Two distinct types of EI can be differentiated based on the method of measurement used to operationalize the construct (self-report as in personality questionnaires or maximum-performance as in IQ tests; see Petrides & Furnham, 2000, 2001). Trait EI (or ‘trait emotional self-efficacy’) concerns emotion-related self-perceptions and dispositions comprising the affective aspects of normal adult personality. The two studies in this paper investigate the construct validity of trait EI, as operationalized by the Trait Emotional Intelligence Questionnaire (TEIQue). In Study 1 (34 ballet students; 5 ballet teachers), we found moderate to high levels of convergence between self and other ratings of trait EI and a positive relationship between trait EI scores and ballet dancing ability ratings. In Study 2 (37 music students), we found a positive relationship between trait EI scores and length of musical training. Overall, the results support our conceptualization of trait EI as a construct of general emotionality and the validity of the TEIQue as the construct’s measurement vehicle.

Factor analytic studies have established that an oblique trait EI factor can be isolated at the lower levels of the two major personality taxonomies (Eysenckian & Big Five; Petrides & Furnham, 2001). It has also been shown that the construct has incremental associations with various criteria, over and above the
basic personality dimensions (e.g., Furnham & Petrides, 2003; Saklofske, Austin, & Minski, 2003). These studies complement a burgeoning literature revealing significant trait EI effects, on numerous variables, such as goal self-integration (Spence, Oades, & Caputi, 2004) and job competencies (Van der Zee & Wabeke, 2004), and in various contexts, such as laboratory (Austin, 2004) and organizational (Petrides & Furnham, 2006).

There exist many measures of trait EI in the scientific and commercial literatures (see Pérez, Petrides, & Furnham, 2005; and Extremera, Fernández-Berrocal, Mestre, & Guil, 2004 for reviews in English and Spanish, respectively). However, virtually all of them suffer from serious conceptual and psychometric limitations. Among the most common weaknesses of extant measures are their incomplete coverage of the sampling domain of the construct (see Petrides & Furnham, 2001), discrepancies between a priori and empirical factor structures (see Palmer, Manocha, Gignac, & Stough, 2003), and erroneous assumptions that cognitive abilities can be measured via self-report (e.g., Tapia, 2001). In an effort to address these limitations, we embarked on the development of a psychometrically robust instrument that provides comprehensive coverage of the trait EI sampling domain. The Trait Emotional Intelligence Questionnaire (TEIQue) comes in several different forms and versions and, so far, it has been adapted into nine different languages. The two studies in this paper are based on the British and Greek versions of the long form of the TEIQue.

Study 1

The aim of Study 1 was twofold: a) to examine the relationship between self and other ratings of trait EI and b) to examine the relationship between trait EI and ballet dancing ability. The first question may be seen as part of the broader issue of whether or not trait EI self-perceptions are accurate. While self-perceptions affect people’s behaviour and mental health irrespective of their accuracy (e.g., Gana, Alaphilippe, & Bailly, 2004), an empirical answer to this question will provide insights into the nature of trait EI. However, the subjectivity of emotional experience, which undermines the development of maximum-performance tests of ability EI, also undermines attempts to investigate the accuracy of trait EI self-perceptions, since most of them cannot be objectively assessed.

Nevertheless, it is possible to perform a limited investigation of the issue of accuracy by utilizing affect-laden stimuli that are amenable to maximum-performance scoring. For example, Petrides and Furnham (2003) demonstrated that high trait EI participants are faster than their low trait EI peers in recognizing morphed facial expressions of emotions presented on a PC screen. Another potentially useful strategy is to examine the degree of correspondence between self and other ratings of trait EI. If these ratings converge, it could be interpreted as evidence that trait EI self-perceptions are, at least to some extent, accurate. For the purposes of the present investigation, we asked ballet teachers to rate their students on the 15 trait EI facets and subsequently compared these ratings against student trait EI scores.

The second aim of the study was to examine whether trait EI is related to ballet dancing ability. Research has shown that ballet dancers, compared to controls, tend to score low on self-esteem and high on neuroticism, introversion, and achievement orientation (e.g., Bakker, 1991; Bettle, Bettle, Neumärker, & Neumärker, 2001; Marchant-Haycox & Wilson, 1992; Taylor, 1997). It is worth noting that this psychological profile concerns primarily female ballet dancers and not their male counterparts, who do not differ significantly from controls (Bettle et al., 2001; Neumärker, Bettle, & Bettle, 2000). Looking beyond such differences, it appears that high scores on certain personality traits may be conducive to superior dancing performance. Such traits include ambitiousness, sensitivity, self-motivation, and emotional expressivity (Wilson, 2002), which, as can be seen in table 1, are encompassed by the trait EI framework. The question we sought to address was whether high trait EI scores, particularly on facets and factors like ‘self-motivation,’ ‘emotional expression,’ and emotionality are indeed related to superior ballet dancing ability.

<table>
<thead>
<tr>
<th>Facets</th>
<th>High scorers perceive themselves as...</th>
<th>Alpha</th>
<th>Intraclass r</th>
<th>Self-other r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptability</td>
<td>Flexible and willing to adapt to new conditions</td>
<td>.59</td>
<td>.90</td>
<td>.42**</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>Forthright, frank, and willing to stand up for their rights</td>
<td>.73</td>
<td>.90</td>
<td>.42**</td>
</tr>
<tr>
<td>Emotion perception (self and others)</td>
<td>Clear about their own and other people’s feelings</td>
<td>.68</td>
<td>.92</td>
<td>.19</td>
</tr>
<tr>
<td>Emotion expression</td>
<td>Capable of communicating their feelings to others</td>
<td>.87</td>
<td>.93</td>
<td>.51***</td>
</tr>
<tr>
<td>Emotion management (others)</td>
<td>Capable of influencing other people’s feelings</td>
<td>.67</td>
<td>.92</td>
<td>.32*</td>
</tr>
<tr>
<td>Emotion regulation</td>
<td>Capable of controlling their emotions</td>
<td>.69</td>
<td>.92</td>
<td>.21</td>
</tr>
<tr>
<td>Impulsiveness (low)</td>
<td>Reflective and less likely to give in to their urges</td>
<td>.41</td>
<td>.85</td>
<td>.18</td>
</tr>
<tr>
<td>Relationships</td>
<td>Capable of having fulfilling personal relationships</td>
<td>.72</td>
<td>.92</td>
<td>.40**</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>Successful and self-confiden</td>
<td>.85</td>
<td>.90</td>
<td>.44**</td>
</tr>
<tr>
<td>Self-motivation</td>
<td>Driven and unlikely to give up in the face of adversity</td>
<td>.78</td>
<td>.89</td>
<td>.59***</td>
</tr>
<tr>
<td>Social awareness</td>
<td>Accomplished networkers with excellent social skills</td>
<td>.84</td>
<td>.87</td>
<td>.28</td>
</tr>
<tr>
<td>Stress management</td>
<td>Capable of withstanding pressure and regulating stress</td>
<td>.78</td>
<td>.90</td>
<td>.34</td>
</tr>
<tr>
<td>Trait empathy</td>
<td>Capable of taking someone else’s perspective</td>
<td>.57</td>
<td>.87</td>
<td>.51***</td>
</tr>
<tr>
<td>Trait happiness</td>
<td>Cheerful and satisfied with their lives</td>
<td>.89</td>
<td>.89</td>
<td>.47***</td>
</tr>
<tr>
<td>Trait optimism</td>
<td>Confident and likely to «look on the bright side» of life</td>
<td>.86</td>
<td>.92</td>
<td>.54***</td>
</tr>
</tbody>
</table>
Method

Participants

Thirty-four first- and second-year students at the English National Ballet School (ENBS) participated in the study, of whom 9 were male and 25 female. The mean age for the sample was 18 years (SD=.66 years). The five teachers (three females and two males) were all ENBS employees with prominent reputations, having trained at highly regarded schools and danced internationally.

Measures

Student materials

Trait Emotional Intelligence Questionnaire (TEIQue – v. 1.50; Petrides, in preparation). The TEIQue has been designed as a comprehensive measure of trait EI, covering all of the 15 facets in Table 1. The version used in this study comprises 153 items, responded to on a 7-point Likert scale.

NEO FFI (Costa & McCrae, 1992). This is a 60-item questionnaire measuring the Big Five personality factors, i.e., Neuroticism (N), Extraversion (E), Openness-to-Experience (O), Agreeableness (A), and Conscientiousness (C). Items are responded to on a 5-point Likert scale.

Teacher materials

TEIQue 360° - SF. This is a short form for peer or 360° ratings on the 15 TEIQue facets. Facets are presented with a brief explanation and raters are requested to provide percentage scores for each target.

Ballet Dancing Ability Rating Scale (BDARS). Five experienced ballet teachers were interviewed at length using a semi-structured interview schedule designed to elicit specific vocabulary relating to ballet dancing ability and achievement. A list of positive and negative features pertaining to both physical (e.g., ‘is a dry technician’) and intellectual (e.g., ‘self-corrects’) aspects was drawn. Subsequently, the most commonly mentioned features were reformulated as brief statements (‘brings life to expressions on stage’) and incorporated into a 10-item questionnaire. Teachers were asked to rate each student on the 10 items using a 5-point Likert scale.

Procedure

Students at the ENBS completed the questionnaires in a 45-minute class session. One-to-one teacher interviews were conducted in a small classroom, with each interview lasting approximately 40 minutes. Teachers completed the materials in their own time and returned them by post. All participants were assured of the confidentiality of their responses.

Table 1. The version used in this study comprises 153 items, showing high internal consistencies in all cases (alphas ranging between .89 and .94) and were summed up into a total score. The correlations between this score and the TEIQue (four factors and global trait EI) are given in table 2, where it can be seen that ‘well-being,’ emotionality and global trait EI were all positively associated with ballet dancing ability ($r = .33, p < .05, r = .37, p < .05$, and $r = .35, p < .05$). Of the 15 TEIQue subscales, ‘self-motivation,’ $r = .47, p < .01$, ‘emotion expression,’ $r = .37, p < .05$, ‘adaptability,’ $r = .39, p < .05$, and ‘happiness’ $r = .41, p < .05$ were the strongest positive correlates of dancing ability. Interestingly, ‘emotion control’ $r = .22, p = .22$ ($r = .36, p < .05$, with one outlier removed) and ‘stress management’ $r = .22, p = .22$ showed signs of negative associations with dancing ability ratings.

Trait EI and the Big Five

The internal consistencies of the Big Five personality dimensions were .74, .77, .65, .58, and .79 for N, E, O, A, and C, respectively. The correlations between ballet dancing ability and the Big Five were $r = -.30, p = .10$ (N), $r = +.24, p = .19$ (E), $r = +.40, p < .05$ (O), $r = +.50, p < .01$ (A), and $r = +.30, p = .10$ (C). Thus, both A and O were more strongly associated with dancing ability than global trait EI. In contrast, the corresponding correlations for N and E, which are the strongest personality correlates of trait EI, did not reach significance levels.

Table 2

<table>
<thead>
<tr>
<th>Correlations between Trait EI (Global and Factor Scores) and ballet dancing ability ratings (N= 34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>1. Well-being</td>
</tr>
<tr>
<td>2. Self-control</td>
</tr>
<tr>
<td>3. Emotionality</td>
</tr>
<tr>
<td>4. Sociability</td>
</tr>
<tr>
<td>5. Trait EI</td>
</tr>
<tr>
<td>6. Ballet dancing ability</td>
</tr>
</tbody>
</table>

Note: \(*p<.05\), \(**p<.01\)
and $r_{TE} = +.33$ with the removal of one outlier). Thus, the sequential partialing of these two personality dimensions did not nullify the relationship between trait EI and dancing ability. In contrast, when trait EI was partialed out from the correlations of N and E with dancing ability, the corresponding values collapsed ($r = -0.02$ and $r = +0.03$, for N and E, respectively).

Discussion

The results of the study are relevant to the construct of trait EI, in general, and to the TEIQue, more specifically. The first point to note is that most TEIQue subscale and factor scores showed either adequate or high internal consistencies, in spite of the small size of the sample. A related point is that ballet teacher ratings on the TEIQue 360°-SF showed high inter-rater reliabilities, which suggests that not only do lay people understand the nature of the trait EI facets, but they also agree when they rate others on them. Furthermore, teacher trait EI ratings converged with student trait EI scores, which supports the accuracy of emotion-related self-perceptions. In other words, it is clear that there is at least some convergence between self- and other-perceptions of emotion-related abilities as well as between self-perceptions and objective performance on affect-laden tasks (see Petrides & Furnham, 2003).

Self-other convergence could be the result either of detailed, one-to-one agreement at the facet level of trait EI, or of general agreement at the global level, whereby a rater’s overall impression of a target’s emotion-related abilities influences their ratings on all 15 facets of the construct (halo effect). The small size of the sample and the rather particular nature of the rater-target relationship prevent us from settling this issue definitively. Nevertheless, the findings show clear discrepancies in the correlations across the 15 facets. Thus, although agreement was strong at the global trait EI level ($r = .58$, $p < .01$), facet-based values ranged from $r = .21$, $p = .025$ (‘emotion regulation’) to $r = .59$, $p < .01$ (‘self-motivation’). Interestingly, the variation in the values seemed to follow an intrapersonal versus interpersonal split, with trait EI facets that are proximal to observed behaviour, such as ‘emotion expression’ and ‘empathy,’ showing high correlations and trait EI facets that are distal to observed behaviour, such as ‘emotion regulation’ and ‘emotion perception,’ showing low or even negative correlations.

Less clear is the extent to which the pattern of convergence in this study can be generalized to other contexts. It is well established that the strength of self-other correlations in personality varies as a function of several variables, including context and length of acquaintance (Kurtz & Sherker, 2003). It is possible that the special nature of the relationship between raters and targets in this study (ballet teachers and students) may have influenced the strength of certain correlations. For example, ‘emotion expression’ and ‘empathy’ are key variables in ballet performance (Wilson, 2002) and it would be reasonable to expect ballet teachers to be especially sensitive to behavioural signs of high ability in these domains. In contrast, ‘social awareness’ is less important in ballet performance and teachers may not be attuned to the relevant signs, thus resulting in weaker self-other correlations for this facet. In conclusion, the present results are in line with what we would expect based on our conceptualization of trait EI and the idiosyncrasies of ballet dancing. However, we must remain agnostic about the generalizability of the findings to other settings (e.g., the workplace).

The second aim of the study was to examine the role of trait emotional self-efficacy in ballet dancing ability. There was a positive and statistically significant relationship between global trait EI scores and teacher ratings of dancing ability, mainly emanating from the ‘well-being’ and emotionality components of the construct. In contrast, ‘self-control’ and sociability were not significantly associated with dancing ability. Although there is some evidence that the ballet subculture tends to appeal to individuals with specific personality profiles (Bakker, 1991), there are no convincing data on the direction of this relationship, which is generally thought to be the result of some combination of reciprocally operating self-selection and shaping mechanisms.

Agreeableness and Openness were the only personality dimensions related to teacher ratings of ballet dancing ability. The former relationship could be largely due to compliance, with compliant students rated as better dancers. Neuroticism and Extraversion showed moderate, albeit nonsignificant, correlations with dancing ability ratings. Both these correlations were in the opposite direction to the differences between ballet dancers and controls documented in the literature. Thus, while ballet dancers tend to be more neurotic and introverted compared to controls, in the present data, Stability and Extraversion were positively associated with dancing ability. Notably, the correlation between trait EI and dancing ability was not greatly affected by partialing out N and E, in contrast to the correlations of the latter two traits with dancing ability, which virtually vanished when trait EI was partialed out.

Study 2

This small study was designed to explore possible links between trait EI and length of musical training. In other words, the study sought to investigate whether individual differences in trait EI are related to how long people choose to stay in musical training. Insofar as trait EI is relevant to length of musical training, it will also be relevant to musical performance per se, since it is well established that length of training is one of the strongest predictors of musical achievement (Davidson, Howe, & Sloboda, 1997).

Personality traits influence one’s choice, initially to take up training in music and, subsequently, to enter a music career (Woody, 1999). However, there is a dearth of research on the nature of these links, with the few existing studies yielding contradictory findings. For example, Kemp (1982) found that student and professional musicians scored higher on anxiety than controls, whereas Buttsworth and Smith (1995) found that performing musicians were more stable emotionally than psychology students. A personality trait that has often been linked to musical talent and creativity is androgyny, with androgy nous music educators and performers thought to have an information-processing advantage over their non-androgy nous (masculine, feminine or undifferentiated) peers (Wubbenhorst, 1994). This relationship, however, seems to hold primarily in male, but not female, samples (Hassler, Birbaumer, & Feil, 1985).

More generally, the associations between personality traits and music-related variables often vary across gender (see Kemp, 1982; Wilson, 2002), which is why the analyses in this study will be conducted both on the total sample as well as on the male and female subsamples. Because there is little research on the personality profile of professional musicians, we made only one prediction in this study, viz., that length of musical training would be positively related to the ‘self-control’ component of trait EI.
Method

Participants

Thirty-seven students from various music schools in Cyprus participated in the study, of whom 18 were male and 19 female. The mean age for the sample was 17.09 years (SD= 2.01 years). On average, participants had been studying music for 6.32 years (SD= 2.57 years).

Measures

Trait Emotional Intelligence Questionnaire (TEIQue v. 1.00; Petrides, in preparation).

We used the Greek adaptation of the TEIQue, which comprises 144 items based on a 7-point Likert scale. The internal consistencies of the four factors were .84 for ‘well-being,’ .76 for ‘self-control,’ .86 for ‘emotionality,’ and .70 for ‘sociability’. The internal consistency of global trait EI scores was .92.

Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975). We used the 84-item Greek adaptation of the EPQ, which was designed to measure the three Eysenckian superfactors (Neuroticism - N, Extraversion - E, and Psychoticism - P). Participants responded on a 6-point Likert scale. The internal consistencies of the three dimensions were .85, .85, and .60 for N, E, and P, respectively.

Procedure

Participants were recruited from music schools in Cyprus. Permission was obtained from teachers and head teachers and students were guaranteed anonymity. A researcher explained the instructions orally and answered questions before testing began. The assessment lasted approximately 30 minutes in each case.

Results and discussion

Figure 1 is a scatterplot of the relationship between trait EI and length of musical training. After the removal of the three outliers in this figure, the correlations between the four trait EI factors and length of musical training were $r = +.51, p<.01$ for ‘well-being,’ $r = +.50, p<.01$ for ‘self-control,’ $r = +.47, p<.01$ for ‘emotionality,’ and $r = +.30, p = .10$ for ‘sociability’. The correlation for global trait EI was $r = +.53, p <.01$. Participants with longer musical training had significantly higher scores on ‘well-being,’ ‘self-control,’ and ‘emotionality,’ but not on ‘sociability’. Partialing out age did not have an appreciable impact on these results.

As hypothesized, length of musical training was positively associated with ‘self-control’. The ability to stick to a training programme for many years requires drive and determination and is key in the acquirement of musical expertise (Sloboda, Davidson, Howe, & Moore, 1996). The absence of a relationship with the ‘sociability’ factor is also logical, given that interpersonal relationships and socializing are unlikely to be systematically affecting training commitment. The situation is somewhat less clear with respect to the ‘well-being’ and ‘emotionality’ components of trait EI because it is not easy to link them theoretically to the dependent variable. It may be helpful to note that musical excellence is associated with experiencing positive emotions in response to music (Sloboda, 1990), which may indirectly account for the strong relationship between ‘well-being’ and length of training in this sample.

None of the Eysenckian dimensions was significantly related to length of musical training, although N did show a negative correlation ($r = -.25$, increasing to $r = -.31, p = .07$ with the removal of one outlier). Trait EI was significantly associated with length of training after sequentially partialled out E, N, and P variance. The greatest reduction was effected when N variance was partialled out, leading to a drop from $r = +.51$ to a statistically significant $r = +.36, p<.05$. This is another in a long list of findings demonstrating the superior predictive power of trait EI over Neuroticism (also see Petrides, Fredrickson, & Furnham, 2004; Van der Zee & Wabeke, 2004), which accords with our view that the former construct provides far broader coverage of individual differences in emotionality than any extant operationalization of the latter.

The present results corroborate the existence of links between personality and music (Sloboda & Juslin, 2001; Wilson, 2002), but do not tell us how music students differ from controls. Although those with longer musical training scored higher on the ‘well-being,’ ‘self-control,’ and ‘emotionality’ components of trait EI, it may well be that their scores are roughly equal or even lower than the scores of people who have not received any training in music. An obvious extension of this research, then, would involve a comparison between music students and controls.

<table>
<thead>
<tr>
<th>Table 3</th>
<th>Correlations between Trait EI (Global and Factor Scores) and length of musical training for males (N= 18; above the diagonal) and females (N= 19; below the diagonal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>1. Well-being</td>
<td>.72**</td>
</tr>
<tr>
<td>2. Self-control</td>
<td>.79**</td>
</tr>
<tr>
<td>3. Emotionality</td>
<td>.57*</td>
</tr>
<tr>
<td>4. Sociability</td>
<td>.55*</td>
</tr>
<tr>
<td>5. Trait El</td>
<td>.88**</td>
</tr>
<tr>
<td>6. Musical training</td>
<td>.10</td>
</tr>
</tbody>
</table>

Note: One outlier was removed from the male sample. *$p<.05$, **$p<.01$
Table 3 presents the correlations between trait EI (global and factor scores) and length of musical training, broken down by gender. The table reveals that the association between trait EI and length of training largely stems from the male subsample and that the corresponding female values, albeit in the expected direction, were low. Partialing out age did not have an appreciable impact on these results.

The magnitude of the gender discrepancies was unusually large in this study. Although there is some evidence of gender differences in trait EI scores (Petrides, Furnham, & Martin, 2004) as well as of gender non-invariance in the construct’s relationships with various criteria (Petrides & Furnham, 2006), the extent of the discrepancies tends to be small. The results of this study suggest that the underlying processes linking trait EI to length of musical training could be different for males and females, which underscores the importance of conducting gender-specific analyses, where possible. The small size of the sample, in combination with a considerable difference in the average age of male and female participants (17.9 and 16.3 years, respectively), prevents the investigation of this issue in the present data.

Conclusion

This paper has implications both for the construct validity and for the measurement of trait EI. Our observations will necessarily be brief and general due to the small scale of the two studies. We note that trait EI showed significant associations with the dependent variables (ballet dancing ability and length of musical training), which accords with theories that underscore the importance of emotional experience in the performing arts (Sloboda & Juslin; Wilson, 2002; Woody, 1999). In relation to the operationalization of trait EI, this paper demonstrates that the TEIQue provides complete and valid measurement of the construct. In stark contrast to ability EI tests, the TEIQue shows robust psychometric properties, even in small sample research.

One must not fail to see that further theoretical insights and research are required towards the operationalization of a new construct that will comprehensively encompass individual differences in general emotionality. It is the central aim of our research programme to provide such an operationalization through the continual development of the trait emotional self-efficacy (trait EI) framework. The influence of emotions on most aspects of everyday life underwrites the theoretical relevance and practical utility of this undertaking.

Author notes

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We are indebted to the staff and students of the English National Ballet School for their help and support throughout Study 1.

All TEIQue measures are available from the first author, free of charge, for research purposes.

References


