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Assessing Emotional Intelligence

Theory, Research, and Applications

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Performance Based Measures and Practical Validity

John Reid

Much has been assumed about the advantages of being high in Emotional Intelligence (EI), but how does Emotional Intelligence manifest itself in the real world? Does it comprise good character and maturity (Goleman, 1995, 1998), superior intrapersonal and interpersonal skills (Gardner, 1999), or wisdom and the ability to manage others (Thorndike, 1920)? The term EI has been used to encompass a wide variety of constructs; for example, Constructive Thinking has been proposed as the foundation of EI (Epstein, 1998). And if it were possible to settle on a concrete definition of the real-world behavioural manifestations of EI, what vocations and roles would high EI be valuable for? This chapter attempts to shed some light on these important issues for the EI research community.

The popular interest in EI was sparked by Daniel Goleman in his seminal publication "Emotional Intelligence: Why it can matter more than IQ" (Goleman, 1995), with claims that EI could explain up to 80% of the "factors that determine life success" (p. 34). This publication heralded in a new era of recognition of the importance of emotional competencies in work and life success. Prior to this, the dominant theme was that cognitive ability, that is, General Mental Ability (GMA) or IQ was the dominant factor in determining success at work (e.g., Hunter & Hunter, 1984; Schmidt & Hunter, 1998) and in life (e.g., Herrnstein & Murray, 1994).

Compared with EI, the research on human cognitive abilities is mature; the construct of GMA (*g*) is well established as a reputable psychological construct with at least 100 years of research dating from Binet in 1900 to support it (e.g., Carroll, 1993; Mackintosh, 1998; Binet & Simon, 1911). EI on the other hand has less than 20 years of research behind it, and it has been hampered by a variety of operationalizations that fall under the broad categories of performance EI and self-report EI (e.g., Salovey & Mayer, 1990; Bar-On, 1997). It would appear that in the excitement of expounding the new EI concept, and for some, the lucrative opportunity to sell and administer EI tests,

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fundamental psychometric concepts like construct and convergent validity have been overlooked.

While GMA has always had the clearly defined criterion of academic ability – in the form of examination results to validate IQ tests and thus establish convergent validity, no such "gold standard" criterion exists for EI. Bar-On designed the EQ-i test as "a self-report measure of emotionally and socially competent behaviour" (Bar-On, 2000, p. 364) without providing a tangible criterion against which the test could be validated. Salovey and Mayer defined EI as the ability to "accurately perceive, use, understand and manage emotions" (Mayer, Salovey, & Caruso, 2002, p. 1), once again without providing a criterion against which MSCEIT or any other EI test could be validated. Without a clearly defined criterion of performance it is difficult to demonstrate convergent or construct validity for EI tests.

This has led to a situation where results from the two predominant EI tests, the MSCEIT (Mayer et al., 2002), and the EQ-i (Bar-On, 1997), appear to measure different things. This has been demonstrated in at least two studies where the correlation between the MSCEIT and the EQ-i was low ($r = 0.22$), representing a shared variance of less than 5% (Brackett & Mayer, 2003; Reid, 2007). Although no clear correlation cut-offs are suggested for convergent validity (e.g., Anastasi & Urbina, 1997), it would be appropriate to expect different tests of the same construct to have moderate-to-large correlation coefficients, that is, greater than 0.30. By comparison, IQ test results between WAIS-III and SB-IV demonstrate convergent validity with a high correlation ($r = 0.88$) (Wechsler, 1997). This represents a shared variance of 77%, thereby providing strong evidence that these two IQ tests are indeed measuring the same psychological construct. When we compare the miniscule 5% overlap between the two leading EI tests with the 77% overlap between reputable IQ tests it is clear that the EI construct has not yet been clearly defined.

The EQ-i and the MSCEIT are not the only tests to consider when establishing EI construct validity, as a brief but incomplete list of current EI tests demonstrates: the Assessing Emotions Scale (Schutte et al., 1998); the Emotional Intelligence Appraisal (EIA) (Bradberry & Greaves, 2004); the Trait Meta-Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995); the Emotional Competence Inventory (ECI) (Boyatzis, Goleman, & Rhee, 2000); the Genos EI assessment scale (Palmer & Stough, 2001); and the full and short-form versions of Trait Emotional Intelligence Questionnaire (TEIQue) (Petrides, Perez, & Furnham, 2003). These EI tests have different factorial structures ranging from 4 to 15 subfactors, and widely-varying item counts ranging from 28 (EIA), to 133 in the EQ-i.

In the absence of a "gold standard" criterion for EI tests, those who are interested in scientifically validating the EI construct are left in a position of having to empirically determine what this elusive construct actually measures (Davies, Stankov, & Roberts, 1998). Although Mayer et al. assert that EI meets traditional standards for an intelligence (Mayer, Caruso, & Salovey, 1999), this assertion is difficult to defend when we do not know what EI tests are actually

measuring, that is, there is no criterion-related validity. And looking further forward, is the EI construct a unitary construct such as general intelligence (*g*) (Carroll, 1993), or a loosely-related family of constructs (Ciarrochi & Godsell, 2006) such as the five-factor model (FFM) of personality (McCrae & John, 1992)? Bar-On (1997), for example, does not claim that EI as measured by the EQ-i meets the standards for a traditional intelligence, but simply describes his measure as a set of factors that are assumed to be positively related to emotional health (Bar-On, 1997). Since the EQ-i comprises 15 diverse subfactors, it is appropriate to question whether the subfactors share enough common variance to support a general EI factor.

Bar-On, who authored the EQ-i test comprising 15-factors, defines EI as "a self-report measure of emotionally and socially competent behaviour that provides an estimate of one's emotional and social intelligence" (Bar-On, 2000, p. 364). The 15 subfactors are summed to produce an overall EQ score. They may be weighted before summation, but we have no insight into the scoring algorithm as this is proprietary; tests must be sent to MHS (2006) for scoring. But the question arises regarding the validity of summing diverse EI factors, such as Empathy and Impulse control to produce a total score. It is possible that that these constructs are orthogonal, and it is therefore not appropriate to simply sum them.

This brief introduction sets the background to the author's research, where an attempt was made to first determine what EI tests measure by using a criterion, and second, to determine whether EI subfactors combine to form a unitary construct; that is, is it valid or useful to sum the subfactors to produce a global EI score? From this point on, this chapter will cover the criterion validity studies that were conducted using a wide variety of EI tests, including the MSCEIT and the EQ-i.

Study 1 – EI as It Relates to Maturity and Character

Goleman proposed that "There is an old-fashioned word for this growth in emotional intelligence: *maturity*" (1998, p. 7) and that, "emotional intelligence represents: *character*" (1995, p. 285). This study used these general definitions of EI proposed by Goleman to rate behavioural characteristics exhibited by participants in an interview, using a methodology similar to that employed by Ford and Tisak (1983).

In the search for a social intelligence (SI) factor, Ford and Tisak (1983) managed to isolate a "distinct social intelligence factor" (p. 196) – a unique outcome that had not been demonstrated since Thorndike had first proposed the existence of the Social Intelligence (SI) construct (Thorndike, 1920). Ford and Tisak administered a battery of social competency, personality and academic intelligence measures to participants, followed by a behavioural interview to assess each participant's SI. Factor analysis subsequently demonstrated a unique SI factor that was divergent from personality and academic scores.

This study followed the Ford and Tisak methodology and examined how maturity and good character, measured in an interview situation, related to a variety of EI scales and general tests. This maturity and good character score – the brief evaluation of behaviour (BEB) – was derived from a 5-minute videotaped interview of each participant rated by four independent judges. This became the criterion against which all putative tests of EI were evaluated. The rationale for the study was that if EI tests correlated positively with the behavioural observation of maturity and good character, it would provide confirmatory evidence for the unsubstantiated assertions offered by Goleman (1995, 1998). It would also furnish experimental evidence for the capability of EI tests to predict the behavioural outcome of maturity and good character. Moreover, the actual magnitude of the variance explained would indicate whether EI tests have sufficient predictive validity to be utilised in workplace selection or similar applications. To set a benchmark for what is sufficient predictive validity, Mayer et al. have proposed that constructs that explain an additional 5% of the variance beyond existing psychological constructs are worthy of further research (Mayer, Salovey, & Caruso, 2000).

One hundred and three first-year psychology students (75% female, mean age 22.5 years, SD=4.17), from the Department of Psychology, Macquarie University, took part in this study as part of their course requirements. The TMMS (Salovey et al., 1995), the AES (Schutte et al., 1998), the TEIQue-SF (Petrides & Furnham, 2004), an emotional competence assessment ECA (Reid, 2007), plus facial emotion recognition (Matsumoto et al., 2000) and vocal emotion (Scherer, Banse, & Walbott, 2001; Scherer, 2002) composed the putative EI tests in the battery. The ECA was based on the four-factor structure of the EIA (Bradberry & Greaves, 2004); developed at Macquarie University and normed on 800 students. Additional tests covering a range of personality and psychological domains were also administered to establish convergent and divergent validity with the EI tests; the criterion being derived from a videotaped brief evaluation of behaviour (BEB) of the participant. The BEB criterion of maturity and good character was rated in a 5-minute videotaped interview by four judges. All measures exhibited reasonable alpha reliability of 0.7 and above, and the videotape judges achieved a high interrater reliability of 0.90 for the BEB criterion.

The outstanding EI test was the Voices performance task (Scherer et al., 2001) explaining 10% of the variance in the BEB criterion, and continuing to explain 10% of the variance after controlling for personality and IQ. An attempt was made to replicate the predictive validity of the Voices task using the DANVA voices (Nowicki & Duke, 2001); however, low alpha reliability of the test and minimal correlation with the criterion rendered it unsuitable for the task. The other performance task, the facial emotion recognition task (Ekman, 2003), loaded on the IQ factor in factor analysis (FA) and SEM confirmatory FA studies (see also Roberts et al., 2006), and thus appeared to be part of general intelligence rather than an EI factor.

The other global EI measures were only able to explain less than 7% of the variance in the criterion. However, a hierarchical multiple linear regression (MLR) analysis using EI subfactors, personality, and IQ markers as predictors was able to explain 26% of the variance in the BEB criterion. After controlling for personality and IQ, the EI subfactors were able to account for a significant 13% of incremental variance.

None of these figures approach the potential 80% of variance that Goleman (1995) proposed that EI could explain, which could indicate one of two things. Perhaps *maturity* and *character* is just too difficult to measure, or perhaps it does not capture the essential essence of EI. The use of four judges who achieved an interrater reliability of 0.90 would suggest that a behavioural criterion was being reliably captured, but this appeared to be only loosely related to the domain that the EI tests (TMMS, AES or the TEIQue) were measuring.

Summary. The 13% of incremental variance contributed by EI subfactors surpasses Mayer's benchmark of an additional 5%, and substantiates the value of including EI tests in the battery. However, the fairly low correlations between global EI scores and the criterion tend to indicate either that maturity and character are vague constructs, too difficult to capture reliably, or that the EI tests utilised were measuring something different. Thus, the following studies were designed to focus on more tangible, real-world criteria.

Study 2 – EI as It Relates to Academic Achievement

It has been proposed that success in the first year of university requires skills that go beyond the academic skills used to select for entrance to university (e.g., Gardner, 1983, 1999; Mayer & Cobb, 2000; Schutte et al., 1998; Schulze & Roberts, 2005; Brackett & Mayer, 2003; Petrides, Frederickson, & Furnham, 2004) and these skills may help explain "why smart students fail" (Saklofske & Parker, 2005, p. 177). The problems that confront first-year students, as they attempt to complete their studies, go beyond academic intelligence capabilities and cover a wide range of issues such as loneliness, loss of the peer support group from high-school, relationship break-ups, and financial difficulties (see Thoits, 1991). The skills to identify, manage, and repair emotions, the basis of EI, would therefore appear to be major contributors to success and avoiding dropping out. The restricted range of IQ that arises from university selection procedures provides little variance for performance prediction using IQ alone, while other emotional-related and personality variables potentially provide more variance to predict success (see Goleman, 1995; Mackintosh, 1998).

This second study examined the predictive properties of EI and other general tests as predictors in an MLR analysis, using first-semester psychology 1 (PSY101) results as the criterion, to explore the hypothesis that EI had a significant and positive relationship with academic success. The methodology employed in this study was similar to that used in the previous study using 103 first-year students.

The global EI scores alone did not appear to be significant predictors of academic results; the TEIQue and the ECA had low and insignificant correlations with the PSY101 criterion, representing a variance explained of 3% and 1% respectively. However, by adding the EI subfactors from the TEIQue-SF and the ECA to the FFM personality and IQ baseline predictors, a significant 11% of incremental variance was explained by EI subfactors. This final model, explaining a total of 34% of variance in the PSY101 criterion, appeared to have some utility as a model to predict academic performance by using the EI subfactors in addition to personality and IQ.

Summary. EI subfactors were able to explain a significant 11% of incremental variance in an academic criterion over and above traditional measures of IQ and personality. It would be valuable and informative to explore this potential in more detail over a wider range of academic subjects.

Study 3 – EI as It Relates to Sales Performance

Emotional Competence, based on abilities from the EI domain of skills, is the key to "outstanding performance at work" (Goleman, 2001, p. 27). Emotional competencies are learned skills; however, they require a general ability in EI before they can be developed (Goleman, 1998, 2001). Within a particular job category such as sales, EI will be a stronger predictor of the "star salesperson" than IQ (Goleman, 2001, p. 24). IQ only explains up to 20% of the performance variation in job success, leaving other factors, specifically EI, to account for the remaining 80% of the variation in performance (Goleman, 1995, 1998). These claims appear compelling to organizations attempting to improve the productivity and performance of their staffs through Emotional Competence training and better selection procedures for new staff members.

When comparing the performance of the average employee with those performers in the top 15%, it was found that the top employees were up to 120% more productive than an average employee (Hunter, Schmidt, & Judiesch, 1990). Sales vocations fall into the high range, where top performers typically sell more than twice the value of average performers. This can lead to an outstanding return on investment for the company involved; in one example, a top performer sold 120% more than average performers and returned additional value equivalent to 88 times his current salary (Goleman, 2001).

This productivity increase was also reported in a study involving 44 companies such as AT&T, IBM, and PepsiCo, where it was found that salesmen in the top-performing 10% group sold more than twice that achieved by average performers (Goleman, 1998). The competencies embodied by the top performers were not IQ related, but were found to be soft interpersonal skills such as Initiative, Empathy and Influence. For want of a general definition of these soft skills, they are usually categorised as EI skills, especially by advocates for the concept (e.g., Goleman, 1998; Cherniss, 2004; Boyatzis et al., 2000; Bar-On, 1997).

The studies cited above only loosely associate the performance of the top sales performers with EI, because EI is broadly defined as "other characteristics" that are not related to IQ (Goleman, 1995, p. 34). Watkin (2000) asserts that EI, not IQ, is the best predictor of superior performance, superior leadership, and the key to emotionally intelligent organizations; yet he fails to supply rigorous definitions or empirical data to back up these assertions. Cherniss (2000, 2001) claims that Emotionally Intelligent managers have less employee turnover, develop staff in a superior manner, promote emotionally intelligent teamwork, and enable people to perform more effectively – again, without published empirical data to back up these claims.

Cherniss (2004) reported on a Hay/McBer study that a national insurance company found that representatives who were strong in at least 5 of 8 emotional competencies sold policies twice the value of the remaining representatives. This study was conducted in a closed environment, and no statistics or definitions of EI were provided to enable examination of this claim in detail. In summary, it appears that an array of claims have been made without a clear operational definition of EI, without peer-review or published statistical data to back up the claims (Matthews, Zeidner, & Roberts, 2002; Matthews, Roberts, & Zeidner, 2004).

This study, therefore, attempted to validate these claims using established EI tests, the Bar-On EQ-i and the TEIQue-SF, plus a variety of personality and IQ markers to determine if EI had a positive relationship with, and could potentially predict sales performance. The criterion of performance was derived from a ranked list of the Sales Representatives, ordered from the highest performer to the lowest performer. The ranking was not simply based on dollar volume of sales, due to the disparate opportunities in different regions, but rather, on consistent performance with respect to the potential of the sales territory. The ranking was transformed into a normal distribution using SPSS to enable parametric statistics to be performed.

Seventy one male technical Sales Representatives (mean age 37-years, SD=8.8) from a power transmission equipment company took part in this study. A total of 110 Sales Representatives were invited to participate, with the final participation rate of 71 staff (65%) lower than expected due to some remote access computer difficulties. Results indicated a low zero-order correlation of 0.10 and 0.06, respectively, between the EQ-i and TEIQue global scores and the sales performance criterion – global EI thus explaining less than 1% of the variance. The best predictors of sales performance were Extraversion and Age with zero-order correlations of 0.36 and 0.34 respectively; that is, explaining 13% and 12% of the variance respectively.

On the other hand, when the EI subfactors of the EQ-i and the TEIQue were treated as independent factors, like the FFM personality factors, MLR indicated that these subfactors could account for up to 38% of the variance in the sales performance criterion. Using hierarchical MLR, the FFM of personality accounted 16% of the variance, IQ accounted for 2% of incremental variance,

and the subfactors of the EQ-i accounted for an additional 22% of incremental variance amounting to 40% of variance explained overall.

These results clearly indicate that while the global EQ-i score only explained 1% of the variance in the sales performance criterion, the subfactors of EQ-i explained 38% of the variance; further, the EQ-i subfactors still explained 22% of the variance after controlling for personality and IQ. These results indicate that EI subfactors can be utilised to explain incremental variance beyond personality and IQ, by using the subfactors as independent entities like the FFM factors of personality.

To further test the hypothesis that combining independent EI subfactors to produce a global EI score diminishes the effectiveness of EI as a predictor, a similar exercise was conducted with the FFM of personality. McCrae asserts, "EI should be associated with low scores of neuroticism and high scores for extraversion, openness, agreeableness and conscientiousness" (McCrae, 2000, p. 266). As noted above, an MLR analysis found that the five separate factors of the FFM of personality accounted for 16% of the variance in the sales performance criterion. When the FFM factors of personality were summed as per McCrae's suggestion above to produce a global FFM score (i.e., global_FFM = E + O + A + C – N), this score explained less than 2% of the variance in the sales performance criterion. Of course, it is normal practice to keep the five factors separate and not sum them as above as they are independent, almost orthogonal constructs. This exercise demonstrates that by treating personality factors as separate entities, more variance can be explained. EI also explains more variance if the subfactors are treated as independent entities, notwithstanding factor analytic studies that attempt to group them, and the common practice of summing the subfactors to produce a global EI score.

Summary. EI as represented by the EQ-i subfactors demonstrated concurrent validity with a sales performance criterion, accounting for 22% of the variance after controlling for personality and IQ. On the other hand, the global EQ-i score accounted for less than 1% of the variance, demonstrating that subfactors lose their predictive power when they are simply added together. Thus, a selected mix of weighted EI subfactors appeared to be more useful than global EI in establishing concurrent validity in a sales performance environment.

Study 4 – EI as It Relates to Call Centre Performance

In a study of 121 companies it was found that two-thirds of the abilities required for effective performance were emotional competencies (Goleman, 1998). In another study of medium-complexity job roles such as sales clerks, a performer in the top 1% was found to be 12 times more productive than an employee in the bottom 1% (Cherniss, 2004). Since two thirds of the abilities predicting superior performance are said to be emotional competencies, EI potentially has a major role to play in predicting employee productivity. Even in areas such as computer programming, where emotional competencies seem to have no place, it was

found that teamwork and collaboration abilities enable the top 10% of computer programmers produce three times the output of average performers (Goleman, 1998). For engineers involved in scientific research, EI qualities were four times more important than intelligence in predicting success and prestige (Goleman, 1998).

In an insurance environment, sales agents who scored high in emotional competencies such as self-confidence, empathy, and initiative typically sold policies twice the amount of the average policy (Goleman, 1998). In a cosmetics company, sales trainees who were chosen on the basis of their emotional competence were twice as likely to finish their training as employees not selected according to EI skills.

Although many of the claims made by Goleman (1998) and Cherniss (2004) loosely subsume anything that it is not IQ under the banner of EI, if the claims for the advantages accruing to emotional competencies can only be partially achieved, they are compelling and worthy of further examination. It was in the light of these statements that the following study was undertaken.

The sample chosen for this study consisted of 149 telephone claims consultants (83% female, mean age 33.5-years, SD = 9.8) from a major insurance company. The consultants are involved in negotiating new, and settling existing, insurance claims under conditions where the customer is often in an emotional state at the time of the call. The ability to communicate clearly and manage the customer's emotional state in these difficult circumstances would appear to be an ideal test of EI abilities; that is, to effectively manage emotions in both self and the customer. The characteristics required for the position include customer focus, communications ability, relationship building, influence and resilience. These skills closely map on to the EI domain, specifically interpersonal and intrapersonal skills (e.g., Bar-On, 1997; Goleman, 1995, 1998).

Three Emotional Intelligence (EI) tests, the MSCEIT, the EQ-i, and the TEIQue-SF, plus a variety of personality, general intelligence, and miscellaneous tests that were expected to correlate with employee performance were administered to the telephone consultants in a web-based survey. In addition, a report containing an overall performance indicator (PI) was provided by the managers for each employee. The performance indicator was used as the criterion of performance while the individual test scores from the telephone consultants were used as predictors in the analyses.

The zero-order correlations between the performance indicator (PI) criterion and the global scores for the MSCEIT, the EQ-i, and the TEIQue were –0.13, 0.10 and 0.10 respectively. The MSCEIT global EI score demonstrated a negative relationship, where higher performers (in terms of higher PIs) obtained lower scores on the MSCEIT. This result is contrary to the claim that EI predicts outstanding job performance (Goleman, 1998). The EQ-i and the TEIQue both exhibited a positive relationship with the PI criterion but, as also shown in study 3, the small correlation represented a variance explained by each EI test of less than 1%. By comparison, the variance in the PI criterion explained by a verbal IQ marker was 8%.

Using hierarchical MLR to determine the contributions of the three main psychological constructs, the FFM of personality explained 5% of the variance in the PI criterion, IQ accounted for an additional 6%, and the EQ-i factors explained a further 20% of variance, bringing the total up to 31%. The finding, that the EI factors explained the most variance even after controlling for personality and IQ, indicates the potential utility of EI in predicting employee performance. The MSCEIT subfactors were not explored further due to the concern that the MSCEIT global EI factor had a negative relationship with the performance indicator PI; the conclusion reached was that the MSCEIT had doubtful utility for further use in this application.

Summary. EI as represented by the EQ-i subfactors demonstrated concurrent validity with performance indicator criterion, accounting for 20% of the variance after controlling for personality and IQ. The global EQ-i score accounted for 1% of the variance and the MSCEIT had a negative relationship with the performance indicator criterion. These results demonstrate a very similar pattern to study 3, demonstrating once again, that EI subfactors lose their predictive power when they are simply added together to produce a global EI score. The EI subfactors appear to be more useful for establishing concurrent validity in a telephone sales-consultant performance environment.

Bringing It All Together

It is clear from Table 1 that the global EI scores, with the exception of the Voices task, explained less than 7% of the variance in the criterion of performance. With regard to global EI scores, tests with fewer diverse subfactors such as the TMMS (3) appeared to perform better than tests with a large number of

Table 1 Below summarises the EI validation findings from the four studies above

		Variance explained by	
Criterion of performance	EI test	Global EI score	EI subfactors[a]
1. Behaviour exhibiting maturity and good character	TEIQue-SF	5%	11%
	TMMS	7%	8%
	ECA	2%	1%
	AES	1%	1%[c]
	Voices[b]	10%	10%[c]
2. First-semester academic performance	TEIQue-SF	3%	11%
	ECA	1%	1%
3. Sales representative performance	EQ-i	1%	22%
	TEIQue-SF	1%	18%
4. Telephone consultant performance	EQ-i	1%	20%
	MSCEIT	1%[d]	19%

[a] Variance explained by EI subfactors after controlling for personality (FFM) and IQ.
[b] The Voices task is the only performance EI task that produced a noteworthy result.
[c] These constructs are unifactorial; that is, they are assumed to have no subfactors.
[d] The MSCEIT Total EIQ score was negatively correlated with the performance criterion.

subfactors, for example, the EQ-i (15). When the subfactors for the EI tests were used as independent predictors in a regression analysis, they explained significantly more variance – up to 20 times more variance than the global EI score could explain (examples 3 and 4). This result demonstrates that EI subfactors can add significant variance beyond IQ and personality when attempting to establish concurrent validity with a criterion measure. Mayer et al. (2000) set the bar at 5% incremental variance for new constructs; thus, the ability of EI subfactors to explain up to 20% of additional variance makes EI a worthy candidate for inclusion in test batteries when measuring human performance.

We have seen that EI operationalizations differ, as evidenced by the MSCEIT and EQ-i global scores only sharing 5% of common variance (Brackett & Mayer, 2003; Reid, 2007). The EI subfactors also measure different underlying constructs; thus, adding these subscales together appears to be analogous to adding apples and oranges. It has also been demonstrated that by artificially creating a single global FFM personality score, much of the predictive power of the five independent factors is lost. Clearly, the results above demonstrate that the summing of subfactors to produce a global EI score fundamentally reduces the effectiveness of EI as a predictor.

Conclusion

This research 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. The four studies conducted in this research, using widely recognised EI tests, found that global EI scores explained insignificant amounts of variance; typically less than 5%. The four studies found no evidence to support the assertion that a single, global EI factor was significantly related to work and life success.

With global EI scores explaining so little variance in real-world criteria, the question posed in the first paragraph, regarding how EI manifests itself in the real world, has no simple answer; these studies have found no evidence that the global EI score has construct validity, and thus, no single criterion to which it can be related. However, by using the EI subfactors and MLR analysis, a profile for a specific criterion can be produced. These profiles were found to contain different weights of EI subfactors for different job roles. In this regard, Bar-on et al. indicate that EI is entering an "EQ profiling" phase – developing specific models that will predict vocational performance and thus "improving human effectiveness and organizational productivity" (Bar-On, Handley, & Fund, 2006, p. 17).

Overall, this research did find that a mix of EI subfactors such as Self-control, Independence, and FFM personality factors such as Extraversion could explain up to 50% of the variance in a success criterion. This approaches the Goleman claim of explaining up to 80% of the variance, and certainly surpasses the 20%

of variance that IQ typically explains. But, some EI subfactors were negatively related to superior performance, thus refuting the claim that EI subfactors are all positively related to success and performance. EI subfactors appear to behave in a similar manner to other multifactorial inventories such as the MPQ, MMPI, 16-PF, and FFM personality theory. Thus, EI batteries can explain additional variance in a performance criterion by using EI subfactors as a multifactorial inventory, but the single, global EI score was found to have virtually no predictive validity.

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