The Reliability and Validity of the Levels of Emotional Awareness Scale for Children (LEAS-C) in Chinese Children

Pengcheng Zhang[1], Zhe Wang[2], Yongjiang Shen[1,*] and Haibin Wang[3,4,*]

[1]*School of Educational Science, Nantong University, Nantong 226019, China*

[2]*Washington State University Pullman, United States*

[3]*School of Business Adminstration, Zhejiang Gongshang University, Hangzhou 310018,China*

[4]*School of Educational Science, Huangshan University, Huangshan 245041, China*

Abstract: *Objective:* To revise and explore the application of the Levels of Emotional Awareness Scale for Children (LEAS-C) in Chinese Children.

Methods: 417 Primary school students from grade four and five were surveyed by the Chinese version of the Levels of Emotional Awareness Scale for Children (LEAS-C) and the Questionnaire on Youth's Emotional Intelligence (QYEI).

Results: (1) The LEAS-C contained self and other two dimensions, and the intra-class correlation coefficient of the overall scale and two subscales were more 0.88 and 0.89 respectively, the Cronbach's alpha coefficient of full and two subscales were more 0.90, 0.89, and 0.88 respectively, the split-half reliability of the overall scale and two subscales were 0.86, 0.82, and 0.83 respectively; (2) the correlation between two subscales of LEAS-C was 0.87, and the correlation between the total scores and the two subscales were 0.93 and 0.95 respectively; (3) significant positive correlations were found between LEAS-C and QYEI; and (4) the scores of females were higher than those of male on self-, other- and total-LEAS-C scores.

Conclusion: The Levels of Emotional Awareness Scale for Children (LEAS-C) has good reliability and validity and can be used in Chinese Children.

Keywords: Emotional awareness scale for children, reliability, validity, chinese children.

1. INTRODUCTION

Emotional Awareness has been regarded as a prerequisite for Emotional Intelligence [1]. It refers to individual's ability to recognize and describe one's own emotions and those of other people [2], which has a significant impact on the individual's mental health and interpersonal relationships [3]. There is a body of research that has shown that higher levels of emotional awareness were associated with outstanding achievements [4, 5] and better interpersonal relationships [6], and thus can help them increase satisfaction [7] and well-being [8], and even contributed to the rehabilitation of a number of physiological disorders [9]. On the contrary, lower levels of emotional awareness correlated with somatic symptoms [10], increased depression and other negative emotions [11], and even contributed to eating disorders and other physiological disorders [12].

Therefore, a reliable and valid method is in urgent need for assessing emotional awareness. Lane and Swartz (1987) proposed the "levels of emotional awareness" construct that shares the structural characteristics of Piaget's stages of cognitive development. The six levels of emotional awareness in ascending order are (0) no awareness, (1) physical sensations, (2) action tendencies, (3) single emotions, (4) blends of emotions, and (5) blends of emotional experience (the capacity to appreciate that the self and other may experience different complex emotions). Subsequently they developed the Levels of Emotional Awareness Scale (LEAS) based on the theoretical construct. The Scale [2] contains 20 open-ended items and each item includes a short scenario that involves two people, the self and another person, and is designed to evoke one of four emotions: anger, fear, happiness, or sadness. For each item, the respondent answers two questions, "How would you feel?" and "How would the other person feel?" [2]. There is a variety of studies supporting the construct validity and reliability of the LEAS [13-16]. In order to address the issue associated with that the LEA model has been undertaken with adult samples only, Bajgar(2005) developed the Levels of Emotional Awareness Scale for Children (LEAS-C) [17], which consists of 12 scenarios with each involving oneself and another person. Of these 12 scenarios, 10 were modified LEAS items with simplifications of grammar and vocabulary. Studies provided preliminary evidence for the reliability and validity of the LEAS-C. Total scores have

*Address correspondence to this author at the School of Educational Science, Nantong University, Nantong 226019, China; Tel: 0513-55003215; Fax: 0513-55003215; E-mail: zpc03091082@126.com or asdwhb@163.com

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acceptable internal consistency (coefficient alpha = 0.66) and good inter-rater reliability (r = 0.89), and the LEAS-C is positively related to emotion comprehension (r = 0.28, p < 0.05) and the WIDC-III verbal subtest (r = 0.31, p < 0.05) [17].

Although the research about emotional awareness conducted in the United States is sufficient, there has been only a few relevant studies undertaken in China [18], which might be attributed to the lack of introducing proper measurement of emotional awareness. Therefore, the present study was conducted to explore the application of the Levels of Emotional Awareness Scale for Children (LEAS-C) and revise the current version to be tailored to Chinese children.

2. METHODS

2.1. Participants

The LEAS-C was given to 450 Children recruited from one elementary school in China, 417 (92.7%) of whom completed the questionnaire. They ranged in age from 10-14 years [mean age (SD) = 12.21 (0.97)]. All children grew up in middle-class background and identified as competent Chinese speakers. A letter describing the study and its purposes was distributed to all students in Grade 4, Grade 5, and Grade 6 (males: n = 192; female: n = 225; Grades 4: n = 111; Grades 5: n = 121; Grades 6: n = 185). The selection of participants was consistent with the original author [17].

3. MEASURES

3.1. Emotional Awareness Scale for Children (LEAS-C)

Although researchers have agreed on the conceptualization of emotional awareness, there is a lack of consistency in choosing instruments. Generally speaking, there are three commonly used instruments: Levels of Emotional Awareness Scale (LEAS); Toronto Alexithymia Scales (TAS); and Trait Meta-mood Scale (TMMS). Given that there may be more threats to internal validity of the latter two instruments than LEAS, we choose LEAS in the present study regardless of its scoring complexity.

The original LEAS-C items were translated and back translated by five graduate students in psychology and three graduate students in English literacy. Also, with reference to the Japanese version of LEAS (LEAS-J), the items were revised to make the scenarios more fit to Chinese culture considering the cultural difference between China and western countries.

The LEAS-C comprises 12 evocative interpersonal scenarios. Each scenario is described in two to four sentences, and involves two people to elicit one of four types of emotion (happiness, anger, sadness, or fear; three samples each). Subjects were asked to describe the feelings of self and of the other person for each scenario. Two scenarios were presented per page, each scenario followed by two questions: “How would you feel” and “How would the other person feel” [17].

The scoring procedure for the LEAS-C is identical to that followed by the LEAS. LEAS-C was scored by two authors (W.H.B, M.H.) independently, who classified the emotion-related words attributed to Self, Other and Total for each scenario according to the LEAS scoring manual [19].

3.2. Questionnaire on Youth’s Emotional Intelligence (QYEI)

The Questionnaire on Youth’s Emotional Intelligence (QYEI) is a self-report questionnaire, which developed by Zhu *et al*. [20]. The Questionnaire composed by the 20 items and contains five factors, which are Emotional Contagion, Emotional Cognition, Emotional experience, Emotional Evaluation and Emotion regulation. The Cronbach’s alpha coefficients for overall and individual subscales were more than 0.80, thus the questionnaire is deemed as having sound reliability and validity [20].

QYEI was chosen in this study compared with LEAS-C because emotional awareness may be equated with the emotional cognition construct in emotional intelligence. In addition, QYEI has been successfully employed as an instrument measuring more than 25,000 students in 117 schools in 9 cities in China.

4. RESULTS

4.1. Reliability

Three types of reliability have been assessed for LEAS-C in the present study, which are inter-rater reliability, internal consistency reliability and split-half reliability respectively: Intra-class correlation coefficients were calculated for the Self, Other, and total to determine the inter-rater reliability of LEAS-C. The results were 0.89 for self-scores, 0.88 for other scores, and 0.91 for total scores (Table **1**). Cronbach’s α coefficients were calculated to determine the Internal consistency reliability of the LEAS-C. The results were 0.86 for self scores, 0.87 for other scores, and 0.90 for

Table 1: The Reliability of LEAS-C

Reliability	Self	Other	Total
Inter-rater reliability	0.89	0.88	0.91
Internal consistency reliability	0.86	0.87	0.90
Split-half reliability	0.82	0.83	0.86

Table 2: Correlations between LEAS-C and QYEI

	Emotional Intelligence	Emotional Contagion	Emotional Cognition	Emotional Experience	Emotional Evaluation	Emotion Regulation
1 Self	0.17**	0.13**	0.23**	0.17**	0.16**	0.18**
2 Other	0.15**	0.11*	0.21**	0.17**	0.15**	0.17**
3 Total	0.16**	0.12*	0.21**	0.17**	0.14**	0.18**

total scores. Then we calculated the split-half reliability, the results were 0.82 for self scores, 0.83 for other scores, and 0.86 for total scores (Table **1**).

4.2. Correlations with the QYEI

Correlations between the LEAS-C (self-, other-, and total-scores) and Questionnaire on Youth's Emotional Intelligence (QYEI) were examined (see Table **2**). The results show that Self, Other, and Total scores were significantly correlated with Emotional Intelligence (r = 0.17, p < 0.01; r = 0.15, p < 0.01; r = 0.16, p < 0.01, respectively), Emotional Contagion (r = 0.13, p < 0.01; r = 0.11, p < 0.05; r = 0.12, p < 0.05, respectively), Emotional Cognition (r = 0.23, p < 0.01; r = 0.21, p < 0.01; r = 0.21, p < 0.01, respectively), Emotional experience(r = 0.17, p < 0.01; r = 0.17, p < 0.01; r = 0.17, p < 0.01, respectively), Emotional Evaluation (r = 0.16, p < 0.01; r = 0.15, p < 0.01; r = 0.14, p < 0.01, respectively) and Emotion regulation (r = 0.18, p < 0.01; r = 0.17, p < 0.01; r = 0.18, p < 0.01, respectively).

4.3. Gender Effects

Independent samples t-test were used to examine whether the gender or grade effects was significant. The results show that The LEAS-C scores of females were higher than those of males on all subscales and total scales (p < 0.001 or p < 0.05) (Table **3**).

5. DISCUSSION

The objective of present study is to revise and explore the application of the Levels of Emotional Awareness Scale for Children (LEAS-C) in Chinese children, so we reports the preliminary psychometric and validity testing of the LEAS-C. The LEAS-C is shown to have good inter-rater reliability and internal consistency reliability. The finding for Intra-class correlation coefficients and Cronbach'sαcoefficients are very similar to the previous studies [17]. We also report the split-half reliability of LEAS-C, which is the first report and suggesting that the reliability of LEAS-C is acceptable. In conclusion, the preliminary psychometric showed that the LEAS-C provides sufficient reliability when applying in Chinese children.

Although reliability is one of the important criteria when evaluating the quality of a test, validity should not paid attention to as well. We predicted that the LEAS-C would be related to the Emotional Intelligence, because emotional awareness has been regarded as a

Table 3: Gender Differences of LEAS-C

	Male (n=192)		Female (n=225)		*t*
	M	*SD*	*M*	*SD*	
Self	2.11	0.71	2.35	0.54	-3.80***
Other	2.04	0.81	2.20	0.67	-2.20*
Total	2.51	0.79	2.76	0.58	-3.75***

prerequisite for emotional intelligence [21], and a variety of studies have showed that the emotional awareness is associated with greater emotion recognition ability [1] and empathy [13]. To confirm, we examined the relationship between LEAS-C and Questionnaire on Youth's Emotional Intelligence (QYEI) and the result showed a significant, positive correlation between the LEAS-C (self-, other-, and total-scores) and QYEI (Emotional Contagion, Emotional Cognition, Emotional experience, Emotional Evaluation, Emotion regulation), suggesting the LEAS-C have good construct and concurrent validity. To be specific, the LEAS-C scores in total, self, and other are significantly correlated to emotional cognition and the all the correlation coefficients reach above 0.21, which are the highest compared with other coefficients. This result may confirm that emotional awareness serve as a constituting component of emotional intelligence.

Consistent with adult findings [14, 15, 22, 23] and previous study about children [17], we found strong gender differences in EA using the LEAS-C. That is, the scores of females were higher than those of male on self, other, and total-LEAS-C scores, and it is evident that the sex difference of emotional awareness is present cross-culturally and cross-group (the sex differences that have been observed in EA among adults also emerge in children as young as 12 years old).

CONCLUSIONS

The findings provide evidence that the Levels of Emotional Awareness Scale for Children (LEAS-C) has good reliability and validity and can be used in Chinese Children. In addition, female children had significantly higher scores than male children on LEAS-C, showing that the sex difference identified in the LEAS-C was cross-culturally.

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