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Integrating the emotional intelligence construct: the relationship between emotional ability and emotional competence

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Abstract
This paper posits that the concept of emotional intelligence (EI) has not advanced as quickly and adroitly as it could have because of a lack of validity studies that combine the two most prevalent models, emotionality ability (EA) and emotional competency (EC). Although prior EI validations studies exist, none have examined the relationship between the primary EA and EC measurement tools – the Mayer-Salovey-Caruso Emotional Intelligence Test and the Emotional Competency Inventory – University Edition, respectively – at the sub-trait levels with a population of undergraduate *and* MBA students. Findings indicate that there is no direct relationship between the total item scores and limited relationships among sub-trait scores. The paper concludes by issuing a call for research that conceives of EI as *both* an ability and a constellation of behaviors, and measures EI with a *combination* of knowledge, reasoning, self-report, and other-report, to provide a more holistic and encompassing examination that would foundationally contribute to unlocking the construct's potential.

Introduction

Since its debut in 1990, emotional intelligence (EI) has garnered enormous interest. A Google search of the term "emotional intelligence" displayed nearly 13,000,000 results. A PsycINFO search for the same term identified over 600 peer-reviewed articles, and a Lexus-Nexus search found 1000 popular press articles just within the past 5 years.

That EI is popular among both academics and practitioners is indisputable. However, this very popularity has occasioned a plethora of terms, definitions, models, and measures that create considerable confusion about the scientific and applied merit of the construct. In particular, two primary and somewhat competing EI schools of thought have emerged. The first focuses on *emotional ability* (EA). These performance-based models examine the potential level of specific emotional reasoning qualities as measured by highly normed quantitative methods. The second focuses on *emotional competency* (EC). These "mixed" or self-report models combine aspects of intelligence and emotion distinct from

cognitive abilities as measured by self and other assessment methods to determine the actual or perceived frequency of specific behaviors.

The difference between the two approaches (EA and EC) is akin to the difference between measuring potential abilities and measuring actual behaviors. Both approaches are distinct and both contribute toward successful performance. For example, take the case of a student's grade on an exam. A portion of the grade is impacted by the student's intellectual ability and a portion of the grade is impacted by the student's study habits. Both contribute toward performance, both may be construed under a construct of academic achievement, and a better understanding of the relationships among intellect, study habits and academic performance is valuable. Similarly, we are advocating that within the broader conceptual definition of EI, that there are two related but distinct facets (EA and EC), each of which contributes toward successful social and emotional outcome and that a clearer understanding of the interaction's between EA and EC is necessary.

As asserted by Offermann *et al.* (2004), the former approach, EA, may be necessary, but not sufficient, to explain human behavior in complex environments. This assertion is based on Offermann *et al.*'s demonstration that EC accounts for statistical variance above and beyond that explained by traditional measure of intelligence. As it is based on models of general intelligence, EA doesn't explicitly account for individual behaviors, traits or attitudes, all of which contribute to performance. In this way, research on EA and EC reflects a broad and long-standing distinction between the measurement and practical implications of raw and potential ability *vs* self-efficacy and public demonstration of skills (Boyatzis, 1982). In other words, there is a difference between ability and skills, although both inevitably contribute toward performance outcomes (as in our earlier example, the final grade on the exam).

The chief proposition of this paper is that the current state of affairs in EI research – distinct models with concomitantly distinct measurement approaches – has left the validity of the construct in question and thus has prevented the scholarly and practical promise of this potent idea from advancing as quickly and deftly as it otherwise might have. Prior studies have, of course, examined EI's validity, but the literature calls for integrative studies that contrast multiple models and measures. The current paper responds to this call by theoretically comparing the two dominant EI models, EA and EC, and empirically examining the total item and sub-trait scores using the primary measurement tools.

Literature review of EI

Philosophers and scientists have long wrestled with the combined impact of emotion and intelligence on human behavior. Scholars generally credit Thorndike (1920) with originating the construct of social intelligence, Gardner (1983) with re-legitimizing the social intelligence debate, Salovey and Mayer (1990) with originating the modern EI construct, and Goleman (1995) with popularizing EI. EI may be defined as the ability or skill to recognize and manage one's emotions and the emotions of others. Individuals, groups and organizations high in EI might prove more capable of utilizing emotion to better adapt and capitalize on environmental demands (Seal *et al.*, 2006).

However, research on EI has become fragmented, with scholars advocating different definitions, models, assumptions, measures and outcomes. The competing definitions create a fundamental concern with the EI construct: how to explain the wide content domain indicated by the various models and measures. The lack of an agreed upon content domain from which to build the EI construct undermines researchers' ability to validate the theoretical and empirical arguments and respond to critiques. Compounding the problem of multiple conceptual and operational definitions, there are also few reliability and validity studies, outside of technical manuals supplied by publishers. As discussed by Conte (2005), there is a glaring need for additional peer-reviewed empirical studies that examine both ability and self-report measures in order to untangle the content validity of the various EI iterations. If EI is one core construct, then future researchers need to reconcile the various conceptualizations. Conversely, if EI is distinct concepts, then further studies should refine their relationship to each other and their respective content domains.

Although there are hundreds of papers on EI with dozens of competing models and measures, this paper focuses on the EA model of EI advocated by Salovey and Mayer (1990) that uses the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), and the EC model of EI promoted by Goleman (1995, 1998) that uses the Emotional Competency Inventory (ECI). Seal *et al.* (2006) have argued that the EI literature is best understood

through the EA and EC models, and the MSCEIT and ECI are the most prevalent measures in use today (Conte, 2005). The MSCEIT is included in the few validity studies that exist, but the ECI, and its university version ECI-U, is conspicuously absent from peer-reviewed empirical studies. This is surprising, given the ECI's prevalence in business environments, but not unexpected because of the limited reliability and validity evidence for the instrument. This is precisely why the current study includes the most accepted academic model and measure as well as the most widely employed practitioner model and measure.

Emotional ability

Although Bar-On (1985) was the first to use the ''EQ'' designation, and the first to develop a measure, it is Salovey and Mayer (1990) who are cited as the originators of the modern EI construct, and who in their seminal article defined it as ''the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions'' (189). The authors argued that social intelligence provides the overall theoretical justification for the narrower scope of EI, specifically an individual's ability to correctly identify emotions in themselves and others, to distinguish among various emotions, and use this knowledge to appropriately respond to environmental challenges.

The MSCEIT is the standard ability measure for EI. The MSCEIT uses ''right or wrong'' answer formats (based on consensual and expert scoring) that are normed based on demographic information to differentiate levels of EA. It uses a hierarchical model of related traits that reflect overall EI potential capacity by measuring four *branch* scores (perceiving emotions, facilitating thought, understanding emotions, and emotional management), two *area* scores (experiential EI and strategic EI) and one final *total* score (EI). Based on the model, scholars can examine the branch scores, areas scores, or total score in their assessment of EA.

To date, the MSCEIT is the most current, reliable and valid ability measure for EI (Brackett and Mayer, 2003; Conte, 2005; Brackett *et al.*, 2006). In fact, it is the only EI ability measure in use, developed from the earlier, Multi-factor Emotional Intelligence Scale (Mayer, 1999), which appears in earlier studies.

Emotional competency

Whereas Salovey and Mayer (1990) coined the phrase ''emotional intelligence,'' it is Daniel Goleman's best-selling 1995 book, *Emotional Intelligence: Why It Can Matter More than IQ* that popularized the concept. Boyatzis *et al.* (2000) define EI as ''the competencies that constitute self-awareness, self-management, social awareness, and social skills at appropriate times and ways in sufficient frequency to be effective in the situation'' (344). A competency is an ''underlying characteristic of the person that leads to or causes effective or superior performance'' (Boyatzis, 1982: 21). Within this definition, EI includes the competencies to recognize and manage one's emotions and the emotions of others in order to better adapt and capitalize on environmental demands. In general, competency models of EI have two characteristics: they use self and/or other reporting methods and focus on the frequency of behaviors used.

The ECI is a popular practitioner measure of EI. It is a self-report or mixed measure that uses either individual and/or observer ratings to assess the frequency of observed behaviors that determine levels of EC. The ECI uses an additive model of distinct traits that reflect EI skills related to superior performance. It measures how frequently individual competencies are demonstrated within four broad emotional clusters: (1) self-awareness; (2) self-management; (3) social awareness; and (4) relationship management. Based on the model, scholars can examine the individual competencies, the clusters of competencies, the combination of clusters, or the overall scores in their assessment of EC.

Although this study uses the ECI-U, there are other mixed model and/or self-report measures of EI that focus on emotional behaviors. Most prevalent is the Emotional Quotient Inventory (EQ-i). This instrument focuses on an ''array of noncognitive capabilities, competences, and skills that influence one's ability to succeed in coping with environmental demands and pressures'' (Bar-On, 1997: 14). Two other self-report measures of EI, both based on an adaptation of the original Salovey and Mayer (1990) EI construct and developed by Schutte *et al.* (1998), are the Self-Report Emotional Intelligence scale (SREIT) and the Schutte Self-Report Inventory (SSRI). Although adapted from the EA model, these instruments focus on self-report of behaviors, thus categorizing them within the emotional competence set of EI measures.

Validity evidence of EI

As previously indicated, there are few peer-reviewed empirical validity studies of EI, and fewer still that compare multiple measures. Those studies that do compare instruments focus on contrasting the MSCEIT with various self-report measures (EQ-i, SREIT, and SSRI), but not the ECI, hence the rationale for the current study comparing and contrasting the MSCEIT to the ECI. A list of the contemporary validity studies include Brackett and Mayer, 2003, Zeidner *et al.*, 2005, Brackett *et al.*, 2006, and Goldenberg *et al.*, 2006. Table 1 compares each study, and their respective contributions and limitations.

Brackett and Mayer (2003) investigated the convergent, discriminant, and incremental validity of an ability measure of EI (MSCEIT) and two self-report measures of EI (EQ-i and SREIT). They found significant positive relationships among the total item scores for the three measures, as well as significant positive correlations between the MSCEIT sub-traits of perception, facilitation, and regulation with the EQ-i sub-traits of interpersonal EI. In addition, the MSCETI sub-trait of emotional regulation had significant positive relationships to four out of the five sub-traits of the EQ-i (interpersonal, adaptability, self-management, and general mood). In terms of outcomes, the EQ-i had a significant negative relationship to drug use, and alcohol use; the MSCEIT had a positive significant relationship to high school rank and college GPA; and both had significant negative correlations to social deviance.

The authors asserted that ''findings with the MSCEIT suggest that EI as a mental ability exists as a distinct clearly defined construct that has evidence of incremental validity'' (Brackett and Mayer, 2003: 1157). In addition, they conclude that the ability measure and model is preferred stating that, ''Keeping EI restricted to an ability model makes it possible to analyze the degree to which EI

specifically contributes to a person's behavior'' (1157). However, given the convergent and predictive evidence (particularly, the overlap between measures and the predictive validity evidence of the EQ-i toward well-being), as well as the sample limitations ($N = 207$, mean age = 19, 97% Caucasian, and drawn from undergraduate psychology course), the strong conclusions drawn may be unwarranted.

Zeidner *et al.* (2005) suggested that differences in levels of assessed EI are measure-dependent. Their study focused on 208 middle school- and high school-aged children, classified as gifted or non-gifted. Using the MSCEIT and SSRI, the authors found significant positive correlations between total item scores as well as significant positive relationships between the MSCEIT sub-traits of perception, assimilation, and managing emotions. In addition, Zeidner *et al.* (2005) found that gifted students did score higher on the MSCEIT (compared to non-gifted students), but that SSRI scores were lower. The authors suggest that, ''whether or not gifted *vs* non-gifted students differ significantly in EI depends entirely on the operationalization of EI'' (385). As with Brackett and Mayer (2003), Zeidner *et al.* (2005) conclude that the ''MSCEIT might appear to be the instrument of choice'' (388), however, given the reported results (the correlations and that outcomes are dependent on measurement) as well as the study limitations (use of the SSRI and drawing a sample of gifted/non-gifted from schools in Israel), the findings leave the door open for further exploration of the link between EA and EC.

Goldenberg *et al.* (2006) examined the ability-based MSCEIT and the competency-based self-report SREIS, noting that ''to the extent that these measures tap into common constructs, their patterns of convergent validity ought to be similar'' (35). In this case, the participants were 223 adults from the community with a mean age of 38.4. Results indicated a weak relationship between the

Table 1 EI validity studies

Author/year	Sample/size	EI ability measure	EI competency measure
Brackett and Mayer (2003)	Undergraduate psychology students $N=207$	MSCEIT	EQ-i/SREIT
Zeidner *et al.* (2005)	Middle and high school students $N=208$	MSCEIT	SSRI
Goldenberg *et al.* (2006)	Adult community volunteers $N=223$	MSCEIT	SREIS
Brackett *et al.* (2006)	Undergraduate students $N=355$	MSCEIT	SREIS

instruments, even though both were developed from a similar theoretical framework. The authors found significant positive relationships between self-report and ability-measure sub-traits of managing emotions (MSCEIT) and utilization and experiencing emotions (SREIS) and significant negative correlations between the sub-trait of understanding emotions (MSCEIT) and utilization and mood regulation (SREIS). Goldenberg *et al.* (2006) note that, ''the measurement approach, rather than the theoretical basis for a measure, might ultimately determine the nature of the EI model being assessed'' (42). In addition, the authors examined the two instruments as they related to various coping styles and found a significant positive relationship between coping style and the SREIS, but no relationship between coping style and the MSCEIT. They conclude that, ''further validation work is necessary for both self-report and performance-based measures of EI'' (Goldenberg *et al.*, 2006: 43).

Finally, Brackett *et al.* (2006) examined the relationship among the MSCEIT, SREIS, personality and social competence. As demonstrated in prior studies, both methods of measurement displayed a significant positive relationship to each other with total item scores. However, despite the finding, the authors maintained that ''self-rated and performance measure of EI were not strongly related'' (Brackett *et al.*, 2006: 784) because of low correlations ($r=0.19$, $P<0.01$). In addition, although both measures had significant findings between personality factors, the relationship of various personality factors to the SREIS was more highly correlated than those for the MSCEIT. Finally, in terms of social competence, the MSCEIT was a significant predictor for men, but not women. The authors conclude, as they did earlier (Brackett and Mayer, 2003) that ''measuring EI with a performance test such as the MSCEIT, as opposed to self-report inventories, makes it possible to analyze the degree to which emotional abilities contribute to social functioning'' (Brackett *et al.*, 2006: 791). However, given the gender bias, limited sample size ($N=44$), and age (mean=19.3), there is clearly a need for additional studies to substantiate the findings.

Clearly the combined evidence demonstrates that there is overlap among EI measures. However, the relationship between the various sub-traits as well as the specific relationships to the ECI measure have yet to be explored. Moreover, depending on the study, measures, and samples used, conflicting results emerge between the relationship between EA and EC and various outcome data. Therefore, we refer to two meta-analyses that help to illuminate the current validity debate.

Van Rooy and Viswesvaran (2004) and Van Rooy *et al.* (2005) conducted meta-analyses to determine the overall construct validity of various EI models, their relationships to each other, to general mental ability, and to personality factors. Both meta-analyses stated that EI, as a construct, is ''definitely worthy of future research'' (Van Rooy and Viswesvaran 2004: 86), but their analyses call ''into question the tenability of classifying the mixed and ability models of EI as one and the same construct'' (Van Rooy *et al.*, 2005: 457). They conclude that neither of the models is inferior; rather, ''both models may have utility and the relative value of each could depend on the context in which it is used'' (457). Although the meta-analysis helped to support a possible connection, Van Rooy *et al.* (2005) was unable to review the relationships between sub-traits. They recommend that future research ''should now examine how the individual dimensions for each model are related'' (Van Rooy *et al.*, 2005: 458). The current paper specifically addresses these prior limitations by analyzing both the total and sub-trait scores between measures to determine if a case can be made for an overall EI construct.

In summary, the literature leaves several key research questions unanswered. First, will the modest positive correlations between consensual/expert scoring and self-report scoring of EI continue to be replicated in future studies that use different samples and/or different measures? Second, what is the relationship between the measures and their sub-traits? Third, is EI one holistic construct, a multi-dimensional construct, or simply a naming convention? The current manuscript is an attempt to directly address the first two questions (total item and sub-trait item scores) and hopefully to inform the third question, regarding the nature of the interactions between measures and models of EI.

Relationship between EC and EA

Although measures of EC and EA are distinct, the question remains whether EI is in fact a unitary concept, a convenient nomenclature, or a multi-aspect construct with distinct traits and methods. If EC and EA are measuring the same construct, then several of the traits (based on prior empirical and theoretical evidence) should show convergent validity, regardless of the method of measurement.

The above literature review is consistent in advocating multi-measure validity studies to advance our accumulated knowledge of EI. In addition, there is no prior peer-reviewed empirical study that examines the overall and sub-trait scores between the MSCEIT and the ECI, despite that fact that the ECI is a popular practitioner measure, with a mixed sample.

It is clear that there is a significant positive relationship between overall scores of consensual/expert scoring and self-report scoring. This is to be expected, as the overall definitions of EI (from each of the various models) borrows from the core theory of Thorndike (1920) and later Gardner (1983), in defining EI as the ability or skill to recognize and manage one's emotions and the emotions of others. The central question for the current study is whether EC demonstrates the consistent level of correlations to EA that was established in earlier studies. That is, will the total item scores on the ECI-U have a significant positive relationship to the total item scores on the MSCEIT? Therefore, our first hypothesis is:

Hypothesis (H1): A significant positive relationship is expected between the total item score of the MSCEIT and the total item score of the ECI-U.

In regard to sub-traits, although the ECI has not been tested, there are prior studies using other measures of EC (mixed, self-report models) that identify significant positive relationships between EA (measured by the MEIS or MSCEIT) and EC (measured by the EQ-i, SREIT, and SSRI). Based on these results, it is plausible that traits of EI cut across methods, constituting the core operational definition of EI. So far, the two sub-traits of the MSCEIT that appear to be most related to self-report measures are emotional management and facilitating thought, however, the relationships are inconsistent at best, depending on the population and the self-report measure used.

In examining the sub-traits based on previous studies, specifically Brackett and Mayer (2003) and Goldenberg *et al.* (2006), there is evidence that the "emotional management" sub-trait of the MSCEIT appears to be the largest contributor to the relationships between models. In addition, emotional management was often positively correlated to various self-report sub-traits, specifically interpersonal EQ and utilization of emotions. This makes intuitive sense because the definition of the emotional management sub-trait, "the ability to man-age emotions in yourself and in others'' (May) is a core aspect of Thorndike's (1920) and Gardner's (1983) early conception. Therefore, expanding on the prior empirical and theoretical evidence, we predict the relationship between EC and EA to manifest in a similar manner. This leads to our next hypothesis:

Hypothesis (H2): A significant positive relationship is expected between the sub-trait of emotion management from the MSCEIT and the sub-traits of (H2a) self-management and (H2b) relationship management from the ECI-U.

Finally, although the prior validity evidence was more limiting, the "PE" sub-trait of the MSCEIT also demonstrated significant positive correlations with sub-traits of other self-report measures (Brackett and Mayer, 2003). Mayer *et al.* (2000) defines perceiving and identifying emotions as "the ability to recognize how you and those around you are feeling" (70). This again resonates with an aspect of the general conceptual definition of EI presented by various authors: that EI should relate to the ability to understand and use emotions.

Therefore, in examining the sub-traits based on their respective conceptual definitions, the branch score of PE (from the MSCEIT) and the cluster scores of self-awareness and social awareness clusters (from the ECI-U), appear to be related. This is based both on preliminary empirical data as well as the theoretical intersection of their respective conceptual definitions. This leads to our last hypothesis:

Hypothesis (H3): A significant positive relationship is expected between the sub-trait of perceiving and identifying emotions from the MSCEIT and the sub-traits of (H3a) self-awareness and (H3b) social awareness from the ECI-U.

Method

Participants

The participants were 78 undergraduate business administration students (56.9% of participants) and 58 first year MBA students (43.3% of participants) enrolled in their respective introductory organizational behavior courses at a large, private, mid-Atlantic university. We chose to aggregate both undergraduates and graduates to better compare our findings with those of Brackett and Mayer (2003), Zeidner *et al.* (2005), and Brackett *et al.*

(2006) who used exclusively undergraduate students, and Goldenberg *et al*. (2006) who used exclusively adult volunteers. The total sample size was 136. Each group completed the same EI measures as part of their course requirements. The participants were 58.8% male, and 70.8% white (with African Americans making up 5.4% of the samples, Asians 16.9%, and Hispanics 6.9%) and had a mean age of 22.3 years (SD of 4.97).

EI measures

MSCEIT. EA was measured using the MSCEIT (Mayer *et al*., 2000). The MSCEIT is an ability test of EI designed for adult ages 17 years and older that uses normative data from a sample of 5000 individuals (http://www.emotionaliq.org/MSCEIT_Tech.htm). We chose the MSCEIT as it is the standard in EA assessment in the literature.

The MSCEIT is a test designed to measure the four branches of Mayer *et al*.'s (2000) EI ability model. The MSCEIT uses ability-based scales that measure how well people perform tasks and solve emotional problems. Responses to MSCEIT are believed to represent actual abilities at solving emotional problems, thereby minimizing confounds to the instrument. The MSCEIT provides 15 main scores: Total EI score, two Area scores, four Branch scores, and eight Task scores. The MSCEIT may be completed online and for purposes of our study, the online assessment and reporting options were used.

Studies examining the internal consistency reliability for the MSCEIT have reported alpha coefficients ranging from 0.79 (facilitating thought) to 0.91 (PE), an overall internal reliability coefficient of 0.93 (for total EI scores), and a test-retest reliability of 0.86 (Brackett and Mayer, 2001; Mayer *et al*., 2003).

ECI-U. EC was measured using the Boyatzis and Goleman Emotional Competency Inventory – University Edition (Boyatzis and Goleman, 2001). The ECI-U is designed to assess the emotional competencies of individuals in university settings (Wolff, 2005). We chose the ECI-U measure because our sample was students, and we wanted to have the most appropriate measure for comparison with the studies of Brackett and Mayer (2003), Zeidner *et al*. (2005), Goldenberg *et al*. (2006), and Brackett *et al*. (2006).

The ECI-U is based on emotional competencies identified by Goleman in *Working with Emotional Intelligence* (1998) and the Boyatzis–Goleman Competency Model of Emotional Intelligence (2001). It also incorporates the competencies from Hay/McBer's *Generic Competency Dictionary* (1996) and Boyatzis's Self-Assessment Questionnaire. The measure consists of 63 items that are used to determine scores for each of the 21 emotional competencies. Competencies are measured by three questions ranked on a 5-point Likert type scale that reflects the frequency of behavior (5=consistently shown to 1=never shown) and are divided into four broad cluster scores: (1) self-awareness; (2) self-management; (3) social awareness; and (4) relationship management. The ECI-U (2001) measure is a paper and pencil instrument that allows students to self-score their results.

As reported from the technical manual, reliability coefficients for the individual competencies of the ECI range from $r=0.73$ to $r=0.87$ (Boyatzis and Sala, 2004; Wolff, 2005). Our own analysis of the ECI-U, using all 63 items, had an overall reliability of 0.91 and reliability coefficients of 0.59 (self-awareness), 0.69 (self-management), 0.67 (social awareness), and 0.86 (relationship management).

Control measures

Education level was used as a control to verify both that the samples of undergraduate and graduate students did not elicit different responses, but also to allow us to make comparisons with prior studies using undergraduates (Brackett and Mayer, 2003; Zeidner *et al*., 2005; Brackett *et al*., 2006), and Goldenberg *et al*. (2006) who used exclusively adult volunteers.

Age, gender, and race were used as additional demographic control variables. While we did not expect differences along demographic variables, we needed to verify that the results were generalizable across major demographic differences.

Analysis

Regressions were run on the dependent variable for each hypothesis, using a forced step or "block entry" method in SPSS 17. For the first step, demographic variables of academic program (undergraduate *vs* graduate), age, gender, and race (white *vs* non-white) were entered. The independent variable of interest was entered second. This more conservative approach ensures we controlled for the effects of demographic variables on the relationships between the variables of interest.

Results

Means, standard deviations, and correlations for all items of interest can be found in Table 2.

No demographic variables had an effect on the relationships of interest. For the relationship between the total item score of the MSCEIT and the total item score of the ECI-U (H1), we found no relationship. For the relationship between the sub-trait of emotion management from the MSCEIT and the ECI-U sub-trait of self-management (H2a), we found no relationship. For the relationship between the sub-trait of emotion management from the MSCEIT and the ECI-U sub-trait of relationship management (H2b), we found no relationship. For the relationship between the sub-trait of perceiving and identifying emotional thought from the MSCEIT and the ECI-U sub-trait of self-awareness (H3a), we found no relationship. For the relationship between the sub-trait of perceiving and identifying emotional thought from the MSCEIT and the ECI-U sub-trait of social awareness (H3b), we found a significant positive relationship for both the change in R^2 ($P<0.05$) and for the beta weight of perceiving and indentifying emotions ($P<0.05$). Beta weights and effects sizes for all five regressions can be found in Table 3.

Discussion

Prior validity studies generally conclude that there is little relationship between different conceptions and methods of EI, and that ability models and measures are preferred over competency-based ones. However, these same studies indicate consistent significant correlations between measures, and acknowledge the potential superiority of competency models to predict certain behavioral outcomes (Brackett and Mayer, 2003; Zeidner *et al.*, 2005; Brackett *et al.*, 2006; Goldenberg *et al.*, 2006). Additionally, the ECI, a prevalent practitioner measure, has been largely ignored in this research.

Based on our review of previous research, we argued that the ECI would show similar, consistent levels of correlation to the MSCEIT as found by other competency measures, and that the sub-traits would also relate. We assumed that there was the potential for traits to cut across instruments, regardless of measure, providing clues into how best to integrate the different models. However, given the results, it appears that the models of EC and EA that were examined may be too disparate to adequately integrate. The relationship between the total item scores of the two measures (H1) was not supported. The proposed relationships between emotional management branch from the MSCEIT and the self-management (H2a) and the relationship management (H2b) clusters from the ECI-U were not supported. In addition, the proposed relationship between the PE branch from the MSCEIT, and the self-awareness (H3a) was not supported. Overall, the study failed to replicate the majority of the hypothetical relationships that were reported from prior studies. However, the PE branch from the MSCEIT, and the social awareness cluster from the ECI-U (H3b) was supported. The strength of the relationship coupled with the limited sample size would require additional studies to validate the results.

In reviewing the validity literature on EI as well as the current study results, it appears the overall constructs of EC and ability are in fact distinct entities. Although there does appear to be some potential overlap, those relationships are inconsistent and may depend on the measures and/or the sample. Although our study builds on the current body of literature, additional studies are necessary to discern the precise relationships between instruments. It appears that EI is unlikely to be construed as a holistic construct with strong inter-relationships (similar to the general intelligence concept). But, there is the possibility that an overall theory of EI may still link the various models and measures into a multi-dimensional construct (similar to the construct of multiple intelligence and personality factors). Therefore, scholars should continue to examine the similarities and difference of various EI theories in an attempt to better define the construct.

Limitations

There are several key limitations to the current study that may affect the generalizability and utility of its findings. These include sample size, psychometric limitations, and construct definition.

As with many EI studies, this report has limited sample sizes and uses undergraduate and graduate business students. Although an appropriate population for the ECI-U, it may be that different results would emerge with a larger sample and/or one drawn from a different population (e.g., business managers).

There is, of course, concern with the self-report nature of the ECI-U. This measure has yet to fully address the issue of reactivity bias, especially those of researcher and subject expectancy, social desirability, and staff effect. The measure makes the potentially erroneous assumption that individuals

Table 2 Correlations, means and standard deviations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Emotional ability (MSCEIT)	93.60	16.84	1.00													
2. Perceiving emotions	94.79	15.46	0.68**	1.00												
3. Facilitating thought	99.11	21.93	0.79**	0.47**	1.00											
4. Understanding emotions	100.72	19.09	0.71**	0.16	0.46**	1.00										
5. Emotional management	96.95	18.37	0.65**	0.18*	0.42**	0.57**	1.00									
6. Emotional Competency (ECI-U)	242.37	20.39	0.10	0.09	0.11	-0.06	0.14	1.00								
7. Self-Awareness	36.56	3.46	0.05	0.01	0.09	-0.04	0.09	0.74**	1.00							
8. Self-management	79.14	7.16	0.09	0.05	0.08	-0.02	0.12	0.82**	0.54**	1.00						
9. Social-awareness	36.47	3.70	0.13	0.19*	0.14	-0.04	0.07	0.74**	0.49**	0.44**	1.00					
10. Relationship management	90.21	10.01	0.08	0.09	0.08	-0.08	0.15	0.92**	0.59**	0.60**	0.66**	1.00				
11. Education level	1.42	0.49	-0.22*	0.08	-0.20*	-0.42**	-0.35**	0.16	0.05	0.19*	0.06	0.15	1.00			
12. Age	22.3	4.97	-0.20*	0.08	-0.16	-0.37**	-0.34**	0.07	-0.01	0.15	-0.00	0.04	0.89**	1.00		
13. Gender	1.41	0.49	0.04	0.03	-0.01	0.04	-0.02	-0.12	-0.15	-0.15	-0.04	-0.08	-0.04	-0.09	1.00	
14. Race	1.29	0.46	-0.04	0.00	0.07	-0.12	-0.16	0.04	-0.00	0.04	0.14	0.01	0.21*	0.17	0.06	1.00

Notes:
Education level is dummy coded for 1=undergraduate and 2=MBA student.
Gender is dummy coded for 1=male and 2=female.
Race is dummy coded for 1=white and 2=non-white.
Age is in years.
N=136; *P<0.05; **P<0.01.

(both in their own ratings and the ratings of others) have sufficient self and other awareness to respond accurately.

The MSCEIT, which makes the claim to be an actual ability measure, has drawn criticism regarding the assumption that certain answers are in fact correct and related to EI. The MSCEIT is based upon consensus criteria, meaning the "test taker receives credit for endorsing the emotions that the group endorses" (Mayer et al., 2000: 327). One is left questioning whether majority agreement and correctness is in fact the same thing. As argued by Hedlund and Sternberg (2000), "there is no resolution, regardless of the approach, of the question of whether social intelligence can be separated psychometrically from abstract, academic intelligence" (139). EI researchers must continue to refine their instruments in response to these psychometric limitations.

Finally, there is legitimate concern regarding the multitude of definitions, models, and measures of EI. In effect, what one model may view as an emotionally intelligent person may be contrary to the view of a different model. Even if the domain issue can be resolved, there are still questions as to the elusive nature of the theory in question. Researchers have attempted to refine the various conceptions of social intelligence for a number of years with limited success.

Conclusion

Emotional Intelligence (EI) is popular because it strongly resonates with scholars, practitioners, and the general public. However, in order to secure EI's position within organizational studies, continued conceptual and empirical research is needed to establish an agreed content of domain, a more definitive theory, and clearer boundaries between what EI is and, perhaps more importantly, what it is not. In that regard, EI is not unique in being a nebulous construct, one that is difficult to accurately define and measure, but which remains a critical concept to human behavior. After all, it is quite plausible that while there is a concept of EI that has an impact on a person's ability to succeed in school, work, and life, current approaches may not be adequate to fully explore, justify, refine, and measure the construct.

Although the current study did not confirm the majority of the proposed hypothetical relationships between measures, it does provide additional evidence regarding the relationships between EA and EC. Specifically, it demonstrates that EI is not a unitary construct (similar to g-factor for

Table 3 Regression models of hypothesized relationships

Dependent variable	ECI-U overall		Self-management sub-trait of ECI-U		Relationship management sub-trait of ECI-U		Self-awareness sub-trait of ECI-U		Social awareness sub-trait of ECI-U	
	R^2	Beta	R^2	Beta	R^2	Beta	R^2	Beta	R^2	Beta
Step 1: Control variables	0.04		0.06		0.03		0.05		0.03	
Education level		0.12		0.03		0.13		0.19		0.46
Age		0.02		0.18		0.02		−0.10		0.46
Gender		−0.16		−0.17		−0.10		−0.17		0.35
Race		0.04		0.04		0.03		0.01		0.14
Step 2: Independent variable	0.05	EA 0.11	0.08	EM 0.19	0.05	EM 0.18	0.05	PE −0.01	0.06	PE 0.19*

Notes:
EA=MSCEIT overall; EM=Emotional management sub-trait of MSCEIT; PE=Perceiving emotions sub-trait of MSCEIT.
Beta weights are for final regression model.
*$P < 0.05$ (F value for the R^2 change between Social Awareness and Perceiving Emotions is 4.04); all other effects are non-significant, including changes in R^2 from Step 1 to Step 2 with the exception of the change from Step 1 to Step 2 of Perceiving Emotions on Social Awareness ($P < 0.05$).

intelligence), suggesting that future studies should focus on whether EI is a multi-dimensional construct (similar perhaps to personality factors or multiple intelligences) or distinct disparate constructs (similar to the differences between personality and general intelligence).

Given the current state of affairs, an ongoing theoretical and empirical dialogue that better defines models, measures, and their interrelationships is needed. It is especially important for those working within the EA and EC traditions to see their attendant intellectual and methodological commitments as complementary as opposed to competing. To do so, future studies should consider EI as *both* ability and a constellation of behaviors, and measures with a *combination* of knowledge, reasoning, self-report, and other-report; to provide a more holistic and encompassing examination that would foundationally contribute to unlocking the construct's potential.

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