



**EMOTIONAL INTELLIGENCE:
A PSYCHOMETRIC STUDY**

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ABSTRACT

The purpose of this thesis has been to develop new trait-based and abilities-based measures of “emotional intelligence” (EI), and evaluate their psychometric properties. A popular construct, some have claimed that EI is more important than IQ in predicting life success (Goleman, 1995). But developments in the definition and measurement of EI have not kept pace with these assertions. A review of current conceptualisations of EI in chapter 1 indicated that there is no consensually agreed upon definition of the construct (Van Rooy & Viswesvaran, 2004). In addition, an examination of EI instruments in chapter 2 indicated a number of limitations with respect to their psychometric properties. In particular, self-report measures of EI typically lack discriminant validity in relation to existing personality domains, and comparatively few studies have examined the incremental validity of these measures. A comparison of outcomes both before and after personality is controlled for is also of interest to obtain a more complete picture of the total and unique variance that EI is able to account for. A further limitation of existent performance-based measures relates to scoring methods and ultimately reliability outcomes. Nevertheless, the construct has the potential to be able to account for additional variance in test scores, and has implications for the definition and diagnosis of mental health problems and, where relevant, for the treatment and prevention of such problems. But before such assertions can be made, self-report and performance-based measures of EI need to be developed that demonstrate appropriate psychometric properties.

As a result of limitations with existing EI measures, chapter 3 began by focusing on the development of a new self-report, and peer-report measure of EI. The two new

measures were developed based on the Mayer and Salovey (1997) definition of EI as the best definition at present on conceptual and empirical grounds. A “domain-referenced” approach to the development of affective test items was adopted to generate questions (Anderson, 1981). Following the development of the new self-report and peer-report instruments, the psychometric properties of both measures were evaluated. In the first pilot study, the reliability, factorial validity, and convergent validity of the two instruments were investigated. The results revealed that the internal reliability levels for both the self-report, and peer-report measure of EI were good. However, an evaluation of the construct validity revealed a factor structure for the two EI measures that was somewhat inconsistent with the theorized factor structure. For the convergent validity, both the self-report, and peer-report measures of EI were significantly correlated with the theoretically related construct of empathy. Both EI measures were only minimally intercorrelated, and the results of paired samples t-tests revealed that self-reported EI scores were (in the main) higher than peer-report estimates. There was also evidence of gender differences in EI in favour of both males, and females.

Chapter 3 continued with a second pilot study to investigate test-retest reliability levels, and the convergent validity of the two EI measures in relation to an alternative trait EI measure, the Assessing Emotions Scale (AES). Test-retest reliability levels were good, and there was higher correlation between the self-report, and peer-report measures. Paired samples t-tests again revealed that self-reported EI scores were markedly higher than peer-report estimates. Next, an analysis of the convergent validity of the new self-report and peer-report measure in relation to a self-report and peer-report AES indicated some support, with modest correlation between the new self-report measure and the self-

report AES. The modest correlation was attributed to the presence of response bias in the first instrument but not the latter. In contrast, there was good convergence between the new peer-report measure and the peer-report version of the AES.

One objective of chapter 4 was to refine the new self-report measure of EI. A second aim was to develop a new performance-based measure of EI scored according to consensus protocols but with improvements to response options and instructions to participants. As part of the development of the new performance-based measure of EI, a new scoring approach was devised termed confidence scoring. The final objective of chapter 4 was to conduct a third study that was designed to comprehensively evaluate the psychometric properties of both the self-report and performance-based measure of EI. The validation process included an assessment of: (1) internal reliability, (2) factorial validity, (3) convergent validity, (4) discriminant validity, and (5) incremental validity (before and after personality was controlled for). Individual differences in gender were also examined.

For the self-report measure of EI, there was good evidence for internal reliability, and factorial validity. Likewise, the instrument converged with a measure of empathy, was distinguishable (in the main) from the Big Five personality domains, and was incrementally predictive of grade point average, stress, and loneliness but not general well-being. The incremental validity of the self-report measure of EI was further supported in relation to low and high scoring EI subgroups for stress, and loneliness. Additional variance accounted for ranged from 5% to 23% prior to the inclusion of personality in the regression equation but decreased to 3% to 12% after the Big Five were

controlled for. Results were also indicative of individual differences in EI in favour of males or females, depending upon the ability being tested.

With respect to the performance-based measure of EI, consensually scored results exhibited poor to good internal reliability levels, and a good factor structure but only once redundant test items were deleted. The results indicated that consensually derived answers converged with two measures of cognitive ability, was distinguishable from the Big Five, and incrementally predicted grade point average, stress, loneliness, and general well-being in the order of 29% prior to controlling for personality but decreased to between 2% and 7% of variance when the Big Five were entered into the analysis.

Where the performance-based measure of EI was scored according to confidence levels, the results revealed an instrument that had excellent reliability, and reasonable factorial validity. Confidence scores were significantly correlated with empathy; both measures of cognitive ability; and exhibited discriminant validity in relation to the Big Five. In addition, confidence scores of low and high scoring individuals were incrementally predictive of loneliness and general well-being in the order of 14% before and 4% to 5% of variance after the Big Five were partialled out.

Chapter 5 concluded this thesis by first revisiting the initial aims and reviewing the findings in light of the aforementioned objectives. Based on the above outcomes it was concluded that measures of the EI construct were generally reliable and valid, but there is still a long way to go to evaluate the full utility of the construct. Additionally, contributions of this thesis to an understanding of the field of EI were discussed along with limitations relating to this research. Finally, a number of recommendations were made for future research.