



## Trait emotional intelligence influences on academic achievement and school behaviour

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**Background.** Trait emotional intelligence (*trait EI* or *trait emotional self-efficacy*) refers to individuals' emotion-related self-perceptions (Petrides, Furnham, & Mavroveli, 2007). The children's trait EI sampling domain provides comprehensive coverage of their affective personality. Preliminary evidence shows that the construct has important implications for children's psychological and behavioural adjustment.

**Aims.** This study investigates the associations between trait EI and school outcomes, such as performance in reading, writing, and maths, peer-rated behaviour and social competence, and self-reported bullying behaviours in a sample of primary school children. It also examines whether trait EI scores differentiate between children with and without special educational needs (SEN).

**Sample.** The sample comprised 565 children (274 boys and 286 girls) between the ages of 7 and 12 ( $M_{\text{age}} = 9.12$  years,  $SD = 1.27$  years) attending three English state primary schools.

**Method.** Pupils completed the Trait Emotional Intelligence Questionnaire-Child Form (TEIQue-CF), the Guess Who peer assessment, the Peer-Victimization Scale, and the Bullying Behaviour Scale. Additional data on achievement and SEN were collected from the school archives.

**Results.** As predicted by trait EI theory, associations between trait EI and academic achievement were modest and limited to Year 3 children. Higher trait EI scores were related to more nominations from peers for prosocial behaviours and fewer nominations for antisocial behaviour as well as lower scores on self-reported bullying behaviours. Furthermore, SEN students scored lower on trait EI compared to students without SEN.

**Conclusions.** Trait EI holds important and multifaceted implications for the socialization of primary schoolchildren.

Petrides and colleagues (Petrides & Furnham, 2003; Petrides, Pérez-González, & Furnham, 2007) considered the crucial distinction between maximum- and typical-performance tests to propose two different emotional intelligence (EI) constructs, ability

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EI and trait EI. Ability EI is conceptualized as an actual ability, and, therefore, it is expected to show construct validity by correlating highly with intelligence measures. Ability EI researchers aim to measure the construct through IQ-like tests. This practice, however, does not comply with basic psychometric principles, as it is not possible to objectify emotional responses (see Brody, 2004; Petrides & Mavroveli, in press). Emotional experience is inherently subjective (Watson, 2000), and it is difficult, if not impossible, to develop clear-cut criteria in order to judge a response as right or wrong (see Davies, Stankov, & Roberts, 1998; MacCann, Roberts, Matthews, & Zeidner, 2004; Pérez, Petrides, & Furnham, 2005). Matthews, Deary, and Whiteman (2003) drew on problems inherent in assessing social intelligence to bring forward analogous problems in ability EI, including the question of what constitutes the 'emotionally intelligent' response across situations and contexts.

Trait EI, on the other hand, is conceptualized as a distinct, lower order personality construct and it is measured through self-reports (Petrides, Pita, & Kokkinaki, 2007). The conceptualization of EI as a personality trait is consistent with existing research on mainstream differential psychology. The construct lies wholly outside the taxonomy of human cognitive ability (Carroll, 1993). Empirical research has found low correlations between ability and trait EI, thus, verifying the conceptual and methodological differences between the two constructs (O'Connor & Little, 2003; Warwick & Nettelbeck, 2004). Research has linked trait EI to a host of criteria relating to individuals' social, emotional, and behavioural well-being (Dawda & Hart, 2000; Greven, Chamorro-Premuzic, Arteché, & Furnham, 2008; Mikolajczak, Luminet, & Menil, 2006; Petrides, Pérez-González *et al.*, 2007; Saklofske, Austin, & Minski, 2003).

Self-reports are criticized for being inaccurate and subject to response biases. This is not a problem unique to trait EI measures, but it is a wider problem of related research using self-reports, such as socio-cognitive and self-concept theories (e.g., Bandura, 2001; Marsh, Trautwein, Ludtke, Koller, & Baumert, 2006). The use of self-reports, however, is based on the notion that one's reports on their intra- and interpersonal qualities are intrinsically meaningful and exert a notable influence on individuals' behaviours and mental health, regardless of whether they are accurate or not (Pérez & Repetto, 2004; Taylor & Brown, 1994). Within trait EI research, attempts to overcome the subjectivity issue are made by incorporating objective criteria in the design of a study, as is the case with the present investigation.

### ***Trait EI and academic achievement***

The study of individual differences in the school setting has always been of great importance to educators, theorists, and researchers alike. Over recent decades, there has been a surge of studies examining the role of personality in academic performance and socioemotional adjustment at school (e.g., Bratko, Chamorro-Premuzic, & Saks, 2006; Chamorro-Premuzic & Furnham, 2005; Petrides, Chamorro-Premuzic, Frederickson, & Furnham, 2005). Personality dimensions, such as Extraversion, Psychoticism, Neuroticism (anxiety or emotional stability), and more often, Openness (Intellect) and Conscientiousness, have been related to scholastic performance (Bratko *et al.*, 2006; Furnham, Chamorro-Premuzic, & McDougall, 2003; Furnham, Zhang, & Chamorro-Premuzic, 2006; Gilles & Bailleux, 2001; Laidra, Pullmann, & Allik, 2007). Recent meta-analytic studies confirmed these observations and also revealed that Conscientiousness effects on academic achievement are similar to that of intelligence (Poropat, 2009). However, the magnitude and the direction of this relationship can vary considerably depending on the diversity of the sample and the variables included as well as the

measurement instrument used to measure personality (Poropat, 2010). In all, the relationship is generally not as strong as the correlation obtained between academic achievement and psychometric intelligence. This is because personality and intelligence are distinct entities (Allport & Odbert, 1936; Eysenck & Eysenck, 1985), and as such, any associations between them or their proxies will generally be weak or inconsistent across samples and variables.

The relationship between trait EI and academic achievement has been a thorny issue within the academic and popular circles, and the results to date linking the two constructs have been contradictory (see Humphrey, Curran, Morris, Farrell, & Woods, 2007; Waterhouse, 2006). For example, age influences on the relationship between trait EI and academic achievement have been observed in some studies (see Petrides *et al.*, 2005, who found stronger correlations for younger rather than older people), but not in others (see Laidra *et al.*, 2007). For these reasons, it is generally suggested that both cognitive and personality variables should be considered in the prediction of scholastic performance (Chamorro-Premuzic & Furnham, 2005).

Trait EI is a distinct personality construct that is located at the lower levels of the major personality taxonomies. Therefore, trait EI effects on performance-related outcomes will resemble those of other established personality dimensions. One of the basic postulates of the trait EI theory is that any observed associations between trait EI and cognitive ability proxies will be small or non-significant (Petrides, Furnham, *et al.*, 2007). Indeed, trait EI seems to be generally unrelated to verbal and non-verbal ability, but some significant correlations can be observed between trait and academic performance that appear to be group and subject specific (see Mavroveli, Petrides, Sangareau, & Furnham, 2009; Mavroveli, Petrides, Shove, & Whitehead, 2008). In the scientific literature, results are mixed and in most studies reporting direct trait EI influences on academic achievement the concurrent effects of psychometric intelligence were disregarded (e.g., Downey, Mountstephen, Lloyd, Hansen, & Stough, 2008; Parker *et al.*, 2004; Parker, Summerfeldt, Hogan, & Majeski, 2004).

Table 1 presents a comprehensive review of studies that have examined the effects of trait EI, and EI in general, on academic achievement. Drawn together, extant findings reveal an inconsistent pattern, which may well be indicative of an absence of a direct relationship between the two variables. In fact, these correlations seem to vary from low to non-significant (e.g., Newsome, Day, & Catano, 2000; O'Connor & Little, 2003). Associations were also group specific (Petrides, Frederickson, & Furnham, 2004) or academic subject specific (Mavroveli *et al.*, 2008). Moreover, most published research within the field fails to account for cognitive ability influences, or for other sample-specific variables that may inflate or mask these findings (see Table 1). For example, pupils who are skilled language users may be better able to understand the items or to pick up the most desirable answer compared to their less able counterparts. Furthermore, the relationship between trait EI and scholastic performance may vary depending both on how the latter construct is operationalized (e.g., GPA, subject scores), and on the characteristics of the sample (e.g., gender, SEN status, age, and IQ). In this study, we examine the relationship between Standard Assessment Test (SAT) scores in maths, reading, and writing and trait EI and anticipate null results (H1).

### **Trait EI and peer-rated social competence and behaviour**

In this study, we revisit and expand upon extant evidence on the relationship between trait EI and peer competence by including prosocial and antisocial behavioural indices both self and peer reported (Mavroveli, Petrides, Rieffe, & Bakker, 2007; Mavroveli

**Table 1.** Summary of studies on the relationship between EI (trait and ability) and academic achievement

Authors	Measure	Academic achievement measure	Sample	Results
Newsome, Day, and Catano (2000)	Emotional Quotient-inventory (EQ-i)	GPA	N = 180; 118 females; $M_{(age)} = 21$ ; USA.	- No significant relationships were found between trait EI and academic achievement.
O'Connor and Little (2003)	EQ-I Mayer Salovey Caruso Emotional Intelligence Test	GPA	N = 90; 37 females; Age = 18-32; USA.	- Total trait EI score correlated with academic achievement ( $r = .23^*$ ). - The Intrapersonal ( $r = .22^*$ ) and Stress Management ( $r = .29^{**}$ ) dimensions of the EQ-I correlated with academic achievement. - The ability EI total score did not correlate with academic achievement. - Only the Understanding emotions dimension of the MSCEIT correlated with academic achievement ( $r = .23^*$ ).
Parker et al. (2004)	EQ-i: Youth Form	GPA	N = 667; 363 females; Age = 14-18; USA.	- Trait EI correlated with academic achievement. ( $r = .33^*$ ) - High academic achievement students (GPA 80 <sup>th</sup> percentile or higher) scored higher on the Interpersonal, Adaptability, and Stress management dimensions than the other two groups. - Average academic achievement students (GPA from 20 <sup>th</sup> to 80 <sup>th</sup> percentile) also scored higher on the previous subscales compared to low academic achievement students (GPA 20 <sup>th</sup> percentile or lower).
Parker, Summerfeldt, Hogan, and Majeski (2004)	EQ-i: Short Form	GPA	N = 372; 294 females; $M_{(age)} = 19.34$ ; USA.	- Successful students (first-year GPA of 80 <sup>th</sup> percentile or higher) scored higher on Adaptability and Stress management compared to the unsuccessful group (first-year GPA < 60 <sup>th</sup> percentile). - Successful post-secondary students scored higher than the unsuccessful students on Intrapersonal abilities.

Continued.

Table 1. Continued.

Authors	Measure	Academic achievement measure	Sample	Results
Petrides, Frederickson, and Furnhan (2004)	TEIQue	Key Stage 3 Assessment (KS3) results	N = 650; 48% female; $M_{(age)} = 16.5$ ; UK.	<ul style="list-style-type: none"> <li>- Total trait EI score did not predict academic achievement, although the Intrapersonal, Stress management, and Adaptability subscales were significant predictors of academic achievement.</li> <li>- The previous subscales were better predictors of first-year university academic achievement than high school academic achievement.</li> <li>- Trait EI moderated the relationship between cognitive ability and academic achievement.</li> <li>- Trait EI moderated the effect of IQ on English and overall GCSE performance.</li> <li>- High trait EI was associated with better academic achievement across a range of low IQ scores, but the relationship reversed at IQ scores of about + 1 SD.</li> </ul>
Mavroveli et al. (2008)	TEIQue-CF	Key Stage 2 SAT scores in English, maths, science, NFER reading and spelling scores	N = 139; 69 girls; $M_{(age)} = 11.23$ ; UK.	<ul style="list-style-type: none"> <li>- Trait EI scores correlated positively with spelling scores (<math>r = .28^{**}</math>) only. Gender-specific analyses revealed that trait EI was unrelated to English, science, and reading scores, but was moderately related to maths (<math>r = .29^*</math>) and spelling scores (<math>r = .38^{**}</math>), in boys only. With the exception of spelling (total sample: <math>r = .25^*</math>; boys: <math>r = .29^*</math>), these correlations lost their significance when controlling for verbal intelligence.</li> </ul>
Di Fabio and Palazzeschi (2009)	MSCEIT EQ-i: SF	GPA	N = 124; 90 female; $M_{(age)} = 17.49$ ; Italy.	<ul style="list-style-type: none"> <li>- Ability EI and trait EI demonstrated incremental validity in predicting GPA over both fluid intelligence and three personality traits, Extraversion, Neuroticism, and Psychoticism. The results held for the global scores (Ability EI - <math>\beta = .28^{**}</math>, <math>\Delta R^2 = .07^{**}</math>, trait EI - <math>\beta = .23^*</math>, <math>\Delta R^2 = .05^*</math>) and also for joint incremental validity of the four dimensions of each measure (ability EI factors - <math>\Delta R^2 = .12^{**}</math>, trait EI factors - <math>\Delta R^2 = .06^*</math>).</li> </ul>

Continued.

Table 1. Continued.

Authors	Measure	Academic achievement measure	Sample	Results
Hassan, Sulaiman, and Ishak (2009)	Schutte Self-Report of Emotional Intelligence (SSRI)	?	N = 223; 97 females; Age = 13 & 16; Iran.	- High correlations between trait EI and academic achievement at ages 13 ( $r = .85^{***}$ ) and 16 ( $r = .82^{***}$ ), for males ( $r = .79^{***}$ ) and females ( $r = .76^{***}$ ), and for students in rural areas ( $r = .78^{***}$ ).
Song et al. (2009)	Wong and Law Emotional Intelligence Scale (WLEIS)	S1: GPA S2: Course grades	S1: N = 222; 47% female; $M_{(age)} = 21$ ; China. S2: N = 124; 60.5% female; $M_{(age)} = ?$ ; China.	- S1: Academic achievement correlated with ability EI ( $r = .22^{**}$ ). - Ability EI showed incremental validity over General Mental Abilities in predicting academic performance ( $\beta = .17, \Delta R^2 = .03^{**}$ ). - S2: Ability EI showed incremental validity in predicting course grade after controlling for General Mental Abilities and several other variables ( $\beta = .24, \Delta R^2 = .03^*$ ).
Mavroveli et al. (2009)	TEIQue-CF	End-of-year teacher assessment scores in maths and English	N = 140; 63 females; $M_{(age)} = 9.26$ ; UK.	- Correlations between trait EI and English and Math scores were significant in the total sample ( $r = .24^{**}$ & $r = .25^{**}$ , respectively). However, when controlling for age and non-verbal IQ, these correlations lost their significance.
Ferrando et al. (2010)	TEIQue-ASF	Headteacher-rated general academic performance	N = 290; 136 females; $M_{(age)} = 11.53$ ; Spain.	- Trait EI showed incremental validity over IQ, personality, and self-concept ( $\beta = .20, t = 2.10^*$ ) in predicting general academic performance.

Note. GPA = grade point average, \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ ; ? = Relevant information was not available.

*et al.*, 2009). Several dimensions of socioemotional competence, such as the ability to display positive emotions and to express, perceive, understand, and regulate emotions, have predicted children's social status, friendship quality, and peer likeability (Cillessen & Mayeux, 2004; Denham, McKinley, Couchoud, & Holt, 1990; Hubbard & Coie, 1994; McDowell, O'Neil, & Parke, 2000). Indeed, meta-analytic studies (e.g., Newcomb, Bukowski, & Pattee, 1993) have shown that popular children possess traits that are more positive and that they are more socially skilled compared to rejected or controversial children. On the other hand, poor socioemotional skills have been related to a host of psychological and behavioural difficulties, such as bullying victimization (Mahady Wilton & Craig, 2000), compromised peer relations and performance at school, and the development of internalizing or externalizing problems, either directly or when interacting with temperamental characteristics (Blair, Denham, Kochanoff, & Whipple, 2004).

Longitudinal data also suggest that there is a reciprocal relationship between problematic behaviour and peer rejection, which further predict externalizing (e.g., delinquency, aggression, truancy) and internalizing (depressive symptomatology, loneliness) problems in children (Deater-Deckard, Dodge, Bates, & Pettit, 1998; DeRosier, Kupersmidt, & Patterson, 1994; see Hay, Payne, & Chadwick, 2004 for a review; Pedersen, Vitaro, Barker, & Borge, 2007; Rubin, Bukowski, & Parker, 2006).

Bullying is a maladaptive behaviour with a string of undesirable outcomes for both the perpetrator and the victim (see Arseneault *et al.*, 2006; Olweus, 2005), and bullying incidents are a growing concern for educators and policy makers because they are seen as manifestations of incompetent socioemotional functioning. Camodeca and Goossens (2005) observed that both bullies and victims scored higher on reactive aggression as compared to non-involved children. They also responded to difficult situations with more emotion than other groups of children, and they lagged behind their peers in social and emotional information processing skills. Both bullies and victims reported more anger, and victims of bullying also reported more sadness (Camodeca & Goossens, 2005), which may be a by-product of the absence of the mechanisms that could motivate adaptive behaviours.

Arseneault *et al.* (2006) showed that pupils who were victims of bullying, or who were both a bully and a victim (bully/victim), were more likely to demonstrate externalizing and internalizing problems at 5 and 7 years of age. They were also less happy and less prosocial at school compared to control children. These differences between groups persisted at the age of 7, even after controlling for adjustment difficulties at age 5 (see also Veenstra *et al.*, 2005).

Overall, victims appear as less socially skilled, more vulnerable, lonely, anxious, passive, and withdrawn than non-involved children; they report lower self-esteem levels and have a more negative view of themselves (Fox & Boulton, 2005; Olweus, 2003). On the other hand, bullies are usually more aggressive, but do not always suffer from low self-esteem, insecurities, or anxiety. However, they tend to be less popular with peers, especially as they get older, and engage more in antisocial behaviours (Olweus, 2003).

Within the bullying literature, there is a long-standing debate regarding the socio-cognitive skills of the perpetrators of bullying (Arsenio & Lemerise, 2001; Crick & Dodge, 1999; Sutton, Smith, & Swettenham, 1999). Sutton *et al.* (1999) argued that some bullies may have good social information processing skills and actually use these skills to manipulate others in pursuit of their goals. Arsenio and Lemerise (2001) suggested that a more global and complete understanding of the bullying phenomenon can be achieved if emotional processes are also considered. Indeed, emotions play a central role in bullying

behaviours and victimization. Bullying and bullying victimization have been related to higher scores on depression, and lower scores on global self-worth, self-perceived scholastic, and social and behavioural competence. Being the victim of bullying has been additionally related to lower scores on self-perceived physical appearance and help-seeking behaviours (Austin & Joseph, 1996; Boulton & Smith, 1994).

Self-beliefs are important determinants of adaptive functioning and behaviour (Bandura, 1997; Caprara, Regalia, & Bandura, 2002), and we expect that trait emotional self-efficacy will also influence children's behaviour and peer competence. The tenets of trait EI theory and relevant research (Mavroveli *et al.*, 2007, 2009; Petrides, Sangareau, Furnham, & Frederickson, 2006) suggest that in certain circumstances the construct has an adaptive value and may facilitate positive behaviours (Petrides, Furnham, *et al.*, 2007). Trait EI has already been linked to the quality and quantity of social support in adolescent and adult samples (e.g., Austin, Saklofske, & Egan, 2005; Ciarrochi, Chan, & Bajgar, 2001).

In keeping with extant research and the theoretical antecedents of trait EI, we anticipated that trait EI self-perceptions might inhibit maladaptive behaviours (e.g., bullying) and foster positive behaviours (e.g., being kind, co-operative, and a leader). Specifically, we expected that higher trait EI scores would relate to more prosocial behavioural nominations ('is kind', 'co-operates', 'is a leader'; H2) and lower trait EI scores would relate to more negative behavioural attributes ('is a bully', 'is bullied'; H3). Furthermore, with respect to bullying behaviours, low trait EI scores may be a key component in bullies' and victims' poor school adaptation and socioemotional vulnerability; children who identify themselves as bullies or victims may hold more negative affective self-perceptions. Therefore, we hypothesized that trait EI scores would be inversely related to self-reported bullying, perpetrator and victim (H4).

### ***Trait EI and special educational needs (SEN) status***

This study also investigates whether or not trait EI can discriminate between children with and without SEN. SEN children are a vulnerable group that faces multiple adjustment difficulties at school. These children form a widely heterogeneous category of individuals from diverse ethnic, social, and intellectual backgrounds. Powell (2006) defined '... "special educational needs" as referring to institutionalized cultural value judgments about behaviour, intellectual functioning, and health that result in particular human differences being recognized as deserving of support or professional services'. This very broad definition holds true across different educational systems and gives an idea of the complexity of the phenomenon. Unfortunately, a trend that Kirby, Davies, and Bryant (2005) described as a 'labelling industry',<sup>1</sup> has caused a fair amount of confusion as to which label describes best which difficulty. For this reason, in this study, we focus on SEN children who have either cognition and learning difficulties or behavioural, emotional, and social difficulties.

Children with SEN status are overrepresented in receiving school exclusions (Hayden, 1997), and they are at greater risk of school failure, peer rejection, and further behavioural and psychological maladjustment beyond their compromised academic performance (Frederickson & Furnham, 2001, 2004; see also Frederickson & Furnham, 1998; Walker & Nabuzoka, 2007). It is also well established that children with learning difficulties

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<sup>1</sup> They referred to the emergence of new categories of learning difficulties and the relevant terminology (i.e., dyscalculia, dyspraxia, and others) during the last 20 to 30 years.



have lower self-perceptions, particularly on academic ability. They are also more likely to experience negative affect, such as depression, anxiety, and loneliness and may suffer from a multitude of socioemotional deficits (Bryan, Burstein, & Ergul, 2004; Renick & Harter, 1989).

Currently, a large proportion of SEN pupils are described as having emotional and/or behavioural difficulties. These problems have detrimental effects on SEN pupils' cognitive, linguistic, and social development (Knivsberg, Iversen, Nodland, & Reichelt, 2007; McLeod & Kaiser, 2004). Children with social, emotional, or behavioural problems are a challenge for parents, teachers, and peers alike, and source of distress for all concerned, including themselves (Liljequist & Renk, 2007). Indeed, SEN status is often associated with a host of maladaptive outcomes, such as low self-esteem, social skills deficits, and other related socioemotional difficulties (Hallahan & Kauffman, 1997; Reiff & Gerber, 1990).

The preceding review raises questions regarding the emotional profiling of SEN children. Trait EI influences on SEN pupils have already been observed in older participants; Reiff, Hatzes, Bramel, and Gibbon (2001) showed that the construct differentiated between learning disabled college students and controls. We hypothesized that trait EI would successfully differentiate between children with and without SEN, as we believe that the former hold more negative perceptions of their socioemotional abilities and personality. Our specific hypothesis was that both groups of children, (i.e., those with cognition and learning difficulties-CLD; as well as those with behavioural, social, and emotional difficulties-BESD) would score lower on the TEIQue-CF compared to controls -H5.

### **Trait EI and gender**

A line of research suggests that trait EI is higher in girls than boys in both elementary (Mavroveli *et al.*, 2008) and secondary school children (Downey, Mountstephen, Lloyd, Hansen, & Stough, 2008). However, by and large, results are still inconclusive in both children and adult samples. For example, while females tend to score higher than males (e.g., Mandell & Pherwani, 2003), sometimes the differences are small (Petrides & Furnham, 2000), null (Bar-On, 1997), or even in the opposite direction (Hunt & Evans, 2004; Petrides, 2009). As suggested in Mavroveli *et al.* (2009), 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. Relevant research with child samples is limited and for this reason gender will be included in the analyses of the present data.

### **Research hypotheses**

- (1) Trait EI scores would show marginal to zero correlations with scores on SAT reading (H1a), writing (H1b), and math (H1c).
- (2) Trait EI scores would be positively related to peer-rated prosocial behaviour ('is kind', 'is a leader', 'co-operates') - H2.
- (3) Trait EI scores would be negatively related to peer-rated antisocial behaviour ('is a bully', 'is bullied') - H3.
- (4) Trait EI scores would be negatively related to self-reported indices of bullying (victim and perpetrator) - H4.
- (5) SEN pupils would have lower trait EI scores than controls - H5.

## Method

### Participants

The sample comprised 565 children (274 boys and 286 girls) attending three English state primary schools and were between the ages of 7 and 12 ( $M_{(age)} = 9.12$  years,  $SD = 1.27$  years; percentages of children per age level were 11.3% 7-year-olds, 22.6% 8-year-olds, 25.9% 9-year-olds, 22.3% 10-year-olds, 17.6% 11-year-olds, 0.4% 12-year-olds). The ethnic background of participants varied considerably, consistent with the general population within Greater London. Children who omitted answers for more than 15 items on the scale (approximately 20% of the TEIQue-CF) were excluded from subsequent analyses.

### Measures

*Trait emotional intelligence questionnaire-child form (TEIQue-CF; Mavroveli et al., 2008)*

The TEIQue-CF comprise 75 short statements responded to on a 5-point Likert scale (e.g., 'I can tell when a friend is sad'). Items were designed to cover nine facets (see Table 2) derived from the review of the pertinent literature on children's socioemotional development. For the final pool of items, we relied on internal consistency and inter-item correlation criteria at the global and facet level. Reliability coefficients for the TEIQue-CF and the nine facets are displayed in Table 2.

*Guess who peer assessment technique (Coie & Dodge, 1988; Coie, Dodge, & Coppotelli, 1982)*

The Guess Who peer assessment technique, based on unlimited nominations and proportions scores, was adapted using three prosocial behavioural descriptions ('is kind', 'co-operates', 'is a leader') and two antisocial behavioural descriptions ('is a bully', 'is bullied'). Children were asked to nominate all classmates who fit these behavioural descriptions. Boys' and girls' nominations were calculated separately and standardized for class number and sex. A global score for social competence was calculated for each pupil by summing up nominations on the leader, co-operative, and kind items, and subtracting nominations on the bully and bullied items. Higher positive scores indicated a more socially competent child as rated by peers.

**Table 2.** Internal consistencies for the TEIQue-CF and its nine facets for the total sample and pupils from years 3–4 and years 5–6

Scale	Number of items	Total sample $N = 565$	Years 3 through 4 $n = 249$	Years 5 through 6 $n = 269$
TEIQue-CF	75	.84	.84	.83
1. Adaptability	8	.57	.43	.68
2. Affective disposition	8	.76	.72	.78
3. Emotion expression	8	.58	.52	.61
4. Emotion perception	8	.57	.54	.61
5. Emotion regulation	8	.61	.55	.63
6. Low impulsivity	8	.64	.62	.67
7. Peer relations	12	.62	.60	.64
8. Self-esteem	7	.68	.67	.70
9. Self-motivation	8	.61	.59	.62

*Peer-victimization scale and bullying behaviour scale*

An adaptation of Austin and Joseph's (1996) Peer-Victimization Scale and Bullying Behaviour Scale was used to assess self-reported bullying victimization and bullying. Each scale included six items measured on a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). Three items in the Peer-Victimization Scale referred to being the victim of negative physical action (e.g., hit and pushed, picked on, bullied) and another three items referred to being the victim of negative verbal actions (e.g., teased, called horrible names, laughed at). The corresponding items for the Bullying Behaviour Scale were comprised of the same six items as in the Peer-Victimization Scale, with the tense of each item changed from passive to active (e.g., 'I often tease other children'). The internal consistencies of the Peer-Victimization Scale and the Bullying Behaviour Scale on this sample were .92 and .93, respectively.

**Archival data***SEN status*

Children designated as having SEN were subdivided into two groups based on the information provided by the school records; the first group was composed of children who were described as having *cognition and learning difficulties* (CLD;  $n = 94$ ), and the second group was composed of children who were described as having *behavioural, emotional, and social difficulties* (BESD;  $n = 36$ ). The remaining children formed the control group (Control;  $n = 395$ ). The CLD group included children with Spelling and Learning Difficulties, Moderate Learning Difficulties, or Attention and Concentration Difficulties. The BESD group is difficult to describe succinctly, but it included children with a wide range of problems, such as challenging behaviour, irregular school attendance, withdrawal, low self-esteem, bullying and abusive behaviour, and mental and physical health problems.

*Academic achievement*

For all participants, Key Stage 1 (SAT) results in math, reading, and writing were obtained from the school archives. All children had taken the national tests at the end of Year 2. For children in Year 4 through Year 6, SAT scores were obtained retrospectively (from when children completed Year 2); therefore, subsequent analyses with SAT scores were conducted separately within each year group.

**Procedure**

A letter explaining the aims of the study was sent to several schools within the Greater London area. Interested schools signed and returned a consent form granting permission for the study. Seven schools responded positively, but four withdrew their participation due to time constraints. Detailed information describing the procedure and the intended means of data collection was subsequently forwarded to all participating schools. A teacher and a teaching assistant administered the questionnaires to the children following a detailed protocol. Teachers were asked to read and explain the instructions to the children and provide further clarifications, if needed. All teachers were asked to administer the questionnaires before the main lunch break during formal class periods. To ensure that all children were informed about the confidentiality of their responses, children completed their questionnaires and sealed them in an envelope before handing

them over to the teachers. Additional data were obtained from the school archives upon receipt of the questionnaires.

## Results

### Trait EI and gender

We tested for gender differences in trait EI. An independent samples *t*-test showed that there were significant gender differences ( $t_{(558)} = 2.67, p < .01, d = .23$ ), with girls scoring higher than boys ( $M_{(\text{girls})} = 3.65, SD = 0.45; M_{(\text{boys})} = 3.55, SD = 0.43$ ).

### Trait EI and academic achievement

Trait EI scores related to Year 3 pupils' SAT scores on math ( $r_{(114)} = .248, p < .01$ ), but not to SAT scores in reading ( $r_{(65)} = .172, p > .05$ ) or writing ( $r_{(65)} = .182, p > .05$ ). For pupils in Year 4 through Year 6, all correlations between trait EI and math, reading, and writing were non-significant (all  $p > .05$ ). These results partially support hypotheses H1a-H1c.

### Trait EI and peer-rated social competence and behaviour

As can be seen in Table 3, high trait EI scores related to more nominations for being kind ( $r_{(241)} = .208, p < .01$ ) and having leadership qualities ( $r_{(241)} = .150, p < .05$ ), and to fewer nominations for being a bully ( $r_{(241)} = -.221, p < .01$ ). Higher scores on trait EI were also related to overall peer-rated social competence ( $r_{(241)} = .257, p < .01$ ). Furthermore, there was a significant negative correlation between trait EI and self-rated bullying and bullying victimization ( $r_{(564)} = -.389, p < .01; r_{(564)} = -.331, p < .01$ , respectively). These results support hypotheses H2, H3, and H4.

Gender-specific analyses revealed similar patterns of correlations (see Table 4). For both boys and girls, higher trait EI scores related to lower self-reported bullying and bullying victimization. However, high trait EI girls received more nominations for being kind and leaders and for overall peer-rated social competence. They also received fewer nominations for being bullies. In boys, on the other hand, trait EI was inversely related to peer-rated bullying only.

**Table 3.** Intercorrelations between trait EI, peer-rated social competence and the five 'Guess Who' descriptions

Variables	1	2	3	4	5	6	7
1. Trait EI	-	.320**	.282**	.139	.186*	-.240**	-.043
2. Social competence	.257**	-	.813**	.459**	.655**	-.576**	-.338**
3. Is kind	.208**	.809**	-	.072	.524**	-.482**	-.100
4. Is a leader	.150*	.475**	.068	-	.269**	.085	-.095
5. Co-operates	.088	.645**	.456**	.281**	-	-.040	.162*
6. Is a bully	-.221**	-.594**	-.528**	.083	-.080	-	.289**
7. Is bullied	-.077	-.347**	-.125	-.124	.137*	.272**	-

\* $p < .05$ ; \*\* $p < .01$ . Correlations below the diagonal are zero-order ( $n = 241$ ), whereas correlations above the diagonal are partial correlations controlling for age ( $n = 172$ ).

**Table 4.** Gender-specific correlations for trait EI and self-reported bullying (bully and victim), peer-rated social competence, and the five 'Guess Who' descriptions

Variables	1	2	3	4	5	6	7	8	9
1. Trait EI	-	-.387**	-.426**	.309**	-.246**	.292**	-.090	.163	.403**
2. Victim of bullying	-.259**	-	.365**	-.087	.425**	-.066	.355**	.137	-.193*
3. Bully	-.355**	.183*	-	-.037	.209*	.019	.187	.110	-.056
4. Is kind	.118	.019	-.291**	-	-.364**	.184	.061	.426**	.778**
5. Is a bully	-.192*	.099	.462**	-.584**	-	.180	.275**	.068	-.394**
6. Is a leader	.036	.024	-.045	.011	.024	-	-.033	.423**	.602**
7. Is bullied	.054	.249*	.035	-.202*	.258**	-.183**	-	.398**	-.092
8. Co-operates	.008	.001	-.215*	.488**	-.172*	.160	-.051	-	.691**
9. Social competence	.134	-.071	-.361**	.814**	-.674**	.420**	-.470**	.628**	-

\* $p < .05$ ; \*\* $p < .01$ . Correlations below the diagonal are for boys ( $n = 274$ ), whereas correlations above the diagonal are for girls ( $n = 286$ ).

### Trait EI and SEN status

To test for differences between the three experimental groups, a one-way Analysis of Variance (ANOVA) was performed with the three groups as the between-subjects factor and trait EI as the dependent variable. As expected, there was a significant main effect of group ( $F_{(2,522)} = 7.74, p < .01$ ), although it was small (partial eta squared = .029). The observed differences supported hypothesis H5. *Post-hoc* analyses (Gabriel<sup>2</sup>) indicated that the Control group ( $M = 3.65, SD = 0.44$ ) scored significantly higher than both the CLD ( $M = 3.52, SD = 0.43$ ) and the BESD groups ( $M = 3.41, SD = 0.41$ ), as shown in Figure 1. This effect was comparable across gender (see Figure 1).

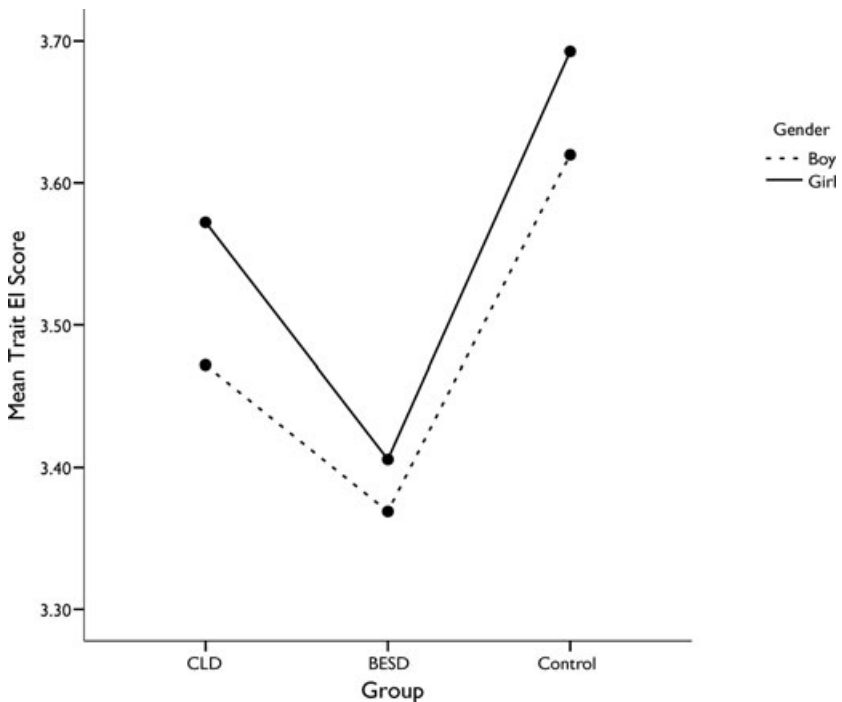
## Discussion

### Trait EI and academic achievement

Consistent with trait EI theory and research, trait EI scores did not relate to intelligence or to its proxies. Specifically, trait EI was unrelated to math, reading, and writing scores for pupils in Years 4 to 6. For Year 3 pupils, however, there was a significant relationship with SAT math scores. These results suggest that for younger children, higher trait EI scores may be implicated in improved performance in math.

The correlational and cross-sectional nature of existing evidence does not allow for causal interpretations on the direction of this relationship. The crux of the problem is that we cannot be certain whether or not doing well academically enhances pupils' emotion-related self-perceptions or if positive self-perceptions are conducive to improved academic competence (see also Marsh & Craven, 1997; Valentine, DuBois, & Cooper, 2004). The direction of the link between trait EI and academic performance may well be opposite to that assumed in the current literature, viz., that higher scores lead to improved performance. This assumption is empirically unfounded (Waterhouse, 2006; see also Humphrey *et al.*, 2007), yet it seems to provide the justification for a plethora of interventions designed to 'boost EQ'.

<sup>2</sup> This test was preferred as the sample sizes were very unequal (Howell, 2000).



**Figure 1.** Mean trait EI scores for boys and girls with cognition and learning difficulties (CLD), behavioural, emotional, and social difficulties (BESD), and the control group (Control).

Further research will elucidate the association between trait EI and academic achievement. At present, it is helpful to explore it in relation to other personal (e.g., intelligence, gender, SEN, low achieving) and contextual (e.g., subject, classroom and social context and support) factors. This is because trait EI, and personality overall, cannot alone explain the variability in such a multicomponential construct. The most influential component of academic achievement is psychometric intelligence, which may well influence the underlying relationship between non-cognitive measures of academic achievement. Chamorro-Premuzic and Furnham (2005) suggested personality and cognitive ability effects should be considered simultaneously when predicting scholastic performance. Longitudinal investigations will help elucidate the direction of the relationship, or at least establish whether or not some results are incidental. In this study, the small number of children for which data were available did not allow further scrutiny (i.e., gender specific or partial correlations controlling for reading ability). A major limitation of our data was that Key Stage 1 SAT scores for children in Year 4 through Year 6 were collected retrospectively. For this reason, we cannot determine how age influences the relationship between trait EI and academic achievement.

#### ***Trait EI and peer-rated social competence and behaviour***

Children's scores on the TEIQue-CF exhibited significant associations with peer-rated social competence and behaviour. Such findings lend support to the hypothesis that children can provide accurate reports of their emotion-related self-perceptions, which seem to be readily perceived by their peers (Mavroveli *et al.*, 2009; Petrides *et al.*,

2006). In this study, higher trait EI scores in the total sample were related to more peer nominations for being kind and for having leadership qualities and fewer nominations for being a bully. Within the social development literature, there is some evidence that social behaviour and peer status may differ between the two genders (see Cillessen & Mayeux, 2004). In keeping with these findings, we observed some variations in peer ratings depending on gender, but these were generally small. For girls, trait EI scores related to more nominations for being kind and a leader and fewer nominations for being a bully. For boys, only the bully description was significantly negatively related to trait EI scores. This preliminary evidence is consistent with the broad social developmental literature (e.g., Cillessen & Mayeux, 2004) and suggests that gender moderates the relationship between trait EI and social behaviour at school, which may explain how different dimensions of social behaviour are perceived as more or less desirable.

Trait EI gender differences were also found in this sample, whereby girls scored higher than boys. This is in line with previous findings in trait EI (Downey *et al.*, 2008; Mavroveli *et al.*, 2008) and personality research in general (e.g., Brody & Hall, 1994; Larson, Wei, Wu, Borgen, & Bailey, 2007). However, as noted above, no concrete conclusions can be drawn from extant research evidence because a consistent pattern is yet to be observed.

The processes through which trait EI relates to social behaviour and peer competence cannot be determined by the current correlational data. Nevertheless, the correlations are informative when interpreted through the lens of the accuracy of children's emotion-related self-perceptions. Peers view children who report higher trait emotional self-efficacy as more prosocial and less antisocial at school. The implications of these findings are important, since rejected children are usually described as aggressive, disruptive, uncooperative, and impulsive (Cillessen, van Ijzendoorn, van Lieshout, & Hartup, 1992; Newcomb *et al.*, 1993; Walker, 2004), whereas popular children are described in the opposite terms (e.g., prosocial, co-operative, and socially skilled). Our results show that primary-school pupils who see themselves as capable of processing emotion-laden information and managing their own and other people's emotions may be better able to cope with the demands of the social and school contexts, and may, thus, enjoy the direct acceptance of their peers. If one considers that peer popularity and acceptance is a significant developmental advantage for children (Walker, 2004), whilst peer rejection is an unpleasant and painful experience (Coie, 2004), this effect merits further investigation.

We can link trait EI to social criteria in a number of possible ways. For example, we may assume that trait emotional self-efficacy motivates adaptive coping behaviours at school, which is consistent with the trait EI theory (see Petrides, Furnham *et al.*, 2007) and emotion theories (e.g., Izard, 2002). High trait EI scores may facilitate adaptive coping with social exchanges and buffer against the development of maladaptive behaviours.

It is possible that peers perceive pupils' positive self-perceptions as a desirable characteristic. Extant evidence has previously linked trait EI with several emotion-related criteria, such as emotion perception accuracy (Austin, 2004, 2005; Petrides & Furnham, 2003) and emotion regulation (Mikolajczak, Nelis, Hansenne, & Quoidbach, 2008). This direct relationship suggests a possible indirect link between trait EI and positive behavioural nominations, as all of these components have been linked with social competence and peer likeability (e.g., Cillessen & Mayeux, 2004; Denham *et al.*, 1990; Hubbard & Coie, 1994; McDowell *et al.*, 2000).

Overall, high trait EI pupils may successfully cope with the demands of the school and the peer context by means of their superior emotion information processing skills, regulation and coping skills, or simply by showing confidence in their socioemotional

abilities. These hypotheses need further scrutiny in order to understand the process through which trait EI is related to social behaviour and peer competence. Ultimately, the causal link between trait EI and social behaviour can be best understood through longitudinal data, as high trait EI scores may well be the cause or the product of competent social behaviour. In other words, trait emotional self-efficacy levels may determine social behaviour at school and influence peer likeability. This relationship, however, can be viewed in the opposite direction; social and peer competence may boost pupils' trait EI levels in the long term.

Future investigations should focus on children at risk of school maladjustment and consider how trait EI may prevent or modify it. In this respect, it is important to consider longitudinal evidence, as suggested above, which may shed some light on the directionality of dispositional influences on pupils' behaviour. Two specific issues merit prioritization. First, future research should examine the link between trait EI and information processing of emotional and social cues. Second, it is important to examine high trait EI pupils' coping repertoire, as superior coping mechanisms might explain the behavioural correlates of trait EI with peer competence and adaptive behaviour.

### **Trait EI and SEN status**

Trait EI scores differentiated between children with learning or behavioural, emotional, and social difficulties from those without any difficulties (see also Petrides *et al.*, 2004; Reiff *et al.*, 2001). This finding supports our initial hypothesis that SEN pupils' perceptions of their socioemotional dispositions and skills would be more negative compared to those of non-SEN pupils. Overall, pupils with Learning Difficulties (LD) perform poorly on socio-cognitive tasks, such as verbal and non-verbal cue perception, perspective-taking, and social problem solving (see Bryan, Sullivan-Burstein, & Mathur, 1998). They also suffer from low self-esteem, depression (Maag & Behrens, 1989), and peer rejection. It is generally acknowledged that children who exhibit internalizing or externalizing problems have lower social competence and peer acceptance scores and do less well academically compared to their peers without behavioural problems (Henricsson & Rydell, 2006). Our findings complement these results and suggest that individual differences in trait EI add to current knowledge on the psychological profile of SEN pupils.

Early screening and intervention are especially beneficial for children with SEN because they can protect them from later psychological and school maladjustment and peer rejection (Knivsberg *et al.*, 2007; McLeod & Kaiser, 2004). In the case of trait EI, our results suggest that children with SEN status have poorer emotion-related self-perceptions compared to their non-disabled counterparts. Therefore, trait EI profiling may assist early screening procedures and the development of effective intervention programmes.

The small number of children within the SEN groups (especially the BESD group) was a limitation for this study. Future research should examine how trait EI effects may explain social behaviour and achievement across low and high trait EI SEN pupils. For example, based on previous results with low-achieving pupils (Petrides *et al.*, 2004), we might expect that high trait EI SEN pupils would outperform their low trait EI SEN counterpart in school performance and socioemotional adjustment. This is because high trait EI may be an asset for SEN pupils and buffer against peer rejection, psychological maladjustment, and school underachievement. A fruitful future pursuit is to examine



whether and how trait EI is implicated in the onset and progression of emotional and behavioural problems, or even LD.

### Conclusions

The results of this study have both theoretical and practical importance. In accordance with trait EI theory and other studies, trait EI was generally unrelated to proxies of cognitive ability. There was a clear evidence for criterion-related validity derived from the strong correlations between trait EI scores and objective socioemotional outcomes, such as peer-rated social competence. This suggests that possible interventions targeting children's socioemotional competence should consider individual differences in trait EI. In other words, improving children's emotion-related self-beliefs may result in successful adaptation at school and improved peer status. SEN pupils may also benefit from such improvements, as it is well documented that they are more prone to emotional and psychological problems, including lower self-esteem, anxiety, and depression. Positive self-perceptions could motivate adaptive behaviour and influence peer evaluations of social performance. However, we should be conservative with causal interpretations, which should only be advanced on the basis of experimental and longitudinal data.

### References

- Allport, G. W., & Odbert, H. S. (1936). Trait names: A psycho-lexical study. *Psychological Monographs*, 47.
- Arseneault, L., Walsh, E., Trzesniewski, K. H., Newcombe, R., Caspi, A., & Moffitt, T. E. (2006). Bullying victimization uniquely contributes to adjustment problems in young children: A nationally representative cohort study. *Pediatrics*, 118, 130-138. doi:10.1542/peds.2005-2388
- Arsenio, W., & Lemerise, E. (2001). Varieties of childhood bullying: Values, emotion processes, and social competence. *Social Development*, 10, 59-73. doi:10.1111/1467-9507.00148
- Austin, E. J. (2004). An investigation of the relationship between trait emotional intelligence and emotional task performance. *Personality and Individual Differences*, 36, 1855-1864. doi:10.1016/j.paid.2003.07.006
- Austin, E. J. (2005). Emotional intelligence and emotional information processing. *Personality and Individual Differences*, 39, 403-414. doi:10.1016/j.paid.2005.01.017
- Austin, S., & Joseph, S. (1996). Assessment of bully/victim problems in 8 to 11 year-olds. *British Journal of Educational Psychology*, 66, 447-456.
- Austin, E. J., Saklofske, D. H., & Egan, V. (2005). Personality, well-being, and health correlates of trait emotional intelligence. *Personality and Individual Differences*, 38, 547-558. doi:10.1016/j.paid.2004.05.009
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. (2001). Self-efficacy and health. In N. J. Smelser & P. B. Baltes (Eds.), *International encyclopedia of the social and behavioral sciences* (Vol. 20, pp. 13815-13820). Oxford: Elsevier Science.
- Bar-On, R. (1997). *Bar-On emotional quotient inventory: Technical manual*. Toronto, Canada: Multi Health Systems Inc.
- Blair, K. A., Denham, S., Kochanoff, A., & Whipple, B. (2004). Playing it cool: Temperament, emotion regulation, and social behavior in preschoolers. *Journal of School Psychology*, 42, 419-443. doi:10.1016/j.jsp.2004.10.002
- Boulton, M. J., & Smith, P. K. (1994). Bully/victim problems in middleschool children: Stability, selfperceived competence, peer perceptions and peer acceptance. *British Journal of Developmental Psychology*, 12, 315-329.

- Bratko, D., Chamorro-Premuzic, T., & Saks, Z. (2006). Personality and school performance: Incremental validity of self- and peer-rating over g. *Personality and Individual Differences*, *41*, 131–142. doi:10.1016/j.paid.2005.12.015
- Brody, L. R., & Hall, J. A. (1993). Gender and Emotion. In M. Lewis & J. Haviland (Eds.), *Handbook of Emotions*. New York: Guilford Press.
- Brody, N. (2004). What cognitive intelligence is and what emotional intelligence is not. *Psychological Inquiry*, *15*, 234–238.
- Bryan, T., Burstein, K., & Ergul, C. (2004). The social-emotional side of learning disabilities: A science based presentation of the state of the art. *Learning Disability Quarterly*, *27*, 45–52. doi:10.2307/1593631
- Bryan, T., Sullivan-Burstein, K., & Mathur, S. (1998). The influence of affect on social information processing. *Journal of Learning Difficulties*, *31*, 418–426.
- Camodeca, M., & Goossens, F. A. (2005). Aggressions, social cognitions, anger and sadness in bullies and victims. *Journal of Child Psychology and Psychiatry*, *46*, 186–197. doi:10.1111/j.1469-7610.2004.00347.x
- Caprara, G. V., Regalia, C., & Bandura, A. (2002). Longitudinal impact of perceived self-regulatory efficacy on violent conduct. *European Psychologist*, *7*, 63–69. doi:10.1027//1016-9040.7.1.63
- Carroll, J. B. (1993). *Human cognitive abilities: A survey of factor-analytic studies*. Cambridge, UK: Cambridge University Press.
- Chamorro-Premuzic, T., & Furnham, A. (2005). *Personality and intellectual competence*. Mahwah, NJ: LEA. doi:10.1037/1089-2680.10.3.251
- Ciarrochi, J. V., Chan, A. Y. C., & Bajgar, J. (2001). Measuring emotional intelligence in adolescents. *Personality and Individual Differences*, *31*, 1105–1119. doi:10.1016/S0191-8869(00)00207-5
- Cillessen, A. H. N., & Mayeux, L. (2004). Sociometric status and peer group behavior: Previous findings and current directions. In J. B. Kupersmidt & K. A. Dodge (Eds.), *Children's peer relations: From development to intervention to policy* (pp. 3–20). Washington, DC: American Psychological Association. doi:10.1037/10653-001
- Cillessen, A. H. N., van Ijzendoorn, H. W., van Lieshout, C. F. M., & Hartup, W. W. (1992). Heterogeneity among peer-rejected boys: Subtypes and stabilities. *Child Development*, *63*, 893–905. doi:10.2307/1131241
- Coie, J. D. (2004). The impact of negative social experiences on the development of antisocial behavior. In J. Kupersmidt & K. A. Dodge (Eds.), *Children's peer relations: From development to intervention* (pp. 243–267). Washington, DC: American Psychological Association. doi:10.1037/10653-013
- Coie, J. D., & Dodge, K. A. (1988). Multiple resources of data on social behavior and social status in the school: A cross-age comparison. *Child Development*, *59*, 815–829.
- Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982). Dimensions and types of social status; a cross-age perspective. *Developmental Psychology*, *18*, 557–570. doi:10.1037/0012-1649.18.4.557
- Crick, N. R., & Dodge, K. A. (1999). 'Superiority' is in the eye of the beholder: A comment on Sutton, Smith, and Swettenham. *Social Development*, *8*, 128–131. doi:10.1111/1467-9507.00084
- Davies, M., Stankov, L., & Roberts, R. D. (1998). Emotional Intelligence: In search of an elusive construct. *Journal of Personality and Social Psychology*, *75*, 989–1015. doi:10.1037/0022-3514.75.4.989
- Dawda, D., & Hart, S. D. (2000). Assessing emotional intelligence: Reliability and validity of the BarOn Emotional Quotient Inventory (EQ-I) in university students. *Personality and Individual Differences*, *28*, 797–812. doi:10.1016/S0191-8869(99)00139-7
- Deater-Deckard, K., Dodge, K. A., Bates, J. E., & Pettit, G. S. (1998). Multiple-risk factors in the development of externalizing behavior problems: Group and individual differences. *Development and Psychopathology*, *10*, 469–493. doi:10.1017/S0954579498001709
- Denham, S. A., McKingley, M., Couchoud, E. A., & Holt, R. (1990). Emotional and behavioral predictors of preschool peer-ratings. *Child Development*, *61*, 1145–1152. doi:10.2307/1130882

- DeRosier, M. E., Kupersmidt, J. B., & Patterson, C. J. (1994). Children's academic and behavioral adjustment as a function of the chronicity and proximity of peer rejection. *Child Development, 65*, 1799-1813. doi:10.2307/1131295
- Di Fabio, A., & Palazzeschi, L. (2009). An in-depth look at scholastic success: Fluid intelligence, personality traits or emotional intelligence? *Personality and Individual Differences, 46*, 581-585. doi:10.1016/j.paid.2008.12.012
- Downey, L. A., Mountstephen, J., Lloyd, J., Hansen, K., & Stough, C. (2008). Emotional intelligence and scholastic achievement in Australian adolescents. *Australian Journal of Psychology, 60*, 10-17. doi:10.1080/00049530701449505
- Eysenck, H. J., & Eysenck, M. W. (1985). *Personality and individual differences: A natural science approach*. New York: Plenum.
- Ferrando, M., Prieto, M. D., Almeida, L. S., Ferrándiz, C., Bermejo, R., López-Pina, J. A., et al. (2010). *Trait emotional intelligence and academic performance: Moderating effects of IQ, personality and self-concept*. Manuscript submitted for publication.
- Fox, C. L., & Boulton, M. J. (2005). The social skills problems of victims of bullying: Self, peer and teacher perceptions. *British Journal of Educational Psychology, 75*, 313-328.
- Frederickson, N. L., & Furnham, A. F. (1998). Sociometric classification methods in school peer groups: A comparative investigation. *Journal of Child Psychology and Psychiatry, 39*, 921-934. doi:10.1017/S0021963098002868
- Frederickson, N. L., & Furnham, A. F. (2001). The long term stability of sociometric status classification: A longitudinal study of included pupils who have moderate learning difficulties and their mainstream peers. *Journal of Child Psychology and Psychiatry, 42*, 581-592. doi:10.1111/1469-7610.00754
- Frederickson, N., & Furnham, A. (2004). The relationship between sociometric status and peer assessed behavioral characteristics of included pupils who have moderate learning difficulties and their classroom peers. *British Journal of Educational Psychology, 74*, 391-410.
- Furnham, A., Chamorro-Premuzic, T., & McDougall, F. (2003). Personality, cognitive ability, and beliefs about intelligence as predictors of academic performance. *Learning and Individual Differences, 14*, 47-64. doi:10.1016/j.lindif.2003.08.002
- Furnham, A., & Zhang, J., & Chamorro-Premuzic, T. (2006). Personality, art judgement, and creativity. *Imagination, Cognition and Personality, 25*, 119-145. doi:10.2190/U4LW-TH9X-80M3-NJ54
- Gilles, P. Y., & Bailleux, C. (2001). Abilities and personality as predictors of academic achievement. *European Journal of Psychology of Education, XVI, 1*, 3-15. doi:10.1007/BF03172991
- Greven, C., Chamorro-Premuzic, T., Arceche, 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. doi:10.1016/j.paid.2008.01.012
- Hassan, A., Sulaiman, T., & Ishak, R. (2009). Philosophy underlying emotional intelligence in relation to level of curiosity and academic achievement of rural area students. *Journal of Social Sciences, 5*, 95-103.
- Hallahan, D. P., & Kauffman, J. M. (1997). *Exceptional learners: Introduction to special education* (7th ed.). Boston: Allyn & Bacon.
- Hay, D. F., Payne, A. J., & Chadwick, A. J. (2004). Peer relations in childhood. *Journal of Child Psychology and Psychiatry, 45*, 84-108. doi:10.1046/j.0021-9630.2003.00308.x
- Hayden, C. (1997). *Children excluded from primary school: Debates, evidence, responses*. Buckingham: Open University Press.
- Henricsson, L., & Rydell, A.-M. (2006). Children with behavior problems. Development during the first six years of school. *Infant and Child Development, 15*, 347-366. doi:10.1002/icd.448
- Howell, D. C. (2000). *Fundamental statistics for the behavioral sciences*. Florence, KY: Wadsworth.
- Hubbard, J. A., & Coie, J. D. (1994). Emotional determinants 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. doi:10.1080/01443410601066735
- Hunt, N., & Evans, D. (2004). Predicting traumatic stress using emotional intelligence. *Behaviour Research and Therapy, 42*, 791-798. doi:10.1016/j.brat.2003.07.009
- Izard, C. E. (2002). Translating emotion theory and research into preventative interventions. *Psychological Bulletin, 128*, 796-824. doi:10.1037//0033-2909.128.5.796
- Kirby, A., Davies, R., & Bryant, A. (2005). Do teachers know more about specific learning difficulties than General Practitioners? *British Journal of Special Education, 32*, 122-126.
- Knivsberg, A. M. Iversen, S. Nodland, M., & Reichelt, K. L. (2007). Behavior and skills in six-year-old children in a 'high risk' programme. *British Journal of Special Education, 34*, 10-18. doi:10.1111/j.1467-8578.2007.00448.x
- 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. doi:10.1016/j.paid.2006.08.001
- Larson, L. M., Wei, M., Wu, T. F., Borgen, F. H., & Bailey, D. C. (2007). Discriminating among educational majors and career aspirations in Taiwanese undergraduates: The contribution of personality and self-efficacy. *Journal of Counselling Psychology, 54*, 395-408. doi:10.1037/0022-0167.54.4.395
- Liljequist, L., & Renk, K. (2007). The relationships among teachers' perceptions of students, teachers' characteristics, and ratings of students' emotional and behavioral problems. *Educational Psychology, 27*, 557-571. doi:10.1080/01443410601159944
- Maag, J. W., & Behrens, J. T. (1989). Depression and cognitive self-statements of learning disabled and seriously emotionally disturbed adolescents. *Journal of Special Education, 23*, 17-27. doi:10.1177/002246698902300103
- MacCann, C., Roberts, R. D., Matthews, G., & Zeidner, M. (2004). Consensus scoring and empirical option weighting of performance-based Emotional Intelligence (EI) tests. *Personality and Individual Differences, 36*, 645-662. doi:10.1016/S0191-8869(03)00123-5
- Mahady Wilton, M. M., & Craig, W. M. (2000). Emotional regulation and display in classroom victims of bullying: Characteristic expressions of affect, coping styles and relevant contextual factors. *Social Development, 9*, 226-245. doi:10.1111/1467-9507.00121
- Mandell, B., & Pherwani, S. (2003). Relationship between emotional intelligence and transformational leadership style: A gender comparison. *Journal of Business and Psychology, 17*, 387-404.
- 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*. San Diego: Academic Press. doi:10.1111/j.1467-6494.2005.00380.x
- Marsh, H. W., Trautwein, U., Ludtke, O., Koller, O., & Baumert, J. (2006). Integration of multidimensional self-concept and core personality constructs: Construct validation and relations to well-being and achievement. *Journal of Personality, 74*, 403-456.
- Matthews, G., Deary, I. J., & Whiteman, M. C. (2003). *Personality traits* (2nd ed.). Cambridge: Cambridge University Press. doi:10.1016/0191-8869(93)90070-J
- 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. doi:10.1348/026151006X118577
- Mavroveli, S., Petrides, K. V., Sangareau, Y., & Furnham, A. (2009). Exploring the relationships between trait emotional intelligence and objective socio-emotional outcomes in childhood. *British Journal of Educational Psychology, 79*, 259-272. doi:10.1348/000709908X368848
- Mavroveli, S., Petrides, K. V., Shove, C., & Whitehead, A. (2008). Investigation of the construct of trait emotional intelligence in children. *European Child & Adolescent Psychiatry, 17*, 516-526. doi:10.1007/s00787-008-0696-6

- McDowell, D. J., O'Neil, R., & Parke, R. D. (2000). Display rule application in a disappointing situation and children's emotional reactivity: Relations with social competence. *Merrill-Palmer Quarterly*, *46*, 306-324.
- McLeod, J., & Kaiser, K. (2004). Childhood emotional and behavioral problems in educational attainment. *American Sociological Review*, *69*, 636-658. doi:10.1177/000312240406900502
- Mikolajczak, M., Luminet, O., & Menil, C. (2006). Predicting resistance to stress: Incremental validity of emotional intelligence over and above alexithymia and optimism. *Psicothema*, *18* (Special issue on Emotional Intelligence), 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. doi:10.1016/j.paid.2007.12.004
- Newcomb, A. F., Bukowski, W. M., & Pattee, I. (1993). Children's peer relations: A meta-analytic review of popular, rejected, controversial and average socio-metric status. *Psychological Bulletin*, *113*, 99-128. doi:10.1037//0033-2909.113.1.99
- Newsome, S., Day, A. L., & Catano, V. M. (2000). Assessing the predictive validity of emotional intelligence. *Personality and Individual Differences*, *29*, 1005-1016. doi:10.1016/S0191-8869(99)00250-0
- O'Connor, Jr., R. M., & Little, I. S. (2003). Revisiting the predictive validity of emotional intelligence: Self-report versus ability-based measures. *Personality and Individual Differences*, *35*, 1893-1902. doi:10.1016/S0191-8869(03)00038-2
- Olweus, D. (2003). A profile of bullying at school. *Educational Leadership*, *60*, 12-17.
- Olweus, D. (2005). Social problems in school. In A. Slater & G. Bremner (Eds.), *An introduction to developmental psychology* (pp. 434-454). Oxford: Blackwell Publishing.
- Parker, J. D. A., Creque, Snr. R. E., Barnhart, D. L., Harris, J. I., Majeski, S. A., Wood, L. M., et al. (2004). Academic achievement in high school: Does emotional intelligence matter? *Personality and Individual Differences*, *37*(7), 1321-1330. doi:10.1016/j.paid.2004.01.002
- 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*, 163-172. doi:10.1016/S0191-8869(03)00076-X
- Pedersen, S., Vitaro, F., Barker, E. D., & Helman Borge, A. I. (2007). Early behavioral dispositions and middle childhood peer rejection and friendship: Direct, indirect and moderated links to adolescent adjustment. *Child Development*, *78*, 1037-1051.
- Pérez, J. C., Petrides, K. V., & Furnham, A. (2005). Measuring trait emotional intelligence. In R. Schulze & R. D. Roberds (Eds.), *International handbook of emotional intelligence* (pp. 124-143). Cambridge, MA: Hogrefe & Huber.
- Pérez, J. C., & Repetto, E. (2004). Aproximación a la evaluación breve de la inteligencia emocional [An approach towards the brief evaluation of emotional intelligence]. In E. Barberá, L. Mayor, M. Chóliz, E. Cantón, E. Carbonell, C. Candela, et al. (Eds.), *Motivos, emociones y procesos representacionales: de la teoría a la práctica [Motives, emotions and representational processes: From theory to practice]*. (pp. 325-334). Valencia, Spain: Fundación Universidad-Empresa de Valencia, AEDIT.
- Petrides, K. V. (2009). Psychometric properties of the Trait Emotional Intelligence Questionnaire. In C. Stough, D. H. Saklofske, & J. D. Parker (Eds.), *Advances in the assessment of emotional intelligence*. New York, NY: Springer. doi:10.1007/978-0-387-88370-0\_5
- Petrides, K. V., Chamorro-Premuzic, T., Frederickson, N., & Furnham, A. (2005). Explaining individual differences in scholastic behavior and achievement. *British Journal of Educational Psychology*, *75*, 239-255. doi:10.1348/000709904X24735
- Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic achievement and deviant behavior at school. *Personality and Individual Differences*, *36*, 277-293. doi:10.1016/S0191-8869(03)00084-9
- Petrides, K. V., & Furnham, A. (2000). Gender differences in measured and self-estimated trait emotional intelligence. *Sex Roles*, *42*, 449-461.

- Petrides, K. V., & Furnham, A. (2003). Trait emotional intelligence: Behavioral validation in two studies of emotion recognition and reactivity to mood induction. *European Journal of Personality, 17*, 39–57. doi:10.1002/per.466
- Petrides, K. V., Furnham, A., & Mavroveli, S. (2007). Trait emotional intelligence: Moving forward in the field of EI. In G. Matthews, M. Zeidner, & R. D. Roberts (Eds.), *Emotional intelligence: Knowns and unknowns – Series in Affective Science* (pp. 151–166). Oxford: Oxford University Press.
- Petrides, K. V., & Mavroveli, S. (in press). Theory and applications of trait emotional intelligence. *Psicologia*.
- 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. doi:10.1080/02699930601038912
- 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. doi:10.1348/000712606X120618
- 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. doi:10.1111/j.1467-9507.2006.00355.x
- Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin, 135*, 322–338. doi:10.1037/a0014996
- Poropat, A. E. (2010). The Eysenckian personality factors and their correlations with academic performance. *British Journal of Educational Psychology*. Advance online publication. doi:10.1348/000709910X497671
- Powell, J. J. W. (2006). Special education and the risk of becoming less educated. *European Societies, 8*, 577–599. doi:10.1080/14616690601002673
- Reiff, H. B., & Gerber, P. J. (1990). Cognitive correlates of social perception in students with learning disabilities. *Journal of Learning Disabilities, 23*, 260–262. doi:10.1177/002221949002300410
- Reiff, H. B., Hatzes, N. M., Bramel, M. H., & Gibbon, T. (2001). The relation of LD and gender with emotional intelligence in college students. *Journal of Learning Disabilities, 34*, 66–78. doi:10.1177/002221940103400106
- Renick, M. J., & Harter, S. (1989). Impact of social comparisons on developing self-perceptions of learning disabled students. *Journal of Educational Psychology, 4*, 631–638. doi:10.1037/0022-0663.81.4.631
- Rubin, K. H., Bukowski, W., & Parker, J. (2006). Peer interactions, relationships, and groups. In N. Eisenberg (Ed.), *Handbook of child psychology (6th ed.): Social, emotional, and personality development* (pp. 571–645). New York: Wiley. doi:10.1002/9780470147658.chpsy0310
- Saklofske, D. H., Austin, E. J., & Minski, P. S. (2003). Factor structure and validity of a trait emotional intelligence measure. *Personality and Individual Differences, 34*, 1091–1100. doi:10.1016/S0191-8869(02)00056-9
- Song, L. J., Huang, G., Peng, K. Z., Law, K. S., Wong, C., & Chen, Z. (2009). The differential effects of general mental ability and emotional intelligence on academic performance and social interactions. *Intelligence, 38*, 137–143. doi:10.1016/j.intell.2009.09.003.
- Sutton, J., Smith, P. K., & Swettenham, J. (1999). Social cognition and bullying: Social inadequacy or skilled manipulation? *British Journal of Developmental Psychology, 17*, 435–450. doi:10.1348/026151099165384
- Taylor, S., & Brown, J. D. (1994). Positive illusions and well-being revisited: Separating fact from fiction. *Psychological Bulletin, 116*, 21–27. doi:10.1037//0033-2909.116.1.21
- 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.
- Veenstra, R., Lindenberg, S., Oldehinkel, A. J., De Winter, A. F., Verhulst, F. C., & Ormel, J. (2005). Bullying and victimization in elementary schools: A comparison of bullies, victims,

- bully/victims, and uninvolved preadolescents. *Developmental Psychology*, *41*, 672-682. doi:10.1037/0012-1649.41.4.672
- Walker, S. (2004). Teacher reports of social behavior and peer acceptance in early childhood: Sex and social status differences. *Child Study Journal*, *34*, 13-28. doi:10.1080/01443410701309175
- Walker, A., & Nabuzoka, D. (2007). Academic achievement and social functioning of children with and without learning difficulties. *Educational Psychology*, *27*, 635-654.
- Waterhouse, L. (2006). Multiple intelligences, the Mozart effect, and emotional intelligence: A critical review. *Educational Psychologist*, *41*, 247-255. doi:10.1207/s15326985ep4104\_5
- Watson, D. (2000). *Mood and temperament*. New York: Guilford Press.
- Warwick, J., & Nettelbeck, T. (2004). Emotional intelligence is . . . ? *Personality and Individual Differences*, *37*, 1091-1100. doi:10.1016/j.paid.2003.12.003

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