Psychometric Properties of Farsi Version of Trait Emotional Intelligence Questionnaire- Adolescent Short Form

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Abstract

Background: Emotional Intelligence (EI) is a kind of social intelligence and the main aspect of social maturity that improves the psychological health of adolescents. Based on the theory of Petrides, EI is made up of a distinctive series of traits and emotional self-perceptions related to the personality dimensions named trait emotional intelligence. Trait Emotional Intelligence Questionnaire-Adolescent Short Form (TEIQue-ASF) is one of the few instruments for evaluating trait EI in adolescents.
Objectives: This study aimed to examine the psychometric properties of TEIQue-ASF in Iranian adolescents.
Methods: In this cross-sectional study, the sample consisted of 550 high school students who were selected through randomized cluster sampling from four high schools in Tehran. In addition to the TEIQue-ASF scale, we used the Schutte Emotional Intelligence Scale (SEIS) and the Junior Eysenck Personality Questionnaire (JEPQ) in this study. All analyses were carried out by IBM SPSS-22.0.
Results: The results revealed high internal consistency (Cronbach's α: 0.86, $P < 0.001$) and subscales of the TEIQue-ASF were significantly correlated with the subscales of SEIS ($P < 0.05$), psychoticism, neuroticism, and extraversion ($P < 0.05$). Factor analysis also verified the original four-factor structure (well-being, self-control, emotionality, and sociability).
Conclusions: The Farsi version of TEIQue-ASF is a reliable and valid scale to assess the trait emotional intelligence of Iranian adolescents and may, therefore, be a considerable measure for assessing trait emotional intelligence in educational and clinical contexts among adolescents.

Keywords: Adolescence, Trait Emotional Intelligence, Psychometric Properties, TEIQue-ASF

1. Background

Emotional Intelligence (EI) is a kind of social intelligence and the main aspect of social maturity that increases the psychological health of adolescents (1). Emotional intelligence shows how individuals identify, understand, manage, and apply their own and others' emotions (2). It is categorized into two types including ability emotional intelligence (or cognitive-emotional ability) and trait emotional intelligence (or trait emotional self-efficacy). Ability emotional intelligence (ability EI) pertains emotion-related cognitive ability that must be measured through IQ- like performance tests, whereas trait emotional intelligence (trait EI) refers to a distinctive series of traits and emotional self-perceptions placed in the lower levels of personality hierarchies related to the person's perceptions of his/her emotional abilities measured

through self-report tests (3, 4). This concept relates to and fits within personality models and has moderate to strong correlations with high order personality aspects, specifically with the Five-Factor Model (FFM) factors (5).

Trait EI is a useful concept in career success, emotion regulation, and subjective well-being so that many studies suggest that trait EI is a strong positive predictor of well-being and mental health, as well as a strong negative predictor of psychopathology that relates to marital satisfaction, interpersonal relationship, educational attainment, and academic performance (6-12). However, most of these studies investigated trait EI in adult populations and there are fewer studies looking at adolescent EI traits. Also, only have two measures been developed for assessing adolescent EI traits, including Emotional Quotient Inventory: Youth Version and Trait Emotional Intelligence Questionnaire-Adolescent and Child forms (13).

As mentioned, the Trait Emotional Intelligence Questionnaire-Adolescent Short Form (TEIQue-ASF) is a trait form of emotional intelligence that has been particularly designed for adolescents. The TEIQue-ASF has been adopted from the adults' form of the Trait Emotional Intelligence Questionnaire (TEIQue) that is simplified in terms of wording and syntactic complexity. Like TEIQue, it is based on four main dimensions, including well-being (related to dispositional mood), self-control (related to the regulation of emotions and impulses), emotionality (related to the perception and expression of emotions), and sociability (related to the interpersonal utilization and management of emotions) (14-16). It is made up of 15 facets each of which consists of two questions. This instrument has an extensive variety of significant applications in educational and clinical contexts and can be suitable for clinical screening (17-19). However, in contrast to adult forms (20-28), TEIQue-ASF has received less attention in psychometric research and some research used adult forms in adolescent populations (13, 29-33). Moreover, in Iran, there is no standardized and adapted tool for investigating the trait EI of children and adolescents.

2. Objectives

To handle this shortcoming, the main aim of the present study was to examine the psychometric properties of the Farsi version of TEIQue-ASF in an Iranian sample of adolescents. The hypothesis was that the TEIQue-ASF correlates significantly with SEIS and EPQ. Also, factor analysis showed that the scale is based on four factors, like its original version.

3. Methods

3.1. Participants

In this cross-sectional study, 600 adolescents participated but 550 students completely filled out the questionnaires. The sample was selected among high school students through randomized cluster sampling from four high schools in three regions of Tehran. Then, two classes were randomly chosen in each school. The sufficient sample size for factor analysis would be 3 to 20 times the number of variables. Comrey and Lee also suggested a sample size of 100 as poor, 200 as fair, 300 as good, 500 as very good, and 1,000 or more as excellent (34). Considering that TEIQue-ASF contains 30 items, 600 adolescents were recruited in this study. The inclusion criteria in this study were the age of ≤ 18 and being a student and exclusion criteria were failing to respond to all questions, any physical

condition that would limit the ability of the student to participate in the study, and parental refusal to give informed consent. Generally, the mean age of the sample was 15.41 years (SD = 2.08) and 58% (n = 320) were girls.

3.2. Procedure

First, the TEIQue-ASF was translated into Farsi by two professors of psychology and an English language expert. Translations were combined in a single form in joint consultation and challenges were eliminated. The Farsi version was presented to two English experts for back-translation. The two English versions were matched up and the gap between them was resolved. Subsequently, 30 participants were selected through convenience sampling to assess the face validity of the questionnaire. The participants were 15 females and 15 males with the age range of 14 - 17 years who willingly took part in the study. The questionnaire was presented to them for evaluating the appropriateness, complexity, difficultness, and understandability of the items.

Furthermore, the questionnaire was given to nine faculty members of psychology and psychiatry who were familiar with the concepts to investigate the items' clarity, simplicity, and relevancy using a Likert five-point scale, from "not at all important" to "highly important." The impact score was computed for each statement and items with scores of > 1.5 were considered acceptable. Besides, the experts were requested to evaluate the content validity using a three-point rating system (irrelevant, relevant but not essential, and totally essential) and CVR was calculated for the items. According to the Lawshe table, the acceptable CVR for the nine experts was 0.78 (35). Subsequently, for assessing CVI, the experts were required to analyze the items on a four-point Likert scale based on Waltz and Bausell's method (36). After translating and examining the face and content validity of the scale, the next phase of the study necessitated evaluating the reliability and validity of TEIQue-ASF. For examining the validity, we used the Schutte emotional intelligence scale and Eysenck's adolescent personality. After preparing the questionnaires and obtaining ethical approval from the Ethics Committee of Iran University of Medical Sciences (IR.IUMS.REC 1393.93-04-121-25516), letters with detailed information about the study's aims were sent to the principals of schools and parents. Thus, parents were asked to proclaim their consent for the participation of their children in the study. Pupils completed all questionnaires in their classrooms.

3.3. Measures

3.3.1. Trait Emotional Intelligence Questionnaire-Adolescents Short Form

This questionnaire contains 30 items, two for each of the 15 facets, designed by Petrides [37] to measure the overall score of trait emotional intelligence of adolescents. Items were answered based on a Likert scale with seven options from completely agree (7) to completely disagree (1). The total score range is 30 to 210. Higher scores show higher levels of trait emotional intelligence. This questionnaire has an acceptable Cronbach's alpha of 0.83 and significantly correlates with core self-evaluations, somatic complaints, self-report psychopathology, and personal strengths [29, 38].

3.3.2. Schutte Emotional Intelligence Scale

This tool was developed by Schutte based on Mayer and Salovey's emotional intelligence theory in 1990 to assess emotional intelligence. It has 33 items that are rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) and the total score ranges from 33 to 165 so that higher total scores indicate higher EI. Some factor analytic studies found the unifactorial structure of the scale [39, 40]; however, the most widely applied one is a four-factor solution based on Petrides and Furnham study [41]. Its Cronbach's alphas were reported ranging from 0.84 to 0.90, indicating high internal consistency [39, 42]. Cronbach's alpha coefficient of the Farsi version of Schutte Emotional Intelligence Scale (SEIS) is 0.88 and test-retest reliability is reported to be 0.83 for two weeks [43].

3.3.3. Junior Eysenck Personality Questionnaire

This self-report scale consists of 81 "yes-no" items and was developed by Hans Eysenck in 1985. The questionnaire includes three factors, extraversion-introversion, neuroticism, and psychoticism. Additionally, Junior Eysenck Personality Questionnaire (JEPQ) contains a Lie scale (L), which detects socially desirable responding [44, 45]. The Farsi version of JEPO was standardized by Rahiminezhad in 2003 with 90 items (nine extra items including four items in extraversion factor and five items in neuroticism) and Cronbach's alpha coefficients for extraversion, neuroticism, psychoticism, and lie detector were 0.82, 0.72, 0.70, and 0.82, respectively [45].

3.4. Statistical Analyses

All analyses were carried out by IBM SPSS for Windows, V. 22.0 [46]. First, participants' sex and age were calculated through descriptive statistics. Then, we analyzed internal consistency, convergent and divergent validity and factor analysis of the Farsi version of TEIQue-ASF.

4. Results

4.1. Face Validity and Content Validity

The results of face validity showed that the impact scores for all items were above 1.5 and all participants mentioned that all the items were simple, clear, and understandable. Thus, all the items remained in the questionnaire.

The results of content validity indicated that CVR scores for all items were above 0.78 and all items were rated to be related and thus, remained in the questionnaire. Moreover, based on Waltz and Bausell's index [36], CVI scores for all items were above 0.79 and considered acceptable; therefore, all the items remained in the questionnaire.

4.2. Internal Consistency

To evaluate the reliability, we used internal consistency and split-half tests. Internal consistency of TEIQue-ASF, well-being, self-control, emotionality, and sociability subscales was 0.86, 0.72, 0.64, 0.64, and 0.73, respectively. Also, the results of split-half reliability were desirable and acceptable (Cronbach's alpha of the first half was 0.79 and of the second half was 0.81). All the items remained in the questionnaire and none of them was omitted.

4.3. Convergent/Divergent Validity of TEIQue-ASF

Correlations between the variables of the study are summarized in Table 1. The TEIQue-ASF's factors were positively correlated with the subscales of the SEIS that ranged from 0.1 to 0.4 and were significant (P < 0.05).

The relationship between emotional intelligence traits and Eysenck's personality inventory is reported in Table 2. According to the results, there was a significant positive correlation between the factors of the EI traits and extraversion and a negative correlation with neuroticism and psychoticism, ranging from 0.1 to 0.5 (P < 0.05).

4.4. Factor Analysis

Exploratory Factor Analysis (EFA) was used for the whole Farsi questionnaire to answer the question that what factors existed in the questionnaire. The emotional intelligence traits questionnaire contains 30 items; therefore, factor analysis was performed based on a 30 * 30 correlation matrix. The results (χ^2 = 2906.47 and degree of freedom of 435) showed that the KMO was desirable, which indicated the adequacy of sampling. The significance of the Bartlett test showed that the factor analysis was based on the correlation matrix. Since the non-rotational factor matrix and the factor loadings did not provide a significance structure, the extracted factors were transferred to a new

Table 1. Correlation Between Factors of Emotional Intelligence Traits and Schutte Emotional Intelligence

Factors	Optimism/Emotion Regulation	Emotion Evaluation	Social Skills	Emotional Application
Well-being	0.40**	0.23**	0.15**	0.20**
Self-control	0.30**	0.25**	0.12**	0.10**
Emotionality	0.17**	0.35**	0.24**	0.37**
Sociability	0.24**	0.26**	0.30**	0.22**

Table 2. Correlation Between Emotional Intelligence Traits and Eysenck's Personality Inventory

Factors	Lie Detector	Psychosis	Neuroticism	Extraversion
Well-being	0.24**	-0.14**	-0.46**	0.20**
Self-control	0.21**	-0.10**	-0.50**	0.23**
Emotionality	-0.13**	-0.12**	-0.29**	0.09**
Sociability	0.12**	-0.26**	-0.16**	0.005

axis using orthogonal rotation to discover the whole items of the questionnaire and detect its simple structure. The factor loading table shows that all extracted factor loadings are higher than 0.47, ranging from 0.47 to 0.78; the distribution of the items in factors corresponds to the original version (Table 3).

5. Discussion

The purpose of the present study was to investigate the psychometric properties of TEIQue-ASF in Iranian adolescents. According to the reliability, the score of the Cronbach's alpha indicated good reliability, like other versions of TEIQue-ASF (16, 29, 47, 48). The face validity and content validity results showed that the subscales and items of the TEIQue-ASF had high validity. These results were consistent with the findings of other studies (30).

The results of the convergent and divergent validity of the Farsi version of the TEIQue-ASF demonstrated that TEIQue-ASF factors were positively correlated with the subscales of the SEIS (P < 0.05). However, the correlation values were low to moderate; it can be justified by the theoretical distinctions between the measures, varying in their content and coverage of the trait EI domain (49). Although all the subscales of both measurements were related, some of them were correspondingly more correlated. That is to say, the optimism/emotion regulation subscale of SEIS was more correlated with well-being and self-control, in the light of the fact that the well-being subscale, which consists of optimism, happiness, and self-esteem facets, and the self-control subscale, which includes emotion regulation, impulsiveness, and stress management facets, assess common and identical concepts that the optimism/emotion regulation subscale of SEIS evaluates. Furthermore, as expected, emotionality factor, which consists

of emotional perception, emotion expression, and empathy, was more associated with the emotional application and emotion evaluation subscales of SEIS and sociability factor, which contains emotional management, assertiveness, and social awareness, was more related to the social skill subscale; somewhat this means that these factors assess the same features. The relationship between EI traits subscales and Eysenck's adolescent personality demonstrated that trait EI was negatively correlated with Neuroticism (N) and Psychoticism (P) and positively associated with Extraversion (E). These results were in line with the findings of many studies showing the overlap between trait EI and personality traits (4, 25, 50-52). Additionally, the findings showed that the correlation of neuroticism and extraversion with TEIQue-ASF was stronger than that of psychosis. This finding is consistent with the underlying theory that considers N and E for the regulation of negative and positive mood, respectively, and that mood regulation is the major characteristic of trait EI. Also, N and E are the stronger personality traits than other traits that might be correlated with lower levels of personality hierarchy, trait EI (5, 13, 53, 54).

The results of the factor analysis supported the utilization of the four-factor structure reported by the original version in Iranian adolescents; all extracted factor loadings were acceptable and items distribution in factors corresponded with the original one. The first factor derived from factor analysis with varimax rotation was self-control, followed by factors including well-being, emotionality, and sociability, in sequence (29, 55).

Finally, some limitations of the present study should be acknowledged. In this study, all the variables were measured through self-report scales and other sources of informants such as teachers and parents or observer-rated

Table 3. Factor Loadings After Varimax Rotation of Emotional Intelligence Traits Questionnaire

Items	Statements	Factor Loadings	Subscales
1	It's easy for me to talk about my feelings to other people.	0.69	Emotionality
2	I often find it hard to see things from someone else's point of view.	0.74	Emotionality
3	I'm a very motivated person.	0.47	Well-being
4	I find it hard to control my feelings.	0.59	Self-control
5	My life is not enjoyable.	0.78	Well-being
6	I'm good at getting along with my classmates.	0.76	Sociability
7	I change my mind often.	0.54	Self-control
8	I find it hard to know exactly what emotion I'm feeling.	0.52	Emotionality
9	I'm comfortable with the way I look.	0.63	Well-being
10	I find it hard to stand up for my rights.	0.52	Sociability
11	I can make other people feel better when I want to.	0.55	Sociability
12	Sometimes, I think my whole life is going to be miserable.	0.51	Well-being
13	Sometimes, others complain that I treat them badly.	0.56	Emotionality
14	I find it hard to cope when things change in my life.	0.63	Sociability
15	I'm able to deal with stress.	0.69	Self-control
16	I don't know how to show the people close to me that I care about them.	0.61	Emotionality
17	I'm able to "get into someone's shoes" and feel their emotions.	0.63	Emotionality
18	I find it hard to keep myself motivated.	0.69	Self-control
19	I can control my anger when I want to.	0.53	Self-control
20	I'm happy with my life.	0.53	Well-being
21	I would describe myself as a good negotiator.	0.61	Sociability
22	Sometimes, I get involved in things I later wish I could get out of.	0.74	Self-control
23	I pay a lot of attention to my feelings.	0.55	Emotionality
24	I feel good about myself.	0.50	Well-being
25	I tend to "back down" even if I know I'm right.	0.65	Sociability
26	I'm unable to change the way other people feel.	0.57	Sociability
27	I believe that things will work out fine in my life.	0.61	Well-being
28	Sometimes, I wish I had a better relationship with my parents.	0.52	Emotionality
29	I'm able to cope well in new environments.	0.50	Sociability
30	I try to control my thoughts and not worry too much about things.	0.49	Self-control

scales were not used. It is important to note that the personality questionnaire was only used for assessing the construct validity of TEIQUE-ASF. It would be essential to consider well-being or emotion regulation measures to confirm the criterion validity of TEIQue-ASF in future studies. Besides, the sample of the study was recruited from students of Tehran high schools; this may limit the generalizability of results. Future research should replicate the results among secondary school students in other regions and cities. Despite these limitations, the results showed that the Farsi version of TEIQue-ASF was a reliable and valid scale to assess the trait emotional intelligence of Iranian adolescents and can be usefully applied in research to investigate the role of trait EI in adolescence. Moreover, since trait EI is a powerful predictor of clinical variables [56], this measure may have a critical predicting role to play with psychopathological outcomes.

References

1. Lau PS, Wu FK. Emotional competence as a positive youth development construct: A conceptual review. *ScientificWorldJournal*. 2012;**2012**:975189. doi: 10.1100/2012/975189. [PubMed: 22666176]. [PubMed Central: PMC3361327].

2. Nelis D, Quoidbach J, Mikolajczak M, Hansenne M. Increasing emotional intelligence: (How) is it possible? *Pers Individ Differ*. 2009;**47**(1):36–41. doi: 10.1016/j.paid.2009.01.046.

3. Petrides KV. Ability and trait emotional intelligence. *The Wiley-Blackwell handbook of individual differences*. 2011. p. 656–78. doi: 10.1002/9781444343120.ch25.

4. Petrides KV, Pita R, Kokkinaki F. The location of trait emotional intelligence in personality factor space. *Br J Psychol*. 2007;**98**(Pt 2):273–89. doi: 10.1348/000712606X120618. [PubMed: 17456273].

5. Vernon PA, Villani VC, Schermer JA, Petrides KV. Phenotypic and genetic associations between the big five and trait emotional intelligence. *Twin Res Hum Genet*. 2008;**11**(5):524–30. doi: 10.1375/twin.11.5.524. [PubMed: 18828735].

6. Martins A, Ramalho N, Morin E. A comprehensive meta-analysis of the relationship between emotional intelligence and health. *Pers Individ Differ*. 2010;**49**(6):554–64. doi: 10.1016/j.paid.2010.05.029.

7. Petrides K, Hudry K, Michalaria G, Swami V, Sevdalis N. A comparison of the trait emotional intelligence profiles of individuals with and without Asperger syndrome. *Autism*. 2011;**15**(6):671–82. doi: 10.1177/1362361310397217. [PubMed: 21690084].

8. Kotsou I, Nelis D, Gregoire J, Mikolajczak M. Emotional plasticity: Conditions and effects of improving emotional competence in adulthood. *J Appl Psychol*. 2011;**96**(4):827–39. doi: 10.1037/a0023047. [PubMed: 21443316].

9. Sinclair H, Feigenbaum J. Trait emotional intelligence and borderline personality disorder. *Pers Individ Differ*. 2012;**52**(6):674–9. doi: 10.1016/j.paid.2011.12.022.

10. Perera HN, DiGiacomo M. The relationship of trait emotional intelligence with academic performance: A meta-analytic review. *Learn Individ Differ*. 2013;**28**:20–33. doi: 10.1016/j.lindif.2013.08.002.

11. Malouff JM, Schutte NS, Thorsteinsson EB. Trait emotional intelligence and romantic relationship satisfaction: A meta-analysis. *Am J Fam Ther*. 2013;**42**(1):53–66. doi: 10.1080/01926187.2012.748549.

12. O'Boyle EH, Humphrey RH, Pollack JM, Hawver TH, Story PA. The relation between emotional intelligence and job performance: A meta-analysis. *J Organ Behav*. 2011;**32**(5):788–818. doi: 10.1002/job.714.

13. Siegling AB, Vesely AK, Saklofske DH, Frederickson N, Petrides KV. Incremental validity of the trait emotional intelligence questionnaire-adolescent short form (TEIQue-ASF). *Euro J Psychol Assess*. 2017;**33**(1):65–74. doi: 10.1027/1015-5759/a000267.

14. Petrides KV, Furnham A. The role of trait emotional intelligence in a gender-specific model of organizational variables. *J Appl Soc Psychol*. 2006;**36**(2):552–69. doi: 10.1111/j.0021-9029.2006.00019.x.

15. Mikolajczak M, Luminet O, Leroy C, Roy E. Psychometric properties of the trait emotional intelligence questionnaire: Factor structure, reliability, construct, and incremental validity in a French-speaking population. *J Pers Assess*. 2007;**88**(3):338–53. doi: 10.1080/00223890701333431. [PubMed: 17518555].

16. Mavroveli S, Petrides KV, Rieffe C, Bakker F. Trait emotional intelligence, psychological well-being and peer-rated social competence in adolescence. *Br J Dev Psychol*. 2007;**25**(2):263–75. doi: 10.1348/026151006x118577.

17. Chirumbolo A, Picconi L, Morelli M, Petrides KV. The assessment of trait emotional intelligence: Psychometric characteristics of the TEIQue-full form in a large Italian adult sample. *Front Psychol*. 2018;**9**:2786. doi: 10.3389/fpsyg.2018.02786. [PubMed: 30705660]. [PubMed Central: PMC6344417].

18. Ruttledge RA, Petrides KV. A cognitive behavioural group approach for adolescents with disruptive behaviour in schools. *Sch Psychol Int*. 2011;**33**(2):223–39. doi: 10.1177/0143034311415908.

19. Mavroveli S, Sanchez-Ruiz MJ. Trait emotional intelligence influences on academic achievement and school behaviour. *Br J Educ Psychol*. 2011;**81**(Pt 1):112–34. doi: 10.1348/2044-8279.002009. [PubMed: 21199490].

20. Aluja A, Blanch A, Petrides KV. Psychometric properties of the Catalan version of the trait emotional intelligence (TEIQue): Comparison between Catalan and English data. *Pers Individ Differ*. 2016;**99**:133–9. doi: 10.1016/j.paid.2016.04.098.

21. Di Fabio A, Saklofske DH, Tremblay PF. Psychometric properties of the Italian trait emotional intelligence questionnaire (I-TEIQue). *Pers Individ Differ*. 2016;**96**:198–201. doi: 10.1016/j.paid.2016.03.009.

22. Jacobs I, Sim CW, Zimmermann J. The German TEIQue-SF: Factorial structure and relations to agentic and communal traits and mental health. *Pers Individ Differ*. 2015;**72**:189–94. doi: 10.1016/j.paid.2014.09.003.

23. Andrei F, Siegling AB, Aloe AM, Baldaro B, Petrides KV. The incremental validity of the trait emotional intelligence questionnaire (TEIQue): A systematic review and meta-analysis. *J Pers Assess*. 2016;**98**(3):261–76. doi: 10.1080/00223891.2015.1084630. [PubMed: 26457443].

24. Cooper A, Petrides KV. A psychometric analysis of the trait emotional intelligence questionnaire-short form (TEIQue-SF) using item response theory. *J Pers Assess*. 2010;**92**(5):449–57. doi: 10.1080/00223891.2010.497426. [PubMed: 20706931].

25. Siegling AB, Vesely AK, Petrides KV, Saklofske DH. Incremental validity of the trait emotional intelligence questionnaire-short form (TEIQue-SF). *J Pers Assess*. 2015;**97**(5):525–35. doi: 10.1080/00223891.2015.1013219. [PubMed: 25830494].

26. Banjac S, Hull L, Petrides KV, Mavroveli S. Validation of the Serbian adaptation of the trait emotional intelligence questionnaire-child form (TEIQue-CF). *Psihologija*. 2016;**49**(4):375–92. doi: 10.2298/psi1604375b.

27. Shahzad S, Riaz Z, Begum N, Khanum SJ. Urdu translation and psychometric properties of trait emotional intelligence questionnaire short form (TEIQue-SF). *Asian J Manage Sci Educ*. 2014;**3**(1):130–40.

28. Martskvishvili K, Arutinov L, Mestvirishvili M. A psychometric investigation of the Georgian version of the trait emotional intelligence questionnaire. *Euro J Psychol Assess*. 2013;**29**(2):84–8. doi: 10.1027/1015-5759/a000135.

29. Stamatopoulou M, Galanis P, Tzavella F, Petrides KV, Prezerakos P. Trait emotional intelligence questionnaire–adolescent short form:

A psychometric investigation in Greek context. *J Psychoeduc Assess*. 2017;**36**(5):436–45. doi: 10.1177/0734282916687706.

30. Andrei F, Mancini G, Trombini E, Baldaro B, Russo PM. Testing the incremental validity of trait emotional intelligence: Evidence from an Italian sample of adolescents. *Pers Individ Differ*. 2014;**64**:24–9. doi: 10.1016/j.paid.2014.02.007.

31. Poulou MS. How are trait emotional intelligence and social skills related to emotional and behavioural difficulties in adolescents? *Educ Psychol*. 2013;**34**(3):354–66. doi: 10.1080/01443410.2013.785062.

32. Rieffe C, Oosterveld P, Miers AC, Meerum Terwogt M, Ly V. Emotion awareness and internalising symptoms in children and adolescents: The emotion awareness questionnaire revised. *Pers Individ Differ*. 2008;**45**(8):756–61. doi: 10.1016/j.paid.2008.08.001.

33. Resurreccion DM, Salguero JM, Ruiz-Aranda D. Emotional intelligence and psychological maladjustment in adolescence: A systematic review. *J Adolesc*. 2014;**37**(4):461–72. doi: 10.1016/j.adolescence.2014.03.012. [PubMed: 24793394].

34. Mundfrom DJ, Shaw DG, Ke TL. Minimum sample size recommendations for conducting factor analyses. *Int J Test*. 2005;**5**(2):159–68. doi: 10.1207/s15327574ijt0502_4.

35. Lawshe CH. A quantitative approach to content validity. *Personnel Psychol*. 1975;**28**(4):563–75. doi: 10.1111/j.1744-6570.1975.tb01393.x.

36. Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Res Nurs Health*. 2007;**30**(4):459–67. doi: 10.1002/nur.20199. [PubMed: 17654487].

37. Petrides KV, Sangareau Y, Furnham A, Frederickson N. Trait emotional intelligence and children's peer relations at school. *Soc Dev*. 2006;**15**(3):537–47. doi: 10.1111/j.1467-9507.2006.00355.x.

38. Mikolajczak M, Petrides KV, Hurry J. Adolescents choosing self-harm as an emotion regulation strategy: The protective role of trait emotional intelligence. *Br J Clin Psychol*. 2009;**48**(Pt 2):181–93. doi: 10.1348/014466508X386027. [PubMed: 19054434].

39. Schutte NS, Malouff JM, Hall LE, Haggerty DJ, Cooper JT, Golden CJ, et al. Development and validation of a measure of emotional intelligence. *Pers Individ Differ*. 1998;**25**(2):167–77. doi: 10.1016/s0191-8869(98)00001-4.

40. Brackett MA, Mayer JD. Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Pers Soc Psychol Bull*. 2003;**29**(9):1147–58. doi: 10.1177/0146167203254596. [PubMed: 15189610].

41. Petrides KV, Furnham A. On the dimensional structure of emotional intelligence. *Pers Individ Differ*. 2000;**29**(2):313–20. doi: 10.1016/s0191-8869(99)00195-6.

42. Schutte NS, Malouff JM, Simunek M, McKenley J, Hollander S. Characteristic emotional intelligence and emotional well-being. *Cogn Emotion*. 2010;**16**(6):769–85. doi: 10.1080/02699930143000482.

43. Besharat MA, Zebardast A, Nadali H, Salehi M. [Emotional intelligence, alexithymia, and interpersonal problems]. *J Psychol Educ*. 2008;**38**(2):101–23. Persian.

44. Kuo PH, Chih YC, Soong WT, Yang HJ, Chen WJ. Assessing personality features and their relations with behavioral problems in adolescents: Tridimensional personality questionnaire and junior Eysenck personality questionnaire. *Compr Psychiatry*. 2004;**45**(1):20–8. doi: 10.1016/j.comppsych.2003.09.011. [PubMed: 14671733].

45. Rahiminezhad A. [Standardization of eysenck personality questionnaire on junior boys and girls of Tehran city]. *J Psychol Educ*. 2003;**33**(1):29–54. Persian.

46. Corp I. *IBM SPSS statistics for windows, version 22.0*. Armonk, NY: IBM Corp; 2013.

47. Gugliandolo MC, Costa S, Cuzzocrea F, Larcan R, Petrides KV. Trait emotional intelligence and behavioral problems among adolescents: A cross-informant design. *Pers Individ Differ*. 2015;**74**:16–21. doi: 10.1016/j.paid.2014.09.032.

48. Frederickson N, Petrides KV, Simmonds E. Trait emotional intelligence as a predictor of socioemotional outcomes in early adolescence. *Pers Individ Differ*. 2012;**52**(3):323–8. doi: 10.1016/j.paid.2011.10.034.

49. Petrides KV, Frederickson N, Furnham A. Measuring trait emotional intelligence. Measuring trait emotional intelligence. In: Schulze R, Roberts RD, editors. *Emotional intelligence: An international handbook*. US: Hogrefe & Huber Publishers; 2005. p. 181–201. doi: 10.1037/t12409-000.

50. Petrides KV, Vernon PA, Schermer JA, Ligthart L, Boomsma DI, Veselka L. Relationships between trait emotional intelligence and the Big Five in the Netherlands. *Pers Individ Differ*. 2010;**48**(8):906–10. doi: 10.1016/j.paid.2010.02.019.

51. Nawi NHM, Redzuan MR. Emotional intelligence, personality and self esteem: A comparison of the characteristics among two categories of subjects. *Int J Hum Soc Sci*. 2011;**1**(8):238–47.

52. Freudenthaler HH, Neubauer AC, Gabler P, Scherl WG, Rindermann H. Testing and validating the trait emotional intelligence questionnaire (TEIQue) in a German-speaking sample. *Pers Individ Differ*. 2008;**45**(7):673–8. doi: 10.1016/j.paid.2008.07.014.

53. Marszał-Wiśniewska M, Nowicka M. Individual differences in mood changes. *J Happiness Stud*. 2017;**19**(5):1415–38. doi: 10.1007/s10902-017-9879-5.

54. Fox AG, Moore MT. Extraversion and neuroticism: Associated responses to a positive mood induction. *Psychol Music*. 2019;**1**. doi: 10.1177/0305735619838049.

55. Petrides KV. *Technical manual for the trait emotional intelligence questionnaire (TEIQue)*. London, England: London Psychometric Laboratory; 2009.

56. Petrides KV, Siegling AB, Saklofske DH. Theory and measurement of trait emotional intelligence. *Psychology*. 2016;**23**(1):24–36. doi: 10.1002/9781119173489.ch7.