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COMMENTARIES

Emotional Intelligence: Additional Questions Still Unanswered

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Cherniss (2010) succinctly summarizes key issues in the emotional intelligence (EI) literature and presents a compelling need to more coherently define the EI construct. We agree that the literature has tended to adopt a wide, and at times ambiguous, view of the EI construct (e.g., Mayer, Salovey, & Caruso, 2008) and that greater clarity is needed. Although a more focused and unitary definition will help and is a step in the right direction, below we highlight several additional issues and gaps with EI that need to be addressed before we are able to more fundamentally understand the construct.

Some Troubling Empirical Findings

A workable definition of EI should account for the pattern of relationships identified so far. Initial research suggested that there were two distinct models of EI (Murphy, 2006; Petrides & Furnham, 2000)—one labeled as *ability EI* and the other typically as *mixed model EI*. Cherniss and recent works (e.g., Mayer et al., 2008) have made finer distinctions among the models. This research has basically sliced the "mixed model" into narrower groups while keeping the "ability EI model" conceptualization intact. The pattern of correlations observed among different EI measures, however, raises concerns with these interpretations.

For instance, Van Rooy, Viswesvaran, and Pluta (2005) present the average correlations between different measures broken into the ability and mixed models. Measures of the two conceptualizations correlate only .14 ($k = 13$, $N = 2,442$), supporting conclusions of independence. Moreover, the two models (ability and mixed) have distinct patterns of correlations with general mental ability (GMA) and the Big Five factors of personality. However, these meta-analytic results also indicate that measures based on the mixed model of EI overlap extensively (i.e., correlate .71 among themselves; $k = 11$, $N = 3,156$). Such correlations suggest that the different measures of the mixed model of EI correlate more than .85 on a common underlying factor. These data call into question some

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of the finer distinctions researchers have made within mixed model EI.

There is another troubling empirical finding even with the twofold distinction between ability and mixed models of EI. Here, the problem is specifically with the ability model of EI as it has become increasingly clear that measurement *method* supersedes measurement *model*. More specifically, EI measures utilizing a self-report methodology that are based on the ability framework (e.g., Schutte EI Scale [Schutte et al., 1998]; Wong and Law EI Scale [Wong & Law, 2002]) tend to correlate more with mixed measures of EI than with ability measures. This has been supported by meta-analyses that have shown higher correlations among measures by the measurement method than the model (Joseph & Newman, 2010; Van Rooy & Viswesvaran, 2004).

One explanation that can be given for the low correlation among the currently available measures conceptualizing EI as ability is that *self-reported* ability is not the same as *actual* ability. The explanation is that the various measures are all attempting to make inferences of the same construct—just that when the measurement method is self-reported, we have not appropriately measured the construct (e.g., Ashkanasy & Daus, 2005). We would be more comfortable accepting this explanation if (a) there were alternate measures of the ability EI conceptualization that were based on demonstrating emotional ability and (b) there were high correlations among these measures. This is currently not the case—the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT; and its variations) is the only widely used test of this type (Mayer & Salovey, 1997)—raising questions as to whether the empirical results (and distinct patterns of correlations) are due to a unique construct or due to measure-specific variance. What we need are studies showing high correlations among multiple measures that assess ability EI using methods other than self-reports. The bottom line is that more tests assessing the demonstration of emotional ability are needed.

Defining a Construct: Beyond the Available Correlations

These findings by themselves do not yet imply that one of the two models should not be labeled as EI. It is possible that EI is an overarching global construct and the two models are only sampling a distinct part of the construct. Factor analytic studies are needed that examine measures from the two models to test such competing mechanisms. More specifically, instead of assessing factor structure within a measure, factor structure could be evaluated across measures. Along these lines one could also investigate whether the specific or shared variance across the measures contributes to predictive validity with important criteria. It is important to remember that science advances by examining constructs—not specific measures.

An additional comment about the terms "mixed" and "trait" models is needed here. As discussed above, Van Rooy et al. (2005) reported that the average correlation is .71 among different measures of EI that view EI as a combination of skills and competencies (i.e., mixed models). If the term "mixed" model is used pejoratively to indicate that we have a set of measures that are an eclectic mix of unrelated concepts (Locke, 2005), the correlation of .71 among these measures refutes it. Although covering a wide variety of competencies, these measures appear to share a substantial amount of common variance. This common variance is also predictive of many important criteria (Van Rooy & Viswesvaran, 2004). As Mayer et al. (2008) note, the ability-based measure of EI has also been found to be predictive of important criteria. Thus, both models seem to have predictive relevance at this point and one should not be discounted entirely.

An argument can be advanced that factor analysis will not address the conceptual problems, and only a theoretical formulation could illuminate the issues. Mayer

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et al. (2008) claim that the ability model alone should be considered as EI because of the theoretical development underlying the concept. Specifically, they offer the four-branch model as the theoretical foundation. The problem here is that some of the conceptualizations of EI that Mayer et al. criticize (e.g., Bar-On, 1997) also have theoretical foundations justifying their scales. In fact, similarities can be discerned among the measures in terms of the underlying dimensions proposed. Cherniss (2010) extensively uses these similarities in conceptually grouping the measures into three groups.

Further, Mayer and Salovey (1997) describe four branches of EI that are hierarchically arranged. This raises the question of whether the lower branches (or factors) are prerequisites for the higher-order branches. Is perception of emotion a prerequisite for management of emotions? If we continue this logic, a total score in EI would not likely contribute beyond the individual branch scores for predicting many criteria. If researchers are to adopt Mayer and Salovey's conceptualization of EI, we need studies that show (a) how the perception of emotions is predictive of organizational criteria and (b) if this predictive power is subsumed in the predictive power of higher branches (e.g., managing emotions). At a minimum, incremental validity of the higher branches over the lower branches needs to be demonstrated.

To this end, more needs to be done to develop a job performance theory of EI. Just as EI has been criticized for being a "grab bag" of unrelated predictor measures (e.g., Locke, 2005), the same can also be said about claims on the criterion side (i.e., EI is related to everything). Theory needs to be more specific in stating exactly what *organizational* criteria EI should predict, and investigations should be aimed at answering the "how" and "why" of these effects. In fact, as underscored by Cherniss, such theoretical frameworks should also delineate what criteria would likely not be predicted by EI. These new theoretical works should focus on establishing construct relevance, and thus, theory construction should explicate what EI captures that *both* the Big Five and GMA do not. Empirical studies should attempt to show the incremental validity of EI over both personality and GMA as well.

It has also been asserted that EI should be measured by asking test takers relevant questions and then evaluating their answers against a criterion of success. With traditional tests of intelligence, there is an objective correct answer (e.g., $4 \times 4 = 16$). With EI, however, an objective correct answer is not available, even with ability-based tests. Instead, the correct answer is based on different scoring methodologies (e.g., consensus and expert). We believe that this is one of the reasons why measurement method has become such a confound with EI research. Studies are needed that seek to tease out the variance shared by the response methods (self-reports, other reports, and performance items), scoring methods (target, consensus, and expert), and content domains covered. The low correlation (.14) found between the mixed and ability models could also be due to the different measurement methods employed. Along these lines, many ability-based items of EI function akin to items on tests of situational judgment tests (SJTs). Including SJTs in studies with EI measures could help isolate measurement method variance from construct level variance. This could be done using multitrait, multimethod evaluations of the construct (e.g., Law, Wong, & Song, 2004).

Before EI Can Be Used in High-Stakes Testing

In addition to resolving the above issues, we need to investigate several other issues before using measures of EI in high stakes assessment situations like personnel selection and promotion. First, we need to explore whether there are ethnic or gender group differences in test scores. Most empirical research using student or other non-applicant-based samples report that (a) women score higher than men and

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(b) minorities score higher than Whites (e.g., Van Rooy, Alonso, & Viswesvaran, 2005), and in some cases group differences were even found to be related to the measurement method utilized (Roberts, Zeidner, & Matthews, 2001). However, we need to extend this research using actual employees or job applicants. In a previous exploration using civil service applicants, we found that minority candidates scored significantly lower, raising concerns of possible adverse impact (Whitman, Van Rooy, Viswesvaran, & Kraus, 2009). Currently, there are no empirical studies investigating predictive bias (as defined by the Cleary model or alternate models—see Jensen, 1980) for different criteria and groups.

Second, with self-reported measures of EI, we need to check the effects of response distortion on construct and criterion-related validity in an actual high stakes assessment context. Third, the question of applicant reactions to such measures and whether it differs by demographic groups needs to be assessed. Finally, and as mentioned above, process models of how EI affects job performance and other criteria (along with the contextual effects) should be understood.

Conclusion

EI is an important field with great potential. We agree with Cherniss that conceptual clarity is needed for advancement in this area. However, we need to continue to investigate multiple conceptualizations (specifically the shared common variance across the models), methods, and scoring approaches. Research should not be driven by a single measure or test of the construct. Just as it would be unacceptable to accept anything as a measure of EI (Locke, 2005), it would be equally unacceptable at this relatively early point in the research process to dismiss alternate measures and insist that only one particular measurement method is acceptable (Mayer et al., 2008). Science should progress through triangulation of constructs assessed by different methods and measures, and it is not sufficient to study a specific measure or model. A broader, comprehensive view is needed when evaluating the EI landscape.

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