



The Kuwaiti-Arabic Trait Emotional Intelligence Questionnaire-Short Form

The Adaptation and Validation of the TEIQue-SF in Kuwait

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Abstract: This study aims to cross-culturally adapt and examine the psychometric properties of the Kuwaiti-Arabic Trait Emotional Intelligence-Short Form (TEIQue-SF) through structural equation modeling (SEM). The adapted measure was administered to 1,458 university students in Kuwait together with the Kuwaiti NEO-FFI. Reliability estimates for all TEIQue-SF variables were within the acceptable range, with the exception of certain factors as expected by the literature. SEM results suggested that the bifactor ESEM model fit the data for the TEIQue-SF. Evidence for criterion validity was obtained through relationships between the TEIQue-SF with the Big Five Personality variables. The results suggested that the Kuwaiti-Arabic TEIQue-SF can be considered as a reliable and valid measure to study trait EI with the Kuwaiti population and, consequently, allow for cross-cultural trait EI comparisons.

Keywords: trait emotional intelligence, Big Five, ESEM, TEIQue

Trait Emotional Intelligence

The emotional intelligence (EI) construct has been extensively researched since the 1990s, with various measures used to assess the construct (O'Connor et al., 2019). Petrides and Furnham (2001) distinguished two distinct EI constructs based on their measurement method, namely *trait EI* and *ability EI*. The latter, known as the cognitive-emotional ability, is concerned with emotion-related cognitive abilities that should be measured using maximum performance tests and theoretically belongs to the cognitive ability domain (Petrides, 2011). In contrast, the trait EI, known as trait emotional self-efficacy, is defined as a constellation of self-perception located at lower levels of personality hierarchies (Petrides et al., 2007). Unsurprisingly, this distinction between the two constructs was supported by empirical findings (Brannick et al., 2009). The researchers found that ability EI and trait EI measures did not correlate. Furthermore, the ability EI measure did not correlate with personality scales, while the trait EI measure did. In this study, we focus on the trait EI.

The TEIQue was developed following strong scientific procedures. The measure construction started with

defining the sampling domain of the construct through content analysis. Specifically, the content analysis targeted the earlier EI models (i.e., Bar-On, 1997; Salovey & Mayer, 1990) and various cognate constructs (e.g., alexithymia, affective communication, emotional expression, and empathy), where 15 facets were identified at the end (Petrides, 2001). Afterward, the items were developed to cover every facet in the construct sampling domain, maintaining every item belongs to one facet only. The whole process included 153 items, providing scores on 15 facets. Out of these, 13 facets loaded onto four oblique factors: well-being (trait optimism, happiness, and self-esteem), self-control (emotion regulation, low impulsiveness, and stress management), emotionality (trait empathy, emotion perception, emotion expression, and relationships), and sociability (emotion management, assertiveness, social awareness). The remaining two facets, adaptability and self-motivation, were loaded onto the global trait EI score directly. The sampling domain of trait EI in adults can be found in Appendix A. This scientifically developed measure exists in many forms, and a brief description of form can be found in Appendix B. In this study, we are considering the Trait Emotional Intelligence

Questionnaire-Short Form (TEIQue-SF) for adaption into Kuwaiti-Arabic.

The TEIQue-SF is a 30-item form based on the original long TEIQue in which two items from every facet were selected based on their correlations with the corresponding total facet scores. This form can be used in research with limited experimental time and funds. It is designed for assessing an individual's trait EI, encompassing aspects of their emotional perception, understanding, and regulation. It is primarily intended for use in research settings to explore the relationships between emotional intelligence and various psychological, interpersonal, and professional variables. Recent research showed that the two forms yielded the same results (Laborde et al., 2016, 2017). However, unlike the original long form, the short form does not provide any facet scores. Besides, due to the fewer number of items, the four factors extracted from this measure had lower internal consistencies compared to the same factors in the longer form (Petrides, 2009).

TEIQue Cultural Adaptations

As the interest in trait EI literature grows exponentially among researchers, exploring the trait EI characteristics across cultures and between countries emerged. As a result, the original English TEIQue has been translated into 27 different languages (<https://psychometriclab.com/translations-of-teique/>). However, norms for this measure are only available in 17 countries: Australia, Austria, Belgium, Brazil, Canada, China, Croatia, Cyprus, France, Germany, Greece, Italy, Norway, Poland, Spain, the United Kingdom, and the United States (Petrides, 2009).

Clearly, there are different norms for countries that share the same language. For instance, for Australia, Canada, the United Kingdom, and the United States, the norms are different even though the English language version was applied to these countries. This indicates that the norms are language-independent but depend on the culture and the country. Some items were replaced, rephrased, or reordered during the adaptation process to reflect the intended culture before exposing them to the participants (Deniz et al., 2013; Marjanović & Altaras-Dimitrijević, 2014; Martskvishvili et al., 2013; Shahzad et al., 2014; Ulutas, 2019).

Additionally, to ensure the cross-cultural factorial stability of TEIQue, many international academics collaborated and formally reported their adaptations' findings with other languages in peer-reviewed journals. The international research with different TEIQue translations supported the 4-factor model proposed by Petrides and Furnham (2001) using different factor analyses techniques (e.g., confirmatory factor analysis, exploratory factor analysis, and exploratory structural equation modeling; see

Appendix C). To expand these findings, we will explore the factorial structure of the Kuwaiti-Arabic TEIQue-SF through exploratory structural equation modeling as an advanced factor analysis method.

Furthermore, the reliability of global trait EI scores was satisfactory in previous adaptations. However, on the factor's level, some troublesome internal consistency indices were noted. For example, the well-being factor had a Cronbach's α of .55 when it was translated to Swedish (Hjalmarsson & Dåderman, 2022), and the self-control factor had a Cronbach's α of .57 and .59 when translated to Italian (Andrei et al., 2016) and Persian (Rahimi, 2019), respectively. Further, the emotionality factor had a Cronbach's α of .58 when it was translated to German and was applied in Germany (Jacobs et al., 2015) and .57 when translated to Russian (Kryukova & Shestova, 2020). Lastly, the sociability factor showed the relatively lowest Cronbach's α value of .47 when it was translated to Mandarin and applied in China (Feher et al., 2019) and .47 when it was translated to Spanish and applied in Chile (Pérez-Díaz & Petrides, 2021).

Although the previously mentioned reliability indices may sound problematic, it should not doubt the credibility of the TEIQue psychometric properties for two main reasons. First, the results are sample-specific in each country and cannot be generalized to other countries. Second, the relatively low Cronbach's α values were not noted in a regular pattern across different translations, and some only appeared in two translations at maximum. Therefore, researchers should continue studying the psychometric properties for more TEIQue translations within each country and publish them to contribute to the TEIQue international research. Moreover, future research must consider restudying the measure within broader samples across each country (i.e., without overstudying the students' samples).

Trait EI and The Big Five

Many studies concerned the relationship between the Big Five factors and trait EI, measured by the TEIQue (Freudenthaler et al., 2008; Pérez-González & Sanchez-Ruiz, 2014; Petrides et al., 2010; Robinson et al., 2020; Siegling et al., 2015; Van der Linden et al., 2012; Vernon et al., 2008). This is not surprising because trait EI is viewed as a personality trait and studying its relationship with a well-established trait taxonomy such as the Big Five model should be of interest.

Several studies concerned the level of overlap between the Big Five and trait EI (Petrides et al., 2010; Siegling et al., 2015; Vernon et al., 2008). By regressing global trait EI scores on the Big Five factors, the researchers found that the Big Five factors, jointly, explained, at least, 50% of the global trait EI variance. Thus, a 50% overlap between the Big Five and trait EI is expected.

To conclude, Neuroticism always showed the strongest correlation among the other Big Five variables with the global trait EI. Extraversion and Conscientiousness also showed relatively stronger correlations with the global trait EI, compared to Agreeableness and Openness. These patterns observed in prior research indicate that we can anticipate a similar alignment in our study when assessing the relationship between the Big Five personality factors and global trait EI, strengthening the external validity of our research. By elucidating the existing relationship between trait EI and the Big Five model, we establish a meaningful context for our study, which aims to further investigate and contribute to this well-established relationship.

The Present Study

The overall aim of the present studies is to adapt and validate the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF) in Kuwaiti Arabic for use in general population. Accordingly, we will show the factorial structure of the adapted TEIQue-SF with a Kuwaiti sample to ensure that the factor structure in Kuwait is consistent with the original findings. We will also provide evidence of the reliability and validity of scores obtained by our adapted TEIQue-SF.

Study 1: Pilot Samples

Methods

Design and Procedure

The ITC (2017) test adaptation guidelines were considered in the adaptation of the TEIQue-SF. First, we

contacted the original author (Petrides, 2009) for permission to adapt the measure into Kuwaiti Arabic. Second, an expert committee was formed, with members tasked with forward- and back-translating the measure. After this step, discrepancies were resolved by the committee members' consensus to draft the Kuwaiti-Arabic TEIQue-SF.

Participants

We approached two pilot samples ($n_1 = 79$, $n_2 = 121$), which mainly comprised university students in Kuwait.

Both samples were invited to voluntarily participate in the pilot study through online link. The link included information about the pilot study and given instructions on how to respond or withdraw from the study at any point. We believe that our pilot samples are knowledgeable audience who can help us to assess the readability and applicability of the pilot Kuwaiti TEIQue-SF.

Measures

Kuwaiti-Arabic TEIQue-SF

We used the last version of the pilot Kuwaiti-Arabic TEIQue-SF which will later evolve into the final adapted Kuwaiti-Arabic TEIQue-SF. This measure comprises 30 statements responded to a 7-point Likert scale, ranging from completely disagree to completely agree.

Data Analysis Plan

We performed a descriptive analysis of the subscales. Subsequently, Cronbach's α coefficient was estimated to assess the internal consistency of the measures. All the statistical analyses were conducted through IBM SPSS Statistics for Macintosh, version 27.0 (IBM Corp., Armonk, N.Y., USA).

Table 1. Descriptive statistics and Cronbach's α coefficients for the TEIQue-SF obtained from pilot samples

Pilot sample	Trait EI measure	Min	Max	<i>M</i>	<i>SD</i>	Skew	Kurt	α
First pilot ($n = 79$)	Well-being	2.00	7.00	5.50	1.03	-1.06	.93	.69
	Self-control	1.00	6.50	4.14	1.14	-.32	.09	.56
	Emotionality	2.38	6.38	4.66	.91	-.17	-.50	.49
	Sociability	1.17	6.67	4.65	1.18	-.71	-.08	.66
	Global trait EI	2.63	6.13	4.73	.80	-.34	-.45	.84
Second pilot ($n = 121$)	Well-being	2.00	7.00	5.36	1.13	-.99	.79	.74
	Self-control	1.00	6.50	4.11	1.13	-.29	-.05	.59
	Emotionality	2.38	6.38	4.58	.90	.05	-.51	.51
	Sociability	1.17	7.00	4.54	1.21	-.47	-.43	.69
	Global trait EI	2.10	6.60	4.60	.86	-.35	.13	.87

Note. Min = minimum, Max = maximum, *M* = mean, *SD* = standard deviation, Skew = skewness, Kurt = kurtosis, α = Cronbach's α coefficient.

Results

Descriptive statistics and Cronbach's α coefficients obtained from the first and second pilot studies are presented in Table 1. α coefficients ranged between .49 and .69 for the subscales and were .84 for the overall measure in the first pilot sample. While in the second pilot and after rephrasing the items, the coefficients jumped to range between .51 and .74 for the subscales and become .87 for the overall measure.

Study 2: Kuwaiti Students Sample

Methods

Design and Procedure

We used a convenience sample design and approached participants via an anonymous Qualtrics link (online). Several faculty members within Kuwaiti higher education institutions were contacted individually to help disseminate the Qualtrics link. Participants did not provide any personal self-identifying information.

Participants

The sample included 1,458 university students in Kuwait with a M_{age} of 22.34 years ($SD = 7.62$ years). Almost 75% of the sample were women, which reflects the female-male students' ratio at Kuwait University. Eighty nine percent were Kuwaitis, and the others were non-Kuwaitis without asking them for their nationality for anonymity purposes. Further, 53% were in art majors and 47% in science majors.

Measures

The Kuwaiti-Arabic TEIQue-SF

We used the Kuwaiti-Arabic TEIQue-SF that was developed and utilized in the pilot study.

The Kuwaiti-Arabic NEO-FFI

This is the short form of the NEO-PI developed by Costa and McCrae (2008). The inventory comprises 60 items providing scores on the Big Five factors: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A), and Conscientiousness (C). One limitation is that it does not yield scores at the facet level as the NEO-PI. However, we used it in our study due to circumstances relating to our project (esp., limited time). We used Alansari's (1997) Kuwaiti-Arabic adaptation, which showed acceptable evidence for convergent validity using the Eysenck Personality Questionnaire, and also an acceptable Cronbach's

α value for all factors (ranging from .31 to .81) except for the Openness factor of personality.

Data Analysis Plan

We obtained the descriptive statistics for all measures using the skimr (Waring et al., 2021) and e1071 (Meyer et al., 2021) packages in R 4.0.5 (RStudio Team, 2021). We also used R to estimate Cronbach's α (Cronbach, 1951) via the ltm package (Rizopoulos, 2007) and the psych package (Revelle, 2021) to estimate McDonald's ω (McDonald, 1999). Finally, we used MplusAutomation R package (Hallquist & Wiley, 2018) to prepare and export our data for analysis in Mplus.

To assess factorial structure, we relied on the exploratory structural equation modeling (ESEM) approach. We started with the simple first-order ESEM model (Model 0) for each measure to obtain factor loadings for further modeling. This allowed us to examine the underlying structure of the questionnaire without imposing any hierarchical constraints.

Subsequently, we tested different ESEM-within-CFA models (Morin et al., 2013) based on the results from the first-order model. Model 1 involved a hierarchical ESEM approach within a CFA framework. It allowed us to explore both the first-order factors and any potential higher-order factors that might exist in the TEIQue-SF.

For Model 2, we employed a bifactor ESEM to investigate the presence of a general trait EI factor, along with specific factors related to individual TEIQue-SF items. This model helps us understand the global and unique variance captured by the questionnaire.

Finally, Model 3 combined the bifactor ESEM with CFA, enabling us to assess both the global trait EI factor and any potential group factors within the TEIQue-SF items while considering the hierarchical structure.

These analyses aim to provide a comprehensive understanding of the latent structure of the TEIQue-SF and assess the appropriateness of different factor models. We will evaluate the model fit indices, factor loadings, and other relevant statistics to determine the most suitable factor structure for the TEIQue-SF in our dataset. All analyses were conducted using Mplus (Muthén & Muthén, 1998-2017), and the corresponding parameters were estimated with the robust maximum likelihood estimator (MLR) to deal with deviations from normality.

Additionally, we computed zero-order correlations between the TEIQue-SF variables and the Big Five. Along with that, we regressed the global trait EI on the Big Five factors to determine the amount of global trait EI scores' variance explained by the Big Five. Our aim for this analysis is to assess the criterion validity of our adapted TEIQue-SF.

Table 2. Descriptive statistics for the key variables in study 2

Variable	Overall sample (N = 1,458)				Men (N = 336)			Women (N = 1,110)		
	Range ^a	M (SD)	Skew	Kurt	M (SD)	Skew	Kurt	M (SD)	Skew	Kurt
TEIQue-SF	[1.00–7.00]									
Global	2.47–6.80	4.65 (.77)	.26	–.29	4.75 (.82)	.34	–.56	4.61 (.76)	.21	–.25
Well-being	1.00–7.00	5.26 (1.12)	–.38	–.42	5.26 (1.07)	–.17	–.57	5.26 (1.14)	–.44	–.40
Self-control	1.00–7.00	4.24 (.98)	.14	.47	4.45 (.97)	.32	.28	4.18 (.98)	.09	.49
Emotionality	1.75–7.00	4.51 (.87)	.27	–.02	4.54 (.93)	.28	–.04	4.49 (.85)	.28	–.03
Sociability	1.33–7.00	4.63 (1.10)	.08	–.13	4.76 (.98)	.15	–.16	4.59 (1.02)	.07	–.14
NEO-FFI	[12.00–60.00]									
Neuroticism	14.00–60.00	34.00 (5.99)	.45	1.88	33.40 (7.32)	.79	1.87	34.20 (5.53)	.27	1.43
Extraversion	16.00–60.00	40.20 (5.13)	.09	2.00	41.30 (5.39)	.55	1.76	39.90 (5.01)	–.11	1.93
Openness	15.00–60.00	40.30 (5.33)	–.04	2.06	41.40 (5.87)	.42	1.53	40.00 (5.13)	–.32	2.03
Agreeableness	15.00–60.00	39.90 (5.42)	.18	1.72	40.20 (5.81)	.85	1.26	39.80 (5.32)	–.09	1.77
Conscientiousness	14.00–60.00	42.50 (5.25)	–.44	2.55	42.70 (5.16)	.40	1.76	42.50 (5.29)	–.67	2.70

Note. Min = minimum, Max = maximum, M = mean, SD = standard deviation, Skew = skewness, Kurt = kurtosis. ^a Numbers between squared brackets are theoretical ranges.

Results

Descriptive statistics for all variables in Study 2 are shown in Table 2 ($n = 1,458$). All skewness and kurtosis values were within the acceptable ranges (-3.00 to $+3.00$) and (-10.00 to $+10.00$), respectively (Brown, 2015).

Factor Analysis of the TEIQue-SF

We contrasted four different ESEM models to evaluate the factorial structure of the TEIQue-SF.

Model 0: Four First-Order ESEM

Model 1: Hierarchical ESEM (H-ESEM) within CFA

Model 2: Bifactor ESEM

Model 3: Bifactor ESEM within CFA

Table 3 presents the model fit statistics for each model along with the number of free parameters. As can be seen in that table, model fit values were generally acceptable for all models. Taking fit indices and the number of free parameters for each model into account, we decided to retain Model 2 (shown in Figure 1).

The standardized factor loadings for each item for Model 2 can be found in Appendix D. Most of the items showed significant loadings on their keyed factor with some exceptions in the Emotionality factor and global trait

EI. Additionally, the appendix indicates a possible issue with the Emotionality factor, in which only one item loaded significantly on it.

Reliability Analysis of the TEIQue-SF

Table 4 shows the gender-based reliability estimates for TEIQue-SF. The global trait EI had satisfactory reliability ($\alpha = .83$, $\omega = .86$). The corresponding, ω_h value .37, meaning that 37% of the data's variance, was accounted for the general factor (global trait EI). At the factor level of trait EI, Cronbach's α values ranged from .43 to .71, with Well-being consistently showing the highest reliability.

The Relationship Between Trait EI and the Big Five

The zero-order correlations between trait EI and the Big Five are presented in Table 5. The table includes results from both gender, which allows for efficient comparisons, and subsequently assessing the consistency in our results.

As can be seen, most correlations are statistically significant. Neuroticism exhibits negative correlations with global trait EI ($r = -.40$) as well as all four TEIQue-SF factors, ranging from $-.21$ to $-.34$. These correlations, while varying in magnitude, collectively portray a consistent trend: Individuals with higher neuroticism tend to report lower trait EI, whether measured globally or within specific

Table 3. Fit indices for the proposed models

Model	Type	CFI	TLI	RMSEA	SRMR	Free parameters
Model 0	Four first-order ESEM	.902	.868	.041	[.038, .044]	174
Model 1	H-ESEM within CFA	.903	.871	.041	[.038, .043]	168
Model 2	Bifactor ESEM	.915	.875	.040	[.037, .044]	200
Model 3	Bifactor ESEM within CFA	.913	.875	.040	[.037, .044]	194

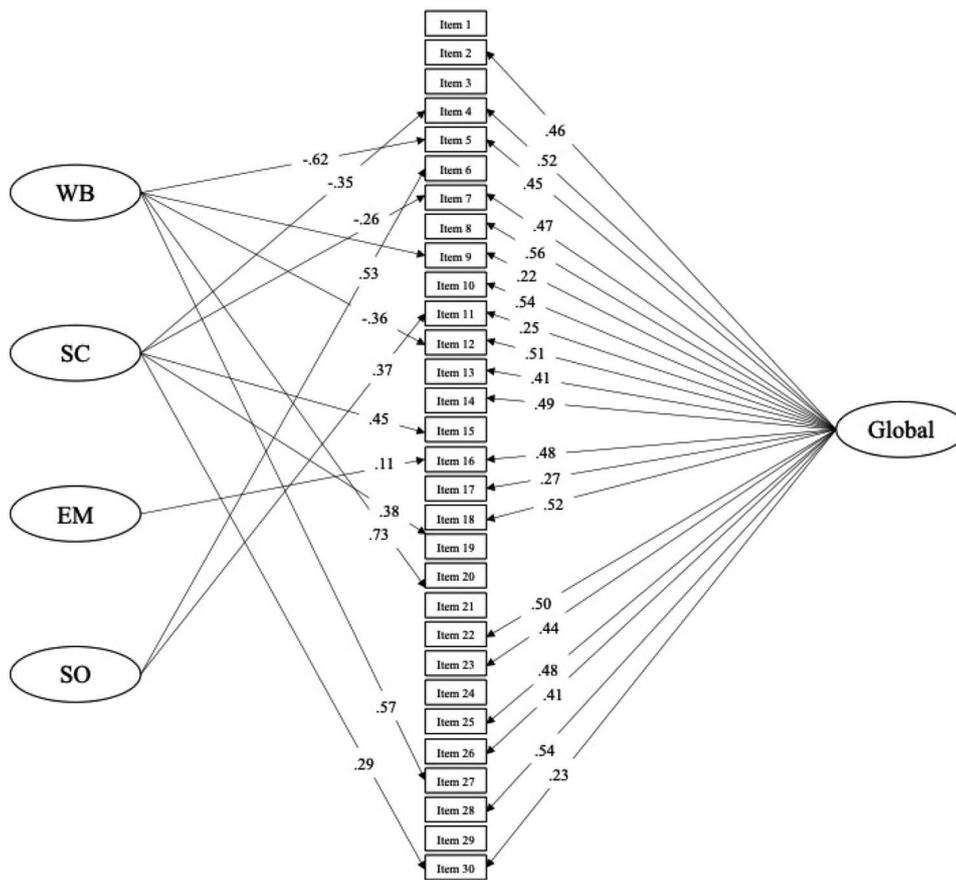


Figure 1. Bifactor ESEM model for the Kuwaiti-Arabic TEIQue-SF (Model 2). Note. Global = global trait EI, SO = Sociability, EM = Emotionality, SC = Self-control, WB = Well-being. Only significant paths are shown in the diagram.

factors. The strongest of these associations is observed with Sociability ($r = -.34$), signifying a moderate negative relationship, while the weakest is with Well-being ($r = -.21$), indicating a weaker, albeit significant, correlation.

Table 4. Gender-based reliability indices for the key variables in study 2

Measure/variables	Overall sample (N = 1,458)	Cronbach's α Men (n = 336)	Women (N = 1,110)
TEIQue-SF			
Global trait EI	.83	.85	.82
Well-being	.71	.68	.72
Self-control	.43	.46	.41
Emotionality	.44	.53	.41
Sociability	.52	.49	.53
NEO-FFI-3			
Neuroticism	.77	.76	.75
Extraversion	.66	.61	.67
Openness	.31	.16	.33
Agreeableness	.50	.55	.49
Conscientiousness	.81	.81	.81

On the other hand, Conscientiousness reveals positive correlations with both global trait EI ($r = .24$) and the TEIQue-SF factors, ranging from .13 to .31. These positive associations underscore the significance of conscientiousness in the realm of trait EI. Notably, the correlation between Conscientiousness and Well-being ($r = .31$) stands out as the strongest, followed closely by the association with Self-Control ($r = .13$). These correlations suggest that individuals with higher conscientiousness tend to not only report greater overall trait EI but also excel in specific factors, particularly those related to self-regulation and emotional well-being.

Extraversion, Openness, and Agreeableness exhibit more nuanced and varied correlations across both global trait EI and the TEIQue-SF factors. These associations, although mixed in strength, highlight the complex interplay between personality traits and the multifaceted construct of trait EI. In summary, these findings reveal a range of associations, from moderate to weak, between the Big Five personality traits and trait EI dimensions, underlining the intricate and context-dependent nature of these relationships.

Table 5. Zero-order correlations between trait EI and the Big Five

Big Five	Global trait EI			Well-being			Self-control			Emotionality			Sociability		
	Overall	F	M	Overall	F	M	Overall	F	M	Overall	F	M	Overall	F	M
Neuroticism	-.40***	-.37***	-.48***	-.21***	-.18***	-.32***	-.31***	-.27***	-.41***	-.32***	-.27***	-.43**	-.34***	-.32***	-.40***
Extraversion	.18***	.18***	.16**	.23***	.25***	.18***	.09***	.08*	.07	.09**	.10***	.03	.11***	.10**	.11
Openness	.17***	.17***	.17**	.22***	.23***	.20***	.09***	.07*	.12*	.05	.05	.03	.10***	.09**	.14*
Agreeableness	-.01	.00	-.03	.07**	.09***	.03	-.05	-.04	-.09	-.08**	-.08*	-.09	.04	.05	-.02
Conscientiousness	.24***	.25***	.21***	.31***	.32***	.28***	.13***	.13***	.12*	.11***	.12***	.07	.17***	.17***	.14*

Note. Overall = overall sample (n = 1,458); M = male sample (n = 336); F = female sample (n = 1,110); EI = emotional intelligence. *p < .05. **p < .01. ***p < .001.

A multiple regression with enter method was used to predict global trait EI scores from the Big Five factors. The model explained 30% of global trait EI's variance, $F(5, 1,216) = 105.29, p < .001, R^2 = .30, R_{adjusted}^2 = .30$. All of the Big Five factors were significant predictors of global trait EI, except Agreeableness. The multiple regression results can be found in Appendix E.

Discussion

The TEIQue-SF was piloted twice to collect sufficient data to enable small-scale scale and item analysis in the first study (i.e., pilot study). This step is necessary to ensure the psychometric quality of psychological measures. During the pilot, participants were asked to fill a feedback form whenever they had any comments on items or questions.

After piloting the TEIQue-SF for the first time, the reliability analysis showed an unacceptable α coefficient for the Emotionality subscale as indicated earlier. Specifically, we identified Items 17 and 23 to be problematic and sent them back to the expert committee for revision. The expert committee revisited the translation of the two items and decided to rephrase them and send it back to a second pilot.

In the second pilot, all of the participants were able to understand the meaning of all items in the TEIQue-SF. In addition, no comments were received regarding the clarity of any item. Furthermore, the reliability analysis results were acceptable. Therefore, the last version of the TEIQue-SF was retained for use in the Study 2.

The aim of Study 2 was to adapt and explore the psychometric properties of the Kuwaiti-Arabic TEIQue-SF in a university student sample. Firstly, we assessed the factorial structure of the TEIQue-SF through SEM. Further, we provided evidence for the reliability and validity of the TEIQue-SF scores. Finally, we examined the relationship between the TEIQue-SF variables.

The Factorial Structure of TEIQue-SF

In our investigation of the factorial structure of the TEIQue-SF, we employed an exploratory structural equation modeling (ESEM) approach. ESEM combines elements of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), allowing some factors to be specified in an exploratory manner and others in a confirmatory manner (for a detailed explanation, refer to Asparouhov & Muthén, 2009). ESEM offers certain technical advantages over both EFA and CFA,

particularly when analyzing multidimensional measures in large samples, as was the case in our study (Marsh et al., 2010).

For the Kuwaiti-Arabic adaptation of the TEIQue-SF, the bifactor ESEM model demonstrated superior fit compared to alternative models, including the hierarchical model proposed by Petrides (2009). This finding echoes earlier results from studies conducted in Chile (Pérez-Díaz & Petrides, 2021) and Brazil (Perazzo et al., 2020). Following the criteria outlined by Hair et al. (2010), which suggest that a good model should exhibit a significant χ^2 value, CFI > .92, SRMR < .08, and RMSEA < .07, our model fit statistics align with the expectations for a robust model, considering our sample size exceeds 250, and we have 15 observed variables.

It is important to note that while most items exhibited significant loadings on the global trait EI, a few items displayed negative loadings at the four-factor trait EI level. This phenomenon is not unusual and has been observed in previous bifactor modeling attempts with TEIQue-SF data (as reported by Pérez-Díaz & Petrides, 2021). Beyond the construct of trait EI, negative factor loadings have also been reported in bifactor models for other personality-related constructs such as Burnout (Szigeti et al., 2017), Emotional distress (Hyland et al., 2013), Irritability (Burke et al., 2014), and Positive and Negative Affect (Leue & Beauducel, 2011). Interpreting these negative loadings is challenging because there are neither statistical (Heinrich et al., 2021) nor theoretical (Eid et al., 2017) explanations readily available.

Nonetheless, negative factor loadings in bifactor models can arise due to various factors. They may signify a negative relationship between an item and the common factor, potentially reflecting a floor effect wherein individuals with low performance on the construct do not fare well on the item. In such cases, the negative loading may indicate that the item is not a strong measure of global trait EI for individuals with low trait EI scores.

Furthermore, our analysis of factor loadings raised concerns about the Emotionality factor of trait EI, as most of the proposed items did not exhibit significant loadings on this factor. It is important to clarify that the TEIQue-SF was not originally designed for factor-level analysis, but we opted to present preliminary findings based on our Kuwaiti samples. Consequently, the results obtained from this study should be regarded as preliminary, and we encourage future researchers to explore this factor using the full version of the TEIQue with Kuwaiti samples.

The Reliability of TEIQue-SF Scores

Reliability analysis for the TEIQue-SF showed acceptable internal consistency for the global trait EI score in the

overall sample as well as for males and females, separately. There were some less-than-desirable internal consistency estimates (e.g., for Self-control and Emotionality), but this is a standard finding with the short form of the TEIQue, which was originally designed to provide a global trait EI score only (Petrides, 2009). The result was consistent with other adaptations, where factor reliability was comparatively lower than for global trait EI (Abe et al., 2012; Deniz et al., 2013; Feher et al., 2019; Hjalmarsson & Dåderman, 2020; Jacobs et al., 2015; Kryukova & Shestova, 2020; Pérez-Díaz & Petrides, 2021; Stamatopoulou et al., 2016).

The Relationship Between Trait EI and the Big Five

We presented the zero-order correlations between the TEIQue-SF variables and the Big Five. Generally, for the overall sample and both gender groups, all of the Big Five variables were significantly correlated to the TEIQue-SF variables, except for Agreeableness.

In line with previous studies, the Big Five factor of Neuroticism, Extraversion, and Conscientiousness showed the strongest correlation with the TEIQue-SF variables (Freudenthaler et al., 2008; Pérez-González & Sanchez-Ruiz, 2014; Petrides et al., 2010; Robinson et al., 2020; Siegling et al., 2015; Van der Linden et al., 2012; Vernon et al., 2008). As expected, Neuroticism showed the strongest correlation among the other Big Five factors with the TEIQue-SF variables in our study, followed by Conscientiousness, Extraversion, Openness, and Agreeableness, respectively. This was interpreted as evidence for the criterion validity of scores obtained from our adapted measure.

We expected that, at least, 50% of the global trait EI variance will be explainable by the Big Five factors. Although the Big Five factors explained a significant amount of global trait EI variance in our study (30.2%), this was below the expected value of 50%.

Two potential reasons could explain the aforementioned findings. The first reason is related to the short version of the TEIQue we administered in this study. The short form of the TEIQue consists of fewer items than the original form and therefore offers less coverage to the sampling domain of trait EI. Accordingly, using the short form will lead to excluding several items that theoretically overlap with the Big Five factors. The second reason is due to the low reliability indices from the Big Five factors of Agreeableness and Openness. This was not surprising at all, as the Kuwaiti adaptation of the NEO-FFI had showed similarly lower α s for these two factors (Alansari, 1997). Consequently, low reliability can attenuate the correlation

between two variables (Henson, 2001; Muchinsky, 1996; Onwuegbuzie et al., 2004).

Also, in our analysis, we observed a notable discrepancy between the correlation analysis and the regression model regarding the prediction of the global trait EI by the Big Five personality factors. While the correlation analysis initially indicated significant negative associations between Neuroticism and global trait EI, the regression model confirmed this relationship but with a relatively small coefficient, suggesting that Neuroticism, while statistically significant, may have a limited impact when considering other personality factors in the model.

Importantly, our regression model revealed that the other Big Five personality factors—Extraversion, Openness, Agreeableness, and Conscientiousness—did not significantly predict global trait EI. These nonsignificant findings suggest that these personality factors, in isolation, do not appear to have a substantial influence on an individual's overall trait EI when accounting for other variables in the model. This underscores the complexity of the relationship between personality traits and trait EI, indicating that Neuroticism is the primary driver of variance in global trait EI in this specific context. However, it is crucial to acknowledge that trait EI is a multifaceted construct influenced by various factors, and the limited predictive power of individual personality traits in this regression model highlights the need for a more comprehensive understanding of its determinants.

Limitations and Strengths of the Present Study

One limitation of this study pertains to the use of self-reported measures. This introduces the possibility of response biases, such as social desirability bias or response bias, where participants may provide answers that align with societal expectations or follow a specific pattern, potentially influencing the accuracy of the collected data.

Secondly, the internal consistency of two dimensions within the Kuwaiti NEO-FFI fell below desirable levels, which impacts the correlations between this criterion and the adapted TEIQue-SF. These lower reliabilities in the criterion measure should be considered when interpreting the relationships observed in the study.

Another limitation arises from the sampling methods employed, which included convenience and non-proportional quota sampling. These methods, while practical for the current study, may restrict the generalizability of our findings to the broader Kuwaiti population. Nonetheless, the consistency of our results, especially regarding the reliability of scores across both

studies, suggests the measure's suitability for use in Kuwaiti samples. We encourage future researchers to explore the application of this measure in different contexts, such as clinical settings, using diverse Kuwaiti samples to contribute more comprehensively to the trait EI literature in Kuwait.

On the other hand, the strengths of this study are multiple. This study leveraged the bifactor exploratory structural equation modeling (ESEM) approach to investigate the factorial structure of the TEIQue-SF. This innovative statistical method allowed for a nuanced examination of the measure's underlying structure, enhancing the depth of our analysis.

Additionally, the study benefited from a sufficiently large sample size, facilitating the execution of all intended statistical analyses with confidence and precision.

Furthermore, our research presented findings from Kuwait, an underrepresented country in the international personality literature. By doing so, we have contributed valuable insights from a unique cultural perspective, expanding the global understanding of trait emotional intelligence.

Conclusion

In conclusion, this psychometric study involving the adapted TEIQue-SF in a Kuwaiti sample yielded favorable results. The Kuwaiti-Arabic TEIQue-SF demonstrated both reliability and validity in the Kuwaiti context. Consequently, researchers can rely on our adapted TEIQue-SF as a valuable tool for investigating trait EI in various Kuwaiti settings, encompassing clinical, educational, and organizational contexts, among others.

References

- Abe, K., Wakabayashi, H., Saiki, T., Kawakami, C., Fujisaki, K., Niwa, M., & Suzuki, Y. (2012). Validity and reliability of the Japanese versions of the Trait Emotional Intelligence Questionnaire-Short Form and the Jefferson Scale of physician empathy. *Medical Education*, 43(5), 351–359. <https://doi.org/10.11307/mededjapan.43.351>
- Alansari, B. M. (1997). The psychometric properties of NEO-FFI-S based on the Kuwaiti society. *Derajat Nafsiyah*, 7(2), 277–310. <https://search.mandumah.com/Record/10599/Description#tabnav>
- Andrei, F., Smith, M. M., Surcinelli, P., Baldaro, B., & Saklofske, D. H. (2016). The Trait Emotional Intelligence Questionnaire: Internal structure, convergent, criterion, and incremental validity in an Italian sample. *Measurement and Evaluation in Counseling and Development*, 49(1), 34–45. <https://doi.org/10.1177/0748175615596786>
- Ashouri, A., Farokhnezhad Afshar, P., Alimoradi, H., & Talebizadeh, M. (2021). Psychometric properties of the Persian version of the

- Trait Emotional Intelligence Questionnaire (TEIQue) in students of selected universities in Tehran in 2016. *Iranian Journal of Psychiatry and Clinical Psychology*, 27(4), 492–507. <https://doi.org/10.32598/ijpcp.27.4.3123.1>
- Asparouhov, T., & Muthén, B. (2009). Exploratory structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 16(3), 397–438. <https://doi.org/10.1080/10705510903008204>
- Bar-On, R. (1997). *BarOn emotional quotient inventory*. Multi-Health Systems.
- Brannick, M. T., Wahi, M. M., Arce, M., Johnson, H.-A., Nazian, S., & Goldin, S. B. (2009). Comparison of trait and ability measures of emotional intelligence in medical students. *Medical Education*, 43(11), 1062–1068. <https://doi.org/10.1111/j.1365-2923.2009.03430.x>
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. The Guilford Press.
- Burke, J. D., Boylan, K., Rowe, R., Duku, E., Stepp, S. D., Hipwell, A. E., & Waldman, I. D. (2014). Identifying the irritability dimension of ODD: Application of a modified bifactor model across five large community samples of children. *Journal of Abnormal Psychology*, 123(4), 841–851. <https://doi.org/10.1037/a0037898>
- Chirumbolo, A., Picconi, L., Morelli, M., & Petrides, K. V. (2019). The assessment of trait emotional intelligence: Psychometric characteristics of the TEIQue-full form in a large Italian adult sample. *Frontiers in Psychology*, 9, Article 2786. <https://doi.org/10.3389/fpsyg.2018.02786>
- Costa, P. T., Jr., & McCrae, R. R. (2008). The Revised NEO Personality Inventory (NEO-PI-R). In G. J. Boyle, G. Matthews, & D. H. Saklofske (Eds.), *The SAGE handbook of personality theory and assessment. Personality measurement and testing* (Vol. 2, pp. 179–198). Sage Publications. <https://doi.org/10.4135/9781849200479.n9>
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334. <https://doi.org/10.1007/bf02310555>
- Deniz, M. E., Özer, E., & Isik, E. (2013). Trait Emotional Intelligence Questionnaire-Short Form: Validity and reliability studies. *Egitim Ve Bilim*, 38(169), 198–201. <https://www.proquest.com/scholarly-journals/trait-emotional-intelligence-questionnaire-short/docview/1428312465/se-2>
- Di Fabio, A., Saklofske, D. H., & Tremblay, P. F. (2016). Psychometric properties of the Italian Trait Emotional Intelligence Questionnaire (I-TEIQue). *Personality and Individual Differences*, 96, 198–201. <https://doi.org/10.1016/j.paid.2016.03.009>
- Eid, M., Geiser, C., Koch, T., & Heene, M. (2017). Anomalous results in G-factor models: Explanations and alternatives. *Psychological Methods*, 22(3), 541–562. <https://doi.org/10.1037/met0000083>
- Fehler, A., Yan, G., Saklofske, D. H., Plouffe, R. A., & Gao, Y. (2019). An investigation of the psychometric properties of the Chinese Trait Emotional Intelligence Questionnaire Short Form (Chinese TEIQue-SF). *Frontiers in Psychology*, 10, Article 435. <https://doi.org/10.3389/fpsyg.2019.00435>
- Freudenthaler, H. H., Neubauer, A. C., Gabler, P., Scherl, W. G., & Rindermann, H. (2008). Testing and validating the trait emotional intelligence questionnaire (TEIQue) in a German-speaking sample. *Personality and Individual Differences*, 45(7), 673–678. <https://doi.org/10.1016/j.paid.2008.07.014>
- Gökçen, E., Furnham, A., Mavroveli, S., & Petrides, K. V. (2014). A cross-cultural investigation of trait emotional intelligence in Hong Kong and the UK. *Personality and Individual Differences*, 65, 30–35. <https://doi.org/10.1016/j.paid.2014.01.053>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.
- Hallquist, M. N., & Wiley, J. F. (2018). MplusAutomation: An R Package for facilitating large-scale latent variable analyses in Mplus. *Structural Equation Modeling: A Multidisciplinary Journal*, 25(4), 621–638. <https://doi.org/10.1080/10705511.2017.1402334>
- Heinrich, M., Geiser, C., Zagorscak, P., Burns, G. L., Bohn, J., Becker, S. P., Eid, M., Beauchaine, T. P., & Knaevelsrud, C. (2021). On the meaning of the “P Factor” in symmetrical bifactor models of psychopathology: Recommendations for future research from the Bifactor-(S–1) Perspective. *Assessment*, 30(3), 487–507. <https://doi.org/10.1177/10731911211060298>
- Henson, R. K. (2001). Understanding internal consistency reliability estimates: A conceptual primer on coefficient alpha. *Measurement and Evaluation in Counseling and Development*, 34(3), 177–189. <https://doi.org/10.1080/07481756.2002.12069034>
- Hjalmarsson, A. K. V., & Däderman, A. M. (2022). Relationship between emotional intelligence, personality, and self-perceived individual work performance: A cross-sectional study on the Swedish version of TEIQue-SF. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, 41(5), 2558–2573. <https://doi.org/10.1007/s12144-020-00753-w>
- Hyland, P., Shevlin, M., Adamson, G., & Boduszek, D. (2013). The factor structure and composite reliability of the Profile of Emotional Distress. *The Cognitive Behaviour Therapist*, 6, Article E15. <https://doi.org/10.1017/S1754470X13000214>
- International Test Commission (ITC). (2017). *The ITC guidelines for translating and adapting tests* (2nd ed.). www.InTestCom.org
- Jacobs, I., Sim, C.-W., & Zimmermann, J. (2015). The German TEIQue-SF: Factorial structure and relations to agentic and communal traits and mental health. *Personality and Individual Differences*, 72, 189–194. <https://doi.org/10.1016/j.paid.2014.09.003>
- Kryukova, E. A., & Shestova, M. A. (2020). Emotional intelligence in the structure of a person's intellectual and personal potential: Trait or ability? (Adaptation of the short version of the TEIQue-SF questionnaire). *National Psychological Journal*, 40(4), 18–30. <https://doi.org/10.11621/npj.2020.0402>
- Laborde, S., Allen, M. S., & Guillén, F. (2016). Construct and concurrent validity of the short- and long-form versions of the trait emotional intelligence questionnaire. *Personality and Individual Differences*, 101, 232–235. <https://doi.org/10.1016/j.paid.2016.06.009>
- Laborde, S., Guillén, F., & Watson, M. (2017). Trait emotional intelligence questionnaire full-form and short-form versions: Links with sport participation frequency and duration and type of sport practiced. *Personality and Individual Differences*, 108, 5–9. <https://doi.org/10.1016/j.paid.2016.11.061>
- Leue, A., & Beauducel, A. (2011). The PANAS structure revisited: On the validity of a bifactor model in community and forensic samples. *Psychological Assessment*, 23(1), 215–225. <https://doi.org/10.1037/a0021400>
- Marjanovic, Z., & Altaras-Dimitrijevic, A. (2014). Reliability, construct and criterion-related validity of the Serbian adaptation of the trait emotional intelligence questionnaire (TEIQue). *Psihologija*, 47(2), 249–262. <https://doi.org/10.2298/psi1402249j>
- Marsh, H. W., Lüdtke, O., Nagengast, B., Morin, A. J. S., & von Davier, M. (2013). Why item parcels are (almost) never appropriate: Two wrongs do not make a right—Camouflaging misspecification with item parcels in CFA models. *Psychological Methods*, 18(3), 257–284. <https://doi.org/10.1037/a0032773>
- Martskvishvili, K., Arutinov, L., & Mestvirishvili, M. (2013). A psychometric investigation of the Georgian version of the Trait Emotional Intelligence Questionnaire. *European Journal of Psychological Assessment*, 29(2), 84–88. <https://doi.org/10.1027/1015-5759/a000135>
- McDonald, R. P. (1999). *Test theory: A unified treatment* (1st ed.). Psychology Press. <https://doi.org/10.4324/9781410601087>
- Meyer, D., Dimitriadou, E., Hornik, K., Weingessel, A., & Leisch, F. (2021). *e1071: Misc functions of the Department of Statistics*,

- Probability Theory Group (Formerly: E1071)*. R package version 1.7-9. TU Wien. <https://CRAN.R-project.org/package=e1071>
- Mikolajczak, M., Luminet, O., Leroy, C., & Roy, E. (2007). Psychometric properties of the Trait Emotional Intelligence Questionnaire: Factor structure, reliability, construct, and incremental validity in a French-speaking population. *Journal of Personality Assessment*, 88(3), 338–353. <https://doi.org/10.1080/00223890701333431>
- Morin, A. J. S., Marsh, H. W., & Nagengast, B. (2013). Exploratory structural equation modeling. In G. R. Hancock, & R. O. Mueller (Eds.), *Structural equation modeling: A second course* (pp. 395–436). IAP Information Age Publishing.
- Muchinsky, P. M. (1996). The correction for attenuation. *Educational and Psychological Measurement*, 56(1), 63–75. <https://doi.org/10.1177/0013164496056001004>
- Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide* (8th ed.).
- O'Connor, P. J., Hill, A., Kaya, M., & Martin, B. (2019). The measurement of emotional intelligence: A critical review of the literature and recommendations for researchers and practitioners. *Frontiers in Psychology*, 10, Article 1116. <https://doi.org/10.3389/fpsyg.2019.01116>
- Onwuegbuzie, A. J., Roberts, J. K., & Daniel, L. G. (2005). A proposed new “what if reliability” analysis for assessing the statistical significance of bivariate relationships. *Measurement and Evaluation in Counseling and Development*, 37(4), 228–239. <https://doi.org/10.1080/07481756.2005.11909763>
- Perazzo, M. F., Abreu, L. G., Pérez-Díaz, P. A., Petrides, K. V., Granville-Garcia, A. F., & Paiva, S. M. (2020). Trait Emotional Intelligence Questionnaire-Short Form: Brazilian validation and measurement invariance between the United Kingdom and Latin-American datasets. *Journal of Personality Assessment*, 103(3), 342–351. <https://doi.org/10.1080/00223891.2020.1758118>
- Pérez-Díaz, P. A., & Petrides, K. V. (2021). The Spanish–Chilean Trait Emotional Intelligence Questionnaire-Short Form: The adaptation and validation of the TEIQue-SF in Chile. *Journal of Personality Assessment*, 103(1), 67–79. <https://doi.org/10.1080/00223891.2019.1692856>
- Pérez-González, J. C., & Sanchez-Ruiz, M.-J. (2014). Trait emotional intelligence anchored within the Big Five, Big Two and Big One frameworks. *Personality and Individual Differences*, 65, 53–58. <https://doi.org/10.1016/j.paid.2014.01.021>
- Petrides, K. V. (2001). *A psychometric investigation into the construct of emotional intelligence* [Doctoral dissertation]. University College London.
- Petrides, K. V. (2009). *Technical manual for the trait emotional intelligence questionnaires*. London Psychometric Laboratory.
- Petrides, K. V. (2011). Ability and trait emotional intelligence. In T. Chamorro-Premuzic, S. von Stumm, & A. Furnham (Eds.), *The Wiley-Blackwell handbook of individual differences* (pp. 656–678). Wiley Blackwell.
- Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality*, 15(6), 425–448. <https://doi.org/10.1002/per.416>
- Petrides, K. V., Pita, R., & Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *British Journal of Psychology*, 98(2), 273–289. <https://doi.org/10.1348/000712606x120618>
- Petrides, K. V., Vernon, P. A., Schermer, J. A., Ligthart, L., Boomsma, D. I., & Veselka, L. (2010). Relationships between trait emotional intelligence and the Big Five in The Netherlands. *Personality and Individual Differences*, 48(8), 906–910. <https://doi.org/10.1016/j.paid.2010.02.019>
- Rahimi, M. (2019). Psychometric properties of the Persian trait emotional intelligence questionnaire (P-TEIQue). *Current Psychology*, 40, 2778–2785. <https://doi.org/10.1007/s12144-019-00218-9>
- Revelle, W. (2021). *psych: Procedures for personality and psychological research. Version 2.1.9* [Software]. Northwestern University. <https://CRAN.R-project.org/package=psych>
- Rizopoulos, D. (2007). ltm: An R package for latent variable modeling and item response analysis. *Journal of Statistical Software*, 17(5), 1–25. <https://doi.org/10.18637/jss.v017.i05>
- Robinson, E., Hull, L., & Petrides, K. V. (2020). Big Five model and trait emotional intelligence in camouflaging behaviours in autism. *Personality and Individual Differences*, 152, Article 109565. <https://doi.org/10.1016/j.paid.2019.109565>
- RStudio Team. (2021). *RStudio: Integrated development environment for R*. <http://www.rstudio.com/>
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185–211. <https://doi.org/10.2190/DUGG-P24E-52WK-6CDG>
- Sanchez-Ruiz, M., Mavroveli, S., & Petrides, K. V. (2020). The Trait Emotional Intelligence Questionnaire in Lebanon and the UK: A comparison of the psychometric properties in each country. *International Journal of Psychology*, 56(2), 304–313. <https://doi.org/10.1002/ijop.12711>
- Shahzad, S., Riaz, Z., & Begum, N. (2014). Urdu translation and psychometric properties of Trait Emotional Intelligence Questionnaire Short Form (TEIQue-SF). *Asian Journal of Management Sciences & Education*, 3(1), 130–140.
- Siegling, A. B., Vesely, A. K., Petrides, K. V., & Saklofske, D. H. (2015). Incremental validity of the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF). *Journal of personality assessment*, 97(5), 525–535. <https://doi.org/10.1080/00223891.2015.1013219>
- Stamatopoulou, M., Galanis, P., & Prezerakos, P. E. (2016). Psychometric properties of the Greek translation of the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF). *Personality and Individual Differences*, 95, 80–84. <https://doi.org/10.1016/j.paid.2016.02.035>
- Szczygieł, D., Jasielska, A., & Wytykowska, A. (2015). Psychometric properties of the Polish version of the Trait Emotional Intelligence Questionnaire-Short Form. *Polish Psychological Bulletin*, 46(3), 447–459. <https://doi.org/10.1515/ppb-2015-0051>
- Szigeti, R., Balázs, N., Bikfalvi, R., & Urbán, R. (2017). Burnout and depressive symptoms in teachers: Factor structure and construct validity of the Maslach Burnout inventory-educators survey among elementary and secondary school teachers in Hungary. *Stress and Health*, 33(5), 530–539. <https://doi.org/10.1002/smi.2737>
- Ulutas, I. (2019). Psychometric properties of the Trait Emotional Intelligence Questionnaire (TEIQue) in Turkish. *Current Psychology*, 38(3), 775–781. <https://doi.org/10.1007/s12144-017-9647-z>
- Van der Linden, D., Tsaousis, I., & Petrides, K. V. (2012). Overlap between general factors of personality in the Big Five, Giant Three, and trait emotional intelligence. *Personality and Individual Differences*, 53(3), 175–179. <https://doi.org/10.1016/j.paid.2012.03.001>
- Vernon, P. A., Villani, V. C., Schermer, J. A., & Petrides, K. V. (2008). Phenotypic and genetic associations between the big five and trait emotional intelligence. *Twin Research and Human Genetics: The Official Journal of the International Society for Twin Studies*, 11(5), 524–530. <https://doi.org/10.1375/twin.11.5.524>
- Waring, E., Quinn, M., McNamara, A., de la Rubia, E. A., Zhu, H., & Ellis, S. (2021). *skimr: Compact and flexible summaries of data (R package version 2.1.3)* [Software]. <https://CRAN.R-project.org/package=skimr>
- Zuanazzi, A. C., Meyer, G. J., Petrides, K. V., & Miguel, F. K. (2022). Validity of the Trait Emotional Intelligence Questionnaire (TEIQue) in a Brazilian sample. *Frontiers in Psychology*, 13, Article 735934. <https://doi.org/10.3389/fpsyg.2022.735934>

History

Received January 26, 2023

Revision received December 12, 2023

Accepted December 15, 2023

Published online February 13, 2024

Section: Personality

Acknowledgments

We would like to thank all professors who helped us to recruit participants. Also, we would like to thank all participants that took part in the study and enabled this research to be possible.

Conflict of Interest

The authors have no competing interests to declare.

Publication Ethics

This study was approved by the University College London – Departmental Ethics Committee (CEHP/2021/586). All research methods were conducted in accordance with relevant guidelines and regulations. Consent to participate was obtained from participants, and no further personal information were asked to ensure the anonymity and confidentiality of their responses.

Authorship

NH and KP conceived the study. NH and KP collected the data. NH, KP, and LH designed the study. NH and KP conducted the

statistical analysis. NH wrote the manuscript with revisions and contributions from KP and LH.

Open Data

The data that support the findings of this study are available at the following link and can be accessed upon reasonable request: https://www.researchgate.net/publication/361025404_Main_Study_Dataset.

Funding

The authors have no funding to declare.

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Appendix A

Table A1. Sampling domain of trait EI in adults

Factors and facets	High scorers perceive themselves as...
Well-being	
Self-esteem	...successful and self-confident.
Happiness	...cheerful and satisfied with their lives.
Optimism	...confident and likely to “look on the bright side” of life.
Self-control	
Emotion regulation	...capable of controlling their emotions.
Stress management	...capable of withstanding pressure and regulating stress.
Impulse control	...reflective and less likely to give into their urges.
Emotionality	
Emotion perception (self and others)	...clear about their own and other people’s feelings
Emotion expression	...capable of communicating their feelings to others.
Relationships	...capable of having fulfilling personal relationships.
Empathy	...capable of taking someone else’s perspective.
Sociability	
Social awareness	...accomplished networkers with excellent social skills.
Emotion management (in others)	...capable of influencing other people’s feelings.
Assertiveness	...forthright, frank, and willing to stand up for their rights.
Adaptability ^a	...flexible and willing to adapt to new conditions.
Self-motivation ^a	...driven and unlikely to give up in the face of adversity.

Note. ^a These facets are not keyed to any factor, but feed directly into the global trait EI score.

Appendix B

Table B1. Brief description of different TEIQue forms

Scale	Recommended age	<i>n</i>	Facets ^a	Factors ^b	Global ^c	Completion time	Response format
TEIQue	Adult	153	15	4	Yes	25 min	7 Likert-type
TEIQue-SF	Adult	30	0	4	Yes	5 min	7 Likert-type
TEIQue-AF	13–17 years	153	15	4	Yes	25 min	7 Likert-type
TEIQue-ASF	13–17 years	30	0	4	Yes	5 min	7 Likert-type
TEIQue 360°	Not specified	153	15	4	Yes	20 min	7 Likert-type
TEIQue 360°-SF	Not specified	30	0	4	Yes	5 min	7 Likert-type
TEIQue 360°-FB	Not specified	15	0	4	Yes	5 min	Percentages
TEIQue-CF	8–12 years	75	0	9	Yes	25 min	5 Likert-type
TEIQue-CSF	8–12 years	36	0	0	Yes	10–15 min	5 Likert-type

Note. *n* = number of items. ^a The number of possible facets scores that can be obtained. ^b The number of possible factors scores that can be obtained. ^c Whether a global trait EI score can be obtained.

Appendix C

Table C1. TEIQue published translations

Study	Measure	Language	Factor analysis		Cronbach's $\alpha^{a,b}$				
			Method	Factors	Global	WB	SC	EM	SO
Abe et al. (2012)	TEIQue-SF	Japanese/Japan	CFA	4	.87	.75	.65	.62	.71
Al-Dassean (2023)	TEIQue-SF	Arabic/Jordan	CFA	4	.91–.87	.81–.72	.53–.38	.68–.61	.54–.58
Aluja et al. (2016)	TEIQue	Catalan/Spain	CFA & EFA	4	.95	.91	.87	.89	.86
Andrei et al. (2016)	TEIQue	Italian/Italy	CFA	4	.86	.84	.57	.71	.77
Ashouri et al. (2021)	TEIQue	Iranian/Iran	EFA	4	.95	.90	.80	.86	.69
Chirumbolo et al. (2019)	TEIQue	Italian/Italy	ESEM	4	.86	.70	.69	.78	.82
Deniz et al. (2013)	TEIQue-SF	Turkish/Turkey	CFA & EFA	4	.81	.72	.70	.66	.70
Di Fabio et al. (2016)	TEIQue	Italian/Italy	CFA	4	.96	.93	.81	.92	.80
Fehér et al. (2019)	TEIQue-SF	Mandarin/China	CFA	4	.88	.82	.65	.65	.47
Freudenthaler et al. (2008)	TEIQue	German/Austria	CFA & EFA	4	.96	.94	.86	.90	.88
Gökçen et al. (2014)	TEIQue	Chinese/Hong Kong	EFA	4	.91	.75	.82	.80	.82
Hjalmarsson and Dåderman (2022)	TEIQue-SF	Swedish/Sweden	NA	NA	.86	.55	.81	.61	.86
Jacobs et al. (2015)	TEIQue-SF	German/Germany	CFA	4	.88	.85	.67	.58	.62
Jolić-Marjanović and Altaras-Dimitrijević (2014)	TEIQue	Serbian/Serbia	CFA & EFA	4	.95	.80	.82	.78	.80
Kryukova and Shestova (2020)	TEIQue-SF	Russian/Russia	CFA & EFA	4	.80	.77	.67	.57	.65
Martskvishvili et al. (2013)	TEIQue	Georgian/Georgia	EFA	4	.87	.82	.71	.69	.78
Mikolajczak et al. (2007)	TEIQue	French/Belgium	EFA & Parallel analysis	4	.94–.95	.91–.91	.85–.87	.86–.90	.86–.87
Perazzo et al. (2020)	TEIQue-SF	Portuguese/Brazil	ESEM	4	.88	.85	.65	.64	.60
Pérez-Díaz and Petrides (2021)	TEIQue-SF	Spanish/Chile	CFA & ESEM	4	.90	.84	.81	.63	.41
Rahimi (2019)	TEIQue	Persian/Iran	CFA	4	.87	.75	.59	.66	.72
Sanchez-Ruiz et al. (2020)	TEIQue	English/Lebanon	CFA & EFA	4	.86	.81	.75	.68	.78
Shahzad et al. (2014)	TEIQue-SF	Urdu/Pakistan	NA	NA	.89	NA	NA	NA	NA
Stamatopoulou et al. (2016)	TEIQue-SF	Greek/Greece	NA	NA	.89	.78	.60	.64	.75
Szczygiel et al. (2015)	TEIQue-SF	Polish/Poland	NA	NA	.90–.87	NA	NA	NA	NA
Ulutas (2019)	TEIQue	Turkish/Turkey	EFA & CFA	4	.91	.85	.70	.76	.84
Zuanazzi et al. (2022)	TEIQue	Portuguese/Brazil	EFA	4	.90	.86	.79	.76	.80

Note. TEIQue = Trait Emotional Intelligence; TEIQue-SF = Trait Emotional Intelligence-Short Form; NA = not available; ESEM = exploratory structural equation modeling; EFA = exploratory factor analysis; CFA = confirmatory factor analysis; TEIQue = Trait Emotional Intelligence Questionnaire; TEIQue-SF = Trait Emotional Intelligence Questionnaire-Short Form; WB = Well-being; SC = Self-control; EM = Emotionality; SO = Sociability. ^a Whenever there are two values in the cell, the first one is based on the male sample and the second one is based on the female sample. ^b Omega coefficient was used instead of Cronbach's α when the number is in italics. Test-retest reliability is used when the number is in bold.

Appendix D

Table D1. TEIQue-SF (Model 2) standardized factor loadings

Item	Global	Well-being	Self-control	Emotionality	Sociability
5	.45	-.62			
20	.03	.73			
9	.22	.35			
24	.22	.31			
12	.51	-.36			
27	.19	.57			
4	.52		-.35		
19	.17		.38		
7	.47		-.26		
22	.50		-.02		
15	.13		.45		
30	.23		.29		
1	.08			-.25	
16	.48			.11	
2	.46			-.25	
17	.27			.38	
8	.56			.11	
23	.44			.17	
13	.41			-.35	
28	.54			-.03	
6	.08				.53
21	.12				.18
10	.54				-.05
25	.48				-.09
11	.25				.37
26	.41				-.22
3	.15				
14	.49				
18	.52				
29	.18				

Note. Bold values are significant at $p < .05$.

Appendix E

Table E1. Regressions of the global trait EI on the Big Five

Dependent variable	R	R ²	F (df)	NEO-FFI	β	t
Global trait EI	.550	.302	105.29 (5, 1,216)	N	-.07	19.21*
				E	.02	4.40
				O	.02	3.84
				A	.00	.54
				C	.03	6.17

Note. N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness.

* $p < .001$.