

*Personality Down Under:  
Perspectives from Australia*

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## Does Emotional Intelligence predict real-world performance?

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### Abstract

Do high *Emotional Intelligence* (EI) scores predict superior performers in academic or work environments, as Goleman (1995) and Cherniss (2000) assert? This chapter summarises three studies that examines this. Study one assessed 105 first-year students and found that EI explained significant incremental variance in first-year psychology results scores, even after controlling for IQ and personality. Studies two and three examined the predictive validity of EI within two companies. The first surveyed 75 industrial sales representatives from a power transmission company, and the second involved 110 insurance company employees in a major claims and renewals telephone call-centre. The participants in each organization were administered a diverse battery of EI scales, general intelligence markers, personality, and miscellaneous scales including motivation, empathy and impulse control. For an objective measurement of success, the managers in each organization rated the participants in terms of their relative performance on the job. Regression analysis indicated that the EI sub-factors explained significant incremental variance in the performance criterion in all studies. A noteworthy finding was that global EI scores explained very little of the variance in the performance criterion, in comparison with using the EI sub-factors as predictors.

**Keywords:** Emotional Intelligence, Predictive Validity, Real-world performance

### Introduction

*Emotional Intelligence* (EI) is believed to be the dominant factor underlying success in business and life, and Goleman (1998) claims that “IQ takes second position to Emotional Intelligence in determining outstanding job performance” (p. 5). Furthermore, Goleman asserts that up to 80% of the characteristics that determine success in life and at work lie outside the domain of IQ (Goleman, 1995). He broadly

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categorises these other characteristics as ‘Emotional Intelligence’ (Goleman, 1995, p. 34), which he equates to ‘old fashioned’ attributes such as ‘good character’ (p. 285) and ‘maturity’ (Goleman, 1998, p. 7). While Goleman popularised the term “Emotional Intelligence” in 1995, researchers such as Lazarus (1991) had earlier recognised the adaptive value of emotions, claiming that “emotions contain the wisdom of the ages” (p. 820). The EI concept is also similar to an earlier term, ‘Social Intelligence’ (SI), coined by Thorndike in 1920. *Social Intelligence* was defined as “the ability to manage men and women, boys and girls, and to act wisely in human relations” (p. 228). EI, in contrast, may be more specifically defined as, the ability to recognise and understand emotions; and your skills at using this awareness to manage yourself and your relationships with others (Bradberry, 2004).

Whether this concept is labelled EI, *Emotional Quotient* (EQ), or SI, it is clear that in today’s customer-focused and service-oriented environments that general EI definitions highlight skills that would be expected to be embodied by leaders and the best employees. While IQ was historically considered to be the best measure of an individual’s success on the job, explaining up to 25% of the criterion of success (Schmidt & Hunter, 1998), EI highlights the importance of teamwork, ability to reduce customer conflict, and indeed, keeping one’s own emotions in check during difficult encounters.

While the broadening of the definition of intelligence has been welcomed by lay persons, educators and organizational psychologists and the like, the construct of EI has to this date not been clearly defined. For example, the two leading commercial tests of EI, the *Mayer-Salovey-Caruso Emotional Intelligence Test* (MSCEIT) and the Reuven Bar-On’s *Emotional Quotient Inventory* (EQ-i), do not measure the same thing, sharing less than 4% of common variance (Brackett, 2003). If a construct such as Emotional Intelligence is the key to success, it needs to be operationalised in a reliable and valid instrument, similar to IQ instruments, to enable sensible research to proceed. Currently, there are two categories of EI tests: *Performance* and *Self-report* EI tests, the latter probing a wide mix of personality traits. *Performance* EI tests such as the MSCEIT, consists of a number of questions about emotions in faces, pictures, and social situations. For each of these questions there is a range of answers; the test-taker receives a high or low score depending on the answer chosen. The scoring is derived from the consensus of the individuals who have previously taken the test, and the test-takers who choose the answer that most other participants have chosen receive the highest score.

*Self-report* EI tests, on the other hand, such as Reuven Bar-On’s *Emotional Quotient Inventory*, the EQ-i (1997) rely on the test-taker providing an honest and unbiased answer to questions such as, “*I can express my feelings easily,*” or, “*I am in touch with my emotions,*” on a 1 to 5 scale, where 1 = *Not true of me*, and, 5 = *Very often true of me*. Self-report tests are, of course, potentially subject to exaggeration and bias (Matthews, Zeidner & Roberts, 2002). For example, in the above question the high face validity makes it easy for people to see through the intent of the questions above and respond with a 5 to achieve a higher EI score. The weakness of self report EI tests can be reduced by using 360 questionnaires that ask co-workers, such as peers and managers, to independently rate the participant. However, this is time consuming due to the requirement of multiple people having to respond to a survey for each individual being tested.

## The current studies

There are clearly problems in having two or more definitions of a concept in any scientific endeavour, and the confusion surrounding whether EI is a performance or self-report construct adds to this. At this early stage of EI research, this promising concept needs to be empirically validated to establish whether it can explain up to 80% of the variance in success and life as Goleman (1995) asserts, which could also help indicate whether performance, or self-report EI, is the more useful construct. This approach was the focus of the current set of studies. Three studies assessed whether EI can explain up to 80% of the variance in job performance, and also to examine whether performance or self-report EI tests are more useful in this regard.

### Study 1

The first study was designed to examine whether EI was a predictor of success at university. Various researchers (e.g., Saklofske & Parker, 2005) have found a positive relationship between EI and higher GPA (*grade point average*), and a negative relationship between EI and dropping out of university. It is argued that adaptation to the first year at university requires social skills as well as an above average academic intelligence score to succeed (cf. Gardner, 1999). The research question of whether EI was of importance to success at university was examined using 105 first-year undergraduates in psychology using a broad battery of EI, personality and IQ tests. For the criterion of success, the scores of a first-semester psychology course were used.

The results of hierarchical regression analysis indicated that IQ or academic intelligence explained the largest percentage (15%) of the variance of success in first-semester psychology. The next step in the hierarchical regression analysis indicated that the Five Factor Model (FFM) personality factors explained an additional 7% of variance in the first semester criterion. Finally, the *global* EI score for the *Trait Emotional Intelligence Questionnaire* (TEIQue; Petrides, 2003) explained a disappointing additional 4% of variance. However, conversely, the four unconstrained TEIQue EI *sub-factors* explained an additional 11% of the variance. Using the sub-factors of the TEIQue rather than the global score was thus an equivalent technique to using the five factors of personality unconstrained in the regression analysis.

In interpreting the results it was unsurprising that the academic intelligence score was the best predictor of success at university, explaining 15% of the variance. The FFM contribution to the variance of 7% indicted in particular the importance of the *Conscientiousness* factor to success at university. Finally, after extracting the variance explained by IQ and personality, EI sub-factors were able to explain an incremental 11% of the variance of the first year criterion. While this does not reach the promising value of 80% that Goleman had indicated, it nonetheless provides some empirical support for EI to be included in test batteries, in addition to IQ tests, when attempting to predict performance at university. The 4% of variance explained by the global EI score was statistically insignificant, and was considered an inferior predictor than the sub-factors of EI.

## Study 2

The next EI study was conducted in an industrial organization where the research question was: *what factors determine success in a sales representative?* Sales management was interested in creating an instrument that would evaluate potential sales representatives on suitability for success within the company. The approach taken in this study was to establish concurrent validity, that is, to determine the factors that were present in the most successful sales representatives currently employed. Once these were determined then a test battery could be constructed that evaluated new applicants on these “success factors”. This study surveyed the current sales representatives on a wide range of IQ, personality, and EI factors and used the rating of overall sales performance provided by sales management as the criterion. Overall, 75 sales representatives out of 100 provided complete data from the survey which was correlated and regressed against the criterion of sales success.

The results of a hierarchical regression analysis indicated that selected subfactors of Emotional Intelligence explained 38% of the variance in the sales success criterion. None of the IQ markers (either *fluid* or *crystallised* intelligence) were significant in the regression in predicting sales success. When other general factors were added as predictors, Extraversion and Age brought the variance explained in the success criterion up to 52%. The global EI scores of the TEIQue and the Bar-On EQ-i only correlated at 0.06 and 0.10 respectively with the sales success criterion. Since the EI sub-factors explained 38% of the variance and the global EI scores only explained 1% or less of the variance, it was clear that EI acted most efficiently as a multi-factorial inventory, in a similar fashion to the FFM that itself has no global factor but five independent factors.

In a similar fashion to the student population scores in Study 1, the global EI scores explained only a miniscule amount of the variance in the criterion—less than 1% in the examples given above—while the sub-factors of EI explained 38% of the variance in the criterion. In addition to this, adding other factors (such as *Extraversion*) to the mix of predictors produced a model for selecting future potential sales representatives. A short test battery has since been built to investigate selecting new sales representatives for future employment. Whether the predictive properties of this new tool can live up to the substantial variance of 52% explained in the current study requires a follow-up study of predictive validity. This will be conducted a year or so after the current batch of sales representatives have settled in and can be rated on sales performance.

## Study 3

The final study in this series was at a large insurance company where management desired to achieve a better success rate in hiring superior employees into their call-centre. The call centre consultants are often involved in discussion and negotiations with the customer at emotion-filled moments, such as after a car accident or loss of property. It seems highly probable that being able to read the customer’s emotions and also control one’s own emotions during a crisis—the hallmark of emotional intelligence—would be a valuable skill that the superior employees would embody.

As in the previous studies, the employees in the call centre were administered a survey containing a wide variety of EI, personality, IQ markers and miscellaneous

tests of constructs such as impulsivity, empathy, motivation and optimism. This included both of the current, most-respected EI tests: the MSCEIT—a performance EI test; and the Bar-On EQ-i, a self-report EI instrument. The call-centre employees were provided with paid overtime to fill out the survey after working hours and this incentive to complete the survey outside working hours appeared to improve the response rate and resulted in 110 surveys being completed. In addition, management provided a rating of each employee's overall performance which was used as the criterion for the subsequent analysis. As in the previous studies, hierarchical regression analysis was used to determine the factors that were predictive of the best performance at work, as operationalised by the management-rating criterion for each employee.

The results of the regression analysis indicated that the global factors of the MSCEIT and the EQ-i only explained around 1% of the variance in the criterion (the management-rating of success). The EQ-i had a positive relationship with the management-rating criterion ( $r = 0.10$ ), but interestingly the MSCEIT had a negative relationship with the performance criterion ( $r = -.13$ ); that is, better performers scored *lower* on the MSCEIT test! This is obviously a major problem for the MSCEIT, since at the outset, Goleman and most EI researchers (e.g., Mayer et al., 2002; Bar-On, 1997) have claimed that EI has a positive relationship with success in life and work.

However, far more promising results were achieved using the sub-factors of EI. The 15 EQ-i sub-factors were able to explain 27% of the variance in the management rating criterion. While the MSCEIT's eight sub-factors explained a significant 15% of the variance, the inverse relationship that the global MSCEIT score demonstrated against the criterion indicated that it was of little value in this application. Performing stepwise (backward) regression on the entire range of predictors at our disposal showed that the IQ markers (*fluid* and *crystallised*) intelligence were significant additional predictors to EI, as was the FFM factor of *Conscientiousness*. This brought the variance explained in the criterion up to 50%, which was far more useful when compared with the minimal value of 1% explained by the global EI scores of either the EQ-i and the MSCEIT.

## Implications

From these three studies, the same pattern emerges: The global EI scores, be they for the TEIQue, the MSCEIT, or the EQ-i, explain very little of the variance in the selected criterion—typically ONLY around 1%. On the other hand, the unconstrained EI sub-factors explain significantly more variance in the criterion—typically exceeding 25% of the variance. In this regards, EI appears to be an array of loosely-related constructs that are adaptive for life and success at work (cf. Bar-On, 1997), rather than a global trait.

Furthermore, it would appear that EI research has only just begun to address the issues related to EI and performance with an empirical, real-world approach. The two dominant EI tests, the MSCEIT and the EQ-i, need to be consolidated into a single EI theoretical model. Creating a single model is a necessary first-step before EI can be formally included into psychological theory as a construct worthy of the esteem that general intelligence theory or the FFM of personality hold. There appears also to be a need to expand the list of factors that contribute to success in work and life, and in this regard EI has been a worthwhile incremental step along this path. However, the current challenge is to consolidate theories of EI, and branch out into

new research areas such as measuring the adaptive value of automatic (*hot*) emotional responses, such as “amygdala hijacking” (Goleman, 1995, p.14), in today’s organizational environment. It is hoped that these studies bring the current status and challenges of EI into clearer focus, and also provides some direction for future research.

## Conclusion

The research project described briefly in this chapter began with the intention of confirming the predictive properties of global EI scores, especially since Goleman indicated that EI could explain up to 80% of the variance of success in work and life criteria. These three studies used widely-recognised EI tests and found that global EI scores explained insignificant quantities of variance—typically less than 5%. The three studies also found no evidence to support Goleman’s (1995) assertion that a single, global EI factor was significantly related to work and academic success. The studies did, however, suggest that EI was dissimilar to general intelligence and that global EI scores could not adequately represent an individual’s maturity and success at work.

However, this research did find that a mix of EI sub-factors and general factors such as Self-control, Independence, and FFM personality factors such as Conscientiousness could explain up to 50% of the variance in a work success criterion. This goes somewhere towards approaching Goleman’s claim of explaining up to 80% of the variance, and certainly surpassing the 25% of variance that IQ can explain. However, some EI sub-factors were negatively related to superior performance and thus refuted the claim that EI sub-factors are unidirectionally related to success and performance (e.g., Goleman, 1995; Bar-On, 1997; Mayer et al., 2002). EI sub-factors appear to behave in a similar manner to other multi-factorial inventories such as the MPQ, MMPI, 16-PF and FFM personality theory. Thus, EI batteries can explain additional variance in a performance criterion using EI sub-factors as predictors in a multi-factorial inventory.

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