**Examining the Psychometric Properties of the Mayer-Salovey Caruso Emotional
Intelligence Test Findings From an Eastern European Culture**

Dragoş Iliescu¹, Alexandra Ilie², Dan Ispas³, and Andrei Ion¹

¹ National School of Political and Administrative Studies, Bucharest, Romania

² University of South Florida, Tampa, FL, USA

³ Illinois State University, Normal, IL, USA

Corresponding author: Dragoş Iliescu, Department of Psychology, University of Bucharest,
Sos. Panduri nr. 90, 050663 Bucharest, Romania. E-mail: dragos.iliescu@fpse.unibuc.ro.

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Abstract

Based on four samples and more than 2,000 participants, the authors examined the structural equivalence, discriminant validity as well as criterion and incremental validity of the Romanian version of the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), an ability-based measure of emotional intelligence. Results suggest that the Romanian version of the MSCEIT has a very good structural equivalence and good discriminant validity compared with measures of cognitive ability, personality (Big Five), and empathy. Also, the Romanian MSCEIT has incremental validity over personality when predicting job performance. Based on these results, the authors encourage usage of the MSCEIT as a sound measure of emotional intelligence.

Keywords: Emotional intelligence, MSCEIT, Romania, Psychometrics

Examining the Psychometric Properties of the Mayer-Salovey Caruso Emotional Intelligence Test Findings From an Eastern European Culture

Emotional intelligence refers to the mental processes involved in recognizing, using, understanding, and managing one's own and others' emotional states to solve problems and regulate behaviour (Mayer & Salovey, 1997; Salovey & Mayer, 1990). Several competing models and corresponding measures have been developed to account for the construct of emotional intelligence. Some of the most well known are the Mayer-Salovey-Caruso model (Mayer & Salovey, 1997), the Bar-On model (Bar-On, 1997), the Boyatzis and Goleman model (Boyatzis & Sala, 2004), and the Petrides model (Petrides, Pita, & Kokkinaki, 2007).

This study focuses on the Romanian version of the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT, Mayer, Salovey, & Caruso, 2002), which is one of the most theoretically sound and well-researched measures of emotional intelligence (Cherniss, 2010) – and is considered by some as the “gold standard” for emotional intelligence (EI) (Ashkanasy & Daus, 2005; Jordan, Dasborough, Daus, & Ashkanasy, 2010).

The MSCEIT is an ability-based measure of EI. Compared to personality-based measures of emotional intelligence, which focus on self-assessment of personal preferences or traits, its main strength is that it actually measures “how well people perform tasks and solve emotional problems” (Mayer et al., 2002, p.1). Because of its unique approach to the measurement of EI, the MSCEIT has a low convergence with personality-based measures of EI (rs between .00 and .38) (e.g., Brackett & Mayer, 2003).

The MSCEIT has been shown to have discriminant validity compared to measures of cognitive ability (rs between .05 and .36; e.g., Ciarrocchi, Chan, & Caputi, 2000; Livingstone & Day, 2005), personality (rs between .00 and .33; e.g., Lopes, Salovey, & Straus, 2003), and empathy (rs between .33 and .43; e.g., Ciarrocchi, Chan, & Caputi, 2000; Mayer, Caruso, & Salovey, 1999).

In terms of criterion validity, EI in general and MSCEIT in particular were found to predict important outcomes such as academic and job performance, leadership, stress, and well-being (e.g., Joseph & Newman, 2010; O'Boyle, Humphrey, Polack, Hawver, & Story, 2010; Schutte Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). However, a common criticism of EI and the MSCEIT is the lack of incremental validity over measures of cognitive ability and personality (Joseph & Newman, 2010; Landy, 2005).

Most of the studies examining the psychometric properties of the MSCEIT focused on North-American or Western European samples, and research with Eastern European, Asian, or African samples is rare. Also, generally speaking, research published with non-English forms of measures generated in English-speaking countries usually does not report on the psychometric characteristics of the adapted measure (van de Vijver & Tanzer, 1997). Such reports are recommended and are considered good practice (Hambleton, 2005; International Test Commission, 2008); in their absence, questions about the construct equivalence or measurement equivalence of the results might easily arise (van de Vijver, & Poortinga, 2005) and jeopardize the generalizability of some of the conclusions (van de Vijver, & Poortinga, 1997).

The present study contributes to the literature by examining, across four different samples, the psychometric properties of the Romanian version of the MSCEIT. Specifically, we examine the structural equivalence, the discriminant validity (when compared with measures of cognitive ability, big five personality and empathy), and criterion and incremental validity over personality when predicting job performance. The MSCEIT may be preferable over other measures of emotional intelligence in cross-cultural research, due to its large number of nonverbal (and thus potentially culturally invariant) items, and its very sound and seemingly superior theoretical basis (Cote, 2010; Jordan et al., 2010).

Method

Participants

Sample 1. The sample included 1,619 participants (813 males), ranging in age from 17 to 66 years; the mean age was 32.9 years ($SD = 11.9$). All of Romania's geographical regions are represented. The sample distribution by ethnicity is representative of Romania's population: 1,383 participants (85.4%) are Romanians, 111 Hungarians (6.9%), 65 Roma (4.0%), and 60 other ethnicity (3.7%).

Sample 2. Participants were 226 employees (56 males, mean age 35.1, $SD = 9.3$) from different organizations in the area of local administration: Mayor's office, council hall, tax office, etc.

Sample 3. Participants were 59 dyads (118 participants) in the patrolling forces of the Romanian Gendarmerie (police). All participants were males, ranging in age from 24 to 47 years ($M = 33.2$, $SD = 6.6$).

Sample 4. Participants were 84 nursing professionals (9 males) in three major hospitals in Romania, ranging in age from 19 to 56 ($M = 34.0$, $SD = 8.2$).

Measures

MSCEIT. The MSCEIT is based on a complex nested model, covering four levels of interactions; this is called the "four-branch model of emotional intelligence" (Mayer & Salovey, 1997). In this model, emotional intelligence is divided into two areas, with each area further divided into two branches (a total of four branches), with each branch further divided into two tasks (for a total of eight tasks). The MSCEIT yields 8 task scores, 4 branch scores, 2 area scores, and a total score of emotional intelligence.

The MSCEIT was translated into Romanian using a rigorous process based on the guidelines for test translation and adaptation issued by the International Test Commission (ITC, 2008). The process involved several rounds of translation and back translation using teams of experienced doctoral level bilingual psychologists, as well as analyses

recommended as part of a forward translation procedure (Hambleton, 2005), like item analyses and confirmatory factor analyses. Readability of the Romanian version of the MSCEIT was assessed by the Flesch-Kincaid formula to be as high as 63 points, which is around the average reading ability of a student of 14–15 years.

In terms of scoring, for a test like the MSCEIT, where the responses are emotional reactions, it is unclear when a response is correct and not, and also whether a response could be “more correct” in a specific situation than another. A response is thus labeled to be correct, inasmuch as it is endorsed by the majority of the testtakers. For example, if option “A” is preferred by 53% of the testtakers in the normative sample, then a testtaker answering with “A” receives .53 points (as opposed to 1 point in a classical cognitive ability test). A testtaker who answers the same question with option “B” (endorsed by 21% of the normative sample) would have only .21 point added to his/her score. In this way, the normative sample contributes with normative information about how to weigh different response options. Two types of scoring options are usually developed (Mayer et al., 2002): A “General Consensus” scoring, based on endorsement rates derived from the normative sample; and an “Expert” scoring, based on a sample of experts in the area of emotions.

Cognitive Ability. The GAMA (Naglieri & Bardos, 1997) is a 66-item nonverbal cognitive ability test. The split-half reliability of the GAMA for the present study was .88. Reliability and validity evidence for GAMA is presented by Iliescu and Livinti (2008), Ispas, Iliescu, Ilie, and Johnson (2010), and Naglieri and Bardos (1997).

Personality. Personality was measured using the Romanian version (Iliescu, Minulescu, Nedelcea, & Ispas, 2008) of the NEO Personality Inventory, Revised (NEO PI-R; Costa & McCrae, 1992). The domain scales reliabilities were .91 for Neuroticism, .88 for Extraversion, .84 for Openness to Experience, .85 for Agreeableness, and .90 for Conscientiousness.

Empathy. Empathy was investigated using the 25-item Empathy (Em) scale of the Romanian version of the California Psychological Inventory (CPI-260; Gough & Bradley, 2005; Pitariu, Iliescu, Tureanu, & Peleasa, 2006). The scale was administered both in a self-rating ($\alpha = .67$) and other-rating ($\alpha = .58$) procedure (i.e., the items were re-written in the third person). Self- and coworker reports of empathy correlated with each other $r = .41$ ($p < .001$).

Job Performance. Participants in sample 4 (nursing professionals) were rated both by the direct supervisor and by one patient just being discharged, with a scale ranging from 1 (= not content with his/her performance) to 5 (=content with his/her performance). The correlation between supervisor ($M = 4.1, SD = 1.0$) and patient rating ($M = 4.1, SD = 1.1$) is $r = .40$.

Procedure¹

All samples completed the paper-and-pencil MSCEIT, and then Samples 2–4 completed other measures, as outlined below. For Sample 1, the MSCEIT was administered individually or in groups of 4–14 persons. For Sample 2, participants took the assessments (MSCEIT and GAMA) as part of a self-development program and received a 30-min feedback session on the results.

For Sample 3, participants took the assessments (MSCEIT and Empathy) in groups of 15–25 persons. Each participant had included in the testing materials two copies of the Empathy scale, one for the self-rating, the other for the rating of the work-partner; patrolling forces worked in teams of two. Thus, both self-ratings and coworker-ratings of empathy were collected for this sample.

¹ Data for Samples 1–3 were collected in 2009, data for sample 4 were collected approximately 18 months later.

For Sample 4, participants were assessed at the workplace with the MSCEIT and the NEO PI-R. Both measures were administered in one session. Job performance ratings were collected from two sources: The direct supervisor and one customer (patient).

Results

Scoring Options

The correlation between the Romanian Consensus and Expert scoring options is $r = .93$, indicating a very high level of convergence. The Romanian data also converges strongly with the US Consensus ($r = .92$) and Expert ($r = .92$) scoring options. This is an indicator of the invariance of the MSCEIT, though it should not be considered proof for the usability of US norms in the Romanian context: US consensus scoring is largely based on North American participants and thus may well be slightly culturally biased. Local norms should be introduced for the local MSCEIT, as for any other such measure, wherever possible.

Reliability

The overall internal consistency reliability of the MSCEIT was .92 for Consensus scoring and .91 for Expert scoring. At branch level, the reliabilities ranged between .78 and .90, and at task level between .59 and .93 (median of .70). The reliabilities obtained for the Romanian version of the MSCEIT compare positively with the reliabilities reported for the US version (Mayeretal, 2002). The reliabilities for the branch, area and total scores are virtually equivalent, while the task score reliabilities are higher in the Romanian samples.

Descriptive Information

Table 1 reports the intercorrelations of the MSCEIT task scores, both for the Consensus and the Expert scoring, and Table 2 reports intercorrelations for the four MSCEIT branch scores, for Sample 1 ($N = 1,619$). All correlations are high and significant. Similar to the US data, branch scores show stronger intercorrelations compared to task scores. The two

area scores (Experiential and Strategic) also correlate highly with one another: $r = .46$ ($p < .001$) for the Consensus scoring and $r = .52$ ($p < .001$) for the Expert scoring.

[Insert Tables 1 and 2 here]

Table 3 reports descriptive statistics for the MSCEIT scores, both for the Consensus and the Expert scoring, at the task, branch, area and general level. for all scales and both scoring types, the scores were negatively skewed. Most of the scale differences between Consensus and Expert scoring are not statistically significant, but some significant differences arise, mostly in the tasks participating in the “Facilitating emotions” and “Understanding emotions” branches. For Task D – Emotion Management, the Expert norms indicate a much larger mean than the Consensus norms: $t(1628) = 6.05$, $p < .001$, $d = .30$. For Task F – Sensations, the Expert norms indicate a much lower mean than the Consensus norms: $t(1628) = 3.96$, $p < .001$, $d = .20$. For Task B – Facilitation, the Expert norms indicate a much higher mean than the Consensus norms: $t(1628) = 3.95$, $p < .001$, $d = .20$. For Task G – Blends, the Expert norms indicate a much higher mean than the Consensus norms: $t(1628) = 2.89$, $p = .004$, $d = .14$. Finally, for TaskC –Changes, the Expert norms indicate a much lower mean than the Consensus norms: $t(1628) = 2.81$, $p = .005$, $d = .14$.

[Insert Table 3 here]

Measurement Invariance

In every cultural adaptation, construct equivalence should be proven and not assumed. We conducted a CFA on the Consensus scored data from Sample 1. Three models were tested, following Mayer, Salovey, Caruso, and Sitarenios (2003): a one-factor, a two-factor, and a four-factor model. The models were tested with EQS (Bentler, 2005). Results are presented in Table 6. As in Mayer et al. (2003), there is a progressively better fit of models from the one-factor (BB-NFI = .84, RMSEA = .12) to the four-factor model (BB-NFI = .99, RMSEA = .03). The four-factor model is a very good fit for the Romanian data on all

estimated indicators and has a better fit for the Romanian data when compared to US data: RMSEA = .03 as opposed to .05.

Discriminant Validity

Table 4 and Table 5 report the correlations between MSCEIT and GAMA, Empathy, and NEO PI-R.

[Insert Tables 4-6 here]

MSCEIT and IQ

The total MSCEIT score correlates with IQ at $r = .21$ ($p < .001$). The highest correlation with IQ is for branch 2 (Facilitating thought), at $r = .19$ ($p < .01$), and its subtests: for both Task B – Facilitation and Task F – Sensations $r = .16$, ($p < .01$). This result is consistent with previous studies, who place the strength of the relationship between $r = .05$ (Ciarrocchi et al., 2000) and $r = .36$ (Mayer et al., 1999). Some of the branch-level and task-level associations are expected, but others do not necessarily show the expected pattern. For example, the correlation of IQ with Understanding emotions is higher ($r = .15$) than with Perceiving emotions ($r = .14$), but the difference is very small. Also, the correlation of the MSCEIT with IQ is .21, the correlations with the branches are lower (.19 and .17). This is a strong indication that each area score has unique contribution to the estimation of the overall MSCEIT score, having a proportion of uncommon variance with the other area score.

MSCEIT and Empathy

The relationship between MSCEIT and self- and other-reports of empathy is also low: $r = .24$ ($p < .01$) and $r = .19$ ($p < .05$), respectively. An important finding is the fact that Area A – Experiential does not correlate significantly with empathy ($r = .10$, ns for self-reports and $r = .07$, ns for other-reports), while Area B – Strategic shows stronger correlations ($r = .34$, $p < .001$ for self-reports and $r = .27$, $p < .01$ for other-reports). Tasks in the experiential area, like A – Faces, E – Pictures, B – Facilitation, and F – Sensations, have weak and nonsignificant

correlations with empathy, while Task C –Changes has the strongest relationship strength ($r = .33, p < .001$ for self-reports and $r = .29, p < .01$ for other-reports). Empathy has consistent correlations and significant correlation patterns with Understanding ($r = .28, p < .01$ for self-ratings of empathy, and $r = .20, p < .01$ for observer-ratings) and Managing emotions ($r = .22, p < .01$ for self ratings, and $r = .21, p < .01$ for observer ratings). These results are consistent with the definition of the empathy scale used (Hogan, 1969), as a measure of understanding emotions and attitudes in others and of managing and facilitating the reception of one's own emotions by others.

MSCEIT and NEO PI-R

The strongest correlations were between MSCEIT and Agreeableness ($r = .28, p < .01$) and MSCEIT and Openness to Experience ($r = .26, p < .01$), a finding consistent with previous research (e.g., Brackett & Meyer, 2003; Rossen & Krantzler, 2009). There were no statistically significant associations between MSCEIT and the rest of the big five traits.

Criterion Validity

As reported in Table 4, the total MSCEIT score is significantly correlated with both supervisor ($r = .25, p < .05$) and patient ($r = .28, p < .01$) ratings of job performance. Experiential intelligence is consistently related to performance ($r = .35, p < .001$ for supervisors and $r = .28, p < .01$ for patients), while strategic intelligence is not (r s of .04 and .18, ns). Both branches of Experiential intelligence have consistent correlations with both ratings of performance: The Perceiving branch correlates at $r = .32 (p < .01)$ with supervisor ratings and at $r = .23 (p < .05)$ with patient ratings, and the Facilitating branch correlates at $r = .29 (p < .01)$ and at $r = .27 (p < .01)$ with performance ratings.

Incremental Validity

Using data from Sample 4, we examined the incremental validity of MSCEIT beyond personality in predicting job performance ratings from supervisors and patients. The results

presented in Table 7 show that for both supervisor ($\Delta R^2 = .037$) and patient ratings ($\Delta R^2 = .033$), MSCEIT shows a significant, albeit small incremental validity.

[Insert Table 7 here]

Discussion

This study examines the structural, discriminant, and criterion validity of the MSCEIT, using the Romanian version of the test and Romanian samples of participants.

The results show that the MSCEIT has a very good structural validity. Both the Expert and the Consensus scoring for Romania correlate highly with results reported on North-American samples; scale correlations at the task, branch, and area levels are very similar between the Romanian normative sample and the US normative sample, and the confirmatory factor analysis shows that the best fit was found for the four-branch model of EI.

The results also indicate discriminant validity, as the MSCEIT shows small and medium correlations with measures of cognitive abilities, of empathy, and of personality (Big Five). Thus, the MSCEIT seems to indeed tap a concept different than intelligence, social competence, or personality, as suggested by Mayer et al. (2002).

Correlations with performance ratings are positive and significant. The MSCEIT total score has a significant incremental prediction over personality, which is a supplementary proof of the relative independence of emotional intelligence, as measured by the MSCEIT, from personality.

Some strengths of the study should be noted. The study is based on several samples stemming from diverse settings and amounting to a high total volume ($N = 2,047$). The study uses participants from a non-Western culture, thus confirming equivalence for the concept of emotional intelligence as proposed by Mayer and Salovey (1997). Correlations between the MSCEIT and some of the concepts employed in this study, like cognitive intelligence and

empathy, have been reported previously (e.g., Brackett & Mayer, 2003; Cote & Miners, 2006; Mayer, Salovey, & Caruso, 2004), but never using the measures employed in this study. Finally, as a further contribution, this study reports correlations between MSCEIT and Empathy as measured by other-reports, and between MSCEIT and job performance as measured by both supervisors and customers. We did not collect data on convergent validity due to the distinct ways EI scales are constructed, which would have likely resulted in weak associations (Brackett, & Mayer, 2003).

Three limitations that impact the generalizability of the results should be noted. First, our samples were comprised entirely of Romanian citizens. Second, although our first sample was a nationally representative one, the data in the other three samples were collected from a single organization each. Third, while the MSCEIT has been shown to have incremental validity over personality, this variance could also be explained by cognitive ability; unfortunately, we cannot test this issue in the current paper. Future research should examine the validity of the MSCEIT using more diverse samples and also using longitudinal research designs. However, the results reported here for the Romanian version of the test are promising and should encourage more research on the implications of MSCEIT scores for various purposes.

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Table 1. *Intercorrelations for MSCEIT Task scores (General and Expert scoring, N = 1619)*

	<i>Task</i>	<i>A</i>	<i>E</i>	<i>B</i>	<i>F</i>	<i>C</i>	<i>G</i>	<i>D</i>	<i>H</i>
Branch 1	A. Faces	-	.34	.29	.38	.28	.22	.29	.29
	E. Pictures	.36	-	.36	.42	.35	.25	.34	.29
Branch 2	B. Sensation	.28	.31	-	.46	.33	.25	.39	.31
	F. Facilitation	.38	.39	.40	-	.42	.28	.39	.32
Branch 3	C. Changes	.29	.30	.25	.33	-	.55	.52	.50
	G. Blends	.21	.20	.15	.18	.50	-	.37	.40
Branch 4	D. Emotion Management	.28	.29	.29	.30	.45	.29	-	.55
	H. Emotion Relations	.29	.25	.25	.26	.47	.37	.52	-

Note: Correlations for the General scoring option are indicated below the diagonal, and for Expert scoring above the diagonal.

All correlations are significant at $p < .001$.

Table 2. *Intercorrelations for MSCEIT Branch scores (General and Expert scoring, N = 1619)*

	<i>Branch 1</i>	<i>Branch 2</i>	<i>Branch 3</i>	<i>Branch 4</i>
Branch 1	-	.50	.38	.41
Branch 2	.48	-	.42	.46
Branch 3	.34	.30	-	.58
Branch 4	.37	.36	.52	-

Note: Correlations for General scoring are indicated below the diagonal, and for Expert scoring above the diagonal.

All correlations are significant at $p < .001$.

Table 3. *Descriptive statistics for MSCEIT scales (General and Expert scoring, N = 1619)*

		General scoring			Expert scoring		
		M	SD	Skewness	M	SD	Skewness
Overall	Total EQ	.409	.059	-.727	.430	.072	-.622
Area Scores	A. Experiential	.410	.073	-.728	.427	.089	-.557
	B. Strategic	.407	.065	-.898	.433	.079	-.862
Branch Scores	1. Perceiving	.363	.083	-.771	.397	.123	-.471
	2. Facilitating	.458	.088	-1.028	.457	.084	-1.142
	3. Understanding	.452	.077	-1.192	.490	.100	-1.095
	4. Managing	.362	.073	-.911	.376	.081	-.903
Branch 1	A. Faces	.361	.073	-.763	.396	.145	-.146
(Perceiving Emotions)	E. Pictures	.365	.125	-.812	.399	.080	-.669
Branch 2	B. Facilitation	.403	.086	-.560	.506	.111	-1.098
(Facilitating Thought)	F. Sensations	.513	.124	-1.379	.364	.074	-.949
Branch 3	C. Changes	.471	.084	-1.271	.398	.158	-.846
(Understanding Emotions)	G. Blends	.432	.092	-1.195	.514	.122	-1.460

Branch 4	D. Emotion Management	.353	.065	-.926	.473	.122	-1.121
(Managing Emotions)	H. Emotion Relationships	.371	.101	-.776	.387	.111	-.741

Table 4. *Correlations of MSCEIT with IQ, Empathy, and Job Performance*

		IQ (N = 226)	Empathy (N = 118)		Job performance (N=84)	
			Self-rating	Coworker-rating	Supervisor- rating	Customer- rating
Overall	Total EQ	.21***	.24**	.16*	.25*	.28**
Area Scores	A. Experiential	.19**	.14	.06	.35***	.28**
	B. Strategic	.17**	.30***	.24**	.04	.18
Branch Scores	1. Perceiving	.14*	.14	.07	.32**	.23*
	2. Facilitating	.19**	.10	.04	.29**	.27**
	3. Understanding	.15*	.28**	.20**	.05	.14
	4. Managing	.15*	.22**	.21**	.03	.20*
Branch 1	A. Faces	.06	.11	.06	.15	.13
(Perceiving Emotions)	E. Pictures	.15*	.13	.05	.36***	.24*
Branch 2	B. Facilitation	.15*	.00	.08	.24*	.15
(Facilitating Thought)	F. Sensations	.12*	.14	-.01	.23*	.27**
Branch 3	C. Changes	.16**	.31***	.26**	.00	.07
(Understanding Emotions)	G. Blends	.15*	.18*	.1	.08	.15
Branch 4	D. Emotion Management	.16**	.23**	.16*	-.03	.21*
(Managing Emotions)	H. Emotion Relationships	.12*	.16*	.20**	.07	.14

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 5. *Correlations of MSCEIT with Performance and Personality*

	MSCEIT	Personality				
		N	E	O	A	C
Neuroticism (N)	.05	-				
Extraversion (E)	.17	-.33**	-			
Openness to Experience (O)	.26**	.02	.51***	-		
Agreeableness (A)	.28**	-.39***	.08	-.08	-	
Conscientiousness (C)	.07	-.55***	.37***	.02	.52***	-
Performance - Supervisor	.25*	-.06	.20*	.06	.19*	.32**
Performance - Patient	.28**	-.24*	.23*	.11	.32**	.22*

Note: $N = 84$.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 6. *Parameter estimates and goodness-of-fit statistics for 3 CFA models of the MSCEIT data (N=1619)*

Variable	Model tested		
	One-factor	Two-factor	Four-factor
Branch 1	I	I	I
Perceiving			
A. Faces	.50	.58	.59
E. Pictures	.50	.60	.61
Branch 2			II
Facilitating			
B. Facilitation	.53	.67	.71
F. Sensations	.46	.55	.57
Branch 3		II	III
Understanding			
C. Changes	.69	.73	.84
G. Blends	.52	.56	.60
Branch 4			IV
Managing			
D. Emotion Management	.64	.66	.71
H. Emotion Relationships	.65	.69	.75
Goodness-of-fit statistics			
Model fit			
χ^2	476.04	154.49	43.28
df	20	19	15
BB-NFI	.842	.949	.986
CFI	.847	.955	.991
RMSEA	.119	.066	.034
N	1619	1619	1619

Table 7. *Incremental Validity of MSCEIT in Sample 4*

Step	Independent variable	Supervisor ratings		Patient ratings	
		β	ΔR^2	β	ΔR^2
1	Neuroticism	.210	.139**	-.099	.150**
	Extraversion	.147		.163	—
	Openness to experience	-.020		.052	—
	Agreeableness	.084		.292*	
	Conscientiousness	.337*		-.043	
2	Neuroticism	.169	.037*	-.138	.033*
	Extraversion	.122		.140	
	Openness to experience	-.068		.006	
	Agreeableness	-.004		.210	
	Conscientiousness	.354		-.027	
	MSCEIT	.214†		.201†	

Note: $N = 84$. † $p < .10$, * $p < .05$. ** $p < .01$.