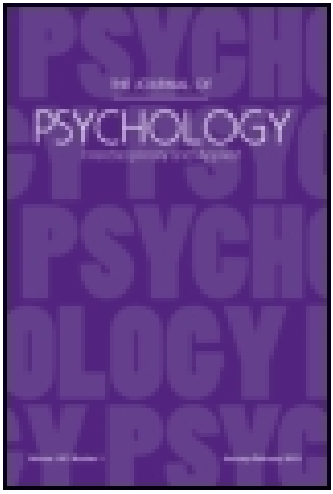

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Assessing Workplace Emotional Intelligence: Development and Validation of an Ability-based Measure

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Assessing Workplace Emotional Intelligence: Development and Validation of an Ability-based Measure

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ABSTRACT. Existing measures of Emotional Intelligence (EI), defined as the ability to perceive, understand, and manage emotions for productive purposes, have displayed limitations in predicting workplace outcomes, likely in part because they do not target this context. Such considerations led to the development of an ability EI measure with work-related scenarios in which respondents infer the likely emotions (perception) and combinations of emotion (understanding) that would occur to protagonists while rating the effectiveness of ways of responding (management). Study 1 ($n = 290$ undergraduates) used item-total correlations to select scenarios from a larger pool and Study 2 ($n = 578$) reduced the measure—termed the NEAT—to 30 scenarios on the basis of structural equation modeling. Study 3 ($n = 96$) then showed that the NEAT had expected correlations with personality and cognitive ability and Study 4 ($n = 85$) demonstrated convergent validity with other ability EI measures. Last, study 5 ($n = 91$) established that the NEAT had predictive validity with respect to job satisfaction, job stress, and job performance. The findings affirm the importance of EI in the workplace in the context of a valid new instrument for assessing relevant skills.

Keywords: emotional intelligence, emotions, measure, validation, workplace

EMOTIONS FIGURE PROMINENTLY IN THE WORKPLACE (Barsade & Gibson, 2007). Because this is true, a number of scholars have suggested that employees higher in emotional intelligence should be better employees (Daus & Ashkanasy, 2005). Although more research could be done, findings thus far have been somewhat disappointing (Matthews, Zeidner, & Roberts, 2012). As outlined in the introduction, a major reason for these predictive limitations is likely that

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existing emotional intelligence measures do not target the workplace context. Such considerations led to the development of a new instrument, one squarely focused on abilities that should matter in the workplace. This paper reports the outcomes of these efforts.

Emotional Intelligence in the Workplace

Emotional intelligence (EI), or the ability to be clear about emotions and work with them in a productive way, is primarily an individual difference construct: Just as people differ in their cognitive abilities, and in their personality traits, they should differ in the component abilities that comprise EI (Mayer, Roberts, & Barsade, 2008). Such abilities are termed branches and three of them have good empirical support (Joseph & Newman, 2010). First, EI encompasses *perception* or the ability to perceive emotions accurately in self and others (MacCann, Matthews, Zeidner, & Roberts, 2003). Second, EI encompasses *understanding*, which is typically operationalized in terms of knowing how emotions co-occur or transition from one to another (Joseph & Newman, 2010). Third, EI encompasses *management* or the ability to handle emotional situations with practical wisdom (MacCann & Roberts, 2008). When measured as a set of abilities, perception, understanding, and management are typically distinct, yet highly correlated, factors (Mayer, Salovey, & Caruso, 2004). They cannot be assessed by self-report because self-reports of EI often fail to predict the abilities that they are supposed to predict (Daus & Ashkanasy, 2005; MacCann et al., 2003).

Although it is intuitive that EI should matter in the workplace, divergent opinions can be found (Daus & Ashkanasy, 2005). Without sufficient data (MacCann et al., 2003), Goleman (1998) claimed that EI is two times more important than cognitive ability in predicting workplace success. Also, there are case studies suggesting, for example, that high EI employees were 63% less likely to quit or 127% more productive than average at some particular companies (Cherniss, 1999). However, such claims are anecdotal, and they have not been published in peer-reviewed journals (Zeidner, Matthews, & Roberts, 2004). Perhaps in part because this is true, some scholars have criticized the field of organizational EI. One class of criticisms stems from the fact that some definitions (McEnrue & Groves, 2006) and measures (McCrae, 2000) of EI are overly inclusive, overlapping too much with personality traits (Zeidner et al., 2004). Such criticisms can be avoided by focusing on ability-related assessments of EI rather than self-reports (Meyer et al., 2008). Perhaps more damning, then, are impressions that EI does not seem to matter much in the prediction of work-related outcomes (Antonakis, 2003).

More particular statements can be made on the basis of several meta-analyses. Martins, Ramalho, and Morin (2010) reported a .17 relationship between ability-related (or ability) EI and well-being, a figure that is likely to be similarly small for

outcomes such as job satisfaction. Van Rooy and Viswesvaran (2004) reported a .20 figure for the relationship between EI and job performance. However, there were not enough studies to distinguish ability-related versus self-reported EI levels and the relationship dropped to .02 when controlling for cognitive ability. O'Boyle, Humphrey, Pollack, Hawver, and Story (2011) revisited this area a number of years later. The relationship between ability EI and job performance now had an effect size of .21, but this relationship dropped to .07 when controlling for other individual difference factors in a multiple regression. Overall, these results (and others: Joseph & Newman, 2010) suggest that EI may matter somewhat, but not a lot, in organizational contexts (Matthews et al., 2012).

Organizational psychologists have primarily used the Multi Factor Emotional Intelligence Scale (MEIS; Mayer, Caruso, & Salovey, 1999) and its subsequent incarnation the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, Caruso, & Sitarenios, 2003) to assess EI in ability-related terms (Daus & Ashkanasy, 2005). Although the tests are reliable (MacCann et al., 2003), a potential problem with both tests is that they assess EI in rather abstract terms (Roberts, MacCann, Matthews, & Zeidner, 2010). For example, people are asked to determine the emotions expressed by modern paintings. It is not clear that skills in doing so indicate something about social/emotional functioning or would have relevance in predicting real-world outcomes. This point can be appreciated in several ways. A general principle of outcome prediction is that the content of a predictor will determine what it predicts (Campbell, McCloy, Oppler, & Sager, 1993). From this perspective, the ability to read emotions in modern paintings would be helpful for an art curator, but might be of limited relevance in getting along with others at work or managing work stress when it arises.

There are further reasons for pursuing this line of thinking. It was not always deemed useful to assess personality traits in the prediction of work outcomes (Schmitt, Gooding, Noe, & Kirsch, 1984). Part of the problem is that personality measures are designed to assess one's tendencies quite generally, with little specification of context (Mischel, 2009). Morgeson et al. (2007) reasoned that this problem could be fixed by "contextualizing" personality measures such that their instructions and content specified the work domain. Such alterations are in fact consequential. In a meta-analysis, for example, Shaffer and Postlethwaite (2012) concluded that work-contextualized personality assessments predict approximately two times more variance in work outcomes than decontextualized personality measures do. This pattern was evident for multiple personality domains and fits with other evidence that context-specified predictors better predict context-specific outcomes than decontextualized predictors do (Wood & Roberts, 2006). It is a natural extension to propose that an EI measure targeting the work domain may have the greatest utility in predicting work outcomes (Lievens & Chan, 2010).

In point of fact, there was no ability EI measure targeting the workplace and we therefore sought to create one. In doing so, several precedents were followed.

There is general agreement that the Mayer and Salovey (1997) framework for EI skills is both logical and theoretically sensible (Daus & Ashkanasy, 2005; MacCann et al., 2003). This framework was followed in creating separable subscales for emotional perception, understanding, and management, subscales that should nevertheless predict each other fairly well (Joseph & Newman, 2010; Mayer et al., 2004). To model the workplace domain, we followed the situational judgment test (SJT) literature (McDaniel, Morgeson, Finnegan, Campion, & Braverman, 2001; Motowidlo, Dunnette, & Carter, 1990). Briefly, this literature has shown that one can model experiences and behaviors at work, and hence predict them, by asking people to respond to workplace scenarios (Lievens & Chan, 2010). Of note, this method has been shown to produce SJTs that both predict workplace outcomes (McDaniel et al., 2001) and display incremental validity in doing so (Chan & Schmitt, 2002). The method can also target EI through the use of emotion-related scenarios with emotion-related responses (MacCann & Roberts, 2008). Last, the created measure will follow the scoring system developed for the MSCEIT, which awards EI points to individuals to the extent that their ratings match those of a norming sample (Mayer et al., 2003; see the following section for further details).

Overview of Studies

Because scale construction was the primary goal of the studies, key results relate to item selection, reliability, and convergent and predictive validity. In addition, given the purpose of the studies, the samples were somewhat necessarily college students in order to obtain the necessary sample sizes. In Study 1, a large pool of workplace scenarios was created and reduced in number on the basis of co-author feedback. Subsequently, a large sample of undergraduates was used to empirically select 46 of these scenarios and then cross-validate them. In Study 2, the measure—termed the NEAT (which stands for the North Dakota Emotional Abilities Test)—was further shortened on the basis of item-total correlations and structural equation modeling. Studies 3 through 5 focused on questions related to convergent, discriminant, and predictive validity. Study 3 examined relationships between the NEAT and personality traits as well as cognitive ability. Study 4 focused on convergent validity in the form of potential correlations between the NEAT and more general ability EI measures. Study 5 sought to determine the extent to which the NEAT could predict multiple work-related outcomes among people working at least 20 hours per week. In total, the five studies were motivated by the goal of improving on past efforts to understand the importance of EI in the workplace. Twenty-two hypotheses will be proposed and the rationale for each will be presented in the most relevant study. The following is a general overview:

Study 1: Develop the NEAT's workplace scenarios and select them.
Study 2: Refine the NEAT and examine its structural properties.

Study 3: Investigate NEAT correlations with cognitive ability and personality.
Study 4: Establish convergent validity with respect to other ability EI tests.
Study 5: Show that the NEAT predicts work-related outcomes.

Study 1: Measure Development and Initial Validation

Study 1 consisted of several stages designed to create well-performing work-related EI scenarios. Scenarios (and items) were chosen such that they correlated highly with total scores for an intended branch (perception, understanding, or management) while maximizing criterion prediction, including social support. Some branch-related specificity was expected, but the common focus on workplace EI should also pull for a general factor that contributes to substantial correlations among the branches (MacCann, 2010). Accordingly, moderate correlations among the branch scales were expected.

Hypothesis 1: NEAT branch scales will be moderately highly inter-correlated.

Method

Measure Development

Scenario Generation

Situation judgment tests may be superior to other ability-based EI tests in that they model the particular sorts of social situations in which EI should manifest itself (Schulze, Wilhelm, & Kyllonen, 2007). We sought to create a work-based version of such a test as no ability-based test of this type existed. Following recommended procedures (Hinkin, 1995), it was deemed best to generate a large (150) pool of relevant scenarios, with the expectation that some of them would perform better than others.

In writing the scenarios, the authors drew upon their knowledge of organizational psychology and their own workplace experiences. For example, one of the co-authors is an expert on emotion and he used his knowledge of appraisal and emotion theory to generate some of the scenarios. In addition, students of ours had been asked to interview managers with more than 5 years of experience concerning emotional events in the workplace. This material was transcribed and consulted when writing a number of the scenarios. The scenarios were intentionally diverse (which is recommended: Little, Lindenberger, & Nesselroade, 1999) in both their content (e.g., work demands, co-worker interactions, recognition or censure by the company) and in the sorts of emotions that would likely result (e.g., discrete, blended, self-focused, social). All situations, though, should involve realistic, non-trivial events and typically several characters or stake-holders.

The authors then reviewed the scenarios and decided it best to standardize them by reducing them to one or two sentences at most (e.g., "An employee was informed that an expense claim was being investigated by the home office,

despite its relatively trivial nature. The employee was forced to undergo intense interviews."). Following this standardization, the scenarios were randomly ordered so that it was not certain who had written each and three of the co-authors then rated all 150 scenarios on a five-point scale, with higher numbers reflecting better scenarios. The highest-scoring 90 scenarios were retained at this point.

The Creation of Items

Not all situations involved particular protagonists, but most did. In the latter case, fairly common first names (e.g., Jim, Margie, Raul) were randomly assigned. Scenarios were then randomly assigned to branches (perception, understanding, or management) in order to balance situation content across the branches. Also, a large list of emotion terms was compiled from existing sources (e.g., Storm & Storm, 1987).

For the EI branch of perception, each scenario was paired with four at least somewhat plausible emotions that the protagonist might experience (following MacCann & Roberts, 2008). Responses involve rating the extent to which (1 = not at all; 5 = extremely) the protagonist would experience them. The understanding branch follows the idea that understanding is more complex (Mayer & Salovey, 1997), involving the capacity to appreciate: (a) that an individual may often experience two emotions at the same time ("blends") and (b) that such reactions may occur in a temporal sequence ("transitions"). In both cases, pairs of emotion were rated in terms of their likelihood (1 = not likely; 5 = very likely) in the situation. The management branch is different because it seeks to assess whether people know how to respond to situations in an emotionally intelligent way (MacCann & Roberts, 2008). Accordingly, the items involve rating how effective (1 = not at all effective; 5 = very effective) it would be to respond in different ways.

Two features of these item-based procedures should be highlighted. Rating scales were used because they are more appropriate than checklists or a multiple-choice format. For example, it might be somewhat helpful to take over a co-worker's challenging tasks when s/he struggles with them, though this might not ultimately be the best solution. In this case, the behavior is neither completely ineffective, nor completely effective, but rather might be moderately effective (e.g., a 3 on a 5-point scale). Rating scales, that is, should be particularly useful in assessing the graded nature of EI (Mayer et al., 2003). A second important point is that four ratings were made for each scenario. In this sense, each scenario can be considered an item packet rather than a single item, a feature that should contribute to the reliability of the instrument.

Sample, Procedures, and Scoring Considerations

Item selection benefits from large sample sizes (Hinkin, 1995). To obtain reasonably large sample sizes, both in Study 1 and in the remaining studies, it was deemed best to draw from the undergraduate psychology participant pool of the

authors' university, which awards course credit as a function of research completion. This allowed for a data collection effort that was more extensive than would have been practical otherwise. In addition, a majority of students have part-time jobs and/or can draw on non-work socio-emotional knowledge in responding to the scenarios (see Appendix A). The Study 1 sample size was 290 (M age = 19.8; 53% female). On an a priori basis, 190 were randomly assigned to group 1, which was used to select scenarios. The other 100 were randomly assigned to group 2, among whom the properties of the scenarios could be independently tested.

The 90 scenarios were randomly ordered, as were their four items to be rated. Also, the 30 items for each branch were split into two groups on a randomized basis. For example, 15 perception scenarios were presented first and the remaining 15 perception scenarios were presented in the latter half of the survey. The instrument was then uploaded to a survey website such that responses to the survey could be made online, a procedure that results in high-quality data in the context of practical benefits (Gosling, Vazire, Srivastava, & John, 2004).

Ability EI tests can be scored according to expert opinion or sample consensus (MacCann et al., 2003). The rationale for the latter criterion is that there is collective emotional wisdom in the average responses of a sample (Legree, Psotka, Tremble, & Bourne, 2005). In fact, the two types of scoring tend to converge strongly (Fiori & Antonakis, 2010). Therefore, as an initial basis for scoring, study 1 used a consensus criterion. For each item of each scenario, participants received a score that reflected the percentage of other people making the same rating (1, 2, 3, 4, or 5) for that item. For example, if a participant made a "4" rating for joy for an item and 80% of the total sample also made a 4 rating for the item, then the participant received 0.8 for his/her response. The scoring is at the level of items, but items are averaged for a given scenario, scenarios for a given EI branch, and branches to reflect the person's total EI score. To render the metric more intuitive, we multiplied scores by 100, with higher scores reflective of greater EI ability. This was true in all studies.

As mentioned, the sample was split into two groups and group 1 was used to select better performing scenarios. A better performing scenario was defined in terms of a higher item-total correlation for the intended branch (e.g., the perception total for a perception scenario), lower item-total correlations for non-intended branches (e.g., the understanding total for a perception scenario), and outcome prediction. In the latter case, scenario scores might ideally correlate positively with self-reported ACT (MacCann, 2010), positively with social support (Ermer, Kahn, Salovey, & Kiehl, 2012), as assessed by a Lubben (1988) scale, and negatively with alexithymia (self-reported trouble in identifying feelings), as assessed by the Toronto Alexithymia Scale (Bagby, Taylor, & Parker, 1994). Scores for each scenario were correlated with each of these criteria, these correlations were z-scored, and then the z-scores were combined in such a way that equal weighting was given to the convergent, discriminant, and predictive metrics. Last, the

scenarios were rank ordered from better to worse performing on the basis of the multiple desirable features simultaneously.

Results and Discussion

The scenario evaluation processes outlined above led to the selection of the 15 best perception scenarios, the 16 best understanding scenarios (8 of a blend type and 8 of a transition type), and the 15 best management scenarios. The importance of this stage of the research project cannot be underestimated (Little et al. 1999). In addition, though, the second subsample was used to investigate the psychometric properties of the NEAT (version 1) in a manner not confounded by the scenario-selection process. The perception (alpha = .87), understanding (alpha = .81), and management (alpha = .77) branches of the NEAT were all reliable. In addition, correlations among branches were lower than the reliabilities for the branches, yet were high enough to suggest a common EI factor, supporting Hypothesis 1: perception and understanding, $r = .42$, $p < .01$; perception and management, $r = .35$, $p < .01$; understanding and management, $r = .57$, $p < .01$. The unique yet overlapping nature of the branches will be more formally examined in Study 2. See Table 1 for further descriptive statistics from Study 1.

Study 2: Shortening the NEAT and Assessing Its Factor Structure

Because the NEAT assesses EI at work, its norms should ideally come from people with extensive work-related experience. This was not necessarily the case in Study 1 so a new set of norms was obtained in Study 2. Specifically, the NEAT was given to MBA students, people who often have had, do have, and will have leadership positions in the organizations they work for. Owing to this expertise, MBA students were hypothesized to agree in their answers to a greater extent than unselected undergraduate students. If so, MBA norms could replace the Study 1 norms, thereby aligning the scoring system with the intended work focus of the instrument.

Hypothesis 2: MBA students will display greater consensus in their ratings.

Confirmatory factor analysis (CFA) methods are both powerful and flexible in examining hypothesized relationships among latent variables (Anderson & Gerbing, 1988). Study 2 took advantage of these methods in revising the NEAT scales. The first set of analyses sought to establish that scenarios purported to tap a specific EI branch (e.g., perception) in fact do so. Owing to the careful selection processes of Study 1, and consistent with the idea that perception, understanding, and management constitute coherent EI domains (Salovey & Mayer, 1990), the expectation was that CFAs would support the unidimensional nature of each branch scale.

TABLE 1. Descriptive Statistics and Correlations, Study 1

Variable	1	2	3	4	5	6	7
M (*SD*), Sample 1	28.57(3.34)	30.65(5.39)	27.53(3.08)	26.43(2.89)	23.88(3.27)	4.24(0.71)	2.30(0.81)
M (*SD*), Sample 2	28.45(3.20)	31.25(4.69)	26.69(3.49)	25.84(2.64)	23.14(3.68)	4.23(0.68)	2.25(0.81)
1: NEAT Total	—	.90**	.79**	.54**	.08	.25**	−.19*
2: NEAT P	.85**	—	.51**	.28**	.07	.26**	−.23**
3: NEAT U	.78**	.42**	—	.56**	.06	.12	−.05
4: NEAT M	.61**	.35**	.57**	—	.09	.09	.04
5: ACT	.09	.05	.15	.04	—	.04	−.08
6: SSN	.10	.19	−.08	.15	.01	—	−.13
7: TAS	−.13	−.20	.07	.00	.06	−.19	—

Note. Correlations for Sample 1 ($n = 190$) are above the diagonal and correlations for Sample 2 ($n = 100$) are below the diagonal. The social support network measure assesses how frequently (1–5) participants are in touch with friends and family.
ACT = American College Testing; SSN = Social Support Network; TAS = Toronto Alexithymia Scale.
* = $p < .05$. ** = $p < .01$.

Hypothesis 3: Fit statistics will support the unidimensional nature of each branch scale.

Perceiving emotions accurately is thought to be a somewhat different skill than understanding emotions in more complex terms, which is thought to be different that managing emotions effectively (Mayer et al., 2003; Salovey & Mayer, 1990). On the other hand, like any ability measure, there should be positive and potentially sizeable relationships among the abilities measured (MacCann, 2010). On the basis of these considerations, as well as the Study 1 results, correlations among the latent factors of perception, understanding, and management were hypothesized to be pronounced, but not to the point of unity.

Hypothesis 4: NEAT branch scores should be substantially correlated, but distinct.

Theories of EI propose that perception is the most basic ability, understanding is an intermediate ability, and successful management follows from the earlier EI branches (Joseph & Newman, 2010). This "cascade" model suggests that perception and understanding should be more highly correlated than perception and management and that understanding may mediate relations between perception and management (Joseph & Newman, 2010). Although seldom tested, this sort of mediational model can be expected for the NEAT scale.

Hypothesis 5: NEAT-assessed understanding will mediate the other two branches.

Theorists have suggested that, regardless of its specific manifestations, there should be a global EI factor (e.g., Matthews et al., 2012), just as there tends to be a "positive manifold" among cognitive tests (Jensen, 1998). Unfortunately, evidence for a general EI factor has been somewhat elusive in the EI literature (Fiori & Antonakis, 2010). Regardless, the results of Study 1—in the form of strong inter-correlations among the branch scales—suggest that the NEAT should exhibit this desirable property. On the basis of the initial results, we hypothesized that a global EI factor would be found in a hierarchical CFA.

Hypothesis 6: A Global EI factor will be found for the NEAT.

Method

Sample and Procedures

The sample consisted of 578 psychology undergraduates (53% female; average age = 19.63) seeking extra credit for their courses. The 46 item NEAT was posted to an online website and data were collected over the Internet. Given the shortened nature of the scale, the perception, understanding, and management scenarios were grouped for ease of administration.

The Collection of Expert Norms

The NEAT is meant to be a workplace EI measure. Accordingly, it was deemed best to obtain a new set of norms from 30 MBA students (60% male) with an average of 8.15 years of work experience and an average age of 30. This sample size is comparable to the expert sample sizes of other ability EI measures (e.g., Mayer et al., 2003) and expert sample sizes of this type have been shown to result in stable scoring systems (MacCann et al., 2003). The MBA sample had extensive work experiences in areas such as real estate, construction, human resources, and healthcare and supervised an average of 4 subordinates.

Consistent with Hypothesis 2, analyses revealed that the MBA norms converged with those obtained in Study 1, but were preferable in the following way: The proportion of MBA students agreeing on the best answer (among the 4) was significantly larger than the proportion of Study 1 responders agreeing on the best answer for 37 of the 46 scenarios, as indicated by chi-square tests. For the remaining nine scenarios, percentages were equal. Thus, the MBA norms can be considered superior for both theoretical (i.e., reflecting greater work experience) and empirical reasons and these norms were used to score the NEAT in Studies 2–5.

Results and Discussion

To better understand the factor structure of the NEAT, we conducted a series of confirmatory factor analyses (CFAs: Anderson & Gerbing, 1988).

Branch-Specific CFAs and Shortening the Scales

Previous measures of ability EI have sometimes suffered from low reliability at the branch level (Keele & Bell, 2008). Other EI measures, because of their length, are not convenient for many applied purposes. Branch-specific CFAs were used to balance these competing factors by (a) testing the unidimensionality of each branch, (b) reducing scale length if possible, and (c) ensuring that the scales were still long enough so that high levels of reliability should follow. That is, as long as reliability is not affected substantially, and a branch's structure improved, it should be possible to shorten the scales. In addition, we sought to cross-validate these CFA results, which could be done by splitting the large sample into two separate (each $n = 289$) subsamples. Initial results are based on the first sample and cross-validation was then performed using the second.

The first CFA was performed on the perception branch by itself, starting with all 15 of the relevant scenarios. Results showed an acceptable fit, but there were several scenarios that had low factor loadings. Accordingly, the analysis was rerun using the 10 scenarios with the best loadings and this selection process resulted in a better fit. For example, a Tucker Lewis Index (TLI) of greater than .9 is considered a good fit (Marsh, Balla, & MacDonald, 1988) and the TLI was .95. This and other fit statistics are reported in the Perception rows of Table 2.

TABLE 2. Results of Confirmatory Factor Analyses, Study 2

	Latent Construct	# Sc.	*n*	χ^2	*df*	*p*	RMSEA	TLI	CFI	GFI
Facet Level	Perception (Sample 1)	10	289	83.82	35	.00	.07	.95	.96	.94
	Perception (Sample 2)	10	289	77.60	35	.00	.07	.95	.96	.95
	Understanding (Sample 1)	10	289	64.33	34	.00	.06	.91	.93	.96
	Understanding (Sample 2)	10	289	75.04	34	.00	.07	.87	.90	.95
	Management (Sample 1)	10	289	44.62	35	.13	.03	.99	.99	.97
	Management (Sample 2)	10	289	77.60	35	.00	.07	.95	.96	.95
Hierarchical	Incl. Global EI Factor	30	578	826.97	402	.00	.05	.92	.93	.90

Note. # Sc. = Number of Scenarios; RMSEA = Root Mean Square Error of Approximation; TLI = Tucker Lewis Index; CFI = Comparative Fit Index; GFI = Goodness of Fit Index.

The second CFA was conducted for the understanding branch by itself, at this point having 16 scenarios. As understanding encompasses both blends and transitions (Mayer et al., 2003), these two 8-scenario subscales were allowed to correlate with each other. The fit was adequate, but could be improved. Based on factor loadings, the top 10 scenarios (6 of a blend type and 4 of a transition type) were chosen for inclusion in the revised NEAT. Fit statistics for the 10 scenario understanding scale were good (e.g., Root Mean Square of Approximation $< .1$: MacCallum, Browne, & Sugawara, 1996), with further details reported in Table 2.

The initial CFA for the management branch was performed using the 15 scenarios retained from Study 1. The fit was adequate, but there were some lower factor loadings. When the 10 scenarios with the highest loadings were chosen, CFA fit indices improved. For example, TLI figures were above .9, indicating a good fit (Marsh et al., 1988). As was the case for the other branch scales, readers are referred to Table 2 for further fit statistics. In addition, sample items for each branch are reported in the Appendix. The bottom line is that these analyses led to a streamlined and improved NEAT with 30 total scenarios, 10 per branch.

Relations Among the Latent Factors

If EI has a general component, then correlations among latent branch scores should be high (Fiori & Antonakis, 2010). On the other hand, these correlations should not approach unity as this would suggest interchangeability (Mayer et al.,

2003). Both of these criteria were supported in that correlations among latent factors were high, but considerably less than 1 ($r = .81$ for perception & understanding, $r = .63$ for perception & management, and $r = .73$ for understanding & management). In addition, and following prior suggestions (Salovey & Mayer, 1990), Joseph and Newman (2010) proposed that the perception-understanding correlation should be higher than the perception-management correlation. Note that this was true in relation to correlations among the NEAT branches. Further, and following a cascade model (Joseph & Newman, 2010), understanding should ideally at least partially mediate relations between perception and management. A mediational analysis, with latent factors and 3000 samples, was conducted to examine this hypothesis. In fact, there was a significant indirect effect linking perception to management (.61, $p < .01$), with a 95% confidence interval of .53 to .68. That is, understanding scores mediated the perception/management relation (Preacher & Hayes, 2008).

Hierarchical Relations Among the Latent Factors

Last, we conducted a single hierarchical CFA (HCFA) to test for the hypothesized presence of a general EI factor. Evidence for a general factor has been inconsistent with other EI measures (Palmer, Gignac, Manocha, & Stough, 2005), but the previously reported findings (e.g., moderately high correlations among the latent factors) suggest that a general EI factor may be found for the NEAT. For this analysis, there were 10 scenarios (or indicators) for each branch. In addition, the model posited a higher-order global EI factor, with top-down paths to each of the three branches. To identify the model, the variance of the higher order factor was fixed at one. The results of this analysis are shown in the "Global EI" row of Table 2, which reports good fit statistics (e.g., an RMSEA of less than .1: MacCallum et al., 1996). In other words, a general EI factor was demonstrated.

Summary and Discussion

A number of CFAs were performed to improve the NEAT while examining its properties. The first analyses focused on each branch by itself. By dropping low-loading scenarios, the branch scales were both improved and shortened. Also, these initial CFAs showed that each scale had unidimensional content. Turning to a second set of analyses, correlations among latent factor scores indicated that the branch scales were highly inter-correlated, but not synonymous with each other, as should ideally be the case. Furthermore, this second set of analyses supported the logical premise that understanding partially mediates the relation between perception and management (Joseph & Newman, 2010). A final HCFA provided support for a global EI factor in the NEAT that accounts for shared variance among the branch scales. Altogether, the revised NEAT has desirable structural properties.

Study 3: Relationships With Cognitive Ability and Personality

Study 3 sought to expand the nomological network of the NEAT by examining relations between the NEAT and both cognitive ability and personality. In their formulation, Salovey and Mayer (1990) suggested that EI may be distinct from cognitive ability and may complement cognitive ability in understanding successful interpersonal and professional functioning. There is some empirical support for this idea (Mayer et al., 2008). Yet, it would be a mistake to insist that EI is unrelated to cognitive ability, as positive correlations of a moderate size are often found (Van Rooy & Viswesvaran, 2004). Such positive correlations make sense from a "g factor" perspective—i.e., most abilities should correlate positively to some extent (MacCann, 2010). Therefore, a positive NEAT/cognitive ability correlation might be expected as well.

Hypothesis 7: Cognitive ability will predict NEAT scores, though moderately so.

When EI is assessed by self-report, there is some likelihood that the measure simply repackages existing personality traits (Mayer et al., 2008). When EI is assessed by ability-related measures, there is less concern about this possibility, but a person's personality traits should still matter (Joseph & Newman, 2010). In examining this idea, Study 3 focuses on the consensual traits of the Big 5. Briefly, a long history of factor analyzing personality descriptors and self-report scales converges on the idea that there are five robust factors of personality termed extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience or intellect (John & Srivastava, 1999). These traits are thought to organize and account for many other individual differences not originally thought of as facets of the Big 5 (McCrae & Costa, 1999), including EI skills (Conte, 2005).

People more motivated to understand the emotions of others tend to make better emotional inferences (Galinsky, Ku, & Wang, 2005) and the personality trait of agreeableness captures such motivations (Graziano & Eisenberg, 1997). Accordingly, one might expect positive correlations between levels of agreeableness and ability EI, a hypothesis that Moeller, Robinson, Wilkowski, and Hanson (2011) provided some evidence for. In their meta-analysis, Joseph and Newman (2010) also found positive relations between the personality trait of agreeableness and ability-based EI measures. The NEAT measure is a new one, but its social content and previous research evidence encourage the idea that higher scores may be obtained by more agreeable people.

Hypothesis 8: Agreeableness will positively predict NEAT performance.

In terms of behaviors and outcomes at least, there seems to be an inverse relationship between the personality trait of neuroticism and emotional intelligence (Robinson & Gordon, 2011). People high in neuroticism, for example, exhibit

greater emotional reactivity (Suls & Martin, 2005), cope with stressors poorly and in maladaptive ways (Lahey, 2009), and are prone to a number of psychological disorders characterized by poor emotion management (Widiger & Trull, 2007). On the basis of this literature, it is hypothesized that people higher in neuroticism would obtain lower NEAT scores.

Hypothesis 9: Neuroticism will negatively predict NEAT performance.

Method

Sample and Procedures

A group of 96 (54% female; mean age = 19.2 years) undergraduates received psychology credit by their participation. They completed the study over the Internet using Qualtrics software. The NEAT was completed first, demographic and cognitive ability information was then obtained, and a Big 5 inventory was then administered.

Measures

NEAT

The 30 item NEAT was completed and scored using the MBA norms of Study 2. Means, standard deviations, and alphas are reported in Table 3, which also reports correlations among the measures.

Cognitive Ability

The ACT, a national exam given to college-bound high school seniors, has been shown to predict subsequent academic and job performance (Coyle & Pillow, 2008). Also, its scores correlate highly (.61–.77) with other measures of cognitive ability (Koenig, Frey, & Detterman, 2008) at a level sufficient to consider the ACT as a proxy measure of IQ (Carlson & Herdman, 2012). Therefore, participants in the present study reported their ACT scores as a measure of cognitive ability.

Personality Traits

Personality was assessed using Goldberg et al.'s (2006) well-validated Big 5 measure. Big 5 scores assessed by this measure correlate highly with Big 5 scores assessed by other measures, so much so that John and Srivastava (1999) have concluded that different Big 5 instruments are interchangeable for most practical purposes. The administered measure asked participants to rate the accuracy (1 = very inaccurate; 5 = very accurate) with which 50 statements, 10 per trait (e.g., "worry a lot" for neuroticism), generally describe the self, and Big 5 average scores were computed.

TABLE 3. Means, Standard Deviations, and Zero-Order Correlations, Study 3

Variable	*M*	*SD*	1	2	3	4
1: NEAT Total	29.94	5.04	.92			
2: NEAT P	34.49	7.93	.89**	.89		
3: NEAT U	27.09	4.45	.87**	.66**	.77	
4: NEAT M	28.66	5.73	.79**	.48**	.65**	.85
5: ACT	22.81	3.51	.35**	.33**	.34**	.24*
6: Neuroticism	2.48	0.73	−.24*	−.19	−.26*	−.22*
7: Extraversion	3.35	0.66	.06	.10	−.04	.08
8: Openness	3.20	0.53	.16	.13	.08	.22*
9: Agreeableness	3.66	0.55	.44**	.36**	.41**	.40**
10: Conscientious.	3.46	0.62	.15	.21*	.09	.06
11: Age	19.16	1.38	.06	.02	.12	.06
12: Sex	1.54	0.50	.15	.23*	.04	.06

Note. Numbers on the diagonal are alpha coefficients. For the Sex variable, females were scored higher. Readers can contact the first author for a full correlation matrix. $n = 96$.
NEAT P = NEAT Perception; NEAT U = NEAT Understanding; NEAT M = NEAT Management; ACT = American College Testing; Conscientious. = Conscientiousness.
* = $p < .05$. ** = $p < .01$.

Results and Discussion

Hypothesis 7 stated that cognitive ability should covary positively with NEAT scores, though the correlation should be moderate. This hypothesis was supported. ACT scores (a good proxy for cognitive ability: Koenig et al., 2008) were a positive predictor of total NEAT scores ($r = .35$, $p < .01$) and all of the NEAT branch scales (see Table 3).

Hypothesis 8 stated that higher levels of agreeableness should translate into higher levels of NEAT. This hypothesis was supported ($r = .44$, $p < .01$). Hypothesis 9 was also supported in the form of an inverse relationship between neuroticism and total NEAT scores ($r = -.24$, $p < .05$). It is worth noting that neuroticism and agreeableness seem to be the two Big 5 traits that are most relevant to emotion regulation (Robinson & Gordon, 2011). In addition, these are the two Big 5 traits that best predict (neuroticism positively and agreeableness negatively) anger and aggression (Watson, 2000). Thus, the personality-related findings make sense.

There were two other Big 5 correlations worth commenting on, albeit briefly. Conscientiousness was predictive of NEAT perception ($r = .21$, $p < .05$) and this comports with suggestions that conscientious individuals may more closely monitor the emotions of others in the workplace (Joseph & Newman, 2010). Openness to experience shares a small relationship with intelligence (McCrae, 1993), and

the management branch of EI has been viewed as the most cognitively complex (Mayer et al., 2003). Therefore, a significant correlation between openness and NEAT management ($r = .22$, $p < .05$) is sensible.

Overall, though, the most sizeable correlations were found for cognitive ability, as assessed by ACT scores, and agreeableness. However, these correlations were nowhere near the sort of magnitude to wonder whether ability EI is synonymous with intelligence and personality, as has been suggested by some critical commentators (for a review, see Ashkanasy & Daus, 2005). This issue will be revisited in Study 5.

Study 4: Relations With Other Ability EI Measures

The NEAT occupies a unique niche because it is the only work-related ability EI measure that exists. The work-related content of the scenarios, though, should not preclude systematic relations with other ability EI tests. Study 4 administered several of them.

The development of systematic tests to examine emotion perception predates the focus on EI as a construct (Ekman & Friesen, 1967). Investigators who have followed this older literature have shown that poorer emotion labeling accuracy is observed in clinical disorders marked by interpersonal difficulties, such as schizophrenia (Irani, Seligman, Kamath, Kohler, & Gur, 2012) and autism (Baker, Montgomery, & Abramson, 2010). In addition, the organizational literature has shown that better emotion labeling accuracy is predictive of outcomes such as leadership (Rubin, Munz, & Bommer, 2005) and team effectiveness (Farh, Seo, & Tesluk, 2012). Potential relations with emotion perception accuracy were investigated by asking participants to complete the DANVA-2 AF (Diagnostic Analysis of Nonverbal Accuracy to Adult Faces, Version 2: Nowicki & Duke, 1994). Given the common focus on emotion perception processes, the NEAT and the DANVA-2 AF were expected to correlate positively with each other.

> *Hypothesis 10*: Total NEAT scores should positively predict DANVA-2 AF accuracy.

Support for Hypothesis 10 would be impressive because the NEAT uses verbally-described social scenarios as stimuli and the DANVA-2 AF presents static facial expressions of emotion. Therefore, finding positive relations between the two sorts of tests would bypass the concern that perceptual decoding abilities might be modality-specific (Roberts et al., 2010). Even so, it stands to reason that the perception branch of the NEAT might be the best predictor of facial decoding skills. This possibility was examined in a follow-up multiple regression.

The creation of the NEAT was in part motivated by the idea that EI might be best examined in the social contexts in which it occurs. For example, rather than asking people to rate the emotions of abstract paintings, it might be more

useful to ask them to infer what a protagonist would likely feel in a real-world social situation (Roberts et al., 2010). The NEAT's focus on workplace scenarios is unique, but its use of scenarios, per se, is shared with another test. Specifically, MacCann and Roberts (2008) created and validated two scenario-based measures termed the Situational Test of Emotion Understanding (STEU) and the Situational Test of Emotion Management (STEM). Given that all of these tests use social inferences to tap components of EI, some convergence among the tests seemed likely.

Hypothesis 11: Total NEAT scores should predict STEU and STEM scores.

Although the STEU and STEM scales of MacCann and Roberts (2008) are positively correlated, the STEM was created to assess emotion management in particular. Therefore, one might predict that the NEAT management subscale would predict STEM scores better than the NEAT perception subscale. This possibility was pursued in a follow-up multiple regression.

Prominent ability EI measures do not demonstrate the degree of predictive validity that they might (Matthews et al., 2012). One solution to this problem could be to develop ability EI measures that are more complex and contextual in nature than what currently exists (Roberts et al., 2010). Another solution, though, might involve assessing EI in even more basic terms than is typical of the EI literature (Fiori & Antonakis, 2010). Moeller et al. (2011) created such a measure by asking people to evaluate words and found that people posited to be high in EI made evaluations that were more consensually accurate. Robinson, Moeller, Buchholz, Boyd, and Troop-Gordon (2012) subsequently showed that greater levels of consensual accuracy in this basic task predicted superior emotion regulation in daily life. On the basis of the idea that basic EI skills contribute to NEAT performance, a positive correlation between the NEAT and word evaluation accuracy was expected.

Hypothesis 12: The NEAT should predict word ratings that are more normative.

Method

Sample and Procedures

The sample consisted of 85 undergraduates (52.3% female; M age = 19.23) who completed the study online, using Qualtrics software. The NEAT was completed first. Then, participants reported on demographics and their ACT scores. The final assessments were the affect rating task, the STEU and STEM, and the DANVA 2-AF.

Measures

NEAT

This was the same test administered in Study 3, scored the same way.

ACT Scores

Participants reported on their ACT scores, a good proxy of IQ.

STEU and STEM

The STEU consists of 42 items asking people to infer the most likely emotion felt by a protagonist. The situations are primarily interpersonal and the correct answer is specified by appraisal theory. The test has a multiple choice format in which only one answer is scored as correct. The STEM has a similar format and scoring system except that there are 44 situations and participants pick the most effective option for responding to the indicated scenario. Please see MacCann and Roberts (2008) for validity information.

Affect Rating Task and Scoring

The affect rating task required people to evaluate (1 = extremely negative; 9 = extremely positive) 30 positive (e.g., laughter) and 30 negative (e.g., disease) words from the Bradley and Lang (1999) database. Consensus scoring was used. First, each word was given a consensus norm—the average rating of the word across all raters. Second, every rating was subtracted from the norm for the word. Third, these difference scores were converted to absolute values and then averaged by participant. Higher scores indicate lesser EI as reflected in departures from normative consensus.

DANVA 2-AF

This assessment consisted of 24 adult faces expressing a discrete, basic emotion. Each face was shown for 2 seconds and then participants picked the one emotion (e.g., anger) most clearly expressed from a set of several response options. The full test and its rationale are available on Stephen Nowicki's website and psychometric support for the test is available in a Nowicki and Duke (1994) report.

Results and Discussion

Means, standard deviations, reliabilities, and correlations among the measures are reported in Table 4. The NEAT had good reliability. In addition, the NEAT branches were markedly predictive of each other, as should be the case when a general EI factor is proposed (Brackett & Mayer, 2003). As in Study 3, participants with higher ACT scores received higher NEAT scores, consistent with an ability-related perspective (MacCann, 2010). The primary purpose of Study 4, though,

TABLE 4. Means, Standard Deviations, and Zero-Order Correlations, Study 4

Variable	*M*	*SD*	1	2	3	4
1: NEAT Total	30.59	4.74	.92			
2: NEAT P	35.56	7.59	.88**	.89		
3: NEAT U	27.38	4.38	.82**	.57**	.75	
4: NEAT M	29.37	5.57	.80**	.51**	.61**	.85
5: ACT	23.07	3.61	.45**	.42**	.41**	.36*
6: DANVA	0.80	0.10	.29*	.28*	.21	.17
7: STEU	0.50	0.18	.69**	.57**	.67**	.58**
8: STEM	0.41	0.12	.59**	.43**	.54**	.59**
9: Affect Rating Diff.	1.03	1.34	−.49**	−.40**	−.42**	−.45**
10: Age	19.23	1.61	−.14	−.14	−.09	−.08
11: Sex	1.52	0.51	.02	−.02	.10	.00

Note. Numbers on the diagonal are alpha coefficients. The Affect Rating Diff. variable is scored such that higher numbers reflect greater deviations from mean word evaluations. For the Sex variable, females were scored higher. Readers can contact the first author for a full correlation matrix. $n = 85$.

NEAT P = NEAT Perception; NEAT U = NEAT Understanding; NEAT M = NEAT Management; ACT = American College Testing; DANVA = Diagnostic Analysis of Non-Verbal Accuracy; STEU = Situational Test of Emotion Understanding; STEM = Situational Test of Emotion Management.

* = $p < .05$. ** = $p < .01$.

was to establish convergent validity. Although the work-related context of the NEAT is unique, doing well on the test should tap more general EI skills as well. On the basis of this reasoning, NEAT scores should correlate with other EI tests.

Supporting Hypothesis 10, there was a significant positive correlation between the NEAT (total score) and the ability to label nonverbal displays of emotion, as assessed by the DANVA 2-AF. In branch-specific terms, all correlations were positive, but the one involving the NEAT perception branch was the only one that was significant. In addition, a multiple regression contrasting the NEAT perception and management branches further supported the idea that the perception branch of the NEAT is a better predictor of this perception-based EI measure (Beta = .27, $p = .05$) than the management branch is (Beta = .03, $p > .80$).

Hypothesis 11 stated that the NEAT would positively predict STEU and STEM scores (MacCann & Roberts, 2008). This was found to be the case for the NEAT as a whole and for each NEAT branch (see Table 4). On the basis of these correlations, it is reasonable to suggest that workplace EI overlaps to some extent with more general forms of EI. A follow-up analysis predicted STEM scores from NEAT perception and NEAT management. Controlling for overlapping variance, the NEAT management scale was a better predictor of STEM management scores

(Beta = .40, $p < .01$) than the NEAT perception scale was (Beta = .16, $p > .10$). These findings indicate that there is some specificity to branches of the NEAT.

Last, we hypothesized that NEAT levels would manifest themselves in a basic word evaluation task (Moeller et al., 2011) that has been shown to predict emotion regulation success in daily life (Robinson et al., 2012). This was the case. For example, people with higher total NEAT scores made word evaluations that were closer to normative consensus ($r = -.49$, $p < .01$).

Summary and Discussion

Study 4 established convergent validity for the NEAT in a nonverbal facial expression task, in two general-purpose EI tests, and in a basic word evaluation task. As convergent validity often eludes other ability EI measures (Davies, Stankov, & Roberts, 1998), such results further attest to the NEAT's validity. In addition, multiple regressions indicated that the NEAT perception branch is a better predictor of nonverbal perceptual abilities and that the NEAT management branch is a better predictor of knowing how to respond in emotional situations, albeit with the recognition that the multiple regression results might be more stable with larger sample sizes. What has yet to be established, though, is that higher levels of NEAT benefit work outcomes. This was the focus of Study 5.

Study 5: NEAT As a Predictor of Workplace Outcomes

We deemed it important to examine workplace outcomes in Study 5. To be eligible to complete this study, participants had to be working at least 20 hours a week. In addition, the protocol sought to cover a broad nomological net of workplace outcomes, all of which are important or consequential to employees and their employers. Included were assessments of job stress, job satisfaction, task performance, leadership performance, team-related performance, organizational citizenship behaviors, and counterproductive work behaviors.

There are reasons for thinking that people high in EI should experience less stress. Perceiving the emotions of others accurately should facilitate interacting with them more effectively, including in areas such as conflict resolution (Galinsky et al., 2005). Understanding the complexity of emotions also entails understanding their transitory nature (Mayer et al., 2008), an insight that tends to be stress buffering (Brown & Ryan, 2003). Last, the management branch of EI is defined in terms of skills that should be useful in reducing distress according to prominent models of emotion regulation (Gross & Thompson, 2007). Such considerations led to the prediction that there would be an inverse relation between NEAT scores and job stress, results that would have important applied value given the organizational costs of job stress (Frone, Russell, & Cooper, 2011).

Hypothesis 13: The NEAT will negatively predict job stress.

However, theorists have long suggested that there are healthy and unhealthy forms of stress (Dienstbier, 1989). A prominent model, for example, distinguishes "threat" versus "challenge" appraisals. Only the former is deemed to constitute a significant health risk and challenge appraisals may actually motivate better performance (Tomaka, Blascovich, Kibler, & Ernst, 1997). A similar distinction between hindrance and challenge stress has been validated in organizational psychology (LePine, Podsakoff, & LePine, 2005). Hindrance stress is caused by problematic occurrences that can detract from job performance, whereas challenge stress is endemic to one's job-related goals. Similarly, Rodell and Judge (2009) showed that hindrance (compared to challenge) stress is experienced more negatively and differentially triggers counterproductive work behavior. High EI individuals are likely to use their posited abilities to reduce hindrance stress, in particular, relative to challenge stress.

Hypothesis 14: NEAT will inversely predict hindrance stress more than challenge stress.

There is evidence for an affective basis to job satisfaction (Judge, Thoresen, Bono, & Patton, 2001) and there is also evidence that satisfied employees are better employees (Wood, Van Veldhoven, Croon, & de Menezes, 2012). On the basis of the general expectation that higher levels of EI should serve as an affective resource (e.g., in buffering stress), it seemed likely that job satisfaction would vary positively with NEAT skills.

Hypothesis 15: NEAT will positively predict job satisfaction.

Emotional intelligence should be especially relevant in dealing with the social (relative to nonsocial) features of work (Barsade & Gibson, 2007). Accordingly, the NEAT is likely to predict satisfaction with a job's interpersonal features (e.g., coworkers, supervision) better than its noninterpersonal features (e.g., compensation).

Hypothesis 16: NEAT will best predict satisfaction with interpersonal aspects of work.

An emotionally intelligent employee should be better able to manage emotional distractions when executing job-related tasks (Elfenbein & Ambady, 2002). Consistent with this suggestion, meta-analyses indicate some relationship between EI and job performance (e.g., O'Boyle et al., 2011) of at least a small effect size (Van Rooy & Viswesvaran, 2004). Accordingly, the NEAT should positively predict job performance. Importantly, this relationship should be larger than previously found given that the NEAT focuses squarely on EI as it manifests itself in workplace situations.

Hypothesis 17: NEAT will positively predict job performance.

EI involves the ability to recognize, understand, and manage the emotions of self and others (Mayer et al., 2003). Such skills should reasonably predict effective leadership. For example, in recognizing the emotions of supervisees, one is in a better position to know when an extra burden might be too much for the supervisee to handle. In addition, emotion management skills would be substantially helpful in creating a positive work environment. Consistent with such suggestions, there is some evidence for the utility of EI in leadership performance (Côté & Miners, 2006) and leadership emergence (Côté, Lopes, Salovey, & Miners, 2010). Thus, a positive relationship between the NEAT and leadership performance was hypothesized.

Hypothesis 18: NEAT will positively predict leadership performance.

EI should be important when interacting with others because emotions frequently occur in this context (Barsade & Gibson, 2007). Thus, one might expect EI to be beneficial to teamwork effectiveness as teams require extensive social interactions. Farh et al. (2012) made this point, articulated multiple additional pathways through which EI should facilitate team performance, and provided results in support of the EI/teamwork relationship (also see Jordan, Ashkanasy, Härtel, & Hooper, 2002). Hence, there were reasons for predicting a positive relationship between the NEAT and teamwork or team performance.

Hypothesis 19: NEAT will positively predict team performance.

Organizational citizenship behaviors, often considered an aspect of job performance, refer to employee behaviors directed at helping other employees (interpersonal or OCB-I for short) or the organization (organizational or OCB-O for short). There are reasons for thinking that EI should play a role in such behaviors. For example, to be concerned for another person might require that one can accurately recognize when others are distressed. In addition, these behaviors are typically motivated by empathy (Ho & Gupta, 2012) and empathy is a complex emotion that requires sufficient levels of emotional understanding (Dziobek, 2012). Therefore, the study hypothesized positive relations between the NEAT and OCBs. The relationship might be more pronounced for OCB-Is, but a relationship with OCB-Os was hypothesized as well.

Hypothesis 20: NEAT will positively predict OCBs.

People higher in EI should be better able to avoid conflict (Galinsky et al., 2005) as well as down-regulate emotions such as frustration and anger when they occur (Gross & Thompson, 2007). For these reasons, EI should be protective

against counterproductive work behaviors (CWBs), which are typically motivated by frustration and anger (Spector, Fox, & Domagalski, 2006). Accordingly, an inverse relationship with CWBs was expected.

Hypothesis 21: NEAT will negatively predict CWBs.

Study 3 found that the NEAT shared positive relationships with ACT scores and agreeableness and there was a negative correlation with the trait of neuroticism. However, these relationships were of a moderate size suggesting that the NEAT may predict unique variance in the Study 5 outcomes. This was expected because the NEAT, but not these other individual difference variables, focuses squarely on job-related inferences and decision making. Accordingly, the hypothesis was that evidence for the predictive validity of the NEAT would remain when controlling for ACT scores and brief measures of the Big 5 personality traits.

Hypothesis 22: Results will remain significant when controlling for ACT and personality.

Method

Sample and Procedures

Study 5 sought a sample of students who have consequential job commitments. Pursuant to this aim, participants ($n = 91$; 53% female; M age $= 21.14$) were not allowed to enroll in this study unless they worked at least 20 hours per week. Although the protocol did not ask about exact hours, the figure is likely to be 25–26 hours/week on the basis of similar protocols at the same institution. In addition, other information about the jobs was obtained. On average, the students had worked at the place of employment for 15.23 months. Students also characterized their jobs using a 10 item factual autonomy scale (Spector & Fox, 2003), which asks questions such as how often one is told what to do, with a rating range of 1 (never) to 5 (every day). Responses were averaged and then the scale was reverse-scored so that higher numbers reflected greater autonomy. The mean was 3.57 ($SD = 0.89$; alpha $= .85$), which is comparable to what Spector has found for full-time University of South Florida support personnel.

Measures

NEAT

Workplace EI was assessed in a manner identical to prior studies.

ACT Scores

Participants reported their ACT scores as a proxy measure of IQ. The average ACT score was 22.83 ($SD = 3.05$).

Personality Traits

A shorter version of the Big 5 traits was needed given the number of other measures in the study. Therefore, the study used the Ten Item Personality Inventory (TIPI), a well validated brief Big 5 measure (Gosling, Rentfrow, & Swann, 2003). Means and correlations were consistent with what one would generally expect for Big 5 inventories (John & Srivastava, 1999). For example, neuroticism had the lowest mean.

Job Stress

Job stress was assessed using Cavanaugh, Boswell, Roehling, and Boudreau's (2000) 16 item measure, which quantifies an overall score (1 = produces no stress; 5 = produces a great deal of stress) as well as two subscale scores: hindrance stress and challenge stress. Descriptive statistics for this scale—and the other outcomes—are reported in Table 5.

Job Satisfaction

Job satisfaction was assessed with a 36 item measure from Spector (1985). All items were rated with a 7-point Likert scale, with higher numbers reflecting higher satisfaction with a specific feature of the job. The scale scored overall job satisfaction and then satisfaction with three job domains based on Spector's facets. A 12 item scale captured satisfaction with interpersonal relationships at the job (e.g., satisfaction with coworkers) and this composite is termed JS-interpersonal. A 16-item scale captured satisfaction with compensation, broadly construed (e.g., including fringe benefits), and this composite is termed JS-compensation. Last, an 8 item scale captured satisfaction with environmental features of the job (e.g., operating procedures) and this composite is termed JS-work environment.

Task Performance

Task performance was determined using the well-validated seven-item scale of Williams and Anderson (1991). Ratings are made from 1–7, with higher numbers reflecting better performance on tasks defined by the job description.

Leadership Skills

Leadership skills were measured by a seven-item scale developed by Peterson and Seligman (2004), part of a larger set of scales designed to assess action-oriented values or human strengths. Responses vary from 1–7, with higher averages reflecting better leadership skills, as reported by the participant.

Teamwork Skills

Teamwork skills were assessed using another nine-item Peterson and Seligman (2004) scale.

TABLE 5. Means, Standard Deviations, and Zero-Order Correlations, Study 5

Variable	*M*	*SD*	1	2	3	4
1: NEAT Total	29.46	5.24	.93			
2: NEAT P	33.68	8.70	.93**	.92		
3: NEAT U	26.48	4.00	.81**	.66**	.69	
4: NEAT M	28.78	5.91	.82**	.63**	.57**	.86
5: Job Stress	2.35	0.81	−.34**	−.26*	−.43**	−.28**
6: Challenge Stress	2.70	0.89	−.07	−.03	−.18	−.05
7: Hindrance Stress	2.20	0.94	−.38**	−.30**	−.47**	−.32**
8: Job Satisfaction	4.64	0.78	.32**	.31**	.28**	.23*
9: JS Interpersonal	5.06	0.92	.48**	.47**	.48**	.37**
10: JS Compensation	4.22	0.97	.03	.05	.02	−.01
11: JS Work Cond.	4.83	0.89	.44**	.40**	.40**	.36**
12: Task Perform.	5.52	1.02	.62**	.57**	.58**	.48**
13: OCB Total	5.23	0.88	.55**	.51**	.51**	.43**
14: OCB-I	5.22	1.04	.33**	.31**	.31**	.23*
15: OCB-O	5.25	0.94	.67**	.61**	.60**	.55**
16: Teamwork	5.04	0.85	.60**	.58**	.50**	.43**
17: Leadership	4.97	0.89	.52**	.49**	.44**	.45**
18: CWB Total	1.40	0.64	−.47**	−.46**	−.34**	−.37**
19: Age	21.14	4.67	.01	−.01	.03	.02
20: Sex	1.56	0.50	.14	.18	−.01	.14

Note. Numbers on the diagonal are alpha coefficients. For the Sex variable, females were scored higher. Readers can contact the first author for a full correlation matrix. $n = 91$.
NEAT P = NEAT Perception; NEAT U = NEAT Understanding; NEAT M = NEAT Management; JS = Job Satisfaction; OCB = Organizational Citizenship Behavior; CWB = Counterproductive Work Behavior.
* = $p < .05$. ** = $p < .01$.

Organizational Citizenship Behaviors

Williams and Anderson's (1991) well-validated assessment of OCBs was used. Participants received an overall OCB score (14 items) as well as separate subscale scores for OCB-Is (7 items) and OCB-Os (7 items). Higher numbers indicate greater helpfulness in voluntary contributions to the workplace and scores can vary from one to seven.

Counterproductive Work Behaviors

A 32 item CWB Checklist (Spector et al., 2006) was used to assess CWBs. Participants were asked how frequently (1 = never; 5 = every day) they engage in a number of CWBs, with items covering abuse, production deviance, sabotage, theft, and delinquency. An average score was computed.

Results and Discussion

See Table 5 for descriptive statistics and correlations. Hypothesis 13 stated that NEAT scores would be inversely related to job stress. This prediction was supported ($r = -.34$, $p < .01$). Hypothesis 14 stated that NEAT levels would be inversely predictive of hindrance stress to a greater extent than challenge stress. Indeed, the correlation with hindrance stress was significant, whereas the correlation with challenge stress was not. These correlations were significantly different from each other, as confirmed by Steiger's (1980) z-transformation test, $z = -3.68$, $p < .01$. As shown in Table 5, the understanding branch was the most pronounced predictor of job stress, but all branches were significant predictors.

Hypothesis 15 stated that people higher in NEAT-EI would be more satisfied with their jobs. This prediction was supported and, in fact, all branches appeared to contribute to greater job satisfaction. To examine Hypothesis 16, separate correlations were computed for Interpersonal, Compensation, and Work Condition features of the job. NEAT predicted higher levels of satisfaction for Interpersonal aspects of the job ($r = .48$, $p < .01$) and Work Conditions ($r = .44$, $p < .01$), but did not predict greater satisfaction with Compensation ($r = .03$). Such findings make sense and suggest stronger relations between EI and job satisfaction to the extent that the relevant job features have interpersonal elements to them.

Hypothesis 17 stated that NEAT-EI should benefit core task performance (Williams & Anderson, 1991). This was found to be the case and the correlation was sizeable ($r = .62$, $p < .01$). We attribute the large size of this criterion prediction to the nature of the NEAT, which assesses EI in a work context rather than in relation to more abstract, and potentially less predictive, skills such as the ability to infer the primary emotion of abstract paintings.

Hypothesis 18 stated that there should be a positive relationship between the abilities assessed by the NEAT and leadership performance. Although it is acknowledged that the student workers would at most hold intermediate levels of leadership in their employment contexts, there are many opportunities for leadership even at this level of supervision or autonomy. In point of fact, a positive relationship between NEAT total scores and leadership performance was found ($r = .52$, $p < .01$) and branch-specific correlations were similarly apparent. In other words, there is at least preliminary evidence for the idea that the NEAT is as strongly predictive of performance as it is of subjective outcomes such as job stress or job satisfaction.

Hypothesis 19 stated that teamwork effectiveness would vary positively with the abilities assessed by the NEAT. This hypothesis was supported ($r = .60$, $p < .01$). Altogether, the evidence indicates that the NEAT appears to be a good predictor of several forms of job performance, whether task-defined or interpersonal (e.g., working well in teams).

Hypothesis 20 stated that higher NEAT scorers would engage in more frequent organizational citizenship behaviors (OCBs)—optional behaviors aimed to help

the company and people within it. This hypothesis received support ($r = .55$, $p < .01$) and each of the NEAT branches displayed effect sizes of a similar magnitude. There might have been reasons to predict stronger correlations for OCB-Is than OCB-Os, but, if anything, the correlations were stronger for OCB-Os than OCB-Is. Such results need to be replicated, but begin to suggest that the NEAT possesses value in predicting who will contribute to the overall mission of an organization.

Hypothesis 21 stated that higher NEAT scorers would be less likely to engage in CWBs, a hypothesis that received support ($r = -.47$, $p < .01$). Thus, the NEAT's predictive value appears to extend to antisocial, as well as prosocial, aspects of employee behavior.

Given the NEAT's focus on the workplace context and the extensive psychometric work of Studies 1 and 2, it seemed likely that the NEAT would exhibit higher levels of predictive validity than more general EI instruments. The correlations found in Study 5 support this expectation. In addition, though, it seemed useful to establish incremental validity. Total NEAT scores predicted 12 work-related outcomes. In addition, the Study 5 assessment included a proxy of cognitive ability (ACT scores) and all of the Big 5 personality traits. To establish incremental validity, multiple regressions were performed, one for each of the 12 outcomes. In the first step, ACT scores and the Big 5 personality traits were entered as controls. In a second step, total NEAT scores were entered. The important results from these regressions are reported in Table 6: In every case, total NEAT scores continued to predict the outcomes with cognitive ability and personality controlled, supporting Hypothesis 22.

Summary and Discussion

Study 5 participants had extensive job experiences and worked many hours per week, though it is admitted that they were students rather than full-time professionals. Even so, their average tenure was over 1 year and factual autonomy scores were equal to the full-time employees assessed by Spector and Fox (2003). On the basis of such considerations, the Study 5 sample is considered a good one with respect to initial work on the predictive validity of the NEAT in workplace settings. The NEAT exhibited excellent predictive validity in relation to 12 work outcomes and these predictive relations remained significant when controlling for cognitive ability and personality traits, at least as they were assessed. The overall conclusion is that the NEAT appears consequential in the prediction of several important organizational outcomes.

General Discussion

Proponents of EI at work think it should play an important role in understanding many work outcomes, including teamwork and leadership effectiveness (Ashkanasy & Daus, 2005). To realize this potential, however, a new instrument

TABLE 6. After Controlling for ACT Scores and the Big 5 Personality Traits, Overall NEAT Scores Predicted 12 Important Work Outcomes, Study 5

	NEAT-Related Results (Total Score)			
Outcome	Beta	*t*-value	*p*-value	ΔR^2
Job Stress	−.31	−2.59	.01	.08
Hindrance Stress	−.36	−3.04	.00	.11
Job Satisfaction	.36	3.12	.00	.10
JS Interpersonal	.49	4.72	.00	.20
JS Work Conditions	.40	3.58	.00	.13
Task Performance	.65	6.87	.00	.34
OCB Total	.58	5.59	.00	.27
OCB-Interpersonal	.31	2.56	.01	.08
OCB-Organizational	.76	8.88	.00	.46
Teamwork	.62	7.23	.00	.31
Leadership	.54	5.26	.00	.23

Note. There were 12 multiple regressions, one for each outcome. Readers can contact the first author if they wish to obtain detailed results concerning the control variables.
ACT = American College Testing; JS = Job Satisfaction; OCB = Organizational Citizenship Behavior.

seems necessary, one specifically focused on EI as it manifests itself in work-related situations. This contextual approach to assessment follows from data indicating the better predictive power of contextualized personality measures (Shaffer & Postlethwaite, 2012) and it is also consistent with a situational judgment test (SJT) approach to modeling and predicting work performance (Chan & Schmitt, 2002). The merging of the EI and SJT traditions, along with diligence and effort, resulted in a measure—the NEAT—that should be valuable in studies of EI both inside and outside the workplace. The sections that follow discuss key implications of the results as well as future directions of research.

The NEAT: Assessment, Reliability, and Validity Considerations

The key purpose of the studies was to develop the NEAT and the bulk of the results should be appreciated in these terms. Consistent with the SJT tradition (Christian, Edwards, & Bradley, 2010), the NEAT's genesis began by obtaining accounts of consequential workplace events. Departing from this tradition, all of the modeled events are emotion-relevant and the social-emotional features of the events were also amplified. An additional important aspect of the NEAT's scenarios is that they are short, thus mitigating reader fatigue as well as avoiding unnecessary specificity.

The MSCEIT (Mayer et al., 2003) is the most prominent ability EI measure (MacCann & Roberts, 2008) and we emulated it in three ways that should be highlighted. First, the MSCEIT makes a theoretically and empirically useful taxonomic distinction between emotional perception, understanding, and management (Joseph & Newman, 2010). This useful distinction served as the basis for the NEAT's three branches. Second, the MSCEIT's authors drew attention to the overlapping nature of norms based on consensus and expert opinion, while also favoring the latter over the former on conceptual grounds (Mayer et al., 2003). Similarly, the NEAT was initially scored using consensus norms (Study 1), but the scoring system switched to expert (MBA) norms once these became available. In fact, experts displayed higher agreement in their ratings, offering another reason for favoring this scoring system (see MacCann et al., 2003, for a further discussion). Third, the MSCEIT's scoring system, which recognizes gradations of accuracy (Mayer et al., 2003), is an elegant one that was adopted. In short, the NEAT takes advantage of the important psychometric work of Mayer et al. (1999, 2003).

Study 1 constituted a sort of survival of the fittest in which more than enough scenarios were written so that enough good ones would remain post-selection (Hinkin, 1995). Chosen scenarios, in particular, maximized alpha while displaying theoretically expected relationships with other variables (e.g., ACT scores). The NEAT was further streamlined through the use of structural equation modeling, which allowed us to determine whether the NEAT had a desirable factor structure (Study 2). Initial and cross-validation results were consistent with single-factor interpretations of each of the three NEAT scales, and the three NEAT scales also correlated highly enough with each other to suggest a global NEAT factor (see Table 2). The latter is important to hierarchical views of EI (Joseph & Newman, 2010).

Owing to standardization procedures and iterative scenario selection processes, the NEAT subscales are fairly reliable. As is true concerning other ability EI tests (MacCann et al., 2003), the 10 scenario perception scale was the most reliable (*M* alpha = .90), followed by the management scale (*M* alpha = .85), followed by the understanding scale (*M* alpha = .74). There are, it should be pointed out, moderately high correlations among the branches (average $r = .63$ for perception & understanding; average $r = .54$ for perception & management; average $r = .61$ for understanding & management), but this is desirable when a global EI factor is proposed (Fiori & Antonakis, 2010). As a result of the inter-correlations, total NEAT scores are reliable (*M* alpha = .92). Certainly relative to some other ability EI measures (MacCann et al., 2003), the NEAT assesses emotion-related knowledge in a reliable manner.

The NEAT's relationships with cognitive ability and personality were as expected. Although emotional and intellectual forms of processing are distinct (Epstein, 2013), it is generally accepted that most abilities will correlate with each other to some extent (Jensen, 1998). The MSCEIT's correlation with intellectual

ability has been estimated to be .33 (Van Rooy, Viswesvaran, & Pluta, 2005). Similarly, the NEAT's correlation with ACT scores was .35 in Study 3. Perhaps of more interest were the correlations with personality. People high in neuroticism seem to have many difficulties with their emotions (Suls & Martin, 2005). The present results suggest that such difficulties may extend to reasoning about other people's emotions and to knowing how to respond in emotional situations. For different reasons, correlations with agreeableness were expected. Agreeable people, relative to disagreeable people, are more interested in others (Graziano & Eisenberg, 2007) and this may lead them to acquire higher levels of EI over time (Moeller et al., 2011). That there was a correlation between agreeableness and total NEAT scores ($r = .44$ in Study 3) makes sense. Even so, these correlations were modest enough that one can expect incremental validity for the NEAT as well as for other ability EI measures (MacCann et al., 2003; see Table 6).

Just as a person's personality in general will predict their personality at work (McCrae, 2000), there should be some relationship between workplace EI (i.e., the NEAT) and EI of a more generalized type. This expectation was born out by the data. NEAT scores predicted the ability to decode facial expressions of emotion (Nowicki & Duke, 1994), the ability to assign accurate evaluations to word stimuli (Robinson et al., 2012), and the ability to make judgments consistent with appraisal theories of emotion (MacCann & Roberts, 2008). The NEAT, in other words, appears to have good levels of convergent validity.

However, existing ability EI measures do not target workplace events or decision-making. Perhaps as a result, such measures have exhibited limitations in the prediction of work outcomes (Matthews et al., 2012; O'Boyle et al., 2011). The NEAT was designed to overcome such limitations through the use of materials saturated with work-related content. This form of "matching" is known to result in higher predictive validities (Campbell et al., 1993) and this was the case in Study 5. Employees with higher NEAT scores experienced less job stress ($r = -.34$), were more satisfied with their jobs ($r = .32$), engaged in more frequent organizational citizenship behaviors ($r = .55$), fewer counterproductive work behaviors ($r = -.47$), and performed their jobs better ($r = .62$). Although replication with other types of samples and other sources of data would be valuable (as discussed in the following section), the NEAT has substantial organizational potential.

Additional Considerations, Limitations, and Future Directions

Study 2 found that correlations among the NEAT's branches were fairly strong in terms of latent correlations. This is a desirable property to the extent that one posits a general EI factor (Palmer et al., 2005), as was posited for the NEAT. Even so, the NEAT branch scales were not synonymous with each other in that the latent correlations among the NEAT's subscales were far from unity. Furthermore, at least limited evidence for the discriminant validity of the NEAT scales was reported. For example, the NEAT management branch was uniquely correlated with openness to experience (Study 3), the NEAT perception branch was uniquely

correlated with the ability to label nonverbal expressions of emotion (Study 4), and a contrast of the NEAT's perception and management branches indicated that the management branch was the best predictor of a more general-purpose measure of EI management (the STEM: MacCann & Roberts, 2008). However, the vast majority of the findings reported did not seem to favor a branch-specific analysis. For example, each of the NEAT's branches appeared to predict leadership performance in Study 5 equally well. At this point in time, then, it appears that total NEAT scores can be advocated, though continued attention to this issue will be valuable.

Ability EI may matter for some jobs more than others (Joseph & Newman, 2010). Along these lines, it is often suggested that EI should matter more when the job requires extensive social interactions, such as when workers often perform in teams (Jordan et al., 2002). Although this is a reasonable suggestion, the results of Study 5 suggest that the NEAT, likely because of its work-related content, predicts performance outside as well as inside of teams. Another meta-analysis found that general-purpose EI measures seem to predict performance to a greater extent when the job requires more managerial efforts (Farh et al., 2012). Although Study 5 did not assess managerial demands, it did assess workplace autonomy (Spector & Fox, 2003) and two multiple regressions (not reported in Study 5, due to the many other findings reported) indicated that total NEAT scores mattered to a greater extent at higher levels of job autonomy. Thus, there is at least preliminary evidence for the idea that the NEAT may predict work-related outcomes to a greater extent in jobs that have more managerial demands. Further research on moderators will be useful, but the main conclusion is that higher levels of NEAT appear generally beneficial.

There are significant limitations to the present findings. The Study 5 outcomes, it must be admitted, were self-reported in nature. Although some work outcomes (e.g., job stress) may be best assessed in self-reported terms, others (e.g., job performance) might be better assessed by people—typically, coworkers or supervisors—other than the self. Therefore, it seems important to replicate relations between the NEAT and job performance when job performance is reported on by someone other than the participant. Regardless, the Study 5 findings should not be ascribed to the potential tautology of some self-reports predicting other self-reports (Cervone, 1999), in that the NEAT was scored in an objective, ability-related manner (Mayer et al., 2008). Such considerations bolster the idea that there is likely a real benefit to higher levels of NEAT in job performance, particularly given the magnitude of the correlations. The current studies were adequately powered with respect to correlations, but larger sample sizes are recommended for multiple regression work seeking to disentangle the relative contributions of NEAT subscales.

In addition, the student worker sample of Study 5 deserves further comment. Student and part-time workers play important roles in many organizations (Shore, Coyle-Shapiro, & Tetrick, 2012) and focusing on this segment of the workforce was a reasonable thing to do given the other goals of the investigation. Furthermore,

employee age is not a good predictor of many work-related outcomes (Berry, Ones, & Sackett, 2007) and at least some predictor-outcome relationships have been shown to be practically identical among student and non-student worker samples (e.g., Fox, Spector, & Miles, 2001). Nonetheless, it cannot be stated with certainty that NEAT scores would have the same predictive value among full-time workers or those with longer organizational tenures. Still, many scholars think that ability EI should matter among full-time employees (e.g., Daus & Ashkanasy, 2005) and the NEAT's scenarios essentially target the full-time employment context. Thus, it seems likely that the NEAT would have predictive value among other (e.g., older) employee samples, but this work remains to be done.

Other future directions can be encouraged. Selecting job applicants is a critical organizational task and there is a need for measures that can supplement general cognitive ability (Callinan & Robertson, 2000). The NEAT may be useful in this context. It would not be redundant with measures of cognitive ability or personality (see Study 3) and the data of Iliescu, Ilie, Ispas, and Ion (2012) suggest that applicants would deem it a fair and relevant test. Therefore, organizations might use the NEAT, in combination with other predictors, in the selection of job applicants. Doing so would be particularly useful for high-stress jobs or those with a significant emotional labor component (Daus & Ashkanasy, 2005). In many organizations (e.g., large companies or the military), selecting applicants is only the first stage of the process in matching an applicant to a job (Callinan & Robertson, 2000). Different skills are needed for different jobs (Campbell, 2013) and the NEAT could have value in matching people to jobs for which they are suited. For example, low NEAT scorers might be matched with jobs that require less teamwork (Jordan et al., 2002). Last, there is considerable organizational enthusiasm for EI training (Zeidner et al., 2004) and there is a need for measures that track whether and why it is working (Groves, McEnrue, & Shen, 2008). The NEAT could be used for such purposes, particularly given its basis in actual skills rather than notions concerning the self (Mayer et al., 2008). In short, there are multiple ways in which a workplace EI measure could be used in organizational research and practice.

Conclusions

An appraisal of the literature suggested the need for an ability EI measure targeting workplace events and inferences. The purpose of the present investigation was to create one by building on knowledge obtained in the situation judgment test literature (Chan & Schmitt, 2002) and linking it to knowledge concerning the structure and psychometrics of ability EI tests (Mayer et al., 2003). The resulting measure, termed the NEAT, had desirable structural properties, was reliable, and demonstrated suitable levels of convergent, discriminant, and predictive validity. Although further studies are necessary in validating the measure and in examining its scope of prediction, the present studies build the necessary foundation.

AUTHOR NOTES

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APPENDIX A

NEAT Instructions and Sample Items

Instructions: We know very little about how people emotionally react to different workplace situations. In the following questionnaire, you will be presented with thirty workplace scenarios. You should read each work-related scenario carefully. Then, you will be asked to make ratings concerning each scenario.

Perception: Helga has just won the performer of the year award. Helga's coworkers think that her achievement is huge, in part because of her family struggles over the previous year. Rate the extent to which Helga would experience the following emotions in this situation.

	Not at all				Very strongly
(a) Joy	1	2	3	4	5
(b) Hope	1	2	3	4	5
(c) Relief	1	2	3	4	5
(d) Gratitude	1	2	3	4	5

Understanding: Blends: Clayton fired an employee who later proved to be very valuable to a competing company. For each of the following pairs of emotion, rate the likelihood with which Clayton would experience both emotions simultaneously.

	Not likely				Very likely
(a) Anger and Regret	1	2	3	4	5
(b) Calmness and Interest	1	2	3	4	5
(c) Anxiety and Shame	1	2	3	4	5
(d) Admiration and Regret	1	2	3	4	5

Understanding: Transitions: Anastasia's co-worker takes several coffee breaks throughout the day. Indicate the likelihood that Anastasia's emotions would transition (change) from the first emotion to the second emotion indicated.

	Not likely				Very likely
(a) Frustration, then Forgiveness	1	2	3	4	5
(b) Empathy, then Anger	1	2	3	4	5
(c) Irritation, then Sadness	1	2	3	4	5
(d) Curiosity, then Irritation	1	2	3	4	5

Management: Chloe was demoted at her job. Rate the effectiveness of the following ways of dealing with the situation.

	Not at all effective				Very effective
(a) Coast in the new position	1	2	3	4	5
(b) Seek other work		1	2	3	4
(c) Blame the management	1	2	3	4	5
(d) Quietly continue to work and cry later	1	2	3	4	5