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(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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Trait emotional intelligence

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, Arteche, & 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>
<thead>
<tr>
<th>Authors</th>
<th>Measure</th>
<th>Academic achievement measure</th>
<th>Sample</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newsome, Day, and Catano (2000)</td>
<td>Emotional Quotient-inventory (EQ-i)</td>
<td>GPA</td>
<td>N = 180; 118 females; M_(age) = 21; USA.</td>
<td>- No significant relationships were found between trait EI and academic achievement.</td>
</tr>
<tr>
<td>O’Connor and Little (2003)</td>
<td>EQ-I</td>
<td>GPA</td>
<td>N = 90; 37 females; Age = 18–32; USA.</td>
<td>- Total trait EI score correlated with academic achievement (r = .23*).</td>
</tr>
<tr>
<td></td>
<td>Mayer SaloveyCaruso Emotional Inteligence Test</td>
<td></td>
<td></td>
<td>- The Intrapersonal (r = .22*) and Stress Management (r = .29**) dimensions of the EQ-I correlated with academic achievement.</td>
</tr>
<tr>
<td></td>
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<td>- The ability EI total score did not correlate with academic achievement.</td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td>- Only the Understanding emotions dimension of the MSCEIT correlated with academic achievement (r = .23*).</td>
</tr>
<tr>
<td>Parker et al. (2004)</td>
<td>EQ-i: Youth Form</td>
<td>GPA</td>
<td>N = 667; 363 females; Age = 14–18; USA.</td>
<td>- Trait EI correlated with academic achievement. (r = .33*)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- High academic achievement students (GPA 80th percentile or higher) scored higher on the Interpersonal, Adaptability, and Stress management dimensions than the other two groups.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>- Average academic achievement students (GPA from 20th to 80% percentile) also scored higher on the previous subscales compared to low academic achievement students (GPA 20th percentile or lower).</td>
</tr>
<tr>
<td>Parker; Summerfeldt, Hogan, and Majeski (2004)</td>
<td>EQ-i: Short Form</td>
<td>GPA</td>
<td>N = 372; 294 females; M_(age) = 19.34; USA.</td>
<td>- Successful students (first-year GPA of 80th percentile or higher) scored higher on Adaptability and Stress management compared to the unsuccessful group (first-year GPA &lt; 60th percentile).</td>
</tr>
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<td></td>
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<td>- Successful post-secondary students scored higher than the unsuccessful students on Intrapersonal abilities.</td>
</tr>
</tbody>
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Table 1. Continued.

<table>
<thead>
<tr>
<th>Authors</th>
<th>Measure</th>
<th>Academic achievement measure</th>
<th>Sample</th>
<th>Results</th>
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</thead>
</table>
| Petrides, Frederickson, and Furnhan (2004) | TEIQue              | Key Stage 3 Assessment (KS3) results | N = 650, 48% female; \(M_{(age)} = 16.5\); UK. | - Total trait EI score did not predict academic achievement, although the Intrapersonal, Stress management, and Adaptability subscales were significant predictors of academic achievement.  
- The previous subscales were better predictors of first-year university academic achievement than high school academic achievement. |
| 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. | - Trait EI moderated the relationship between cognitive ability and academic achievement.  
- Trait EI moderated the effect of IQ on English and overall GCSE performance.  
- 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. |
| Di Fabio and Palazzeschi (2009) | MSCEIT EQ-i: SF    | GPA                          | N = 124; 90 female; \(M_{(age)} = 17.49\); Italy. | - 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 – \(\beta = 28^{**}\), \(\Delta R^2 = .07^{**}\), trait EI – \(\beta = 23^{*}\), \(\Delta R^2 = .05^{*}\) ) and also for joint incremental validity of the four dimensions of each measure (ability EI factors – \(\Delta R^2 = .12^{**}\), trait EI factors – \(\Delta R^2 = .06^{*}\)). |

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

Note. GPA = grade point average; *$p < .05$, **$p < .01$, ***$p < .001$; ? = Relevant information was not available.
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 (Gilliesen & 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, & Baigar, 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’,¹ 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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¹ 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 (mean = 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

<table>
<thead>
<tr>
<th>Scale</th>
<th>Number of items</th>
<th>Total sample N = 565</th>
<th>Years 3 through 4 n = 249</th>
<th>Years 5 through 6 n = 269</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEIQue-CF</td>
<td>75</td>
<td>.84</td>
<td>.84</td>
<td>.83</td>
</tr>
<tr>
<td>1. Adaptability</td>
<td>8</td>
<td>.57</td>
<td>.43</td>
<td>.68</td>
</tr>
<tr>
<td>2. Affective disposition</td>
<td>8</td>
<td>.76</td>
<td>.72</td>
<td>.78</td>
</tr>
<tr>
<td>3. Emotion expression</td>
<td>8</td>
<td>.58</td>
<td>.52</td>
<td>.61</td>
</tr>
<tr>
<td>4. Emotion perception</td>
<td>8</td>
<td>.57</td>
<td>.54</td>
<td>.61</td>
</tr>
<tr>
<td>5. Emotion regulation</td>
<td>8</td>
<td>.61</td>
<td>.55</td>
<td>.63</td>
</tr>
<tr>
<td>6. Low impulsivity</td>
<td>8</td>
<td>.64</td>
<td>.62</td>
<td>.67</td>
</tr>
<tr>
<td>7. Peer relations</td>
<td>12</td>
<td>.62</td>
<td>.60</td>
<td>.64</td>
</tr>
<tr>
<td>8. Self-esteem</td>
<td>7</td>
<td>.68</td>
<td>.67</td>
<td>.70</td>
</tr>
<tr>
<td>9. Self-motivation</td>
<td>8</td>
<td>.61</td>
<td>.59</td>
<td>.62</td>
</tr>
</tbody>
</table>
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*(girls) = 3.65, *SD* = 0.45; *M*(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

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

*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

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

*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) 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’.

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

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