Trait emotional intelligence and leadership in a European multinational company

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ABSTRACT

This study examined whether trait emotional intelligence (trait EI or emotional self-efficacy) can differentiate between leaders and non-leaders ($N = 96$) employed by a major multinational company in Europe. Available intelligence test scores along with age, gender, and tenure were used as control variables. Trait EI, cognitive ability, and gender were significant predictors in a logistic-regression model. Further, both leaders and non-leaders scored significantly higher on trait EI compared to the standardization sample of the Trait Emotional Intelligence Questionnaire (Petrides, 2009), though the effect size for the former (Cohen's $d = 2.80$) was considerably larger than for the latter (Cohen's $d = 1.23$). The results support the notion that leadership and management positions require high trait EI.

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1. Introduction

Much has been said about the importance of emotional intelligence (EI) in leadership, which overlaps with the concept of management (Young & Dulewicz, 2008). The extant literature on EI and leadership lacks differentiation among EI conceptualizations and operationalizations. For instance, when combining "emotional intelligence" and "leadership" as search terms in the PsycINFO database, 3,838 entries were returned. Combining the more specific constructs "trait emotional intelligence" or "ability emotional intelligence" with "leadership" led to 345 and 17 results, respectively. It follows from these numbers that the type of EI construct investigated was not specified in most of these studies. This is problematic because self-report measures of EI do not converge with maximum-performance measures; the former correlate substantially with personality and non-significantly with cognitive ability, while the latter show the opposite pattern of results (e.g., Qualter, Gardner, Pope, Hutchinson, & Whiteley, 2012).

While both ability EI and trait EI have theoretical relevance to leadership, the focus of this article is on the latter, which is intended to represent the affective aspects of human personality. Trait EI is formally defined as a constellation of emotional self-perceptions located at the lower levels of personality hierarchies (Petrides, Pita, & Kokkinaki, 2007). There is a large literature demonstrating the validity of personality traits in the prediction of leadership-related constructs. Judge, Bono, Ilies, and Gerhardt (2002) conducted a large-scale meta-analysis showing that all Big Five personality traits, with the exception of agreeableness, predicted leadership, independent of industry and the leader's specific job role, with a multiple correlation of .48. Yet, consistent with Paunonen and Ashton's (2001) detailed approach to personality assessment, domain-specific traits may well improve the prediction of various leadership criteria, compared to the Big Five. Since leadership draws on many of the attributes assessed with the prevailing typical-performance EI measures (e.g., assertiveness, optimism; emotion expression, perception, and management), trait EI should emerge as a potentially important predictor of leadership-related variables.

Many studies have examined and demonstrated associations between trait EI measures and various aspects of leadership. For example, Barling, Slater, and Kelloway (2000) found EQ-i (Bar-On, 1997) scores to predict three aspects of transformational leadership (idealized influence, inspirational motivation, and individual consideration), controlling for attributional style. Similarly, Mandell and Pherwani (2003) observed a predictive effect of EQ-i scores on overall transformational leadership ($\beta = .49$), which increased to $\beta = .56$ after controlling for gender. Villanueva and Sánchez (2007) found a moderate positive correlation ($r = .56$) between leadership self-efficacy (belief in one's ability to lead), and trait EI, as measured with the Assessing Emotions Scale (Schutte et al., 1998).

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It has yet to be demonstrated whether leaders have higher trait EI than non-leaders, using objective (i.e., naturally-occurring), rather than psychometrically assessed classifications of leaders and non-leaders, and controlling for relevant factors (e.g., industry, gender, and age). Previous studies have focused on leadership attributes assessed with rating scales, often based on self-report. In another article in this issue, managers had higher trait EI scores than the normative sample of the Trait Emotional Intelligence Questionnaire (Petrides, 2009), but many other factors differentiating the two samples could not be controlled. Furthermore, the Trait Emotional Intelligence Questionnaire (TEIQue), which was developed to measure the construct of trait EI comprehensively and has been shown to possess superior psychometric properties over other measures (e.g., Freudenthaler, Neubauer, Gabler, Scherl, & Rindermann, 2008; Martins, Ramalho, & Morin, 2010), has not been used extensively in leadership research.

The present study examined the role of trait EI in leadership within an applied context. In particular, leadership assessment was based on the organizational position of participants in a European multinational company. It was, thus, objectively determined and less prone to response biases than in other studies. Logistic regression was used to assess trait EI as a predictor of leader vs. non-leader positions held by the participants, controlling for cognitive ability, age, gender, and tenure. Furthermore, consistent with the management article in this issue (Siegling, Sfeir, & Smyth, 2014), we compared the mean trait EI level of leaders and non-leaders to the TEIQue standardization sample means, as reported in Petrides (2009). Two hypotheses were tested:

Hypothesis 1. Trait EI will distinguish leaders from non-leaders, controlling for cognitive ability, age, gender, and tenure.

Hypothesis 2. Leaders will have significantly higher trait EI scores than the TEIQue standardization sample.

2. Method

2.1. Participants and procedure

A major European multinational company consented to participating in this study, which was conducted in Denmark. The company placed an online recruitment invitation on their intranet and those interested completed the questionnaire anonymously. Of a total of 300 contacted employees, 71 men and 25 women participated, yielding a response rate of 32% ($N = 96$). The mean age of the sample was 37.09 years ($SD = 7.73$) and the age range was 24–61 years. The majority of participants were of white ethnicity (90.6%) and had attained an undergraduate (40.6%) or Master's degree (42.8%). Employees were in their present position (tenure) for an average of 7.88 years ($SD = 7.59$). Participants came from four business units of the company and were involved in various job functions, including technical support, sales and marketing, finance, logistics, and security.

A leadership post in the company entails directly supervising three or more employees whom the leader manages and appraises. Leaders have the right to hire and dismiss employees and are expected to drive company values and deliver top quartile results. They are also expected to inspire their team to higher performance through improving engagement and developing their supervisees' capabilities to perform efficiently. The study sample comprised 23 leaders (22 males) and 73 non-leaders (49 males). The mean age of leaders was 36.62 years ($SD = 7.92$) and the mean age of non-leaders was 38.61 years ($SD = 7.06$).

Cognitive ability scores and leadership status data were obtained from participants' records from the human resources department of the company. Additional information, including trait EI scores, demographic background data (age, gender, and educational level) and job tenure (the number of years employees had been in their present position within the organisation), was collected over a time-frame of approximately two months.

2.2. Measures

2.2.1. Trait EI

Either the full Trait Emotional Intelligence Questionnaire (TEIQue – v. 1.50; Petrides, 2009) or its short form, the TEIQue–SF, were used as measures of trait EI. Due to time constraints on data collection, the full form was replaced by TEIQue–SF two weeks into the process. In total, 40 participants completed the TEIQue and 56 completed the TEIQue–SF. The full form consists of 153 items, while the short form consists of 30 items. Both yield global and factor scores, although the former also yields scores on the 15 trait EI facets. The internal consistency for global trait EI was .95 for the full form and .89 for the short form.

2.2.2. Leadership

Leadership was operationalized in accordance with the company's definition of a leader, as described in the preceding section.

2.2.3. Cognitive ability

Cognitive ability was measured using an in-house Wonderlic-type test that was developed by a leading global test developer. Scores range from 0 to 50, with a score of 25 corresponding to an IQ of 120.

3. Results

Trait EI scores based on the full TEIQue were derived from the items also found on the short form. However, one of the 30 short form items (item 10) does not originate from the full form and, thus, it was replaced by a similar item (item 115). Descriptive statistics for leaders and non-leaders are shown in Table 1. Leaders had significantly higher trait EI scores than non-leaders, which was largely an effect of the Well-Being, $t(94) = 2.10$, $p = .04$, and Self-Control, $t(94) = 2.62$, $p = .01$, factors, which reached significantly higher levels in leaders (Sociability approached significance at $p = .05$). As shown in Table 1, the average tenure of leaders was significantly higher than that of non-leaders. In contrast, leaders and non-leaders did not differ on age or cognitive ability.

Table 2 displays the bivariate correlations between the study variables. Trait EI correlated positively with leadership, which, in turn, correlated positively with tenure and negatively with gender (there was only one female leader). Cognitive ability was negatively associated with tenure and age, which were positively associated between them.

Table 3 shows the logistic regression results. A chi-square goodness of fit test showed that the set of predictors included in the model distinguished between leaders and non-leaders, $\chi^2(5) = 19.77$, $p = .001$. The Hosmer–Lemeshow test indicated a good model fit to the data, $\chi^2(8) = 5.47$, $p = .71$. Indices for the usefulness of the model tested here showed that the model explained between 18.6% (Cox & Snell R^2) to 27.9% (Nagelkerke R^2) of the variance in leadership. Relative to the constant-only model, the model including trait EI and control variables improved the prediction accuracy of leadership cases from 76.0% to 78.1%.

Trait EI was a significant predictor of leadership in the presence of the control variables in the equation (cognitive ability, tenure, age, and gender). The predictive effect was such that leaders had higher trait EI scores than non-leaders. Given the levels of the control variables and the proportion of female to male participants, the

Table 1
Means and standard deviations for trait EI and control variables as a function of leadership.

Variable	Non-leaders (n = 73)	Leaders (n = 23)	t	df	p	Cohen's d
Trait EI	5.29 (0.64)	5.54 (0.43)	2.15	56.13[a]	.036	−0.57
Cognitive ability	27.70 (5.93)	29.39 (5.83)	1.20	94	.234	−0.25
Tenure	6.98 (7.33)	10.74 (7.88)	2.11	94	.038	−0.44
Age	36.62 (7.92)	38.61 (7.06)	1.08	94	.284	−0.22

Note. EI = emotional intelligence.
 [a] Adjusted for unequal variances.

Table 2
Intercorrelations between Leadership, Trait EI, and Control Variables.

Variable	1	2	3	4	5	6
Leadership	–					
Trait EI	**.18**[*]	–				
Cognitive ability	.12	−.10	–			
Tenure	.21[*]	.02	−.30[**]	–		
Age	.11	.02	−.34[***]	.55[***]	–	
Gender	−.28[**]	−.08	−.07	−.18	−.08	–

Note. N = 96. Non-leaders were coded 0 and leaders were coded 1. Male participants were coded 0 and female participants were coded 1. EI = emotional intelligence.
 [*] p < .05 (bold if test is one-tailed).
 [**] p < .01.
 [***] p < .001.

Table 3
Logistic Regression Analysis Predicting Leadership with Trait EI and Control Variables.

Variables	B	SE	OR	95% CI	Wald statistic	p
Trait EI	1.02	0.52	2.77	[1.01, 7.61]	3.92	.048
Cognitive ability	0.11	0.05	1.12	[1.01, 1.24]	4.31	.038
Tenure	0.08	0.04	1.08	[0.99, 1.17]	3.13	.077
Age	0.02	0.05	1.02	[0.93, 1.12]	0.19	.659
Gender	−2.31	1.09	0.10	[0.11, 0.84]	4.47	.034

Note. N = 96. Non-leaders were coded 0 and leaders were coded 1. Male participants were coded 0 and female participants were coded 1. EI = emotional intelligence. CI = confidence interval for odds ratio (OR).

odds of being a leader are multiplied by 2.77 for each one-unit increase in trait EI. Although preliminary analyses revealed no significant relationship, cognitive ability was a significant incremental predictor in the regression model. Here, the odds of being a leader are multiplied by 1.12 for each on-unit increase in cognitive ability, given the levels of trait EI and the other control variables. Consistent with the zero-order correlations, gender was the only other significant predictor of leadership, with a greater proportion of males among leaders than among non-leaders. Given the levels of the other variables in the model, female employees were 0.10 times as likely to be a leader as male employees.

With the single female leader excluded, the mean global trait EI score of leaders was compared to the TEIQue male-normative standardization sample mean. A one-sample t test showed that male leaders in the current sample had significantly higher trait EI scores ($M = 5.54$, $SD = 0.43$) than the normative comparison group ($M = 4.95$, $SD = 0.61$), $t(21) = 6.41$, $p < .0001$. The average trait EI score of male and female non-leaders ($M = 5.29$, $SD = 0.64$) was also significantly higher than the combined normative sample mean ($M = 4.90$, $SD = 0.59$), $t(72) = 5.22$, $p < .0001$; however, the effect size for male leaders (Cohen's $d = 2.80$, $r = .81$) was much larger than for male and female non-leaders (Cohen's $d = 1.23$, $r = .52$).

4. Discussion

The results support Hypothesis 1 and are consistent with previous research relating EI scores from self-report measures other than the TEIQue to various leadership attributes (Barling et al., 2000; Judge et al., 2002; Mandell & Pherwani, 2003; Villanueva & Sánchez, 2007). Global trait EI discriminated between leaders and non-leaders within the same company, controlling for pertinent characteristics. Compared to previous research, in which leadership-related variables were assessed through rating scales, leaders in our study were identified based on their actual occupational position within the company. Further, this study used the TEIQue, a measure designed to represent trait EI comprehensively (Petrides et al., 2007).

Although Hypothesis 2 was supported, the non-leader group was also significantly above the TEIQue standardization sample mean, though the effect size for the leadership group was more than twice as large. It is important to bear in mind that the standardization sample is not matched on pertinent characteristics to the sample of this study. For example, the average age of the standardization sample (29.65 years, $SD = 11.94$) is about seven years younger than the mean age of the current sample, which falls within the age interval (34–44) at which trait EI scores were found to peak (Derksen, Kramer, & Katzko, 2002). On the other hand, the overall sample appeared to be generally high in trait EI, as even the non-leaders had global trait EI scores comparable to a managerial sample of similar age described in another study in this special issue (Siegling et al., 2014).

The negative relationship between cognitive ability and tenure can explain why even though cognitive ability was not directly related to leadership, it emerged as a significant predictor in the regression model, with the effect of tenure controlled. A plausible explanation is that employees with higher cognitive ability advance to higher positions faster or move onto other jobs sooner. Tenure in this study referred to the number of years employees were in their present position, hence the negative relationship with cognitive ability.

Although leadership and management are not interchangeable (Lunenburg, 2011), they are overlapping concepts (Young & Dulewicz, 2008). Therefore, the results reported in this study are consistent with those reported in the parallel article, wherein UK managers also showed higher trait EI than the standardization sample (Siegling et al., accepted). While these findings require replication on other samples and industries, they provide initial evidence to suggest that the range of personality traits linked to emotions is fundamental in occupational roles involving the supervision of, and responsibility for, others.

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