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Exploring the relationships between trait emotional intelligence and objective socio-emotional outcomes in childhood

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Background. Trait emotional intelligence (*trait EI* or *trait emotional self-efficacy*) is a constellation of emotion-related self-perceptions and dispositions located at the lower levels of personality hierarchies. This paper examines the validity of this construct, as operationalized by the Trait Emotional Intelligence Questionnaire-Child Form (TEIQue-CF), in primary schoolchildren.

Aims. The main aim was to examine the construct validity of trait El in middle and late childhood by exploring its relationships with cognitive ability, emotion perception, and social behaviour.

Sample. The sample comprised 140 children aged between 8 and 12 years (M = 9.26 years, SD = 1.00 year; 63 girls) from two English state primary schools.

Method. Pupils completed the TEIQue-CF, the standard progressive matrices (SPM), the guess who peer assessment, the social skills training (SST) test, and the assessment of children's emotion skills (ACES) during formal class periods. The procedure took approximately two hours with a short break between assessments.

Results. Trait El scores were positively related both to peer-rated prosocial behaviour and to overall peer competence. They also predicted emotion perception accuracy beyond overall peer competence. As hypothesized in trait El theory, the construct was unrelated to IQ (Raven's matrices) and academic performance.

Conclusions. Trait El is successfully operationalized through the TEIQue-CF and has important and multifaceted implications for the socialization of primary schoolchildren.

Trait emotional intelligence (*trait EI* or *trait emotional self-efficacy*) refers to emotion-related self-perceptions and behavioural dispositions relating to the perception, processing, and utilization of emotion-laden information. It is conceptually distinct from ability EI (see Malterer, Glass, & Newman, 2008; Petrides & Furnham, 2000, 2003;

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Petrides, Furnham, & Mavroveli, 2007; Smith, Heaven, & Ciarrochi, 2008), which concerns actual emotion-related abilities and should be measured through maximum-performance tests similar to those used for the measurement of psychometric intelligence. However, measurement problems in the scoring of ability EI tests limit the validity of this construct (Brody, 2004; Freudenthaler & Neubauer, 2005, 2007).

The distinction between ability and trait EI is important for both theoretical and practical reasons. Theoretically, it is important because different measurement approaches will almost certainly produce different results, even if the underlying conceptual model is one and the same. Measurement is a core component of construct operationalization and cannot be severed from the theoretical nature of a construct. Practically, the distinction is important because the efficacy of interventions seeking to enhance 'emotional intelligence,' 'emotional literacy,' 'emotional skills,' etc. cannot be evaluated by means of 'ability-based' tests that are not amenable to veridical scoring and should not be evaluated by means of self-report questionnaires that assess self-perceptions.

Trait EI research has expanded significantly during the last few years. Recent data from children, adolescent and adult samples, show that trait EI scores relate to teacher-and peer-rated prosocial and antisocial behaviour (Mavroveli, Petrides, Rieffe, & Bakker, 2007; Petrides, Frederickson, & Furnham, 2004; Petrides, Sangareau, Furnham, & Frederickson, 2006), adaptive coping and depressive affect (Mavroveli et al., 2007), leadership (Villanueva & Sanchez, 2007), happiness (Chamorro-Premuzic, Bennet, & Furnham, 2007), emotion regulation (Mikolajczak, Nelis, Hansenne, & Quoidbach, 2008), and affective decision-making (Sevdalis, Petrides, & Harvey, 2007). A growing number of studies have revealed incremental trait EI effects beyond established personality traits (e.g. Kluemper, 2008; Petrides, Pita, & Kokkinaki, 2007; Van Der Zee & Wabeke, 2004) and other emotion-related variables, such as alexithymia, optimism, and mood (Mikolajczak, Luminet, & Menil, 2006; Petrides, Pérez-González, & Furnham, 2007).

The present study

Trait EI and cognitive ability

The relationship between trait EI and cognitive ability has been the topic of much debate and scrutiny. According to mainstream personality theory, trait EI should not exhibit strong associations with cognitive ability because, as pointed out by Eysenck and Eysenck (1985), abilities and traits occupy conceptually distinct factor space. Indeed, most studies have revealed zero correlations between measures of trait EI and IQ tests (e.g. Amelang & Steinmayr, 2006; Bastian, Burns, & Nettelbeck, 2005; Chan, 2003; Chapman & Hayslip, 2005; Mikolajczak, Luminet, Leroy, & Roy, 2007). These findings apply to both verbal and non-verbal intelligence, with the exception of some significant, but always weak, correlations (e.g. Hemmati, Mills, & Kroner, 2004).

The absence of strong correlations between personality and cognitive ability measures does not preclude simultaneous effects on criteria like academic performance (see Chamorro-Premuzic & Furnham, 2006 for a review; see also Chamorro-Premuzic, Furnham, & Petrides, 2006). Petrides *et al.* (2004) found that IQ moderated the relationship between trait EI and GCSE (General Certificate of Secondary Education) performance, whereby high trait EI was associated with better academic performance in low IQ pupils only. This suggests that such effects as trait EI might have on performance

are likely to assume prominence when the demands of a situation outweigh a pupil's intellectual resources.

Nevertheless, Parker and colleagues (Parker et al., 2004; Parker, Summerfeldt, Hogan, & Majeski, 2004) have reported modest direct correlations (e.g. r = .20, p < .05) between trait EI and academic performance in high school and university samples, which raises the possibility that the effects of trait EI may vary across educational levels as well as across subjects, like those of other personality traits (e.g. Heaven, Ciarrochi, & Vialle, 2007; Laidra, Pullmann, & Allik, 2007; Petrides, Chamorro-Premuzic, Frederickson, & Furnham, 2005). For example, Laidra et al. (2007) found that agreeableness was an important predictor of academic performance (GPA) in primary - but not secondary schoolchildren. In contrast, Neuroticism predicted academic performance in secondary – but not primary - schoolchildren. The overall picture emerging so far is consistent with the trait EI hypothesis that the construct's direct impact on academic achievement is modest and likely to be more relevant to specific groups of vulnerable children.

Data on the association between trait EI and cognitive ability are incomplete and it is questionable if they generalize to younger samples. This is another topic that we wish to elucidate in this study, along with that of the relationship between trait EI and academic performance, which has yielded erratic findings in the literature.

Trait El and emotion perception

The importance of emotions in personality formation, adaptive social functioning, and interpersonal communication has been well documented, even in very young children (Denham, 1998; Izard, 2001; Izard, Fine, Schultz, Mostow, Ackerman, & Youngstrom, 2001; Saarni, 1999). In a sample of preschoolers (33 to 35 months), Denham, McKingley, Couchoud, and Holt (1990) found that emotional knowledge, which included the understanding of emotional situations and expressions, was related to peer likeability, even after age, gender, and prosocial behaviour had been partialled out. Similarly, in a longitudinal investigation of children from economically disadvantaged families (Izard et al., 2001), emotion recognition and emotion labelling accuracy at the age of five predicted later social and academic competence, even after controlling for temperament and verbal ability. Overall, emotion perception, which features saliently in several models of affective social competence (e.g. Crick & Dodge, 1994; Halberstadt, Denham, & Dunsmore, 2001; Saarni, 1999), is consistently linked to prosocial behaviour and satisfying peer relationships (Denham, 1986; Harris, 2000).

In an experimental design, Petrides and Furnham (2003) found that high trait EI individuals were faster at identifying facial expressions compared to their low trait El peers. Similarly, Austin (2004) reported a positive relationship between certain trait El aspects and performance on emotion-related information-processing tasks, while Ciarrochi, Chan, and Bajgar (2001) showed a strong positive correlation between global trait EI and an emotion recognition task. We expected that similar effects would be observed with child samples, like the one used in this study.

Trait EI and peer-rated social behaviour and competence

Peer acceptance is thought to be a 'key index of competence in childhood and adolescence' (Masten & Coatsworth, 1995, p. 732), while peer rejection is related to maladjustment and externalizing negative behaviours, as measured via self-reports, teacher-, and parent-ratings (Coie, Lochman, Terry, & Hyman, 1992; Pedersen, Vitaro, Barker, & Borge, 2007). In middle childhood, peer status and friendships

influence well-being, academic performance, and self-concept (Vandell & Hembree, 1994). On the other hand, peer rejection during this period has detrimental effects on concurrent and subsequent socio-emotional adjustment (DeRosier, Kupersmidt, & Patterson, 1994; Pedersen *et al.*, 2007).

Hubbard and Coie (1994; see also Gnepp, 1989) identified several dimensions of emotional functioning that affect children's competence in social settings (operationalized as peer popularity), including the abilities to perceive, express and regulate emotions and to sympathize and empathize. With the renewed interest in the role of personality traits in socio-emotional development and behaviour, it seems clear that now is an opportune time to extend trait EI research into childhood.

Research has shown that high trait EI in children is linked to more peer nominations on prosocial behaviours and fewer nominations on antisocial behaviours (Mavroveli *et al.*, 2007; Petrides *et al.*, 2006). In addition, pupils with high trait EI scores are rated by their teachers as better adjusted compared to pupils with low scores (Mavroveli, Petrides, Shove, & Whitehead, 2008). In other words, children's self-perceptions of their emotional abilities bear on their school behaviour in ways that are readily perceivable by others.

Rationale of the study

The broad aim of this study was to examine the construct validity of trait EI in middle and late childhood. A criticism of the EI literature relates to the extensive use of monomethod approaches in validation studies, especially self-report questionnaires (Roberts, Zeidner, & Matthews, 2007). In this paper, we consciously deviate from such approaches by employing a multimethod strategy for purposes of cross-validation and triangulation. The criteria in the study were carefully chosen for their objectivity and their relevance to school adaptation and children's well-being.

The use of objective socio-emotional criteria, like peer ratings and on-task performance, is a compelling advantage in the examination of the construct validity of trait EI in children, not least because children's responses on self-report measures are subject to a range of biases (Stone & Lemanek, 1990). Peer ratings, in particular, can provide a highly reliable source of information about a child's status with their peers and their social adjustment, more generally (Denham *et al.*, 1990). We expected that pupil trait EI scores would be a reliable predictor of emotion perception and of peer-rated social competence. More specifically, we hypothesized that:

- Hypothesis 1: Trait El will be uncorrelated to non-verbal IQ.
- Hypothesis 2: Trait El will show low to zero correlations with English and math test scores.
- Hypothesis 3: Trait El will be positively associated with emotion perception.
- Hypothesis 4: Trait El will be positively associated with peer-rated prosocial behaviour ('is kind,' 'co-operates,' 'is a leader').
- Hypothesis 5: Trait El will be negatively associated with peer-rated antisocial behaviour ('is a bully').

Method

Participants

The sample comprised 140 children (63 girls) from two state schools within the Greater London area. They were between 8 and 12 years old (M = 9.26 years, SD = 1.00 year)

and came from diverse ethnic backgrounds that were broadly representative of the ethnic composition of the community (65% White, 14% Black or Black British, 10% Asian or Asian British, and 10% other). Children who skipped more than 15 items (approximately 18% of the TEIQue-CF) were excluded from subsequent analyses.

Measures

Trait Emotional Intelligence Questionnaire-Child Form (TEIQue-CF; Mavroveli et al., 2008). This measure comprises 83 short statements that are responded to on a 5-point Likert scale, ranging from completely disagree to completely agree. It has been developed specifically for use with children between the ages of 8 and 12. Example items include, 'Usually, I'm in a bad mood' and 'If someone makes me angry, I tell them.' The TEIQue-CF has satisfactory levels of internal consistency (.79 on this sample) and temporal stability over a 3-month interval (r = .79 and $r_{\text{(corrected)}} = 1.00$, see Mavroveli et al., 2008).

Standard progressive matrices (Raven, Raven, & Court, 2000). This 60-item test was used to assess children's abstract reasoning ability. Respondents are asked to find the missing piece in a set of matrices that become progressively more difficult. Research in many different samples and settings has consistently revealed good psychometric properties for this test (see Raven et al., 2000).

Criteria

Guess who peer assessment technique (Coie & Dodge, 1988). The Guess who peer assessment paradigm, based on unlimited nominations and proportion scores, was adapted using one antisocial ('is a bully') and three prosocial ('is a leader,' 'co-operates,' 'is kind') behavioural descriptions (see Table 1). Children were asked to nominate all classmates who fitted these descriptions. Boy and girl nominations were calculated separately across classes and sex, and were subsequently standardized. An index of global social competence was calculated for each pupil by summing up nominations on the prosocial descriptions and subtracting nominations on the antisocial description. Higher scores on this measure indicated greater social competence.

The assessment of children's emotion skills (ACES; Schultz, Izard, & Bear, 2004). The ACES assesses children's emotion attribution accuracy and emotion biases in three sections that cover social behaviours, social situations, and facial expressions. For the purposes of this study, only the facial expressions section was used, which consists of 16 photographs of primary-aged children posing six facial expressions (happy, sad, angry, scared, no feeling, and mixed feeling). Each photograph was presented on a PC for five seconds, followed by a five-second interval. The internal consistency of this measure was .83.

Social skills training (SST; Spence, 1995). This test comprises various sections assessing children's social skills (interviews, questionnaires, sociometry, direct behavioural observation, etc.) and is often used to identify children who have specific difficulties with social perception. For the purposes of this study, the facial expressions component of the SST was presented using the same procedure as for the ACES and assessing the following emotions: happy, upset, angry, afraid, disgusted, and pleasantly surprised. Children's responses were summed up over the 23 photographs to produce an overall accuracy score. The internal consistency of this measure was .79.

Academic achievement. End-of-year scores in English and math were obtained for each pupil. The national curriculum in the UK defines what a child should learn in broad

Table 1. Brief explanation of the four behavioural descriptions in the 'guess who'

Scale	Characteristic items	Mean	SD
ls kind	Guess who in your classroom thinks of other children's feelings, they are kind and share their things. They also help those children who are hurt, upset, or ill	0.457	0.186
Is a bully	Guess who in your classroom often picks on other children or hits them, or teases them, or does other nasty things for no good reason	0.100	0.139
Co-operates	Guess who in your classroom might be really good to have as part of your group because they are nice and co-operate, they join in, share and give everyone a turn	0.413	0.210
ls a leader	Guess who in your classroom might get chosen by the others as the leader. Other classmates like to have this person in charge	0.257	0.175

key stages. Key stage 2 runs from age seven to the end of primary school when the national tests are taken. At the end of the year, teachers informally assess the children's ability in English, math, and science. English and math teacher assessment scores were available for all children in this study.

Procedure

Letters were sent to schools within Greater London explaining the aims of the study. Two schools were recruited and were subsequently contacted by the researchers to provide further information about the procedure and to arrange a testing date. Children were informed that they can withdraw from the study at any time and that their data will be kept confidential. The procedure lasted for two hours with a short break between assessments. The measures were completed in the following order: TEIQue-CF, Guess Who, SST, ACES, and SPM. End-of-year teacher assessment scores in English and math were obtained from the school archives.

Results

Gender differences and trait El

An independent samples *t-test* revealed significant gender differences in trait EI $(t_{(138)} = 2.29, p < .05, d = .41)$, with girls scoring higher than boys $(M_{(girls)} = 3.55, SD = 0.31; M_{(boys)} = 3.40, SD = 0.43)$.

Trait El and non-verbal intelligence

The correlation between trait EI and non-verbal intelligence did not reach significance levels, which supports hypothesis H1 ($r_{(115)} = .096, p > .05$).

Trait El and academic achievement

The correlations between trait EI and English and math scores were significant in the total sample ($r_{(135)} = .241$, p < .01 and $r_{(135)} = .258$, p < .01, respectively). However, when we controlled for age and non-verbal IQ, they both lost their significance

 $(r_{(110)} = .127, p > .05 \text{ and } r_{(110)} = .181, p > .05, \text{ respectively}).$ Overall, these results support hypothesis H2.

Trait EI and emotion perception

Significant correlations were obtained between trait EI and the ACES ($r_{(138)} = .193$, p < .05), the SST ($r_{(138)} = .265$, p < .01), and emotion perception ($r_{(138)} = .251$, p < .01), thus supporting hypothesis H3. A standard multiple regression was performed with emotion perception as the criterion and trait EI, non-verbal intelligence, and peer competence as the predictors. This analysis sought to establish the incremental relationship between trait EI and emotion perception, holding constant cognitive ability and social competence, both of which have been previously linked to emotion understanding (Izard et al., 2001). Trait EI was a statistically significant predictor in the equation $(F_{(3,111)} = 7.05; R_{\text{adj}}^2 = .13, p < .01; \beta = .217, t = 2.44, p < .01)$. Peer-rated social competence also reached significance levels ($\beta = .217$, t = 2.39, p < .01), although non-verbal intelligence did not ($\beta = .160$, t = 1.78, p > .05).

Trait El and peer-rated social behaviour and competence

As can be seen in Table 2, trait EI was positively related to overall peer-rated social competence $(r_{(138)} = .193, p < .05)$. This relationship was primarily due to nominations for being kind $(r_{(138)} = .199, p < .05)$. Even though the other descriptions were not individually related to trait EI scores, all correlations were in the expected direction. The analysis was repeated controlling for age differences with similar results: peer competence $(r_{(135)} = .187, p < .05)$, kindness $(r_{(135)} = .200, p < .05)$, and leadership ($r_{(134)} = .180, p < .05$) were all positively related to trait EI.

Pupils with high scores on the SST received more nominations from their classmates for being kind $(r_{(138)} = .187, p < .05)$ and co-operative $(r_{(138)} = .212, p < .05)$ p < .01) and fewer nominations for being a bully ($r_{(138)} = -.281, p < .01$). They also received significantly higher peer-ratings on social competence ($r_{(138)} = .229, p < .01$). ACES scores, too, were correlated with more nominations for being kind ($r_{(138)} = .269$, p < .01) and co-operative ($r_{(138)} = .231$, p < .01), fewer nominations for being a bully $(r_{(138)} = -.390, p < .01)$, and higher peer-ratings on social competence $(r_{(138)} = .292, p < .01).$

Discussion

We tested a series of hypotheses focusing on the construct validity of trait EI in children. In particular, we focused on relationships with cognitive ability, emotion perception, and peer-rated social behaviour.

Trait El and cognitive ability

The two major subdomains of differential psychology, personality and intelligence, are thought to be distinct both conceptually and methodologically (Cattell, 1973; Eysenck & Eysenck, 1985). Since trait EI comprises the emotion-related aspects of children's personality, it is not expected to correlate highly with indices of cognitive ability or their proxies. In this study, trait EI was orthogonal to non-verbal IQ (H1), but showed statistically significant associations with English and math scores. However, when age and non-verbal intelligence were held constant, these correlations lost their significance.

Table 2. Means, SDs, internal consistencies, and intercorrelations between trait EI, the ACES, the SST, emotion perception, peer competence, and the four 'guess who' descriptions (N = 139)

Variables	_	2	3	4	5	5.1	5.2	5.3	5.4	Mean	SD
I. Trait El	(.87)	.165	.230**	.217**	*187*	*300	.072	*081	135^{a}	3.48	.37
2. ACES	*861.	(.83)	.591 ₩	.915**	.288**	.272**	161:	690	399**	19.74	4.86
3. SST	.265**	.612**	(.80)	**998°	.224**	.192*	.152	.083	295**	8.18	4.4
4. Emotion perception	.251**	** <u>/</u> 16:	·**/	ı	.290**	.264**	.194*	.084	395**	37.92	10.39
5. Peer competence	.193*	.292**	.229**	.293**	ı	**068	.905***	<u></u> *10∕.	−.534 **	1.02	0.55
5.1. Is kind	*661	.269**	*187*	.258**	**688.	I	.787**	**474	405**	0.44	0.18
5.2. Co-operates	011.	.231**	.212*	.248**	**888.	**99 <u>/</u>	ı	.559**	338**	0.10	0.14
5.3. Is a leader	.152	.037	.037	.04	**989°	.472**	.500**	I	048	0.39	0.21
5.4. Is a bully	133^a	390**	−.281* *	–.379 **	–.534 **	405 **	−.326 **	048	I	0.24	0.17

Note. *p < .05, **p < .01 Values below the diagonal are zero-order correlations, whereas values above the diagonal are partial correlations controlling for age. ^a Two outliers (standardized residuals > 3.5 SD) have been removed from this analysis. ACES = assessment of children's emotion skills, SST = social skills training. Figures in parentheses are internal consistencies.

These results complement related research based on adult samples (e.g. Bastian et al., 2005; Mikolajczak et al., 2007) showing that trait EI is unrelated to cognitive ability. In combination with the fact that 'emotional intelligence' cannot be operationalized as a mental ability because of its subjective content domain (Brody, 2004; O'Sullivan & Ekman, 2005), these findings reinforce the position that the construct is a constellation of emotion-related personality traits (Petrides, Pita et al., 2007).

It is important to note that the correlational nature of our data does not allow for causal interpretations of the relationship between trait EI and academic achievement. The crux of the problem is that we cannot be certain whether doing well academically enhances pupils' emotional self-perceptions or that positive self-perceptions are conducive to academic competence (see also Marsh & Craven, 1997; Valentine, DuBois, & Cooper, 2004). In other words, the direction of the link between trait EI and academic performance may well be opposite to that assumed in the literature at present, viz., that higher scores lead to improved performance. This assumption is empirically unfounded (Waterhouse, 2006; see also Humphrey, Curran, Morris, Farrell, & Woods, 2007), yet it seems to provide the justification for a plethora of interventions designed to 'boost EQ'. Longitudinal designs may help clarify this particular issue, but it is equally urgent to explore whether the relationship between trait EI and academic achievement is moderated by school subject, pupil status (e.g. special needs) or cognitive ability.

Trait El and emotion perception

A criticism sometimes levelled against EI research concerns the dearth of objective criteria in validation studies (Matthews, Zeidner, & Roberts, 2007). Recent attempts to address this limitation have been made within the trait EI framework with encouraging results. Specifically, trait EI has been related to on-task performance in several different contexts (e.g. Austin, 2004; Petrides & Furnham, 2003; Sevdalis et al., 2007) and also to concrete outcomes, such as relationship satisfaction (Smith et al., 2008), general health (Greven, Chamorro-Premuzic, Arteche, & Furnham, 2008), and psychopathology (Malterer et al., 2008). In this study, we built on these efforts using two criteria assessing emotion perception. The results showed that high trait EI pupils are more accurate at identifying facial expressions of emotion compared to their low trait EI peers, even after controlling for non-verbal IQ and peer-rated social competence. From a practical point of view, the evidence linking affective personality to emotion perception is important because accurate emotion perception facilitates effective communication and social functioning (Crick & Dodge, 1994; Izard et al., 2001).

Trait El and peer-rated social behaviour and competence

Pupils with higher trait EI scores enjoy better peer relations (Ciarrochi et al., 2001) and tend to receive more nominations from their classmates for being prosocial (e.g. being co-operative and a leader; Mavroveli et al., 2007; Petrides et al., 2006). We obtained similar results in our study, with high trait EI children receiving more nominations for kindness, leadership, and overall peer competence. In other words, children's trait emotional self-efficacy scores converged with behavioural ratings from their peers, which is evidence that self- and other-perceptions of emotional abilities overlap significantly (see also Petrides, Niven, & Mouskounti, 2006).

It should be noted that friendship and peer acceptance are not identical constructs (Asher, Parker, & Walker, 1998). For example, unpopular and rejected children can have best friends and satisfactory relationships (Parker & Asher, 1993). Future research should examine the role of trait EI in friendship formation separately from its role in peer likeability and acceptance.

Sociometric data reflect a child's view of their peers' social status and may be indicative of behavioural characteristics and attributes that are valued by schoolmates. The mechanisms through which trait EI influences children's peer status cannot be easily determined by means of correlational data, but it is becoming increasingly clear that positive self-evaluations can promote adaptive behaviour both inside and outside school.

Gender differences in children's trait El

In contrast to other studies with children that did not find any gender differences in trait EI scores (Mavroveli *et al.*, 2007), girls scored higher than boys in our sample. As the child development literature suggests, and as has been found in adult samples, gender differences at the facet and factor levels of trait EI tend to cancel out at the global level, which explains the small inconsistencies observed between studies (see Mavroveli *et al.*, 2008; Mikolajczak *et al.*, 2007; Parker *et al.*, 2004; Petrides, Furnham, & Martin, 2004). However, more research with the TEIQue-CF, which yields reliable facet scores, is necessary to clarify the issue of gender differences in children.

Conclusion

The five hypotheses in this study were supported, with the data showing that the construct of trait EI is largely independent of cognitive ability, but strongly predictive of emotional and social criteria. All correlations were selective, meaningful, and theory-driven. The general conclusion is that trait EI correlates strongly with affect-laden variables, but less so with variables related to cognitive ability, exactly as predicted by trait EI theory (Petrides, Furnham, *et al.*, 2007).

From a practical perspective, trait EI profiling can help identify children who are more likely to benefit from social and self-esteem interventions in school settings. Early intervention programs targeting such children could yield concrete behavioural modifications as well as improved integration into school systems, specifically, and social structures, more generally.

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References

- Amelang, M., & Steinmayr, R. (2006). Is there a validity increment for tests of emotional intelligence in explaining the variance of performance criteria? *Intelligence*, 34, 459-468.
- Asher, S., Parker, J. G., & Walker, D. L. (1998). Distinguishing friendship from acceptance: Implications for intervention and assessment. In W. M. Bukowski, A. F. Newcomb, & W. W. Hartup (Eds.), *The Company they keep: Friendships in childhood and adolescence* (pp. 366–405). Cambridge: Cambridge University Press.
- Austin, E. J. (2004). An investigation of the relationship between trait emotional intelligence and emotional task performance. *Personality and Individual Differences*, *36*, 1855–1864.

- Bastian, V., Burns, N., & Nettelbeck, T. (2005). Emotional intelligence predicts life skills, but not as well as personality and cognitive abilities. *Personality and Individual Differences*, 39, 1135-1145.
- Brody, N. (2004). What cognitive intelligence is and what emotional intelligence is not. *Psychological Inquiry*, 15, 234-238.
- Cattell, R. B. (1973). Personality and mood by questionnaire. San Francisco: Jossey-Bass.
- Chamorro-Premuzic, T., Bennett, E., & Furnham, A. (2007). The happy personality: Mediational role of trait emotional intelligence. *Personality and Individual Differences*, 42, 1633–1639.
- Chamorro-Premuzic, T., & Furnham, A. (2006). Intellectual competence and the "intelligent personality": A third way in differential psychology. *Review of General Psychology*, 10, 251–267.
- Chamorro-Premuzic, T., Furnham, A., & Petrides, K. V. (2006). Personality and intelligence: The relationship of Eysenck's giant three with verbal and numerical ability. *Journal of Individual Differences*, 27, 147–150.
- Chan, D. W. (2003). Dimensions of emotional intelligence and their relationships with social coping among gifted adolescents in Hong Kong. *Journal of Youth and Adolescence*, 32, 409-418
- Chapman, B. P., & Hayslip, B. J. (2005). Emotional intelligence in young and middle adulthood: Cross-sectional analysis of latent structure and means. *Psychology and Aging*, 21, 411–418.
- Ciarrochi, J. V., Chan, A. Y. C., & Bajgar, J. (2001). Measuring emotional intelligence in adolescents. *Personality and Individual Differences*, *31*, 1105–1119.
- Coie, J. D., & Dodge, K. A. (1988). Multiple resources of data on social behaviour and social status in the school: A cross-age comparison. *Child Development*, 59, 815–829.
- Coie, J. D., Lochman, J. E., Terry, R., & Hyman, C. (1992). Predicting early adolescent disorder from childhood aggression and peer rejection. *Journal of Consulting and Clinical Psychology*, 60, 783–792.
- Crick, N. R., & Dodge, K. A. (1994). A review and reformation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin*, 115, 74–101.
- Denham, S. A. (1986). Social cognition, prosocial behaviour, and emotion in preschoolers: contextual validation. *Child Development*, 57, 194-201.
- Denham, S. A. (1998). *Emotional development in young children*. New York: The Guilford Press.
- Denham, S. A., McKingley, M., Couchoud, E. A., & Holt, R. (1990). Emotional and behavioural predictors of preschool peer-ratings. *Child Development*, *61*, 1145–1152.
- DeRosier, M. E., Kupersmidt, J. B., & Patterson, C. J. (1994). Children's academic and behavioural adjustment as a function of the chronicity and proximity of peer rejection. *Child Development*, 65, 1799–1813.
- Eysenck, H. J., & Eysenck, M. W. (1985). *Personality and individual differences: A natural science approach*. New York, NY: Plenum.
- Freudenthaler, H. H., & Neubauer, A. C. (2005). Emotional intelligence: The convergent and discriminant validities of intra- and interpersonal emotional abilities. *Personality and Individual Differences*, *39*, 569–579.
- Freudenthaler, H. H., & Neubauer, A. C. (2007). Measuring emotional management abilities: Further evidence of the importance to distinguish between typical and maximum performance. *Personality and Individual Differences*, 42, 1561-1572.
- Gnepp, J. (1989). Children's use of personal information to understand other people's feelings.
 In P. Harris & C. Saarni (Eds.), *Children's understanding of emotion* (pp. 151-177).
 Cambridge: Cambridge University Press.
- Greven, C., Chamorro-Premuzic, T., Arteche, A., & Furnham, A. (2008). A hierarchical integration of dispositional determinants of general health in students: The Big Five, trait Emotional Intelligence and Humour Styles. *Personality and Individual Differences*, 44, 1562–1573.
- Halberstadt, A. G., Denham, S. A., & Dunsmore, J. C. (2001). Affective social comptence. Social Development, 10, 79-119.

- Harris, P. L. (2000). Understanding emotion. In M. Lewis & J. Haviland-Jones (Eds.), Handbook of emotions (pp. 281-292). New York, NY: Guilford Press.
- Heaven, P. C. L., Ciarrochi, J., & Vialle, W. (2007). Conscientiousness and Eysenckian psychoticism as predictors of school grades: A one-year longitudinal study. Personality and Individual Differences, 42, 535-546.
- Hemmati, T., Mills, J. F., & Kroner, D. G. (2004). The validity of the Bar-on emotional intelligence quotient in an offender population. Personality and Individual Differences, 37, 695-706.
- Hubbard, J. A., & Coie, J. D. (1994). Emotional correlates of social competence in children's peer relationships. Merrill-Palmer Quarterly, 40, 1-20.
- Humphrey, N., Curran, A., Morris, E., Farrell, P., & Woods, K. (2007). Emotional intelligence and education: A critical review. Educational Psychology, 27, 235-254.
- Izard, C. E. (2001). Emotional intelligence or adaptive emotions? Emotion, 1, 249-257.
- Izard, C., Fine, S., Schultz, D., Mostow, A., Ackerman, B., & Youngstrom, E. (2001). Emotion knowledge as a predictor of social behaviour and academic competence in children at risk. Psychological Science, 12, 18-23.
- Kluemper, D. H. (2008). Trait emotional intelligence: The impact of core-self-evaluations and social desirability. Personality and Individual Differences, 44, 1402-1412.
- Laidra, K., Pullmann, H., & Allik, J. (2007). Personality and intelligence as predictors of academic achievement: A cross-sectional study from elementary to secondary school. Personality and Individual Differences, 42, 441-451.
- Malterer, M. B., Glass, S. J., & Newman, J. P. (2008). Psychopathy and trait emotional intelligence. Personality and Individual Differences, 44, 735-745.
- Marsh, H. W., & Craven, R. G. (1997). Academic self-concept: Beyond the dustbowl. In G. Phye (Ed.), Handbook of classroom assessment: Learning, achievement and adjustment (pp. 131-198). Orlando, FL: Academic Press.
- Masten, A. S., & Coatsworth, J. D. (1995). Competence, resilience, and psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), Developmental psychopathology: Vol. 2. Risk, disorder, and adaptation (pp. 715-752). New York, NY: Wiley.
- Matthews, G., Zeidner, M., & Roberts, R. D. (2007). Emotional intelligence: Consensus, controversies, and questions. In G. Matthews, M. Zeidner, & R. D. Roberts (Eds.), Emotional intelligence: Knowns and unknowns - Series in affective science (pp. 3-48). Oxford: Oxford University Press.
- Mavroveli, S., Petrides, K. V., Rieffe, C., & Bakker, F. (2007). Trait emotional intelligence, psychological well-being, and peer-rated social competence in adolescence. British Journal of Developmental Psychology, 25, 263-275.
- Mavroveli, S., Petrides, K. V., Shove, C., & Whitehead, A. (2008). Investigation of the construct of trait emotional intelligence in children. European Child and Adolescent Psychiatry, 17, 516-526.
- Mikolajczak, M., Luminet, O., Leroy, C., & Roy, E. (2007). Psychometric properties of the Trait Emotional Intelligence Questionnaire: Factor structure, reliability, construct, and incremental validity in a French-speaking population. Journal of Personality Assessment, 88, 338-353.
- Mikolajczak, M., Luminet, O., & Menil, C. (2006). Predicting resistance to stress: Incremental validity of trait emotional intelligence over alexithymia and optimism. *Psicothema*, 18, 79–88.
- Mikolajczak, M., Nelis, D., Hansenne, M., & Quoidbach, J. (2008). If you can regulate sadness, you can probably regulate shame: associations between trait emotional intelligence, emotion regulation and coping efficiency across discrete emotions. Personality and Individual Differences, 44, 1356-1368.
- O'Sullivan, M., & Ekman, P. (2005). Facial expression recognition and emotional intelligence. In G. Geher (Ed.), Measuring emotional intelligence: Common ground and controversy. Hauppauge, NY: Nova Science Publishing.
- Parker, J. G., & Asher, S. R. (1993). Beyond group acceptance: Friendship and friendship quality as distinct dimensions of peer adjustment. In D. Perlman & W. H. Jones (Eds.), Advances in personal relationships (Vol.4, pp. 261-294). London: Jessica Kingsley Publishers.

- Parker, J. D. A., Creque, R. E., Barnhart, D. L., Harris, J. I., Majeski, S. H., Wood, L. M., et al. (2004). Academic achievement in high school: Does emotional intelligence matter? Personality and Individual Differences, 37, 1321-1330.
- Parker, J. D. A., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. A. (2004). Emotional intelligence and academic success: examining the transition from high school to university. Personality and Individual Differences, 36, 163-173.
- Pedersen, S., Vitaro, F., Barker, E. D., & Borge, A. I. H. (2007). The timing of middle-childhood peer rejection and friendship: Linking early behaviour to early-adolescent adjustment. Child Development, 78, 1037-1051.
- Petrides, K. V., Chamorro-Premuzic, T., Frederickson, N., & Furnham, A. (2005). Explaining individual differences in scholastic behaviour and achievement. British Journal of Educational Psychology, 75, 239-255.
- Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behaviour at school. Personality and Individual Differences, 36, 277-293.
- Petrides, K. V., & Furnham, A. (2000). On the dimensional structure of emotional intelligence. Personality and Individual Differences, 29, 313-320.
- Petrides, K. V., & Furnham, A. (2003). Trait emotional intelligence: Behavioural validation in two studies of emotion recognition and reactivity to mood induction. European Journal of Personality, 17, 39-57.
- Petrides, K. V., Furnham, A., & Martin, G. N. (2004). Estimates of emotional and psychometric intelligence: Evidence for gender-based stereotypes. Journal of Social Psychology, 144, 149-162.
- Petrides, K. V., Furnham, A., & Mavroveli, S. (2007). Trait emotional intelligence: Moving forward in the field of EI. In G. Matthews, M. Zeidner, & R. Roberts (Eds.), Emotional intelligence: Knowns and unknowns - Series in affective science (pp.151-166). Oxford: Oxford University Press.
- Petrides, K. V., Niven, L., & Mouskounti, T. (2006). The trait emotional intelligence of ballet dancers and musicians. Psicothema, 18, 101-107.
- Petrides, K. V., Pérez-González, J. C., & Furnham, A. (2007). On the criterion and incremental validity of trait emotional intelligence. Cognition and Emotion, 21, 26-55.
- Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. British Journal of Psychology, 98, 273-289.
- Petrides, K. V., Sangareau, Y., Furnham, A., & Frederickson, N. (2006). Trait emotional intelligence and children's peer relations at school. *Social Development*, 15, 537-547.
- Raven, J., Raven, J. C., & Court, J. H. (2000). Manual for Raven's progressive matrices and vocabulary scales. Oxford, UK: Oxford Psychologists Press.
- Roberts, R. D., Zeidner, M., & Matthews, G. (2007). Emotional intelligence: Knowns and unknowns. In G. Matthews, M. Zeidner, & R. D. Roberts (Eds.), Emotional intelligence: Knowns and unknowns - Series in Affective Science (pp. 419-474). Oxford: Oxford University Press.
- Saarni, C. (1999). The development of emotional competence. New York: Guilford.
- Schultz, D., Izard, C. E., & Bear, G. (2004). Children's Emotion Processing: Relations to Emotionality and Aggression. Development and Psychopathology, 16, 371-387.
- Sevdalis, N., Petrides, K. V., & Harvey, N. (2007). Trait emotional intelligence and decision-related emotions. Personality and Individual Differences, 42, 1347-1358.
- Smith, L., Heaven, P. C. L., & Ciarrochi, J. (2008). Trait emotional intelligence, conflict communication patterns, and relationship satisfaction. Personality and Individual Differences, 44, 1314-1325.
- Spence, S. H. (1995). Social skills training: Enhancing social competence with children and adolescents. Windsor, UK: The NFER-NELSON Publishing Company Ltd.

- Stone, W. L., & Lemanek, K. L. (1990). Developmental issues in children's self-reports. In A. LaGreca (Ed.), *Through the eyes of the child. Obtaining self-reports form children and adolescents* (pp. 18–55). Boston, MA: Allyn and Bacon.
- Valentine, J. C., DuBois, D. L., & Cooper, H. (2004). The relationship between self-beliefs and academic achievement: A meta-analytic review. *Educational Psychologist*, 39, 111-133.
- Van der Zee, K., & Wabeke, R. (2004). Is trait-emotional intelligence simply or more than just a trait? *European Journal of Personality*, 18, 243–263.
- Vandell, D. L., & Hembree, S. E. (1994). Peer social status and friendship: Independent contributors to children's social and academic adjustment. *Merrill-Palmer Quarterly*, 40, 461-477.
- Villanueva, J. J., & Sanchez, J. C. (2007). Trait emotional intelligence and leadership self-efficacy: Their relationship with collective efficacy. *Spanish Journal of Psychology*, 10, 349–357.
- Waterhouse, L. (2006). Multiple intelligences, the Mozart effect, and emotional intelligence: A critical review. *Educational Psychologist*, 41, 247–255.

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