged version of the Mill-Hill vocabulary scale for adults (Raven, Court, & Raven, 1994) as an indicator of crystallized, verbal ability. Due to time constraints, we used only 49 of the 66 items, excluding 17 of the more difficult items. Participants completed this and all other measures without supervision but were asked not to consult the dictionary or any other sources. The Big Five traits of personality were assessed using the 50-item version of the International Personality Item Pool (International Personality Item Pool, 2001), a scale that contains 10 self-descriptive items for each of the 5 traits anchored at 1 (*very inaccurate*) and 5 (*very accurate*). To measure trait affect, we used a 20-item version of the Positive and Negative Affect Scales (Watson, Clark, & Tellegen, 1988). Participants indicated to what extent they had «felt this way during the past year». This measure is comprised of 20 adjectives and uses a 5-point Likert scale anchored at 1 (*very slightly or not at all*) and 5 (*extremely*).

Results

Analytical strategy

We used multilevel analyses to examine associations between emotional intelligence and all self-, peer-, and supervisor-rated outcomes. Peer and supervisor ratings were likely nonindependent because they could be influenced by, depend on, or cluster by group or supervisor. We thus took into account differences between groups and supervisors in evaluating relationships between emotional intelligence and peer- or supervisor-rated outcomes, using multi-level regression models (Bliese, 2000; Kenny & LaVoie, 1985). In contrast, we focused on correlations to examine associations between emotional intelligence and salary, merit increase, and company rank. Groups are assembled for different functional purposes, some groups requiring more analysts and fewer clerical staff than others, for example. Differences in group composition lead to differences in salaries and company rank, and possibly merit increase. In these circumstances, removing between-group variance would amount to discarding much of the variance in salary, merit increase, and rank that is of interest.

Correlational analyses

Inspection of table 1 indicates that overall emotional intelligence was positively and significantly related to percent merit increase and company rank, but not to salary. There were numerous relationships between the emotional intelligence subscales and outcome variables. For example, Managing Emotions scores correlated significantly with salary and company rank.

Multilevel analyses of relationships between emotional intelligence and outcomes

We tested two-level models that included individual-level data at level 1 and coded group membership (for peer-rated outcomes) or supervisor (for supervisor-rated outcomes) at level 2, using the program HLM (Raudenbush, Bryk, Cheong, & Congdon, 2000). All predictors at level 1 were group-mean centered to separate within- and between-group effects (Raudenbush & Bryk, 2002). Slopes were «fixed» across groups (i.e., not modeled as randomly varying) because of group size. We examined relationships between emotional intelligence and outcomes by entering one predictor in each model. We estimated effect sizes by calculating the percent reduction in variance at level 1 associated with the predictor, in comparison with an unconditional model (Raudenbush & Bryk, 2002).

Table 1
Descriptive statistics and correlation matrix

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Age	40.32	10.69	–									
2. Gender[a]	0.86	0.35	-.03	–								
3. Education	3.64	0.89	-.53**	-.09	–							
4. Emotional intelligence total	**100.18**	**14.24**	**-.19**	**.13**	**.22**	(.92)						
5. Emotional intelligence perceiving emotion	102.52	17.31	-.08	.13	.03	**.72***	(.94)					
6. Emotional intelligence using emotion	103.98	13.88	-.02	-.11	.15	**.57***	.40**	(.78)				
7. Emotional intelligence understanding emotion	96.52	13.66	-.23	.11	.22	**.67***	.10	.21	(.71)			
8. Emotional intelligence managing emotion	102.41	13.01	-.19	.07	.37*	**.61***	.30*	.25	.31*	(.76)		
9. Verbal ability	30.68	5.02	.00	-.14	.17	**.17**	-.12	.21	.35*	.13	(.69)	
10. Neuroticism	2.70	0.85	.01	.05	-.25[b]	**-.09**	-.16	-.02	-.08	-.09	-.32*	(.91)
11. Extraversion	3.29	0.59	-.17	-.13	.17	**-.10**	-.14	-.07	.01	.03	-.08	-.04
12. Openness/Intellect	3.54	0.48	-.31*	.03	.07	**.18**	.08	-.01	.13	.21	-.17	.01
13. Agreeableness	4.20	0.43	.10	-.01	-.02	**.14**	.10	.19	.05	.16	.02	-.27[b]
14. Conscientiousness	4.12	0.50	-.20	.08	.14	**.28**[b]	.30*	.09	.01	.34*	-.08	-.20
15. Trait positive affect	3.92	0.59	-.19	-.05	.44**	**.31***	.24	.13	.15	.39*	-.02	-.18
16. Trait negative affect	2.08	0.72	-.09	-.06	-.23	**-.08**	-.14	-.11	.02	-.18	-.19	.71**
17. Log salary	4.60	0.13	-.16	-.10	.48**	**.18**	-.02	.10	.18	.40**	.17	-.18
18. % Merit increase	4.90	3.29	-.43**	-.05	.28[b]	**.36***	.23	.09	.34*	.32[b]	.32[b]	-.21
19. Company rank	3.95	1.98	-.28[b]	-.07	.58**	**.43***	.22	.34*	.36*	.40**	.24	-.28[b]
20. Self-rated job satisfaction	5.64	1.15	-.07	-.20	.27	**-.08**	-.06	.09	-.17	.10	-.03	-.17
21. Peer-rated interpersonal sensitivity	3.84	0.53	.01	-.18	.32*	**.19**	.18	.32*	.08	.13	.27[b]	-.32*
22. Peer-rated sociability	3.79	0.60	-.02	-.24	.34*	**.33***	.29[b]	.32*	.21	.19	.31*	-.23
23. Peer-rated positive social interaction	4.49	0.93	-.16	-.04	.41**	**-.06**	-.02	.16	-.03	-.11	.21	-.22
24. Peer-rated negative social interaction	1.61	0.66	.19	.17	-.31*	**-.41***	-.13	-.29[b]	-.40**	-.42**	-.28[b]	.16
25. Peer-rated positive work environment	4.67	1.08	-.12	-.05	.35*	**.39***	.31*	.39*	.22	.37*	.33*	-.34*
26. Peer-rated stress tolerance	3.57	0.66	-.19	.10	.41**	**.16**	.23	.21	.01	.17	.22	-.51**
27. Peer-rated mood	5.33	0.85	-.14	-.12	.45**	**.43***	.29[b]	.33*	.30[b]	.44**	.30*	-.37*
28. Supervisor-rated interpersonal sensitivity	4.15	0.72	.15	-.07	.08	**.26**	.25	.06		.37*	.32*	-.44**
29. Supervisor-rated sociability	4.06	0.71	.10	-.06	.02	**.28**[b]	.17	.38*	.06	.39*	.45*	-.32*
30. Supervisor-rated liking	5.18	0.96	.23	.00	-.21	**.23**	.36*	.34*	-.19	.27[b]	.17*	-.16
31. Supervisor-rated positive work environment	5.18	1.52	.14	-.01	.04	**.45***	.27[b]	.44**	.20	.57**	.44*	-.25
32. Supervisor-rated stress tolerance	3.70	0.87	-.17	.49**	.19	**.41***	.36*	.19	.18	.44**	.21	-.47**

	11	12	13	14	15	16	17	18	19	20	21	22
1. Age												
2. Gender[a]												
3. Education												
4. Emotional intelligence total												
5. Emotional intelligence perceiving emotion												
6. Emotional intelligence using emotion												
7. Emotional intelligence understanding emotion												
8. Emotional intelligence managing emotion												
9. Verbal ability												
10. Neuroticism												
11. Extraversion	(.81)											
12. Openness/Intellect	.32*	(.72)										
13. Agreeableness	.42**	.36*	(.72)									
14. Conscientiousness	-.28[b]	.10	.03	(.79)								
15. Trait positive affect	.34*	.47**	.39	.22	(.88)							
16. Trait negative affect	-.01	-.04	-.16	-.16	-.36*	(.89)						
17. Log salary	.17	.02	.10	.27[b]	.32*	-.05	–					
18. % Merit increase	.36*	.06	.06	.02	.07	.03	.36*	–				
19. Company rank	.18	.02	.12	.20	.33*	-.17	.84**	.53**	–			
20. Self-rated job satisfaction	.39**	.20	.24	.23	.36*	-.17	.45**	.19	.37*	(.91)		
21. Peer-rated interpersonal sensitivity	.04	.02	.26[b]	.11	.09	-.20	.08	.18	.29[b]	.08	(.96)	
22. Peer-rated sociability	.03	-.10	.15	.12	.14	-.11	.04	.24	.26[b]	.10	.84**	(.91)
23. Peer-rated positive social interaction	.17	-.20	.07	-.05	-.08	-.21	-.06	.17	.17	.20	.68**	.65**
24. Peer-rated negative social interaction	.12	-.12	-.19	-.01	-.15	-.02	-.26[b]	-.16	-.30[b]	-.04	-.16	-.21
25. Peer-rated positive work environment	.06	-.03	.19	.18	.19	-.17	.18	.38*	.39*	.02	.75**	.73**
26. Peer-rated stress tolerance	.13	.08	.19	.11	.14	-.21	.29[b]	.48**	.51**	.22	.68**	.54**
27. Peer-rated mood	-.01	.00	.16	-.03	.33*	-.21	.22	.28[b]	.38*	.06	.63**	.59**
28. Supervisor-rated interpersonal sensitivity	-.28[b]	-.01	.26	.19	.15	-.31[b]	.06	-.16	-.01	.12	.23	.23
29. Supervisor-rated sociability	-.18	.00	.30[b]	.26	.15	-.21	.05	-.13	.06	.20	.28[b]	.30[b]
30. Supervisor-rated liking	-.29[b]	.00	.26	.34*	.10	-.13	-.08	-.22	-.08	.08	.21	.23
31. Supervisor-rated positive work environment	-.28[b]	-.01	.29[b]	.23	.20	-.22	.14	.04	.17	.06	.32*	.29[b]
32. Supervisor-rated stress tolerance	-.31[b]	.04	.02	.19	.12	-.37*	.08	.11	.17	-.07	.05	.02

Note: 38 ≤ *N* ≤ 44 due to missing data (except for percent merit increase, where 33 ≤ *N* ≤ 37). Reliabilities are reported along the diagonal. Cronbach alpha is reported for all scales except ability measures. For the emotional intelligence and verbal ability scales, we report split-half reliabilities corrected by the Spearman-Brown formula due to item heterogeneity (the verbal ability scales includes items of varying levels of difficulty and each emotional intelligence scale comprises two different tasks). For ease of interpretation, predictors are listed first and criteria second. Correlations for total emotional intelligence scores are set in bold.
[a] Gender was coded as 0= Male, 1= Female.
[b] $p<.10$. * $p<.05$. ** $p<.01$.

Table 1 (continued)
Descriptive statistics and correlation matrix

	23	24	25	26	27	28	29	30	31	32
1. Age										
2. Gender[a]										
3. Education										
4. Emotional intelligence total										
5. Emotional intelligence perceiving emotion										
6. Emotional intelligence using emotion										
7. Emotional intelligence understanding emotion										
8. Emotional intelligence managing emotion										
9. Verbal ability										
10. Neuroticism										
11. Extraversion										
12. Openness/Intellect										
13. Agreeableness										
14. Conscientiousness										
15. Trait positive affect										
16. Trait negative affect										
17. Log salary										
18. % Merit increase										
19. Company rank										
20. Self-rated job satisfaction										
21. Peer-rated interpersonal sensitivity										
22. Peer-rated sociability										
23. Peer-rated positive social interaction	(.85)									
24. Peer-rated negative social interaction	.05	(.87)								
25. Peer-rated positive work environment	.48**	-.35*	—							
26. Peer-rated stress tolerance	.52**	-.09	.70**	(.97)						
27. Peer-rated mood	.29 [b]	-.46**	.74**	.52**	(.80)					
28. Supervisor-rated interpersonal sensitivity	-.06	-.43**	.22	.09	.42**	(.95)				
29. Supervisor-rated sociability	.01	-.43**	.29 [b]	.19	.31 [b]	.82**	(.87)			
30. Supervisor-rated liking	-.04	-.17	.16	.03	.12	.60**	.70**	(.69)		
31. Supervisor-rated positive work environment	-.12	-.49**	.39*	.17	.46**	.70**	.83**	.57**	–	
32. Supervisor-rated stress tolerance	-.07	-.39*	.32 [b]	.33*	.32 [b]	.58**	.55**	.37*	.58**	(.97)

Note: 38 N 44 due to missing data (except for percent merit increase, where 33 N 37). Reliabilities are reported along the diagonal. Cronbach alpha is reported for all scales except ability measures. For the emotional intelligence and verbal ability scales, we report split-half reliabilities corrected by the Spearman-Brown formula due to item heterogeneity (the verbal ability scales includes items of varying levels of difficulty and each emotional intelligence scale comprises two different tasks). For ease of interpretation, predictors are listed first and criteria second. Correlations for total emotional intelligence scores are set in bold.
[a] Gender was coded as 0= Male, 1= Female.
[b] $p<.10$. * $p<.05$. ** $p<.01$.

Inspection of table 2 reveals that emotional intelligence was related to three peer-rated indicators of interpersonal facilitation (interpersonal sensitivity, sociability, and contribution to a positive work environment) and peer-rated mood. Emotional intelligence was also associated with three supervisor-rated indicators of interpersonal facilitation (sociability, liking, and contribution to a positive work environment) and supervisor-rated stress tolerance.

Relationships between emotional intelligence and outcomes controlling other predictors

We controlled for other predictors to verify that observed associations were not spuriously caused by third variables. We included one control variable at a time in separate models because of our small sample size. For the sake of parsimony, we only report results involving global emotional intelligence and control variables that were significantly related to each criterion (based on correlational analyses for objective criteria and multilevel analyses for peer- and supervisor-ratings).

Inspection of table 1 suggests that percent merit increase correlated significantly with extraversion and age. Therefore we controlled for these variables, one at a time, when examining the relationship between emotional intelligence and percent merit increase. This relationship remained significant controlling extraversion [$r(34)= .43$, $p<.05$] and marginally significant controlling age [$r(34)= .32$, $p= .06$]. Similarly, table 1 indicates that company rank correlated significantly with education and trait positive affect. Associations between emotional intelligence and company rank remained significant controlling both education [$r(40)= .38$, $p<.05$] and trait positive affect [$r(40)= .36$, $p<.05$].

Next we conducted separate multilevel analyses to identity which control variables were significantly associated with peer- and supervisor-ratings. For the sake of parsimony, we do not report these analyses here. We report only the analyses examining associations between emotional intelligence and criteria, controlling for other predictors:

Controlling for education, emotional intelligence remained significantly associated with two of the four peer-rated indicators of interpersonal facilitation: peer-rated sociability ($\gamma_{10}= .33$, $p= .05$) and contribution to positive work environment ($\gamma_{10}= .37$, $p<.05$). With one exception, emotional intelligence remained significantly associated with supervisor-rated outcomes controlling other predictors.

Table 2
Multilevel analyses - fixed effects

	Emotional intelligence total			Emotional intelligence perceiving emotion			Emotional intelligence using emotion			Emotional intelligence understanding emotion			Emotional intelligence managing emotion		
	γ_{10}	SE	R^2	γ_{10}	SE	R^2	γ_{10}	SE	R^2	γ_{10}	SE	R^2	γ_{10}	SE	R^2
Peer ratings															
Interpersonal sensitivity	.37*	.17	.11	.26[a]	.15	.06	.31*	.15	.10	.25	.19	.02	.27	.19	.03
Sociability	.39*	.16	.14	.35*	.14	.14	.31*	.15	.06	.22	.17	.01	.10	.12	.00
Positive interaction	.19	.16	.01	.07	.14	.00	.20	.13	.04	.27	.17	.05	.04	.18	.00
Negative interaction	-.18	.11	.02	-.05	.13	.00	-.14	.13	.01	-.24	.15	.05	-.02	.16	.00
Positive work environment	.50**	.17	.18	.37*	.16	.10	.35*	.16	.09	.32	.20	.03	.38[a]	.20	.06
Stress tolerance	.29[a]	.16	.07	.28[a]	.14	.09	.15	.15	.00	.08	.18	.00	.41*	.17	.14
Mood	.43*	.17	.16	.33*	.16	.11	.27[a]	.16	.06	.27	.20	.03	.37[a]	.20	.08
Supervisor ratings															
Interpersonal sensitivity	.27	.18	.04	.17	.18	.00	.16	.17	.00	.10	.20	.00	.50**	.16	.21
Sociability	.33*	.16	.11	.20	.17	.02	.29a	.15	.08	.19	.19	.00	.43**	.15	.20
Liking	.42**	.14	.24	.43**	.14	.24	.34*	.14	.16	.10	.18	.00	.36*	.15	.16
Positive work environment	.48**	.16	.25	.22	.18	.00	.34*	.16	.13	.39*	.19	.12	.59**	.14	.38
Stress tolerance	.56**	.14	.34	.44*	.16	.24	.27a	.16	.15	.34a	.19	.16	.56**	.16	.33

Note: N= 38 to 43 people at level 1, and 11 groups or 13 supervisors at level 2. The coefficient γ_{10} represents the regression slope. For ease of interpretation, all variables were standardized except age, gender and education. R^2 is an estimate of effect size: the percent reduction in variance at level 1 associated with the predictor (negative estimates were set to 0).
[a] $p<.10$. *$p<.05$. **$p<.01$. (two-tailed t-tests).

Emotional intelligence remained associated with supervisor-rated sociability controlling neuroticism (γ_{10}= .35, p= .05) and marginally so controlling trait negative affect (γ_{10}= .29, p= .06). Emotional intelligence remained associated with supervisor-rated liking controlling conscientiousness (γ_{10}= .35, $p<.05$); with supervisor-rated contribution to a positive work environment controlling verbal ability, neuroticism, extraversion, and trait negative affect in separate models (.38 γ_{10} .44, $p<.05$); and with supervisor-rated stress tolerance controlling neuroticism, extraversion, and trait negative affect in separate models (.45 γ_{10} .51, $p<.05$).

Discussion

We assessed the emotional intelligence of analysts and administrative employees with a performance test and assessed work outcomes through peer and supervisor ratings and company data to avoid common method biases. In line with theoretical predictions, emotional intelligence was related to several indicators of work performance, including: company rank, percent merit increase, and ratings of interpersonal facilitation, and affect and attitudes. Most relationships remained significant when controlling for other predictors, one at a time. Although our main analyses focused on total emotional intelligence, we found that all four emotional intelligence subscales, and particularly the managing emotions subscale, were associated with some of the outcomes. Our findings extend past research that revealed associations between self-report measures of emotional intelligence and criteria such as job performance (e.g., Law et al., 2004) and between ability measures of emotional intelligence and the quality of social interactions outside of the workplace (e.g., Lopes et al., 2004).

The present study is limited by its small sample size, which entails wide confidence intervals around the various correlations and prevented us from controlling for several predictors simultaneously. The sample was drawn from only two professional groups. We could not disentangle possible confounds associated with membership in these professional groups. Therefore our findings should be interpreted with caution until they are replicated. Furthermore, we should note that we did not measure work performance directly and that there are questions about the measurement of emotional intelligence that we could not address in this paper. Nonetheless, our results provide preliminary evidence that emotional intelligence, measured as a set of abilities, is associated with important positive work outcomes.

Author note

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