Psychometric properties of the Arabic version of the Schutte Self-Report Emotional Intelligence Test (SSEIT)

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ABSTRACT:

Introduction: *Emotional intelligence (EI) has been assessed by multiple questionnaires; one of the most commonly used is the Schutte EI Scale (Schutte et al., 1998). The aim of this study was to explore the validation of the English SSEIT in Arabic language and assess its psychometric properties.*

Methods: *This study was conducted about a sample of 350 students. The Transcultural validation of the Arabic version of SSEIT was carried out according to the methodology of Vallerand, (1989).*

Results: *The present study showed a high Cronbach alpha of 0.908 of the Arabic version of the SSEIT. Correlations between the four subscales of the SSEIT, scores ranked from 0.626 to 0.868 with a very significant level (p=0.000) indicating a good internal consistency and homogeneity of the construct. The exploratory factor analysis demonstrated that the Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis (KMO = 0.876) and the Bartlett's test of sphericity was of 7986.4 with p=0.000.The confirmatory factor analysis, performed by AMOS version 23.0.0, showed a X2/df of 7.35 ; CFI and RMSEA indices were of respectively of 0.7 and 0.08.*

Conclusion: *The psychometric properties of the Arabic version of the SSEIT showed acceptable indices.*

KEYWORDS: Emotional intelligence; Schutte Self-Report; Psychometric properties; Arabic version

INTRODUCTION

Emotions play key role in sport performance (e.g., Lane et al., 2010; Laborde et al., 2016) (Beedie et al., 2000; Laborde et al., 2016). Accordingly, Emotional Intelligence (EI) has recently gained the attention of psychological researchers especially in the area of physical education and sport.

The term of 'Emotional Intelligence' (EI) was attributed by Peter Salovey and John D. Mayer, describing it as the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions (Lane et al., 2010).

The first model of EI was introduced by Mayer and Salovey in 1990, distinguishing between four areas of problem-solving necessary to carry out emotional reasoning: (a) perceiving emotions, (b) facilitating thought by using emotions, (c) understanding emotions, and (d) managing emotions in oneself and others. Salovey and Mayer also initiated a research program intended to develop valid measures of emotional intelligence and to explore its significance. It has been acknowledged that athletes should develop stable emotional competences, such as the ability to regulate ones' own emotions. How individual deals with their own and others' emotions play an important role to attend maximal performance.

EI has been assessed using multiple self-reported questionnaires; the most common used one was the Schutte EI Scale (Schutte et al., 1998) (Laborde, et al., 2016). To our knowledge, the SSEIT was not studied in the arabic world. The aim of this study is to explore the psychometric properties of the Arabic version of the SSEIT.

METHODOLOGY

PARTICIPANTS

This study was conducted about a sample of 350 students (178 males and 172 females) aged between 17 and 21 years old attending physical education exam of the high school final year. The mean age of the studied population was of 18.7 year ± 0.76 and the gender ratio was of 1, 03 (51% males and 49% females).

INSTRUMENTS

An Arabic version of the English version of the The Schutte Self Report Emotional Intelligence Test (SSEIT) was established according to the transcultural validity of Vallerand RJ (1989) (Schutte et al., 1998).The SSEIT is a 33 item self-report measure of emotional intelligence developed by Schutte et al. (1998). This test is based on the theory developed by Peter Salovey and John Mayer (Mayer & Salovey, 1997; Salovey & Mayer, 1990). Respondents rate themselves on the items using a five point scale from1 (strongly agree) to 5 (strongly disagree).Total scale scores were calculated by reverse coding items 5, 28 and 33, and then summing all items. The global score can range from 33 to 165, with higher scores indicating more characteristic emotional intelligence.

The most widely used subscales derived from the 33-item Assessing Emotions Scale are those based on factors identified by Petrides and Furnham (2000), Saklofske et al. (2003). These factor analytic studies suggested four factor solutions for the 33 items. The four factors or subscales, also called abilities, were described as follows: (a) Perception of emotions, (b) Management of owns emotions, (c) Management of others' emotions and (d) Utilization of emotions (Mayer, et al., 1999; Mayer & Salovey, 1997).

Existing Psychometric Properties of the SSEIT has demonstrated high internal consistency with Cronbach's ranging from 0.87 to 0.90, and a two-week test retest reliability coefficient of 0.78 (Schuttle et al, 1998).

PROCEDURE

The Transcultural validation of the Arabic version of SSEIT was carried out according to the methodology of Vallerand, (1989). We first used the technique of back-translation following the method of Transcultural translation of Vallerand, (1989), insured by 4 bilinguals, and were carried out to prepare the preliminary Arabic version. The clarity of the items was verified by the pre-test method with a target population (N=38). Students were asked to carefully read the questionnaire and to answer each question honestly. They completed the questionnaire in about 15 minutes. The SSEIT was administrated before (2 weeks because of the condition of the national exam) and just after the exam.

ETHICAL CONSIDERATIONS

We required administrative and institutional authorization for each athlete. Parental consent was also required for those under 18 years. Students were informed about the purpose and the procedure of the study before data collection.

DATA ANALYSIS

Thus, participants were observed two times by waiting two weeks before the second administration of the questionnaire.

Data descriptive analyses of study groups (mean, standard deviation) were performed to appreciate the variability of the measure. The temporal stability of the questionnaire was established by measuring the degree of correlation between the answers provided by test-retest of the same subjects (N = 38>20). The Cronbach alpha analysis was used to measure the degree of internal consistency and a factorial analyzes was performed to check the validity of the questionnaire. Exploratory factor analysis reduces the variables to a few factors that explain a large percentage of the original variance. Confirmatory factor analysis (CFA) was treated with AMOS 22.0.0, in order to validate the structure and arrangement of factors. We used several indices of adequacy to evaluate the fit models to data collected such as the χ2 statistic that overcomes the abnormality data, the compared fit index CFI (Bentler, 1999) and TLI (Tucker-Lewis Index), the Goodness of Fit Index GFI and the Root Mean Square error of approximation RMSEA.

RESULTS

DESCRIPTIVE ANALYSES

The higher mean scores of the subscales of the SEIT were managing own emotions and the perception of emotion in Table 1.

TEMPORAL STABILITY OF THE INSTRUMENT

To evaluate the reliability of the experimental (Arabic) version of the SSEIT a test-retest reliability technique was used. The correlation of the scores of the Arabic SSEIT between the first and the second administration of the test, with a two week lag time are described in Table 2. Pearson correlation coefficients (r) were between 0.84 and 0.90with a very significant association p=0.000.

INTERNAL CONSISTENCY OF THE ARABIC VERSION OF THE SSEIT

The internal consistency of the original English and the Arabic versions of SSEIT were studied using the Cronbach alpha analysis. Cronbach Alpha coefficients of each subscale

are summarized in Table 3. Global Alpha coefficients were respectively of 0.922 for the original English version and of 0.908 for the Arabic version of the SSEIT.

CORRELATIONS BETWEEN ITEMS OF THE ARABIC VERSION OF THE SSEIT

To deduce the relationships between the subscales of our questionnaire, we performed correlations between each subscale and its related items. As observed in Table 4, significant positive correlations ranging from 0.246 to 0.779 were observed for the four subscales with their corresponding items with p=0.01. Table 5 describes correlations between the four subscales of the SSEIT, scores ranked from 0.626 to 0.868 with a very significant level: p=0.000.

EXPLORATORY FACTOR ANALYSIS OF THE ARABIC VERSION OF THE SSEIT

The exploratory factor analysis demonstrated that the Kaiser-Meyer-Olkin (KMO) measure verified the sampling adequacy for the analysis, KMO = 0.876 and the Bartlett's test of sphericity was of 7986.4 with p=0.000. This factor analysis suggests extracting 7 items from the initial model: item 8, 9, 19, 24, 26, 27 and 30.

CONFIRMATORY FACTOR ANALYSIS

The confirmatory factor analysis, performed by AMOS version 23.0.0, shown in figure 1 revealed acceptable adjustment indices (Table 6).

Table 1.
Mean scores and respective standard deviations for each subscale of the SSEIT.

	Perception of Emotion	Managing Own Emotions	Managing Others' Emotions	Utilization of Emotion
Mean	31.6	32.1	26.5	22.3
SD	8.2	8.8	5.6	6.0
N	350	350	350	350

Table 2.
The test-retest coefficients for the subscales of the SSEIT.

	Perception of Emotions	Managing Own Emotions	Managing Others' Emotions	Utilization of Emotions
R	0.89	0.90	0.84	0.90
P	0.000	0.000	0.000	0.000
N	38	38	38	38
Items	10	9	8	6

r =Pearson Coefficient

Table 3.
Reliability coefficients for the four factors of the Arabic version and original version of SSEIT.

Subscales	Cronbach alpha of the Arabic version	Cronbach alpha the English version
Perception of Emotion	0.845	0.884
Managing Own Emotions	0.852	0.897
Managing Others' Emotions	0.934	0.938
Utilization of Emotion	0.853	0.881

Table 4.
Correlations of Items of the Arabic version of SSEIT.

Item	Subscales	r
Item 5	perception of emotions	.458**
Item 9	perception of emotions	.539**
Item 15	perception of emotions	.696**
Item 18	perception of emotions	.794**
Item 19	perception of emotions	.562**
Item 22	perception of emotions	.643**
Item 25	perception of emotions	.779**
Item 29	perception of emotions	.677**
Item 32	perception of emotions	.344**
Item 33	perception of emotions	.449**

Item 2	Managing own emotions	.594**
Item 3	Managing own emotions	.684**
Item 10	Managing own emotions	.498**
Item 12	Managing own emotions	.403**
Item 14	Managing own emotions	.522**
Item 21	Managing own emotions	.577**
Item 23	Managing own emotions	.577**
Item 28	Managing own emotions	.558**
Item 31	Managing own emotions	.728**
Item 1	Managing other's emotions	.552**
Item 4	Managing other's emotions	.510**
Item 11	Managing other's emotions	.278**
Item 13	Managing other's emotions	.390**
Item 16	Managing other's emotions	.574**
Item 24	Managing other's emotions	.384**
Item 26	Managing other's emotions	.246**
Item 30	Managing other's emotions	.369**
Item 6	utilisation of emotions	.637**
Item 7	utilisation of emotions	.733**
Item 8	utilisation of emotions	.409**
Item 17	utilisation of emotions	.652**
Item 20	utilisation of emotions	.722**
Item 27	utilisation of emotions	.639**

**. The correlation is significant at the 0.01 level (bilateral).

Table 5.
Correlation between subscales of the SSEIT.

		perception of emotions	management of own emotion	management of others emotions	utilisation of emotions
perception of emotions	Pearson correlation	1			
	Significance level p				
management of own emotion	Pearson correlation	.805**	1		
	Significance level p	.000			
management of others emotions	Pearson correlation	.747**	.626**	1	
	Significance level p	.000	.000		
utilisation of emotions	Pearson correlation	.868**	.819**	.720**	1
	Significance level p	.000	.000	.000	

r= Pearson correlation Coefficient
p= Significance level

Table 6.
Confirmatory factor analysis and models of the SSEIT.

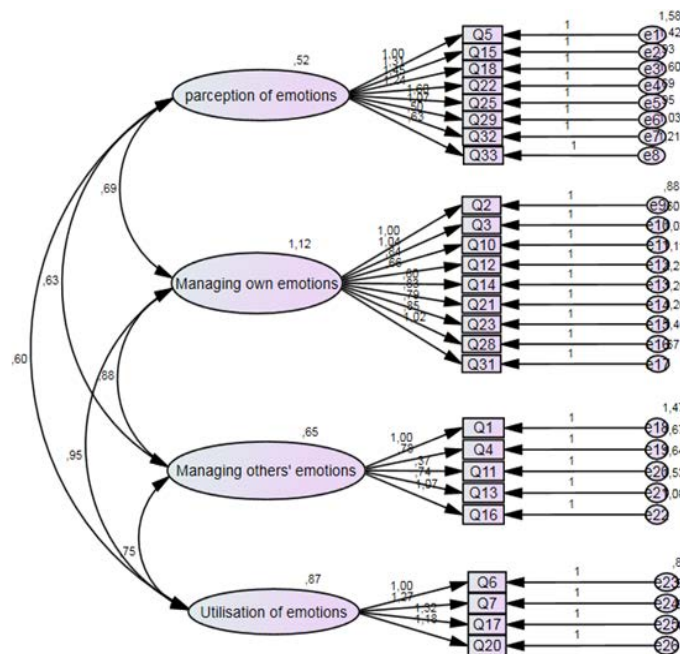| Model	X2	Df	X2/df	CFI	TLI	GFI	RMSEA
4 Factor SSEIT	2337.6	318	7.35	0.7	0.64	0.68	0.08

Figure 1. Model of the hypothesized 26-item 4-factor structure of the Arabic SSEIT. Circles represent latent constructs and squares represent measured variables. All parameters are standardized and significant at p<0.05

DISCUSSION

The present study showed a high Cronbach alpha of the Arabic version of the SSEIT similar to that which was obtained by the developer (Schuttle et al, 1998). Good correlations between items of the SSEIT indicate a good internal consistency and homogeneity of the construct concerning the reliability, correlation coefficients between the scores of the test-retest of the Arabic version of the SSEIT showed high positive correlation indicating a very good repeatability. This result is in accordance with the literature (Cortina, 1993; Bland J et al, 1997). A study among adolescent Nigerien reported similar results good inter-relatedness of the items of the SSEIT, and homogeneity of the construct (Bentler et al, 2020).

The exploratory factor analysis has demonstrated that the Kaiser-Meyer-Olkin (KMO) measure was superior than 0.80 which verify the sampling adequacy for the analysis, and the Bartlett's test of sphericity was very significant at p<0.000. These results indicate that the correlation structure is adequate for factor analyses. Fit Indices of the Confirmatory Factor Analysis of SSREI showed satisfactory model validity. *Confirmatory factor index (CFI) was of 0.7 which is similar to researches of* Schutte et al. (1998), Petrides and Furnham (2000) and Saklofske, et al., (2003). However, studies of (Gignac et al., 2005) and Ng K et al, (2010) reported higher indices of respectively: 0.86 and 0.94. *The root mean square error of approximation (RMSEA) was of 0.08,* which is considered as good fit.

CONCULSION

This study has shown that indices used for the validity of the SSEIT among Tunisian students were acceptable. The Arabic SSEIT version could be used to measure the emotional intelligence among students in physical education and sports field.

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