Measuring Emotional Intelligence: Examining the Discriminant Validity of the Metaphors Test
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Abstract
Emotional intelligence (EI) is important because it can be a good predictor of success in one’s work, academic, and personal life (Mayer & Geher, 1996). The way we express and understand our emotions can often be associated with our development, intelligence, and health, and people with a higher verbal skill are better able to express their emotions (Langer, 1967). The purpose of this study was to examine the discriminant validity of a new test of emotion perception: the Metaphors Test. Participants completed the test twice in a 1-month period. Their ages ranged from 20 to 68 years (mean 31.05, SD 10.83). Most participants identified themselves as Asian (78.5%), while the rest reported as follows: White (11.6%), Indian (4.5%), American Indian or Alaskan Native (3.2%), Black or African American (1%), and Other (1.2%).

Methods
The Metaphors Test is a 30-item maximum-performance test of the ability to perceive emotions in written stimuli. Each of the ten metaphors is associated with a score of 30 points. The participant’s score is equal to the proportion of the norm group who gave that response (Barchard et al., 2013). For example, if 40% of the norm group chose response B, then B would be scored as 0.4 (Barchard et al., 2013).

Verbal Skill
The participants were given a four-item questionnaire asking them to rate their comfort reading, writing, listening, and speaking English, using a 10-point scale.

Procedure
Participants completed the Metaphors Test and the Verbal Skill test approximately 15 minutes to complete and was administered online as part of a larger study. The online methods for this study were created using Qualtics. Qualtics is online computer software that researchers use to produce surveys. The survey was distributed through Amazon Mechanical Turk (mTurk), a website that connects people who want work done (called requesters) with people who want to do the work (called workers). Requesters ask tasks (called Human Intelligence Tasks) that can be completed for compensation. Typically, compensation is minimal. This is the test used in this study.

Data Analysis
To measure the discriminant validity of the Metaphors Test, we correlated the total score of verbal skill with the total score of the Metaphors Test.

Results
We found a significant moderate correlation between the Metaphors Test and verbal skill (r = .40, p < .001). Despite the fact that the correlation was significant, there were some participants who scored low on the Metaphors Test and reported their verbal skill as being high, and there was also an outlier where a participant scored high on the Metaphors Test but reported verbal skill as low. A scatter plot of the data is shown below (see Figure 1).

Discussion
The purpose of this study was to examine the discriminant validity of the Metaphors Test compared to verbal skill. As expected, a moderate correlation (r = .40) was discovered between verbal skill and the Metaphors Test. Despite showing the discriminant validity of the Metaphors Test (Barchard et al., 2013), this correlation with verbal skill is notable. There is a possibility that the correlation may have been reduced by two factors. First, this study used a self-report measure of verbal ability. Because of this, some participants may have overestimated their skill. In addition, one participant scored high on the Metaphors Test but reported low verbal skill. Perhaps this participant was comparing himself to a different reference group than the other participants used. Second, the test of verbal skill had a ceiling effect. Many participants reported that they had excellent verbal skill on all four items and thus obtained the maximum possible score. In particular, several participants scored low on the Metaphors Test but reported themselves as having high verbal skill. Future research should use a more maximum-performance test of verbal skill and ensure that it is not too difficult to avoid a ceiling effect. This will provide a more accurate measure of verbal ability, and thus allow a better assessment of discriminant validity.

Another limitation of our study was our sample. A majority (78.5%) of the participants reported that they were of Asian ethnicity. This limits our ability to generalize our study results to other groups. Future research should also try to obtain a more varied demographic. Including a wider range of ethnicities could improve the generalizability of the study results.

Despite these limitations, this study provides preliminary evidence for the discriminant validity of the Metaphors Test. The ability to perceive the emotional connotations of written language is more important than ever, given how often we use written words to talk with friends, family, and work associates. Further research on the usefulness of the Metaphors Test is warranted.

References