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Emotional Intelligence Scale for International Students: A Proposal for a Developed Version

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In higher education, making international students aware of their EI could improve emotional awareness, adaptability, and functioning, thereby assisting in day-to-day interactions and adapting to life in a foreign country. Incorporating an Emotional Intelligence Scale (EIS) could aid in the on boarding of international students. This study aimed to develop and validate an EIS capable of accurately measuring EI amongst international students attending a teaching university in Northwest China. The sample consisted of 482 male and female undergraduate and graduate students ranging in age from 18 to 40. The multivariate statistical technique was used for data reduction or factor analysis. Exploratory and confirmatory factor analyses showed that the 24-item distributed among the four-factor model was a good fit based on the modification indices. The four factors considered were Understanding and Regulation, Positive Affect, Optimism, and Utilization. Techniques employed to assess the reliability of the EIS included Cronbach's alpha coefficient, test/re-test stability, Composite Reliability (CR), and Average Variance Extracted (AVE). Of interest, there were no statistically significant differences between post-graduate/graduate students or different genders. Findings indicated that the EIS might effectively be employed to measure EI in this target population.

Keywords: factor analysis, emotional intelligence, international students, scale, psychometric properties

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BACKGROUND

Emotional Intelligence is, broadly, the ability to perceive, use, understand, manage, and handle emotions. The concept of studying and even measuring EI in Psychology and academic research circles is certainly not new. Already, a vast body of research and a significant breadth of studies exist to explain, define, and further investigate the properties of EI and how it can be applied and measured appropriately.

While it took several decades to garner enough popularity to be further investigated by other researchers, Michael Beldoch was credited with coining the term Emotional Intelligence when he addressed the concept of EI in a paper published in 1964. Beldoch introduced the idea in his paper Sensitivity to Expression of Emotional Meaning in Three Modes of Communication. The

next known mention of EI was attributed to Leuner, who wrote a 1964 paper in German entitled Emotional Intelligence and Emancipation. It focused on adult women who rejected social roles, which was believed to be due to low Emotional Intelligence stemming from premature separation from their mothers. Published in the Psychotherapeutic Journal, the work further focused on many potential benefits properly assessing EI could provide with regard to achieving successful therapy and psychiatric outcomes for emancipated children (Matthews et al., 2002; Ghasemi et al., 2013; Koleilat, 2017).

Over time, as the concept of EI became well-understood and a more popular topic in general, additional efforts were made to determine the specific categories that come together to form one's Emotional Intelligence. Howard Gardner, an American developmental psychologist from Harvard, made one such attempt. Gardner's paper detailed the standard theories of intelligence, including IQ, which he felt were extremely limited in scope, and used them to develop a more detailed Theory of Multiple Intelligences (Gardner, 2011). He suggested that there was not only one single type of intelligence, but rather many different "intelligences" that, together, represent both the interpersonal and the intrapersonal self. While the former involves understanding people's intentions, motivations, and desires, the latter looks, instead, at feelings, fears, and motivations (Maftoon and Sarem, 2012; Kamal et al., 2016). Gardner's research also led him to realize that separating human cognitive abilities from emotion is not possible (Gardner and Moran, 2006).

Some aspects of emotional intelligence were also discovered to have a significant impact on students' educational excellence. Following a review of evidence in emotional intelligence and students (Ghasemi et al., 2013). Emotional intelligence enables students to detect and identify their thoughts and feelings in a given circumstance, which assists them in learning more efficiently (Kamal et al., 2016).

The Schutte Self-Report Emotional Intelligence Test (SSEIT) was created by Salovey and Mayer to assess general Emotional Intelligence (Jonker and Vosloo, 2008). The instrument comprises 33 items addressing the following four main dimensions: Emotion Perception, Utilizing Emotions, Managing Self-Relevant Emotions, and managing others; feelings.

Fukuda et al. (2011) developed a two EI measures for Japanese University students. The first scale, Wong and Law Emotional Intelligence Scale (WLEIS), consists of 16 items addressing four main factors: Self-Emotion Appraisal, Other's Emotion Appraisal, Use of Emotion, and Regulation of Emotion. The second scale, Schutte Emotional Intelligence Scale (SEIS), contains 33 items distributed among 4 main factors: Emotion Perception, Utilizing Emotions, Managing Self-Relevant Emotions, and Managing Other's Emotions.

It seemed as if more and more researchers were investigating ideas involving Emotional Intelligence—but the research was only beginning.

Daniel Goleman published the New York Times bestselling book Emotional Intelligence: Why It Can Matter More Than IQ in 1995, which took a deep look into the critical importance of understanding and assessing EI. Goleman went so far as to say that someday accurately assessing EI could become more important than measuring IQ as far as levels of intelligence are concerned (Goleman, 2005; Meshkat and Nejati, 2017). While the notion of replacing *IQ* tests with assessments regarding Emotional Intelligence is fascinating, it has yet to occur. The standard *IQ* test remains the typical metric for measuring intelligence. However, notable attention has been garnered in recent years in connection with efforts to assess the impact of Emotional Intelligence on leadership and achieving business success (Petrides and Furnham, 2000).

Emotional Intelligence

For the intents and purposes of this study, the phrase Emotional Intelligence means, broadly, the capacity to process sophisticated information about the emotions of oneself and others, along with the capability to understand and influence thought processes and behavior using the data obtained (Chopra and Kanji, 2010, p. 977).

Psychologists Peter Salovey and John Mayer took this definition a step further. They developed the understanding of the term into "the capability to monitor feelings and emotions of oneself and others and to distinguish and use this information to direct one's thinking and action" (Jonker and Vosloo, 2008, p. 23). Later, they refined this definition again, redefining EI as "the capability to perceive and integrate emotions to facilitate thought, understand emotions, and regulate these emotions to develop personal growth" (Chopra and Kanji, 2010, p. 978).

Even though researchers had increased the level of detail and thought put into the concept of EI and its definitions, they continued to increase their knowledge and understanding. Throughout the 1990s to the present day, new definitions continued to emerge. For example, in 1997, Cooper and Sawaf described EI as "the capability to sense, understand, and efficiently apply the power and acumen of emotions as a basis for human energy, information, connection, and influence." This particular definition was built based on their theory involving the Four Cornerstones of Emotional Intelligence—Emotional Literacy, Emotional Fitness, Emotional Depth, and Emotional Alchemy (Boda, 2016, p. 14). These more detailed definitions imply that it was around this time that the understanding of EI was moving away from the more theoretical discussions of the past to those that had more practical applications.

Later in 1997, Reuven Bar-On delivered a non-cognitive model indicating that Emotional Intelligence might be best viewed as "an array of non-cognitive skills, and competencies, which affects one's ability to thrive in coping with environmental demands and pressures" (Kumar, 2018). Still, experts continued to express new perspectives and subtle differences in the definition of EI. The following year, Weisinger stated that Emotional Intelligence could be viewed as "intelligent use of emotions: you are fully aware to make your emotions work for you through applying these emotions to lead your behavior and thinking in manners which enhance your results" (Mohamad and Jais, 2016, p. 677). Interestingly, and following the trend of researchers seeking more practical applications of Emotional Intelligence theory and understanding, Weisinger was the first to apply EI to specific industries,

e.g., The Emotionally Intelligent Real Estate Agent and The Emotionally Intelligent Financial Advisor. He also made direct connections between EI and success in the workplace, providing tools to help individuals improve their EI while on the job, including his book Emotional Intelligence at Work (Weisinger, 2000).

In 1999, experts delved more deeply into the intricacies of Emotional Intelligence when Caruso, the co-founder of the Multifactor Emotional Intelligence Scale (MEIS), offered this detailed description: Emotional Intelligence is the "capability to solve problems through emotions to live a more effective life." To Caruso, Emotional Intelligence was a multi-part system in which one part would fail to function without the other. For example, true intelligence requires emotions. The presence of emotion but lack of intelligence or intelligence without emotions refer to one-sided solutions. The optimal solution is when the head and heart work together to solve problems and achieve goals (Mayer and Cobb, 2000).

As various definitions sought to pinpoint precisely what EI was, which various emotional and intellectual components converge to establish one's EI, and why it mattered on both individual and more broad terms, models began to emerge that more specifically categorized Emotional Intelligence. The three main models of EI that were theorized were: Ability-based EI, Mixed EI, and Trait-based EI. Petrides and Mavroveli (2020) indicated that the Ability-based and Trait-based models each offer unique features that set them apart from each other. Most specifically, they can be differentiated based on the type of testing utilized to measure them, i.e., self-reporting vs. performance testing. Trait-based EI is often viewed as less malleable than Ability-based EI because trait-based EI is based on personality trait-like features, which are seen as relatively stable and measured by self-reporting. In contrast, Ability-based EI is based on cognitive ability and can change over time. It is typically assessed through some testing process. These concepts were further developed and detailed in various publications over several years (Petrides et al., 2007).

Petrides, a Professor of Psychology and Psychometrics at University College in London, defined Trait-based EI as "a group of emotional self-perceptions situated at the lower levels of personality," indicating that it was, essentially, an individual's self-perceptions of understanding emotional skills (Petrides and Furnham, 2001, p. 426). Trait-based EI was defined as the examination of behavioral inclinations and self-perceived aptitudes through self-reporting. Furthermore, trait-based EI requires examination using a personality framework. A substitution for the same concept was the feature of emotional self-efficacy—or the ability to manage emotions internally rather than externally (Petrides et al., 2016).

Schutte Self-Report Emotional Intelligence Test

While countless experts have endeavored to define Emotional Intelligence and explain what constitutes it and how it develops, the very existence of these many theories raises the question; how should Emotional Intelligence be tested or measured? Experts have constructed tests to measure EI that have undergone rigorous testing to ensure validity and effectiveness at assessing the characteristics that are believed to make up Emotional Intelligence.

In 1990, Salovey and Mayer developed the SSEIT, which measured general Emotional Intelligence (Jonker and Vosloo, 2008). This instrument focused on how well one could manage their own emotions and understand and respond to those of other individuals (Schutte et al., 1998; Cakan and Altun, 2005). It relied upon subscales divided into four parts: Emotion Perception, Utilizing Emotions, Managing Self-Relevant Emotions, and managing others "feelings." Of course, the SSEIT method was slightly related to Emotional Intelligence, the EQ-I method in particular (Domínguez-García and Fernández-Berrocal, 2018).

In essence, SSEIT is a self-reporting instrument made up of 33 items that, when examined together, aim to provide an accurate measure of the level of EI of the participant (Schutte et al., 2009), Providing a specific measure of each person's awareness of understanding and managing their own and others' emotions, as well as assessing how it affects their problem-solving abilities (Schutte et al., 1998; Cakan and Altun, 2005).

In 1990, to validate the test and its continued viability, 62 of the items included in the SSEIT were assessed by applying the exploratory factor analysis on 346 participants. The outcomes of this assessment led researchers to the four-factor model (Mayer et al., 2004). However, experts also claimed that an adequate 1-factor solution could be formed by reconsidering the data after eliminating 29 items. Furthermore, Schutte et al. (1998) described a sufficient internal consistency reliability (r = 0.87–0.90) and agreeable test/re-test reliability (r = 0.78) for the uni-dimensional scale during 3 weeks. Accordingly, it was proven that the EIS differed from previously established measures used in assessing the Big Five personality traits—extraversion, agreeableness, conscientiousness, emotional stability, and openness to experiences.

Researchers who aimed to ensure the reliability and effectiveness of the SSREIS, the Romanian version of the test, investigated it at two levels—psychometric properties and factorial validity and reliability with 344 participants of first- to sixth-year dental students at the School of Dental Medicine, University of Medicine and Pharmacy "Carol Davila." In assessing the test's psychometric properties, a ten-factor model was suggested by exploratory factor analysis (Dumitrescu et al., 2014). Additionally, a test of global fit showed a non-significant fit, and the SCREE test indicated a one-factor model. Further, in exploring the factorial validity and reliability of a bilingual version of the SSREIS in 2015, Emotional Intelligence proved to be a multi-factorial construct (with three factors), as indicated by Naeem and Muijtjens.

In 2008, Jonker and Vosloo also examined the SEIS psychometric qualities and came out with a six-dimensional factor structure of the SEIS. 324 participants were involved in the study. Of interest, the results showed substantial distinctions between gender and language groups. They determined that the SEIS evaluated the following: perception, understanding, expression, regulating, and harnessing one's own emotions and those of others.

To track the development and validation of a brief self-report measure of Emotional Intelligence, Davies et al. (2010) defined the results of the five-dimensional factor structure. Austin et al. (2004) acknowledged a three-factor model that explored optimism/positivity, using and regulating emotions, and the appraisal of emotions. In addition, Kun et al. (2010) assessed emotions, optimism, regulation of emotions, and intrapersonal and interpersonal utilization of emotions among three factors.

As indicated by the many attempts by researchers to confirm the effectiveness of testing to obtain an accurate assessment of Emotional Intelligence, it is critical to ensure that the measures and outcomes achieved are reliable for the target population. This study aimed to design and provide a new version of the EIS to effectively measure the EI of international students attending a university in China. However, further reading by researchers indicated that there was no evidence of the construct validity, reliability, or established norms for using the EIS to assess international students; thus, a rare opportunity to study EI among international students in China was realized.

The Present Study

This study aimed to validate the SSEIT among international students studying at a university in China at the undergraduate and post-graduate levels by providing evidence of psychometric properties, such as construct validity and reliability measures, using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), on the current sample to reach the developed scale fit indices. By way of background on the importance of the study, it is essential to consider that the population of international students studying abroad has dramatically increased in recent years (Lee, 2017). In 2018, China noted a marked increase in students attending Chinese universities from abroad, increasing by 3,010 students or 0.62% compared to the year prior. It constituted a massive influx of international students that had never been seen before. In total that year, 492,185 international students from 196 countries were pursuing their education at 1,004 higher education facilities that spanned China's thirty-one provinces/autonomous regions/provincial-level municipalities. This data did not include international students in Hong Kong, Macau, and Taiwan (Ministry of Education, 2018).

While the EIS has been adapted and revalidated for use in many different contexts and adjusted to assess various ages and regions, there is still no clear consensus on the ideal number of items or factors that should be considered to achieve the highest level of effectiveness. Remarkably, this remains one of the most reliable tools to evaluate this construct, although its joint validity for diverse situations, nationalities, or cultures has not been proven.

It is believed that this study marks the first attempt to validate the scale using international students being educated in China. It is hoped that the study's findings could enhance and improve measurement efficiency while facilitating the required implementation of EI developmental programs at different specializations and levels in the country. Assuredly, developing a way to assess and monitor the EI of international students successfully would be of great benefit to universities and students alike.

It is important to note that the psychometric properties of validity and reliability were deemed appropriate. Of interest, statistical differences concerning the variables of gender and grade emerged as an outcome of the study.

MATERIALS AND METHODS

The study focused on developing the SSEIT to evaluate the Emotional Intelligence of the target population of international students in China at undergraduate and post-graduate levels through a cross-sectional survey. Specifically, students attending SSNU in Northwestern China.

The psychometric method was used, with EIS models applied in this study. It proved to be suitable, enabling researchers to obtain the desired information relating to the nature of EI among this specific population. The results will help determine the factors which would allow specialists to measure EI under similar circumstances in the future.

Participants

The specific group studied included a sample of international students enrolled in undergraduate and post-graduate degree programs—both on scholarships and self-financed—at SNNU in Northwest China. Participants hailed from 12 countries, including Pakistan, Yemen, Egypt, Australia, Sudan, Ethiopia, Iraq, Russia, Nigeria, Cameroon, Japan, and Rwanda. All of the students included in the sample were non-Chinese and could understand the English language well according to the nature of their study as foreigners. The final selection comprised 482 students from 30 different programs, including majors from Human Sciences, Natural Sciences, and Applied Sciences.

In addition to the above characteristics, among the 482 participants, 254 students were male (52.7%), and 228 students were female (47.3%) (Mean = 1.473, *SD* = 0.499). The population consisted of 210 (46.3%) undergraduate students and 272 (53.7) post-graduate students (Mean = 1.564, *SD* = 0.496). The age of students ranged between 18 and 40 years (Mean = 2.199, *SD* = 1.154). In addition to the written prior approval of all participants, an endorsement was gained from the Ethical Review Board of Shaanxi Normal University.

Research Instrument

The instrument utilized for the study was the Emotional Intelligence Scale (EIS) (Schutte et al., 1998). The questionnaire contained 33 items, was reverse-scored, and was measured on a 5-point Likert scale from 1 to 5, scoring: 5, 28, and 33. The possible range of scores was 33–165. In this study, researchers have used the SSEIT, which has 33 items in general, and taken a completely exploratory approach to the factor structure in the current sample. Before implementation, three experts reviewed all questionnaire items and approved them for use as long as the questionnaire was well-known and had previously been used in other countries.

TABLE 1 | Eigenvalues and variance percentage explained for principal factors extraction and rotation of EIS items (N = 482).

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.178	35.095	35.095	10.178	35.095	35.095	6.666	22.985	22.985
2	2.396	8.264	43.359	2.396	8.264	43.359	4.349	14.998	37.982
3	1.875	6.467	49.826	1.875	6.467	49.826	2.675	9.223	47.206
4	1.507	5.198	55.023	1.507	5.198	55.023	2.267	7.818	55.023

Procedure

A questionnaire was prepared and supplied to the sample of students participating in the study. The questionnaire was in English and was deployed *via* online distribution. The online link was[1]:

The survey was sent through the WeChat application to all international students enrolled in undergraduate and post-graduate programs at Shaanxi Normal University in Northwestern China to obtain the sample needed for an appropriate study population.

To ensure they could successfully capture students who fit the description of their target sample, researchers asked the International Students' Office for assistance. The office helped distribute the online questionnaire link to appropriate student groups within the university. Through this partnership, the researchers could directly reach students enrolled in the international program through their designated WeChat groups, enabling an informative message to be quickly sent to all appropriate students on several occasions from March to April 2019. Through making several attempts to reach the desired study target population, it was assured that every eligible student could participate if they wished. In total, 505 undergraduate and post-graduate international students were invited to participate in the study. However, only those students whose questionnaires were filled out completely and returned were registered and included in the final sample to avoid missing values. Students were required to read a significant amount of information in connection with the study and agree to participate to be granted access to the questionnaire's content.

[1]https://kwiksurveys.com/s/Xe0xHbhS?from=singlemessage&isappinstalled=0#/0

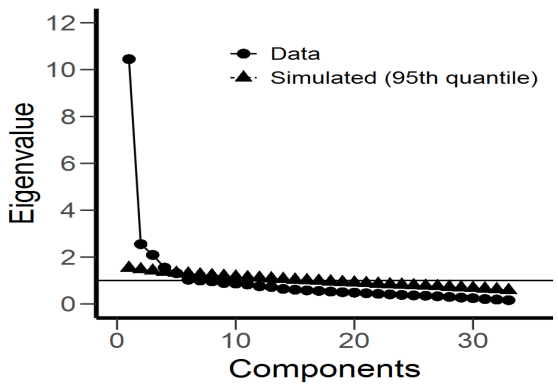

FIGURE 1 | Scree Plot of EIS.

Data Analysis

The data analyses that were conducted utilized varimax rotation and primary components analyses comprised of EFA, item analysis to find the construct validity, and reliability analysis. However, to reliably measure the suitability of model-to-data and the determining factors underlying the definite measuring instrument, other descriptive statistics and fit indices were applied, including means, standard deviations, test/re-test,

TABLE 2 | Factor loadings and communalities (H^2) of EIS.

Items	Factor				
	F1	F2	F3	F4	H^2
Item21	0.776				0.632
Item8	0.763				0.729
Item20	0.750				0.664
Item4	0.713				0.700
Item5	0.693				0.543
Item16	0.683				0.551
Item17	0.670				0.487
Item19	0.634				0.546
Item7	0.609				0.604
Item18	0.551				0.513
Item15	0.546				0.477
Item25	0.482				0.358
Item9	0.470				0.227
Item13	0.461				0.444
Item27		0.794			0.686
Item23		0.734			0.682
Item2		0.705			0.525
Item22		0.676			0.613
Item24		0.637			0.600
Item3		0.613			0.438
Item26		0.604			0.489
Item11			0.723		0.585
Item14			0.714		0.523
Item10			0.700		0.607
Item6			0.442		0.470
Item12			0.415		0.433
Item33				0.842	0.715
Item29				0.809	0.656
Item32				0.669	0.458

TABLE 3 | Correlation matrix among EI items.

Item no.	2	3	4	5	7	8	10	11	14	15	16	17	18	19	20	21	22	23	24	26	27	29	32	33
2	–																							
3	0.438	–																						
4	0.304	0.423	–																					
5	0.427	0.324	0.619	–																				
7	0.724	0.374	0.682	0.450	–																			
8	0.316	0.352	0.766	0.590	0.670	–																		
10	0.311	0.929	0.387	0.331	0.406	0.380	–																	
11	0.811	0.328	0.329	0.322	0.416	0.486	0.473	–																
14	0.306	0.517	0.283	0.817	0.245	0.370	0.378	0.365	–															
15	0.332	0.727	0.560	0.415	0.567	0.536	0.330	0.344	0.366	–														
16	0.716	0.502	0.551	0.498	0.530	0.586	0.309	0.374	0.447	0.568	–													
17	0.615	0.811	0.485	0.430	0.489	0.541	0.324	0.318	0.375	0.334	0.464	–												
18	0.357	0.392	0.518	0.418	0.485	0.528	0.441	0.305	0.456	0.476	0.484	0.457	–											
19	0.529	0.397	0.566	0.446	0.536	0.569	0.319	0.457	0.372	0.424	0.442	0.452	0.551	–										
20	0.520	0.627	0.688	0.546	0.574	0.668	0.351	0.469	0.408	0.534	.519	0.492	0.513	0.588	–									
21	0.719	0.428	0.562	0.695	0.517	0.604	0.317	0.450	0.379	0.466	0.523	0.472	0.423	0.494	0.670	–								
22	0.448	0.343	0.452	0.313	0.447	0.459	0.308	0.444	0.328	0.461	0.389	0.325	0.474	0.398	0.458	0.336	–							
23	0.374	0.411	0.528	0.349	0.519	0.524	0.494	0.470	0.330	0.431	0.402	0.337	0.418	0.453	0.496	0.343	0.712	–						
24	0.370	0.369	0.447	0.375	0.388	0.462	0.417	0.334	0.420	0.302	0.356	0.583	0.307	0.321	0.424	0.342	0.397	0.536	–					
26	0.400	0.345	0.398	0.322	0.379	0.424	0.302	0.431	0.960	0.389	0.359	0.399	0.364	0.352	0.395	0.348	0.555	0.525	0.389	2212				
27	0.484	0.463	0.434	0.348	0.400	0.406	0.454	0.368	0.137	0.349	0.375	0.431	0.337	0.331	0.378	0.374	0.509	0.681	0.584	0.469	–			
29	0.608	0.330	0.805	0.502	0.020	0.621	0.430	0.400	0.740	0.514	0.417	0.780	0.359	0.830	0.513	0.418	0.413	0.390	0.453	0.372	0.600	–		
32	0.900	0.302	0.320	0.511	0.060	0.319	0.330	0.550	0.420	0.620	0.373	0.610	0.440	0.410	0.670	0.345	0.335	0.600	0.253	0.068	0.440	0.361	–	
33	0.721	0.300	0.550	0.710	0.104	0.910	0.310	0.390	0.710	0.720	0.374	0.516	0.321	0.820	0.490	0.860	0.850	0.910	0.174	0.660	0.430	0.636	0.423	–

Cronbach' s alpha coefficients, CR, AVE, correlation matrix, *t*-test, KMO, Chi-square, CFI, GFI, TLI, and RMSEA. In addition, CFA was applied. Statistical analysis was processed by SPSS version 22, AMOS version 24, JASP 0.14.1.0.

RESULTS

As indicated by **Table 1** and **Figure 1** below, the factor determined to be best suited to the data was four. From the initial EFA, concerning the 33 items with the designated Eigenvalues, the four-factors structure was higher than could be extracted, indicating 55.023% among total variance. Two factors were excluded, each containing two items. The removed items include 1, 28, 30, and 31, and they were eliminated due to loadings that were not high and had been loaded in more than one factor (Jonker and Vosloo, 2008) in addition to being extracted as the second factor from the intended factor (Ki and Hon, 2008).

Scree Plot

The principal component analysis was executed to assess the construct validity, determine the factors on which the items loaded, and label the factors. Additionally, to confirm the appropriateness of the data for analysis, the Test of Sphericity (BST) by Kaiser-Meyer-Olkin (KMO) and Bartlett was performed. The results for the study displayed a KMO value of 0.919, yielding a more significant value than those suggested by the literature, therefore making factor analysis appropriate. To provide additional background on the acceptable KMO values, Kaiser (1974) indicated that factor analysis could be carried out when the KMO value was greater than 0.5 (Chan and Idris, 2017). The significance of the Chi-squared statistics obtained at the end of the BST displayed a normal data distribution with multiple variables. The BST was, therefore, established as significant (Chi-square = 7018.930; $p <$ 0.00l). Together, these results demonstrated the appropriateness of EIS for factor analysis in this particular study.

Table 2, displayed below, shows that the first factor, Understanding and Regulation of Emotion, consisted of 14 items for which factor loads were estimated from 0.461 to 0.776. The second factor, Positive Affect, contained 7 items with factor loadings ranging from 0.604 to 0.794. The third factor, Optimism, included 5 items with factor loadings ranging from 0.415 to 0.723. Finally, the fourth factor, Utilization of Emotion, consisted of 3 items with factor loadings ranging from 0.669 to 0.842. Communality values of items ranged between 0.227 and 0.729.

The correlation among the items included on the final EIS is clarified in **Table 3** below. The data indicated that all items were statistically significant (ρ) at 0.01 and 0.05. The correlations among the items were satisfactory and supported the structural validity of the study. According to Heale and Twycross (2015), identifying a correlation coefficient of less than 0.3 signified a weak correlation, whereas a moderate correlation was between 0.3 and 0.5, and greater than 0.5 signified a strong correlation.

Cronbach's alpha calculation relied on four factors of the scale. The Cronbach's alpha (α) for each factor was 0.683, 0.706, 0.673, and 0.751, respectively, as illustrated in **Table 4**. All of these values were appropriate and acceptable ratios for this measure, according to Barbaranelli et al. (2014). To investigate the scale's internal consistency, students responded twice with a 2-week interval between applications. The re-test reliability for each factor was 0.791, 0.833, 0.805, and 0.789, respectively, based on the re-test. These results were confirmed by 50 students who responded to the scale. The results indicated a stable coefficient indicator that was acceptable (Heale and Twycross, 2015). The composite reliability (CR) for each factor was 0.83, 0.81, 0.75, and 0.71, respectively. The AVE was higher than 0.50, which indicates a suitable approximate validity (Hair et al., 2014). In **Table 4**, each factor containing the AVE has been compared with the squared correlation and reported accordingly in the table to assess discriminant validity. The evidence of discriminant validity was acceptable (Hair et al., 2014).

To effectively obtain a satisfying fit of the model, the final scale consistently eliminated any items containing a high modified index during the subsequent confirmatory factor analyses (CFA). As a result of this process, items 6, 9, 12, 13, and 25 were removed due to a factor loading value of less than 0.40. Modification indexes suggested correlating error points between 21–5, 23–2, and 21–20 to improve the modification indexes of the models.

As illustrated in **Figure 2** below, the final scale for the study consisted of 24 items under a four factor-model, which included the following four factors: Understanding and Regulation of Emotion with 11 items, Positive Affect with 7 items, Optimism with 3 items, and, finally, Utilization of Emotion with 3 items.

Table 5 presents the fit indices conforming with the final measurement model. In **Figure 2**, all fit indices were found to follow the criterion, thereby demonstrating that the final four-factor model exhibited a satisfactory fit.

By using the following criteria: (X^2/DF = 3.108, CFI = 0.912, TLI = 0.900, RMSEA = 0.066), the remaining index was also considered a good fit (GFI = 0.881).

All items of each indicator in the revised measurement model showed relatively high factor loadings. All of them were higher than 0.50 standardized loadings, except one, which was measured at 0.49. With this in mind, it was concluded that all factor loadings were statistically significant at $p < 0.01$. The revised measurement model and fit indexes are presented in **Table 5** and **Figure 2** for reference.

Table 6 shows the arithmetic mean and standard deviations for the gender (male/female) and grade (undergraduate/

TABLE 4 | Reliability, average variance extracted, correlation and squared correlation matrixes among factor models of EIS.

Factor	Cronbach's alpha (α)	Test Re-test	CR	AVE	1	2	3	4
1	0.683	0.791	0.83	0.69	-	0.48	0.38	0.12
2	0.706	0.833	0.81	0.66	0.69	-	0.19	0.0004
3	0.673	0.805	0.75	0.53	0.62	0.44	-	0.002
4	0.751	0.789	0.71	0.50	0.11	0.02	0.04	-

AVE, Average Variance Extracted, CR, Composite Reliability.

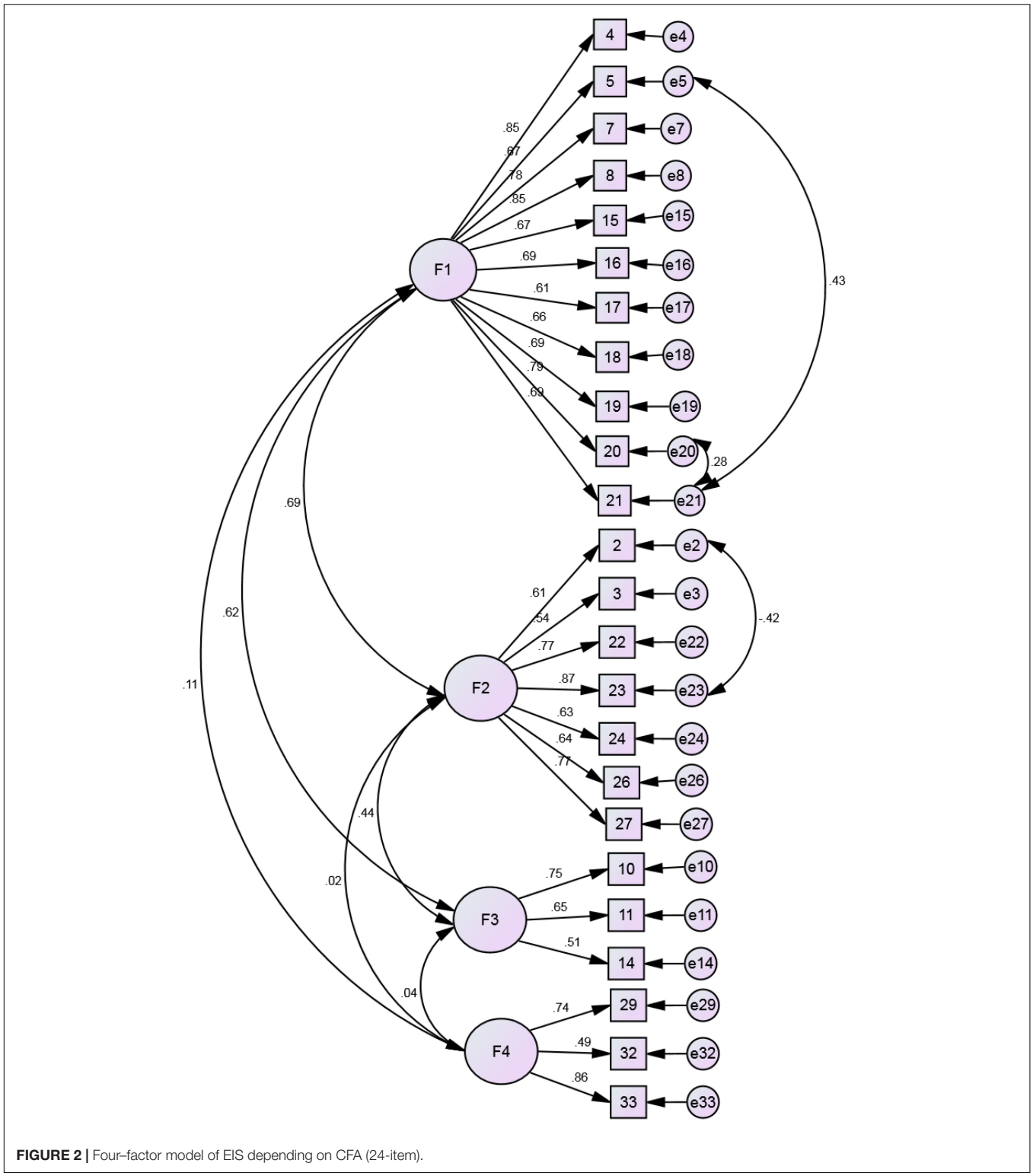

FIGURE 2 | Four–factor model of EIS depending on CFA (24-item).

post-graduate) variables. An independent *t*-test was used to compare the mean of two separate groups. However, the outcomes showed no statistically significant differences in connection with the EIS. These results did not support the hypothesis of this study.

DISCUSSION

As indicated earlier, the study aimed to investigate the psychometric properties of the EIS to determine whether it was a valid measure of Emotional Intelligence for undergraduate

and post-graduate international students studying at a Chinese university. Sample participants were members of both male and female genders. In assessing the reliability and construct validity of the EIS, EFA was conducted. The results obtained through EFA utilized a cross-sectional design that supported a four-factor structure with 29 items included on the EIS, which explained 0.40 of the variances. The factor loading ranges defined during EFA ranged from 0.415 to 0.842 on all except four factors—1, 28, 30, and 31—which were removed because they had been loaded on a weak factor. This result was similar to the outcomes of several other studies in connection with the EIS (Jonker and Vosloo, 2008; Davies et al., 2010) despite the differences between factor models.

Next, to emphasize the construct validity of the measuring tools utilized for the study, CFA was carried out. The items were loaded on a number of factors and less than 0.40 (Austin et al., 2004). According to these criteria, we removed 5 items—including 6, 9, 12, 13, and 25—as they were unlikely to improve the quality or overall effectiveness of the EIS. These efforts lead to the final number of items, which were 24. The factor loadings ranged from 0.49 to 0.87 for each of the four factors included. By referring back to **Figure 2**, the remaining items included in the final scale are shown, for which their loadings were all 0.50 and above. The exception was item number 32, which was loaded on 0.49. These findings were similar to those found in the study of Naeem and Muijtjens (2015).

These outcomes contradicted the initial uni-factorial model Schutte et al. (1998) suggested. Furthermore, they confirmed the three-factor model presented by Austin et al. (2004)—Optimism/Mood Regulation and Utilization of Emotions and Appraisal of Emotions, the six-factor model of Jonker and Vosloo (2008),or the five-factor model of Davies et al. (2010). However, the scale was similar to the four-factor model of Petrides and Furnham (2000), which focused on the four factors of Optimism/Mood Regulation, Appraisal of Emotions, Social Skills, and Utilization. Only subtle differences exist between this study's scale and the Petrides and Furnham model, and these primarily occurred in connection with the labels of the factors.

The results of the correlation matrix between items showed a significant correlation, indicating consistency between items that reflected on the scale's factors. This finding concurred with the study of Andrade et al. (2014).

Regarding the items removed from the current study, a commonality presented itself. Most of these items had also been eliminated in previous studies relying upon a multi-factor structure (Austin et al., 2004; Kun et al., 2010).

In addition, the reliability analysis showed the adequacy of the internal consistency for the EIS. Our study used two statistical methods to confirm the reliability of the scale. Cronbach's alpha coefficient (α) gave values of 0.683, 0.706, 0.673, and 0.751 for each factor, respectively. According to Taber (2018), these values were acceptable and coincided with the minimally acceptable value for reliability, which included values that fell between 0.65 and 0.70. These results were consistent with Barbaranelli et al. (2014).

The re-test for each factor led to values of 0.791, 0.833, 0.805, and 0.789, respectively. The Composite Reliability (CR) produced the following values for each factor, 0.83, 0.81, 0.75, and 0.71, respectively. These results were consistent with Davies et al. (2010).

Finally, to obtain an accurate measurement of the discriminant validity, each factor containing the AVE, the squared correlation per each pair of factors, is to be compared. Discriminant validity is shown if the AVE of the factors is found to be higher than the squared correlation (Hair et al., 2014; Casanova et al., 2019; AL-Qadri et al., 2021). In **Table 4**, the majority of the constructs meet the criteria of the AVE factor, and the AVE factors are greater than the squared correlation.

It is evident from the data shown in **Table 5** that the fit indices were relatively high according to the criteria used for previous studies, except GFI, which was close to a good fit. The revised model results were as follows: (X^2/DF = 3.108, CFI = 0.912, GFI = 0.881, TLI = 0.900, RMSEA = 0.066). These findings comply with the findings of Ki and Hon (2008).

As indicated by the multiple measures of analysis utilized to study the reliability and effectiveness of the EIS, the study showed that the scale is an effective tool for measuring the Emotional Intelligence of international students studying at both the undergraduate and graduate levels at a Chinese university. It was determined that the scale meets the criteria for acceptable measurement of this sample of students and will, therefore, achieve the requirements for implementation in connection with EI development programs at different specializations and levels.

In assessing other variables thought to be important to the study, gender (male/female) and grade (undergraduate/post-graduate) differences in the EIS were analyzed using the independent *t*-test. As indicated by the mean values, no statistically significant differences were revealed in the EIS for either of these variables. These results were congruent with those reported by Cakan and Altun (2005), Depape et al. (2006), and Meshkat and Nejati (2017) that no significant gender differences

TABLE 5 | Fit indices of the CFA proposed four-factor model.

Models fit	Criteria	Measurement model	Revised model
CMIN (X2)	-	1396.942	755.322
DF	-	371	243
X^2/DF	≤5	3.765	3.108
CFI	≥0.90	0.848	0.912
GFI	≥0.90	0.831	0.881
TLI	≥0.90	0.834	0.900
RMSEA	≤0.08	0.088	0.066

X^2, Chi-square; DF, degree of freedom; CFI, Comparative fit index; GFI, general fit index; TLI, Tucker—Lewis Fit Index; CFI, Comparative Fit Index; RMSEA, Root-Mean Square Error of Approximation.

TABLE 6 | Differences among the (Gender-Grade) groups.

Gender		N	M	SD	SE	*T*-Test	DF	ρ
	Male	254	97.8307	22.36790	1.40349	0.742	480	0.459
	Female	228	96.3816	20.30471	1.34471			
Grade	Undergraduate	210	95.7810	21.64436	1.49360	1.230	480	0.219
	Postgraduate	272	98.1985	21.20166	1.28554			

exist in terms of EIS. In opposition to the original expectations of the study, no significant differences between undergraduate and post-graduate students were found. This unexpected result contradicted the findings of Kamal et al. (2016).

CONCLUSION

The study's findings enabled a revised version of the EIS to be developed, which demonstrated strong evidence of success at assessing this particular group. This determination was based on the testing connected with structural validity, correlation matrix, Cronbach's Alpha coefficient, test/retest reliability, CR, and AVE.

The study resulted in a four-factor model containing the following factors: Understanding and Regulation (11 items), Positive Affect (7 items), Optimism (3 items), and Utilization (3 items). To ensure precise interpretation and results, using this scale necessitates that the separate subscale scores of the EIS are reported independently, rather than relying upon a single global score for analysis. To report incorrectly would skew the results and make the scale ineffective at providing an accurate assessment of Emotional Intelligence. This is, of course, due to the nature of the theoretical construct of the scale.

The resulting scale expands the possibilities for measuring Emotional Intelligence amongst international students in Chinese universities. As such, this form of the EIS proved that it had both validity and reliability when measuring Trait-based EI in this population. In addition to providing valuable information to researchers, students, administration, and others, the implementation and use of this scale would allow researchers and others to collaborate and develop practical and useful EI programs. In addition, students might also utilize the questionnaire responses to reflect on their emotional functioning and detect their strengths and weaknesses. This could play a critical role in enabling students to improve their overall emotional awareness and adaptability, allowing them to more effectively manage emotional situations occurring during day-to-day interactions with multi-national students. The measure could also aid students in enhancing their interpersonal skills, communication, and performance during educational activities, including group work and teamwork. As there were no statistically significant differences among students concerning gender or grade variables, the scale could be utilized broadly without alteration or revision.

Limitations and Research Directions

The measurement instrument used in this study was developed based on several EIS models produced in the past and for similar purposes. It is crucial to recognize that while the EIS was developed by Schutte et al. (1998), it was derived from Jonker and Vosloo (2008) conceptualization of EIS and, therefore, has satisfactory construct validity. A validated scale consisting of 24-items has been used to obtain data from the study through statistical analysis by EFA and CFA. In any different context from the one in which study researchers used it, the interpretation of the study must be taken with caution. The study only sought data from 482 international students at the undergraduate and post-graduate levels at SNNU-China. Therefore, it does not demographically represent the context or makeup of students from other universities or situations.

While the study examined the structural validity and inner consistency of Cronbach's alpha, test/re-test stability, CR, and AVE, it did not examine predictive validity. Also, the study illustrated statistically significant differences according to gender and grade variables. However, it did not endeavor to assess or explain differences according to the students' native countries, the nature of their scholarship, their specific programs of study, or potential language variables in the sample. Therefore, it is recommended that future research explore how to expand the constructs to better measure the characteristics of students diagnosed using the EIS.

Despite these limitations, the results that have been reported in connection with this study are valid and acceptable. The study and its findings will have a marked impact on the future of utilizing EIS to assess international students attending Chinese universities. In addition, it could potentially help pave the way for future research that considers additional variables, which will make the EIS an even more robust and more reliable tool.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the International Students Office, Shaanxi Normal University. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

AA-Q: collecting, analyzing, and interpreting the data. WZ: supervising the work and proofreading the manuscript. ML: reviewing the literature and proofreading the manuscript. MA-K: reporting the results and editing the manuscript. AB: reporting the final draft and editing the manuscript. All authors contributed to the article and approved the submitted version.

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REFERENCES

AL-Qadri, A. H., Zhao, W., Li, M., Al-khresheh, M. H., and Boudouaia, A. (2021). The prevalence of the academic learning difficulties: an observation tool. *Heliyon J.* 7:e08164. doi: 10.1016/j.heliyon.2021.e08164

Andrade, A., Martins, R., Duarte, J., and Madureira, A. (2014). Validation of emotional intelligence measure (MIE) for the portuguese population. *Atención Primaria* 46, 92–100. doi: 10.1016/S0212-6567(14)70073-3

Austin, E. J., Saklofske, D. H., Huang, S. H. S., and McKenney, D. (2004). Measurement of trait emotional intelligence: testing and cross-validating a modified version of schutte et al.'s (1998) measure. *Personality Indiv. Diff.* 36, 555–562. doi: 10.1016/S0191-8869(03)00114-4

Barbaranelli, C., Lee, C. S., Vellone, E., and Riegel, B. (2014). Dimensionality and reliability of the self-care of heart failure index scales: further evidence from confirmatory factor analysis: dimensionality and reliability of the schfi. *Res. Nur. Health* 37, 524–537. doi: 10.1002/nur.21623

Boda, T. (2016). Emotional intelligence as a determinant factor of successful leadership. *Int. J. Hum. Soc. Sci. Educ.* 3:9003. doi: 10.20431/2349-0381.0309003

Cakan, M., and Altun, S. A. (2005). Adaptation of an emotional intelligence scale for turkish educators. *Int. Educ. J.* 6:6.

Casanova, J., Almeida, L., Peixoto, F., Ribeiro, R., and Marôco, J. (2019). Academic expectations questionnaire: a proposal for a short version. *SAGE Open* 9, 1–10. doi: 10.1177/2158244018824496

Chan, L. L., and Idris, N. (2017). Validity and reliability of the instrument using exploratory factor analysis and cronbach's alpha. *Int. J. Acad. Res. Bus. Soc. Sci.* 7, 400–410. doi: 10.6007/IJARBSS/v7-i10/3387

Chopra, P. K., and Kanji, G. K. (2010). Emotional intelligence: a catalyst for inspirational leadership and management excellence. *Total Quality Manage. Bus. Excel.* 21, 971–1004. doi: 10.1080/14783363.2010.487704

Davies, K. A., Lane, A. M., Devonport, T. J., and Scott, J. A. (2010). Validity and reliability of a brief emotional intelligence scale (BEIS-10). *J. Indiv. Diff.* 31, 198–208. doi: 10.1027/1614-0001/a000028

Depape, A.-M. R., Hakim-Larson, J., Voelker, S., Page, S., and Jackson, D. L. (2006). Self-talk and emotional intelligence in university students. *Can. J. Behav. Sci. Revue Can. Des Sci. Du Comport.* 38, 250–260. doi: 10.1037/cjbs2006012

Domínguez-García, E., and Fernández-Berrocal, P. (2018). The association between emotional intelligence and suicidal behavior: a systematic review. *Front. Psychol.* 9:2380. doi: 10.3389/fpsyg.2018.02380

Dumitrescu, A. L., Badiță, D., Dogaru, C. B., Toma, C., Perțea, G., and Duță, C. (2014). Psychometrical properties of the romanian version of the schutte emotional intelligence scale. *Soc. Behav. Sci.* 159, 557–560. doi: 10.1016/j.sbspro.2014.12.424

Fukuda, E., Saklofske, D. H., Tamaoka, K., Fung, T. S., Miyaoka, Y., and Kiyama, S. (2011). Factor structure of japanese versions of two emotional intelligence scales. *Int. J. Test.* 11, 71–92. doi: 10.1080/15305058.2010.516379

Gardner, H. (2011). *Frames of Mind: The Theory of Multiple Intelligences*, 3 Edn. New York: Basic Books.

Gardner, H., and Moran, S. (2006). The science of multiple intelligences theory: a response to lynn waterhouse. *Educ. Psychol.* 41, 227–232. doi: 10.1207/s1532p4104_2

Ghasemi, H., Behjat, F., and Kargar, A. A. (2013). The relationship between ei and writing improvement of iranian EFL students at MA level. *Int. J. Ling.* 5:197. doi: 10.5296/ijl.v5i5.4457

Goleman, D. (2005). *Emotional Intelligence: Why it Can Matter More than IQ*. New York, NY: Bantam.

Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2014). *Multivariate Data Analysis*, 7th Edn. Harlow, UK: Pearson.

Heale, R., and Twycross, A. (2015). Validity and reliability in quantitative studies. *Evid. Based Nur.* 18, 66–67. doi: 10.1136/eb-2015-102129

Jonker, C. S., and Vosloo, C. (2008). The psychometric properties of the schutte emotional intelligence scale. *SA J. Industr. Psychol.* 34, 21–30. doi: 10.4102/sajip.v34i2.689

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika* 39, 31–36.

Kamal, R., Rahmani, R., and Kumar, G. V. (2016). "Relationship between emotional intelligence and academic achievement among Iranian students in Mysore [Paper Presentation]," in *Proceedings of the International Conference on Psychology, Educational, and Behavioral Sciences*, Tahran.

Ki, E.-J., and Hon, L. C. (2008). A measure of relationship cultivation strategies. *J. Public Relat. Res.* 21, 1–24. doi: 10.1080/10627260802520488

Koleilat, A. (2017). Emotional intelligence emotional quotient. *EC Paediatr.* 4, 35–38.

Kumar, S. (2018). An array of non-cognitive capabilities, competencies and skills coping with environmental demands. *Nat. J. Multidisciplinary Res. Dev.* 3, 591–593.

Kun, B., Balazs, H., Kapitany, M., Urban, R., and Demetrovics, Z. (2010). Confirmation of the three-factor model of the assessing emotions scale (AES): verification of the theoretical starting point. *Behav. Res. Methods* 42, 596–606. doi: 10.3758/BRM.42.2.596

Lee, J. S. (2017). Challenges of international students in a Japanese university: ethnographic perspectives. *J. Int. Stud.* 7, 73–93. doi: 10.32674/jis.v7i1.246

Maftoon, P., and Sarem, S. N. (2012). The realization of gardner's multiple intelligences (MI) theory in second language acquisition (SLA). *J. Lang. Teach. Res.* 3, 1233–1241. doi: 10.4304/jltr.3.6.1233-1241

Matthews, G., Zeidner, M., and Roberts, R. D. (2002). *Emotional Intelligence: Science and Myth.* London: MIT Press.

Mayer, J. D., and Cobb, C. D. (2000). Educational policy on emotional intelligence: does it make sense? *Educ. Psychol. Rev.* 12:22.

Mayer, J. D., Salovey, P., and Caruso, D. R. (2004). Target articles: emotional intelligence:theory, findings, and implications. *Psychol. Inquiry Int. J. Adv. Psychol. Theory* 15, 197–215. doi: 10.1207/s15327965pli1503_02

Meshkat, M., and Nejati, R. (2017). Does emotional intelligence depend on gender? A study on undergraduate english majors of three iranian universities. *SAGE Open* 7:579. doi: 10.1177/2158244017725796

Ministry of Education (2018). *Statistical Report on International Students in China for 2018*. Available online at: http://en.moe.gov.cn/documents/reports/201904/t20190418_378692.html (accessed July 4, 2020)

Mohamad, M., and Jais, J. (2016). Emotional intelligence and job performance: a study among malaysian teachers. *Proc. Econ. Finance* 35, 674–682. doi: 10.1016/S2212-5671(16)00083-6

Naeem, N., and Muijtjens, A. (2015). Validity and reliability of bilingual English-Arabic version of Schutte self report emotional intelligence scale in an undergraduate Arab medical student sample. *Med. Teach.* 37(Suppl. 1), 20–26. doi: 10.3109/0142159X.2015.1006605

Petrides, K. V., and Furnham, A. (2000). On the dimensional structure of emotional intelligence. *Personali. Indiv. Diff.* 29, 313–320. doi: 10.1016/S0191-8869(99)00195-6

Petrides, K. V., and Furnham, A. (2001). Trait emotional intelligence: psychometric investigation with reference to established trait taxonomies. *Eur. J. Personali.* 15, 425–448. doi: 10.1002/per.416

Petrides, K. V., Pita, R., and Kokkinaki, F. (2007). The location of trait emotional intelligence in personality factor space. *Br. J. Psychol.* 98, 273–289. doi: 10.1348/000712606X120618

Petrides, K. V., Siegling, A. B., and Saklofske, D. H. (2016). "Theory and measurement of trait emotional intelligence," in *The Wiley Handbook of Personality Assessment*, ed. U. Kumar 90–103. doi: 10.1002/9781119173489.ch7

Petrides, K., and Mavroveli, S. (2020). Theory and applications of trait emotional intelligence. *Psychol. J. Hellenic Psychol. Soc.* 23, 24–36. doi: 10.12681/psy_hps.23016

Schutte, N. S., Malouff, J. M., and Bhullar, N. (2009). "The assessing emotions scale," in *Assessing Emotional Intelligence*, eds J. D. A. Parker, D. H. Saklofske, and C. Stough 119–134. doi: 10.1007/978-0-387-88370-0_7

Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., et al. (1998). Development and validation of a measure of emotional intelligence. *Personali. Indiv. Diff.* 25, 167–177. doi: 10.1016/S0191-8869(98)00001-4

Taber, K. S. (2018). The use of cronbach's alpha when developing and reporting research instruments in science education. *Res. Sci. Educ.* 48, 1273–1296. doi: 10.1007/s11165-016-9602-2

Weisinger, H. (2000). *Emotional Intelligence at Work.* New York, NY: JohnWiley & Sons.

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