



## Article

# The Emotional Self-Efficacy Scale: Adaptation and Validation for Young Adolescents

Qualter, Pamela, Pool, L. D., Gardner, K. J., Ashley-Kot, S., Wise, A. and Wols, A.

Available at <http://clock.uclan.ac.uk/11672/>

*Qualter, Pamela, Pool, L. D., Gardner, K. J., Ashley-Kot, S., Wise, A. and Wols, A. (2015) The Emotional Self-Efficacy Scale: Adaptation and Validation for Young Adolescents. Journal of Psychoeducational Assessment, 33 (1). pp. 33-45. ISSN 0734-2829*

It is advisable to refer to the publisher's version if you intend to cite from the work.  
<http://dx.doi.org/10.1177/0734282914550383>

For more information about UCLan's research in this area go to  
<http://www.uclan.ac.uk/researchgroups/> and search for <name of research Group>.

For information about Research generally at UCLan please go to  
<http://www.uclan.ac.uk/research/>

All outputs in CLoK are protected by Intellectual Property Rights law, including Copyright law. Copyright, IPR and Moral Rights for the works on this site are retained by the individual authors and/or other copyright owners. Terms and conditions for use of this material are defined in the [policies](#) page.

THE EMOTIONAL SELF-EFFICACY SCALE: ADAPTATION AND VALIDATION  
FOR YOUNG ADOLESCENTS

P.Qualter<sup>1\*</sup>, L.Dacre Pool<sup>1</sup>, K.J.Gardner<sup>1</sup>, S.Ashley-Kot<sup>2</sup>, A.Wise<sup>2</sup>, and A.Wols<sup>3</sup>.

1. School of Psychology, University of Central Lancashire, Preston, Lancashire, UK.

2. School Psychology Unit, New Line Learning Academy, Maidstone, Kent, UK.

3. Behavioural Science Institute, Radboud University, Nijmegen, The Netherlands.

\*Correspondence contact: Pamela Qualter, School of Psychology, University of Central Lancashire, Preston, Lancashire, UK, PR1 2HE: Email: PQualter@uclan.ac.uk

**Other:** P.Qualter, L.Dacre Pool, K.J.Gardner, S.Ashley-Kot, A.Wise, and A.Wols.

(2014). The Emotional Self-Efficacy Scale: Adaptation and validation for young adolescents. *Journal of Psychoeducational Assessment*, 33, 33-45.

doi: 10.1177/0734282914550383

**Available at:** <http://jpa.sagepub.com/content/33/1/33.short>

It is advisable to refer to the publisher's version if you intend to cite from the work. To link to this article, please go to the following URL:

<http://jpa.sagepub.com/content/33/1/33.short>

### **Abstract**

Emotional self-efficacy (ESE) is an important aspect of emotional functioning, with current measures for children and adolescents focused on the measurement of self-beliefs in relation to the management of emotions. In the current study, we report the psychometric properties of the first adaptation of the Emotional Self-Efficacy Scale (Kirk, Schutte, & Hine, 2008) for youth (Youth-ESES) that measures additional aspects of ESE, such as perceiving and understanding emotions and helping others modulate their emotions. Participants were 192 young adolescents aged 11-13 years from a UK state school. They completed the Youth-ESES, and measures of ability emotional intelligence (EI), and cognitive ability. Results support the same four-factor structure that has been previously documented using the adult version of the ESES (Dacre Pool & Qualter, 2012a), with the four subscales being largely independent from cognitive ability and only moderately related to ability EI. However, the four subscales were less differentiated in the current study compared to adult data previously published, suggesting that there is a strong general factor underlying young adolescents' ESE scores. Overall, the results suggest that the adapted Youth-ESES can be reliably used with youth, and that confidence in how a young person feels about their emotional functioning remains distinct from emotional skill.

Key words: Emotional self-efficacy, Emotional Intelligence, Youth, Adolescence



## **The Emotional Self-Efficacy Scale: Adaptation and Validation for Young**

### **Adolescents**

People's beliefs about whether they think they can successfully perceive, use, understand and manage emotional information are likely to be important for a diverse range of outcomes. Such an idea stems from Bandura's work (1997, 1999) on the more general construct of self-efficacy. Self-efficacy is rooted in social cognitive theory (Bandura, 1982), which argues that self-beliefs are a major determinant of performance; according to self-efficacy theory, individuals vary in their beliefs about the level of control they have over courses of action needed to attain successful outcomes (Bandura, 1997). Self-efficacy is distinct from actual capabilities required to perform a task, but self-efficacy beliefs can be viewed as proxy indicators of effective performance (Bandura, 1997, for a review).

Following Bandura's theorizing (1997, 1999) we would expect perceived self-efficacy to play an important role in the processing of emotional information and we would expect emotional self-efficacy (ESE) to contribute to effective processing, understanding and management of emotional information. So far, empirical investigation has focused on how well children and adolescents manage their emotional experiences, with the idea that people will differ greatly not only because they have different skills, but also because they differ in their perceived capabilities to manage their emotions (Caprara, Di Giunta, Eisenberg, Gerbino, Pastorelli, & Tramontano, 2008). Based on these ideas, measures of ESE, as it relates to the management of emotions, have been developed for children (Self-Efficacy Scale for Children; Muris, 2001) and adolescents (Regulatory Emotional Self-Efficacy Scale; Bandura, Caprara, Barbaranelli, Gerbino, &

Pastorelli, 2003). That work is important because it highlights the role played by distinct self-efficacy beliefs in managing negative and positive affect (Caprara, Fida, et al., 2008; Caprara, Di Giunta, et al., 2008), but people's beliefs about whether they can successfully perceive, use, and understand emotional information are also likely to be important. For example, being confident that I can manage negative emotions during revision time relates to one important aspect of ESE, but being confident that I can spot when I feel those negative emotions in the first place relates to a different dimension of ESE.

Measurements that examine other domains of ESE are currently not available to children and adolescents, but there is a measurement tool available for adults (Emotional Self-Efficacy Scale [ESES]; Kirk, et al 2008). That measure examines ESE as a subjective self-appraisal of one's own emotional competence in the domains of using and managing one's own emotions, perception and understanding of one's own emotions, management of other people's emotions, and perception of other people's emotions.

Such an examination of ESE across different domains of emotional functioning is important during adolescence. So far we have evidence from prospective studies (Caprara, Fida, et al., 2008; Caprara, Alessandri et al., 2012), that used the Regulatory Emotional Self-Efficacy Scale, that there are important changes in ESE beliefs from late adolescence to emerging adulthood (14 to 25 years of age), but these data raise questions about how changes in ESE related to emotion management map onto other possible changes in ESE that relate specifically to emotion perception and understanding. Without measurement tools that assess different domains of ESE, we will be unable to answer such important questions about development. Further, the findings highlight the need for standardized ESE measures that can be used across the lifespan so that prospective

changes across ontogeny can be established. The overall aim of the current study was to adapt the ESES for use with early adolescents. Having such a tool will allow the prospective examination of several dimensions of ESE and help establish the causal relationships between different aspects of ESE, actual emotional skills, and a diverse range of outcomes. Thus, in the current study we investigate the underlying dimensionality of an adapted ESES for youth (Youth-ESES) aged 11-13 years with the aim of providing a comprehensive assessment of the construct of ESE that can be used by researchers and practitioners working with young people. Associations among the Youth-ESES, ability EI and cognitive ability were also examined.

### **How is ESE distinct from EI Abilities?**

Consistent with the distinction between self-efficacy beliefs and actual skill in performing a particular behaviour, there is a distinction between ESE and emotional skill. Over the past two decades a large body of research has been devoted to conceptualising and empirically supporting the construct of ability EI, a cognitive ability encompassing skills in relation to perceiving, using, understanding and managing emotion information (Mayer & Salovey, 1997; Mayer, Salovey, & Caruso, 2004). Ability EI is assessed using performance tests to identify cognitive skills in these areas of emotional functioning, while ESE relates to an individual's self-reported confidence that they will be able to perceive, use, understand and manage emotions in situations that require them to do so (Galla & Wood, 2012). Thus, while conceptually ESE mirrors the dimensions underlying ability EI, the two constructs are psychometrically distinct (Kirk et al, 2008). This distinction is further supported by the overlap between ability EI and general cognitive ability (e.g. Joseph & Newman, 2010; Mayer, Roberts, & Barsade, 2008;) and between

ESE and personality (Dacre Pool & Qualter, 2012a)

### **Why is ESE important?**

The argument being put forward is that unless people believe they can produce the desired outcomes (i.e., a reduction in anxiety through emotion management, the increase in friendship quality by understanding the emotions of a friend, confidence that they will spot when they are feeling stressed), they have little incentive to persist in the face of emotional difficulties (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). Thus, it is likely that ESE (1) will impact a diverse range of social and cognitive outcomes, and (2) have independent effects on these outcomes above that predicted by actual skills, with some individuals who score higher on ability EI tests not using these skills in a way that is beneficial to academic, social, or health outcomes because they lack confidence to do so.

Certainly there is evidence that ESE predicts a range of outcomes. Previous research using the Regulatory Emotional Self-Efficacy Scale with adolescents supported this idea in relation to sociability and depressive symptoms and changes in self-esteem (Alessandri et al., 2009; Bandura et al., 2003; Caprara, Alessandri, & Barbaranelli, 2010; Caprara, Alessandri et al., 2012), and studies using the Self-Efficacy Questionnaire for Children with adolescents showed that confidence in one's ability to control negative emotions is particularly helpful for dealing with anxiety and depressive symptoms, which in turn shields youth against the development of emotional problems (Muris, 2001; Muris, Mayer, Reinders, & Wesenhagen, 2011). Further, in relation to adult studies using the ESES, there is support for the idea that all aspects of ESE are important for graduate employability and career satisfaction (Dacre Pool & Qualter, 2013) and for university



adjustment (Nightingale et al., 2013).

Research also supports the idea that self-efficacy in relation to emotional information is distinct from actual skill, with evidence that ESE and ability EI are distinct constructs (Dacre Pool & Qualter, 2012a; Kirk et al., 2008; Nightingale et al., 2013).

Further, there is one study that shows all aspects of ESE independently predicted educational and psychological outcomes when emotion management skills were controlled in analyses (Nightingale et al., 2013).

### **A Comprehensive Measure of ESE for Youth**

ESE has been posited as an important aspect of emotional functioning with current measures for children and adolescents focused on the management of emotions (Bandura et al., 2003; Muris, 2001). Kirk et al. (2008) followed the same line of enquiry as these other studies, but argued that ESE should not be restricted to just emotion management and, instead, should map onto a number of different skills in the emotional domain as outlined by well established models of emotional functioning. Based on this reasoning, Kirk et al. (2008) developed and validated the Emotional Self-Efficacy Scale (ESES), which is based on the four-branch model of ability EI and contains questions that pertain to self-efficacy in relation to the ability to perceive, use, understand, and manage emotions. Previous studies with adults have shown the measure has good psychometric properties (Dacre Pool & Qualter, 2012a; Kirk et al., 2008), but there is a question about factor structure. Kirk et al. (2008) suggested that the measure tapped one overall factor, but Dacre Pool and Qualter (2012a) found four moderately inter-correlated (.52 to .61) factors: a) using and managing one's own emotions; b) identifying and understanding one's own emotions; c) dealing with emotions in others; and d) perceiving emotion

through facial expressions and body language. Both studies proposed the ESES as a viable measure that could be useful in future studies aimed at furthering understanding of processes involved in adaptive emotional functioning.

The use of the ESES with young adolescents is limited by the fact that the questions use language that is difficult for young people to comprehend. Adaptation of the ESES for young adolescents is important because it enables an examination of perceived self-efficacy across different aspects of emotional functioning and is not restricted to emotion regulation as is the case with measures used in most previous empirical work. As we have stated previously in this paper, existing measures of the emotional aspects of self-efficacy are restrictive in their coverage of emotional dimensions. For example, the Self-Efficacy Questionnaire for Children (Muris, 2001) contains only several questions that assess self-regulatory aspects of emotion, while the Regulatory Emotional Self-Efficacy Scale (Bandura et al., 2003) assesses the management of negative or expression of positively valenced emotions. A comprehensive assessment of the construct of ESE means that individual differences in adolescents' beliefs about their capabilities in identifying, using, understanding and managing emotions can be captured. This is important because it enables the prospective examination of ESE and actual emotional skills in varying domains across ontogeny so we are able to establish a developmental perspective on emotional functioning.

Further, given the increase in interventions designed to increase emotional functioning (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011) there is a need to have available valid and appropriate measures for use with different age groups. Thus, in the current study we adapted the ESES items using language that young adolescents

would be familiar with. The aim of the current study was to investigate the underlying dimensionality of this revised version of the ESES for youth, exploring whether the data support a one or four factor solution. Further, we examined its relationship to ability EI and cognitive ability. The specific predictions were (1) the four-factor theoretical structure documented by Dacre Pool and Qualter (2012a) will be confirmed, and (2) the Youth-ESES will be weakly correlated with ability EI (MSCEIT-YV) and cognitive ability, in support of the distinctiveness of the two constructs, and (3) the Youth-ESES intra-scale correlations will be less differentiated than in adult samples (e.g., Dacre Pool & Qualter, 2012a) consistent with developmental psychometric theory (Soto, John, Gosling, & Potter 2008).

## **Method**

### **Participants**

One hundred and ninety-six young adolescents (90 females) took part in the current study. All participants were enrolled in the UK state education system and were primarily Caucasian. All participants were students at a school in the South-East of England. The school covered a large geographical area within its district and had relatively high achievement statistics. The participants were in their first or second year of high school and were aged 11 to 13 years (Mean = 11.73, SD = 0.67) at the time of the study.

### **Measures**

**Emotional Self-Efficacy (ESE).** The Emotional Self-Efficacy Scale (ESES) developed by Kirk et al. (2008) originally comprised 32 items. In the factor analyses by Dacre Pool and Qualter (2012a) five of these items were dropped, creating a reduced 27-

item version of the ESES. The 27-item questionnaire was adapted and used in the current study. Participants are required to rate their confidence in respect of each item by selecting a number on a five-point scale, with a '1' indicating '*not at all confident*' and a '5' indicating '*very confident*'. When viewed as a one-factor measure, the ESES showed good internal consistency ( $\alpha = .96$ ); two week test-retest reliability was also good,  $r(26) = .85, p < .0001$  (Kirk et al., 2008). Cronbach's alpha for the four subscales found in the Dacre Pool and Qualter (2012a) study ranged from .79 to .89. This four-factor solution suggests the items make up four subscales: (1) Using and Managing one's own emotions (10 items), (2) Identifying and Understanding one's own emotions (6 items), (3) Dealing with emotions in others (8 items), and (4) Perceiving emotion through facial expressions and body language (3 items).

In the current study, we adapted the ESES so that the language was simpler for young adolescents and children, while the content of each item remained unchanged. Words used in the adapted ESES for youth (Youth-ESES) have a mean age of acquisition rating ranging from 2.79-9.90 years (Kuperman, Stadthagen-Gonzalez, & Brysbaert, 2012), with the majority (97.50%) being recognized by children aged 6 years and above; some words could be recognized by age 10 years and these were 'occasion', 'control', 'focused', 'creative', 'motivated', 'figure', 'positively' and 'pleasant'.

**Ability EI.** The Mayer-Salovey-Caruso Emotional Intelligence Test – Youth Version (MSCEIT-YV) is the youth version of the MSCEIT and is designed for pre-adolescents and adolescents (Mayer, Salovey, & Caruso, 2005). The measure assesses how well children perform tasks and solve emotional problems. Multi-Health Systems, the test distributor, scored the data using expert norms. This instrument yields a single

overall performance score, but also four branch scores that assess the different domains of ability EI. In Section A (perceive), the child identifies the emotions expressed by a series of faces. Section B (facilitate) includes a set of vignettes and tasks that assess whether the child understands how different emotions impact behaviour and decision making. In Section C (understand) the child chooses the emotion a protagonist is feeling in a series of vignettes. In Section D (manage) the child chooses which strategies are most helpful in managing certain emotions presented in a set of vignettes. Internal consistency scores of the MSCEIT-YV are provided in the manual for the four branches, with split-half reliabilities ranging from .67 (Section A: Perceiving emotion) to .86 (Section C: Understanding emotions); the overall measure  $\alpha = .91$ .

**Cognitive ability.** The CAT (Cognitive Ability Test) is the most widely used test of reasoning abilities in UK schools (Deary, Strand, Smith, & Fernandes, 2007). The data reported here relate to the CAT fourth edition (CAT4), which is a digital version of CAT3. It has 10 separate subtests, which are aggregated into three batteries of tests, providing standardised measures of verbal, quantitative, and nonverbal reasoning abilities.

## **Procedure**

Participants completed the MSCEIT-YV and the adapted Youth-ESES in their first or second year of high school. Participants had completed the CAT the previous year if they were in the second year of high school or a few weeks after they completed the MSCEIT-YV and adapted ESES if they were in their first year of high school.<sup>1</sup> The young adolescents completed all measures online. Participation in the study was secured

---

<sup>1</sup> Cohort differences in CAT scores were examined, with no significant differences found for the three CAT scores for males ( $t > .50, p > .21$ ) or females ( $t > .06, p > .68$ ). This justified the collapsing of the two age cohorts to form the final sample.

by opt-out written informed consent by parents/guardians and by verbal assent of the participants on the day of data collection. All participants were tested in accordance with the national and local ethics guidelines.

### **Overview of Data Analyses**

After missing values analyses, Confirmatory Factor Analysis (CFA) with maximum likelihood estimation was performed, using AMOS 21 (Arbuckle, 2012), to test the fit of a one-factor model to the current data. The 27 items in the Youth-ESES were the indicators of the latent variable, which represented the general factor of ESE as found by Kirk et al. (2008). Another CFA was performed to test the fit of a four-factor model to the data. In this second CFA, the four subscales of the Youth-ESES found in the earlier work by Dacre Pool and Qualter (2012a) formed latent variables of ESE, with specific items in the questionnaire as indicators of each latent variable.

The degree of model fit was used to make interpretations about the overall model. Goodness of Fit (GOF) statistics used to interpret model fit are the chi-square goodness of fit statistic, the comparative fit index (CFI), normed fit index (NFI), and the root mean square error of approximation (RMSEA) (Browne & Cudeck, 1992). We followed Marsh, Hau, and Wen's (2004) recommendations and used rules of thumb about acceptable levels of GOF: RMSEA should be less than .05 to be viewed as having a good fit, or should be between .05 and .08 for a reasonable fit to the data, and the CFI and NFI should exceed .90.

Once factor structure was established, we investigated associations among the Youth-ESES, ability EI (MSCEIT-YV subscales) and cognitive ability (CAT scores).

## **Results**

First, participants with and without complete data were compared using Little's (1988) Missing Completely At Random (MCAR) test. This yielded a non-significant chi-square value ( $\chi^2(578) = .32, ns$ ), suggesting that missing values could be reliably estimated. These missing values for the Youth-ESES item scores were estimated using person mean substitution, as recommended in Hawthorne and Elliott (2005). Full data for some participants were removed from the data set based on recommendations by Rivers et al. (2012). Following these recommendations, we excluded data for four participants because they had very low (under 50) MSCEIT-YV scores and low cognitive ability (scoring below 70 on each CAT subscale). These adolescents struggled with the meaning of the language used in the Youth-ESES so all data related to these four participants were removed from the analyses.

### **Confirming the factor structure of the Youth-ESES**

First, the suitability of the data for factor analysis was examined. Inspection of the correlation matrix revealed the presence of many coefficients of .30. Also, the Kaiser–Meyer–Oklin value was .92, exceeding the recommended value of .60 (Kaiser, 1974). Bartlett's test of sphericity (Bartlett, 1954) reached statistical significance,  $X^2(496, N = 192) = 2865.59, p = .001$ , supporting the factorability of the correlation matrix.

Second, we examined two alternative factor structures of the Youth-ESES. Model fit indices from the first CFA revealed that a one-factor model failed to fit the observed data,  $\chi^2(464) = 934.17, p = .001$ , NFI = .74, CFI = .82, RMSEA = .082 ( $CI_{.95} = .075, .089$ ). CFA examining a four factor solution revealed a better fit to the current data,  $\chi^2(314) = 676.53, p < .001$ , NFI = .97, CFI = .93, RMSEA = .055 ( $CI_{.95} = .049, .061$ ), with factor loadings for items of each subscale  $\geq .50$  (see Table 1 for full details). Correlations

between the subscales and Cronbach's alphas can be found in Table 2. It shows that correlations between subscales were above .65 and correlations between subscales and the total Youth-ESES score were above .82. This is higher than was found for the adult ESES (Dacre Pool & Qualter, 2012a). Further, Cronbach's alpha for these four subscales for this sample of youth were good, ranging from .69 (perceiving emotions through facial expressions and body language) to .88 (using and managing own emotions).

### **Correlations among the Study Variables**

Correlations between the respondents' scores on the Youth-ESES subscales, ability EI (MSCEIT-YV) subscales, and cognitive ability (CAT scores) can be found in Table 2. Findings showed large correlations ( $> .60$ ; Cohen, 1988) between all Youth-ESES subscales. The Youth-ESES subscales also showed significant small to moderate correlations (.19 to .37) with all MSCEIT-YV branches except Perceiving Emotions (non-significant), and were either weakly ( $< .20$ ) or not significantly related to cognitive ability. In contrast, all four branches of the MSCEIT-YV were significantly correlated with cognitive ability.

Next, we examined partial correlations between each Youth-ESES subscale and the four MSCEIT-YV branches, controlling for the other 3 ESES subscales. These analyses were designed to show whether there were unique relationships between the MSCEIT branches and each Youth-ESES subscale, which is an important issue given that the ESES subscales are highly correlated. Findings (Table 3) showed that only the Identifying and Understanding One's Own Emotions Youth-ESES subscale was correlated with branches of the MSCEIT-YV, specifically the Using and Managing One's Own Emotions branches, when controlling for other aspects of ESE. This suggests that



feeling confident that one can identify and understand emotions is uniquely associated with actual tests of understanding and managing emotions when controlling for other ESE dimensions.

### **Discussion**

This study explored the factor structure of the revised ESES for youth. Confirmatory factor analyses showed that the multidimensional structure found by Dacre Pool and Qualter (2012a) for the adult version of the ESES also fit data from young adolescents who had completed the Youth-ESES. However, consistent with the developmental psychometric theory (Soto et al., 2008), the four ESES subscales were less differentiated in the current sample of young adolescents (inter-scale correlations of .65 to .78) compared to adult data (.52 to .61; Dacre Pool & Qualter, 2012a). This suggests that there is a strong general factor underlying young adolescents' ESES scores, and future studies might test a second-order factor model as an alternative structure for the Youth-ESES. This is further supported by the fact that only the Identifying and Understanding One's Own Emotions subscale of the Youth-ESES was correlated with MSCEIT-YV branches, specifically Understanding and Managing, when controlling for the other ESES subscales.

The high inter-scale correlations observed in the current sample may also partially reflect elevated acquiescent responding that typically characterizes self-reports of children and young adolescents (Soto et al., 2008). More importantly, the four Youth-ESES subscales showed acceptable levels of internal consistency (Cronbach's alphas of .69 to .87), suggesting that the adolescents were able to comprehend the revised items sufficiently enough to formulate reliable responses.

We complement previous research by showing that scores on the Youth-ESES were correlated with MSCEIT-YV scores, but were not associated with cognitive ability. In support of many previous studies (e.g., Joseph & Newman, 2010) we found evidence that ability EI is associated with cognitive ability. Our findings support the notion that ability EI and ESE are distinct because there were only small to moderate associations between measures of these two constructs. In the current study, it seems that having high ability EI does not mean that one feels able to use those skills in emotional situations. Future research will want to examine the prospective relationships between ESE and ability EI and determine whether they both impact behaviour and ultimately predict social and psychological outcomes. Such effects are found in university samples (Dacre Pool & Qualter, 2012a; Nightingale et al., 2013; Tariq, Qualter, Roberts, Appleby, & Barnes, 2013), but future work should examine the association between ESE and ability EI and how they both impact psychosocial functioning for young adolescents.

Once the direct effects of ESE and its interaction with ability EI are fully understood, it is possible that interventions will be designed to increase ESE as well as ability EI. Recently, there has been an increase in interventions designed to increase emotional functioning (Durlak et al., 2011; Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009), but the emphasis is often only on increasing emotional skills to improve social and emotional functioning. Those interventions designed to increase both ESE and EI have been shown to be effective (Dacre Pool & Qualter, 2012b). Other authors support this need for the development of ESE and EI, arguing that both promote positive ways of coping with stressful situations (Davis & Humphrey, 2012), which leads to effective adaptation (Keefer, Parker, & Saklofske, 2009).

The current study shows that the adapted Youth-ESES can be used to measure ESE in young adolescents. Given that the Youth-ESES includes no words that cannot be understood by children above 10 years of age, it could also be used with older children and should not be restricted to young adolescents. However, validation of the measure for use with older children should be explored. Also, we recommend further adaptations of some items so that the measure can be used with children younger than 10 years of age; those items that include words that cannot be understood by children younger than 10 could be further adapted so those items are easier to understand by younger children. Adapting the measure as we have done in the current study, using the mean age of acquisition ratings could allow the measure to be used with younger children. Following validation of an ESE measure for young children, empirical research should examine the impact of ESE and ability EI on social and psychological outcomes for young children. Because the MSCEIT-YV is only valid for young adolescents and adolescents, other measures of emotional skills should be used, including the Test of Emotion Comprehension (Pons & Harris, 2000) that assesses nine components of emotional understanding and can be used with 6- to 12-year-old children (Pons, Lawson, Harris, & de Rosnay, 2003).

There are some limitations to the current study that should inform future work. First, this study did not test measurement invariance of the factor structure across age groups, so cannot yet claim that the Youth-ESES dimensions are measured in the same way and on the same scale as in adults. In the current study, we assumed invariance across age and gender for the adapted version of the ESES, but future work should test these assumptions statistically. Due to sample size requirements needed for invariance

testing, we were unable to explore whether the same number of ESE dimensions and pattern of loadings exist across male and female adolescents, but this should be a focus of future research. Further, given that previous research shows how gender differences in ESE influence academic performance (Bandura et al., 2003; Qualter, Gardner, Pope, Hutchinson, & Whiteley, 2012), the associations between ESE and other variables should be investigated across gender in future studies. Second, the current sample was recruited from one school that could lead to potential bias in the findings. Given the complex interplay between socioeconomic status and self-efficacy (Bandura, 1997; Bandura et al., 2001), future work should recruit participants from a wider range of socioeconomic backgrounds. Third, this study did not test convergent validity of the Youth-ESES with other measures of ESE and this limits the conclusion that the adapted scale indeed assesses ESE. This argument also applies to possible convergence with trait EI measures and more generally the trait EI construct. It has been argued that ESE is a large component of trait EI (Petrides & Furnham, 2003), but the two are not interchangeable (Dacre Pool & Qualter, 2012a; Kirk et al., 2008). That work reiterates that Trait EI relates to the affective aspects of personality (i.e., the broad range of lower-order personality traits and self-perceptions such as happiness, optimism, adaptability and assertiveness; Petrides & Furnham 2001; (Petrides, Furnham, & Mavroveli, 2007), but ESE is a more refined construct that relates to an individual's confidence that they will be able to perceive, use, understand and manage emotions in situations that require them to do so.

### **Conclusion**

The results of the current study suggest that the adapted version of the ESES for youth can be reliably used with young adolescents. The measure produced the same four

subscales as described for the adult version of the ESES (Dacre Pool & Qualter, 2012a).

These subscales provide information about how confident a young person feels in terms of four domains of emotional functioning: (1) using and managing their own emotions, (2) identifying and understanding their own emotions, (3) dealing with emotions in others, and (4) perceiving emotions through facial expressions and body language.

However, there were large correlations between these subscales suggestive of the fact that there may be a strong general factor underlying young adolescents' ESES scores.

Further, ESES scores were largely independent from ability EI scores, suggesting that adolescents' beliefs about whether they can successfully perceive, use, understand, and manage emotional information are different to whether they have these actual skills.

When controlling for all other ESES subscales, only the Identifying and Understanding subscale was correlated with subscales of the MSCEIT-YV, again, suggesting that among young adolescent there is a strong general ESE factor. This should be further tested empirically in future research. To conclude, the current study provides the necessary foundation for future research looking into the unique contributions of ESE to adolescents' short-term and long-term outcomes.

### References

- Alessandri, G., Caprara, G.V., Eisenberg, N., & Steca, P. (2009). Reciprocal relations among self-efficacy beliefs and prosociality across time. *Journal of Personality, 77*, 1229-1259.
- Arbuckle, J.L. (2012). *IBM SPSS Amos 21. User's Guide*. Armonk: IBM Corporation.
- Bandura, A. (1982). The self and mechanisms of agency. In J. Suls (Ed.), *Psychological perspectives on the self* (Vol. 1). Hillsdale, NJ: Erlbaum.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. (1999). Self-efficacy: Toward a unifying theory of behavioral change. In R. F. Baumeister (Ed.) (1999). *The self in social psychology. Key readings in social psychology*, 285-298. Philadelphia, PA: Psychology Press/Taylor & Francis.
- Bandura, A., Barbaranelli, C., Caprara, G.V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*, 187-206. doi: 10.1111/1467-8624.00273
- Bandura A., Caprara, G.V., Barbaranelli, C., Gerbino, M., & Pastorelli, C. (2003). Role of affective self-regulatory efficacy in diverse spheres of psychosocial functioning. *Child Development, 74*, 769-782. doi: 10.1111/1467-8624.00567
- Bartlett, M.S. (1954). A note on the multiplying factors for various chi square approximations. *Journal of the Royal Statistical Society, 16* (Series B), 296-298.
- Browne, M.W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods and Research, 21*, 230-258. doi: 10.1177/0049124192021002005

- Caprara, G.V. , Alessandri, G., Barbaranelli, C. (2010). Optimal functioning: contribution of self-efficacy beliefs to positive orientation. *Psychotherapy and Psychosomatics*, 79, 328-330. doi: 10.1159/000319532
- Caprara, G. V., Alessandri, G., Trommsdorff, G., Heikamp, T., Yamaguchi, S., & Suzuki, F. (2012). Positive orientation across three cultures. *Journal of Cross Cultural Psychology*, 43, 77–83. <http://dx.doi.org/10.1177/0022022111422257>.
- Caprara, G. V., Giunta, L. D., Eisenberg, N., Gerbino, M., Pastorelli, C., & Tramontano, C. (2008). Assessing regulatory emotional self-efficacy in three countries. *Psychological Assessment*, 20(2), 227–237.
- Caprara, G.V., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G.M., Barbaranelli, C. & Bandura, A. (2008). Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement. *Journal of Educational Psychology*, 100, 525–534. doi: 10.1037/0022-0663.100.3.525
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New Jersey: Lawrence Erlbaum.
- Dacre Pool, L., & Qualter, P. (2012a). The dimensional structure of the Emotional Self-Efficacy Scale (ESES). *Australian Journal of Psychology*, 64, 147–154. doi:10.1111/j.1742-9536.2011.00039.x
- Dacre Pool, L., & Qualter, P. (2012b). Improving emotional intelligence and emotional self-efficacy through a teaching intervention for university students. *Learning and Individual Differences*, 22, 306-312. doi: 10.1016/j.lindif.2012.01.010

- Dacre Pool, L., & Qualter, P. (2013). Emotional self-efficacy, graduate employability, and career satisfaction: Testing the associations. *Australian Journal of Psychology, 65*(4), 214-223. doi: 10.1111/ajpy.12023
- Davis, S.K., & Humphrey, N. (2012). The influence of emotional intelligence (EI) on coping and mental health in adolescence: Divergent roles for trait and ability EI. *Journal of Adolescence, 35*, 1369-1379. doi:10.1016/j.adolescence.2012.05.007
- Deary, I. J., Strand, S., Smith, P., & Fernandes, C. (2007). Intelligence and educational achievement. *Intelligence, 35*, 13–21.
- Durlak, J.A., Weissberg, R.P., Dymnicki, A.B., Taylor, R.D., & Schellinger, K.B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development, 82*(1), 405-432. doi: 10.1111/j.1467-8624.2010.01564.x
- Galla, B.M., & Wood, J.J. (2012). Emotional self-efficacy moderates anxiety-related impairments in math performance in elementary school-age youth. *Personality and Individual Differences, 52*, 118-122. doi: 10.1016/j.paid.2011.09.012
- Hawthorne, G., & Elliott, P. (2005). Inputting cross-sectional missing data: A comparison of common techniques. *Australian and New Zealand Journal of Psychiatry, 39*, 583–590. doi: 10.1080/j.1440-1614.2005.01630.x
- Joseph, D.L., & Newman, D.A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology, 95*(1), 54–78. doi: 10.1037/a0017286
- Kaiser, H. (1974). An index of factorial simplicity. *Psychometrika, 39*, 31–36.



- Keefer, K.V., Parker, J.D.A., & Saklofske, D.H. (2009). Emotional intelligence and physical health. In C. Stough, D.H. Saklofske, & J.D.A. Parker (Eds.), *Assessing emotional intelligence: Theory, research, and applications* (pp. 191-218). New York: Springer.
- Kirk, B.A., Schutte, N.S., & Hine, D.W. (2008). Development and preliminary validation of an emotional self-efficacy scale. *Personality and Individual Differences, 45*, 432-436. doi: 10.1016/j.paid.2008.06.010
- Kuperman, V., Stadthagen-Gonzalez, H., & Brysbaert, M. (2012). Age-of-acquisition ratings for 30,000 English words. *Behavior Research Methods, 44*, 978-990. doi: 10.3758/s13428-012-0210-4
- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*(404), 1198-1202. doi:10.2307/2290157
- Marsh, H.W., Hau, K.T., & Wen, Z.L. (2004). In search of golden rules: Comment on hypothesis testing approaches to setting cutoff values for fit indexes and dangers in overgeneralising Hu & Bentler (1999) findings. *Structural Equation Modeling, 11*, 320-341. doi: 10.1207/s15328007sem1103\_2
- Mayer, J. D., Roberts, R.D., & Barsade, S.G. (2008). Human abilities: Emotional intelligence. *Annual Review of Psychology, 59*, 507-536.  
doi:10.1146/annurev.psych.59.103006.093646
- Mayer, J.D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds). *Emotional development and emotional intelligence: Implications for educators* (pp. 3-31). New York: Basic Books.

- Mayer, J.D., Salovey, P., & Caruso, D.R. (2004). Emotional intelligence: Theory, findings and implications. *Psychological Inquiry, 15*, 197-215. doi: 10.1207/s15327965pli1503\_02
- Mayer, J.D., Salovey, P., & Caruso, D.R. (2005). *The Mayer-Salovey-Caruso Emotional Intelligence Test – Youth Version (MSCEIT–YV). Research version*. Toronto: Multi Health Systems.
- Muris, P. (2001). A brief questionnaire for measuring self-efficacy in youths. *Journal of Psychopathology and Behavioral Assessment, 23*, 145-149.
- Muris, P., Mayer, B., Reinders, E., & Wesenhagen, C. (2011). Person-related protective and vulnerability factors of psychopathology symptoms in nonclinical adolescents. *Community Mental Health Journal, 47*, 47-60. doi: 10.1007/s10597-009-9249-9
- Nelis, D., Quoidbach, J., Mikolajczak, M., & Hansenne, M. (2009). Increasing emotional intelligence: (How) is it possible? *Personality and Individual Differences, 47*, 36–41. doi: 10.1016/j.paid2009.01.046
- Nightingale, S.M., Roberts, S., Tariq, V., Appleby, Y., Barnes, L., Harris, R., Dacre Pool, L., & Qualter, P. (2013). Trajectories of university adjustment in the United Kingdom: Emotion management and emotional self-efficacy protect against initial poor adjustment. *Learning and Individual Differences, 27*, 174-181. doi: 10.1016/j.lindif.2013.08.004
- Petrides, K.V., & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*, 425–448. doi: 10.1002/per.416

- Petrides, K.V., & Furnham, A. (2003). Trait emotional intelligence: Behavioural validation in two studies of emotion recognition and reactivity to mood induction. *European Journal of Personality, 17*, 39–57. 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. Roberts (Eds.), *Emotional intelligence: Knowns and unknowns* (Series in Affective Science) (pp. 151-166). Oxford: Oxford University Press.
- Pons, F., & Harris, P.L. (2000). *TEC (Test of Emotion Comprehension)*. Oxford: Oxford University Press.
- Pons, F., Lawson, J., Harris, P., & de Rosnay, M. (2003). Individual differences in children's emotion understanding: Effects of age and language. *Scandinavian Journal of Psychology, 44* (4), 347– 353. doi:10.1111/1467-9450.00354  
doi: 10.1348/026151010X502999
- Qualter, P., Gardner, K., Pope, D., Hutchinson, J.M., & Whiteley, H.E. (2012). Ability emotional intelligence, trait emotional intelligence, and academic success in British secondary schools: A 5-year longitudinal study. *Learning and Individual Differences, 22*(1), 83-91. doi: 10.1016/j.lindif.2011.11.007
- Rivers, S.E., Brackett, M.A., Reyes, M.R., Mayer, J.D., Caruso, D.R., & Salovey, P. (2012). Measuring emotional intelligence in early adolescence with the MSCEIT-YV: Psychometric properties and relationship with academic performance and psychosocial functioning. *Journal of Psychoeducational Assessment, 30*(4), 344-366. doi: 10.1177/10734282912449443

- Tariq, V., Qualter, P., Roberts, S., Appleby, Y., & Barnes, L. (2013). Mathematical literacy in undergraduates: The role of gender, emotional intelligence and emotional self-efficacy. *International Journal of Mathematical Education in Science & Technology*, *44*, 1143-1159. doi: 10.1080/0020739X.2013.770087
- Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2008). The developmental psychometrics of Big Five self-reports: Acquiescence, factor structure, coherence, and differentiation from ages 10 to 20. *Journal of Personality and Social Psychology*, *94*, 718–737. doi: 10.1037/0022-3514.94.4.718

**Table 1. Standardised factor loadings for Four-Factor CFA model for the Emotional Self-Efficacy Scale for Youth (Youth-ESES).**

Factor and Items	Factor loading CFA
<b><u>Factor 1: Using and Managing your own emotions</u></b>	
8. I know how to make myself feel better when I am in a bad mood.	.62
3. When I feel unhappy, I know how to make myself happy again.	.51
18. I know how to use good mood to come up with new ideas.	.74
30. I can get in the right mood to come up with many new ideas.	.69
14. If needed, I know how to change my mood to match the occasion, e.g. make myself feel happy or sad.	.65
12. I know how to control my feelings when I am stressed.	.61
22. I know how to make myself feel calm and focused when needed at school.	.66
20. I can calm myself down when feeling angry.	.55
6. I know how to use good feelings to be creative in	.69

Factor and Items	Factor loading CFA
solving problems.	
26. I can make myself feel full of energy and motivated to do well in sports.	.50
<b><u>Factor 2: Identifying and Understanding your own emotions</u></b>	
27. I can tell what makes me feel different emotions.	.65
11. When I feel unhappy, I can tell what has caused it.	.54
1. I can tell when I feel unhappy or angry.	.55
9. I can tell when I am feeling happy.	.50
19. I can tell why my feelings change.	.55
4. I can tell what makes me feel good.	.64
<b><u>Factor 3: Dealing with Emotions in Others</u></b>	
7. I know what makes other people feel happy.	.69
24. I know how to help another person calm down when he or she is feeling angry	.70
31. I can figure out what made someone feel the way they feel.	.71
32. I can help someone think positively when their pet has gone missing or cheer them up when they have lost someone.	.67

Factor and Items	Factor loading CFA
15. I can tell what makes other people feel unhappy.	.59
2. I know how to cheer someone up when they feel unhappy.	.53
23. I can tell why other person's feelings change.	.65
13. I can tell when someone is feeling a pleasant emotion.	.62
<b><u>Factor 4: Perceiving Emotion through Facial Expressions and Body Language</u></b>	
25. I am able to tell what feelings I show on my face.	.68
21. I can tell what other people feel from the way their body changes.	.61
17. I can tell what I feel from the way my body behaves.	.66

Notes: CFA model used maximum likelihood estimation. All factor loadings were significant ( $p < .05$ ). Cronbach's alphas were as follows: Factor 1 = .88, Factor 2 = .75, Factor 3 = .85, Factor 4 = .69.