

Validity of the Questionnaire for the Revised Version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-41)

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Article information	Abstract
<p>Article history: Received: 16 Oct 2011 Accepted: 28 Dec 2011 Available online: 6 Feb 2012 ZJRMS 2014; 16 (5): 63-67</p> <p>Keywords: Anxiety disorders SCARED-41 Reliability Validity</p> <p>*Corresponding author at: Department of Clinical Psychology, Baqiyatallah University of Medical Sciences, Tehran, Iran. E-mail: rabiei_psychology@yahoo.com</p>	<p>Background: The revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-41) is a self-report questionnaire that measures symptoms (panic disorder, generalized anxiety disorder, separation anxiety disorder, obsessive-compulsive disorder, school phobia, social phobia) of DSM-IV linked anxiety disorders in children with aged 8 to 18 years. The aim of the present study was to examine the validation of the (SCARED-41) in a sample of 300 school children.</p> <p>Materials and Methods: After the translation of the original version of the mentioned Scale to Farsi and confirming it by two psychology and English language professors, the final version was administered to 300 students (150 males, 150 females) of Isfahan who were selected through stratified-cluster sampling. The age range of the participants was between 19 to 35 years. To assess reliability, internal consistency and split half methods were used. Also, concurrent, validity of convergent and divergent and factorial structure were used to determine validity.</p> <p>Results: The range of Cronbach's alpha and retest were from 0.52 to 0.93 for subscale. Also, the coefficients of total Cronbach's alpha reliability and retest were 0.93, and 0.92 respectively. Moreover, results of the concurrent validity, validity of convergent and divergent and factorial structure showed that (SCARED-41) has satisfactory validity.</p> <p>Conclusion: The revised version of the SCARED-41 has satisfactory reliability and validity in the sample of Iranian students, and could be used for diagnostic and therapeutic purposes.</p> <p>Copyright © 2014 Zahedan University of Medical Sciences. All rights reserved.</p>

Introduction

Anxiety disorders represent one of the most common psychiatric disorders in children. Epidemiological studies have shown that as many as 5-20% of the children and adolescents are affected by these disorders [1, 2]. The high comorbidity rate of these disorders has also been documented [1, 3] with rates for comorbid depression and anxiety ranging from 15.9 to 61.9% [4]. Anxiety is associated with impairment in various life domains such as in school, leisure-time activities, and peer-interaction [1, 5]. Taken together, all these findings merit a serious attention to childhood anxiety disorders and indicate the need for reliable and valid screening tools. In spite of evidence documenting the significant prevalence of anxiety disorders, the literature suffers from a lack of well-studied assessment instruments. There exist only little paper and pencil patient-rated instruments for the assessment of anxiety disorders severity in children. There are reliable structured diagnostic interviews to diagnose anxiety symptoms in children, but they are difficult to conduct time consuming and require well-trained interviewers [6]. Even though (semi-)structured interviews may be employed to evaluate DSM-IV-TR anxiety disorders in

adolescents, these interviews are highly time-consuming and require trained interviewers to be administered [7]. However, self-report questionnaires can be easily employed for screening purposes to ascertain whether children and adolescents fall within a high-risk category. Several anxiety self-report questionnaires have been developed to evaluate anxiety disorder symptoms. In their review of anxiety rating scales, it can be concluded that the Screen for Child Anxiety Related Emotional Disorders (SCARED) is of one the best self-report instrument to evaluate anxiety symptoms. The SCARED is a self-report instrument that has been construed to reliably determine anxiety disorders and related symptomatology. The SCARED was initially developed by [8]. The SCARED is a measure of anxiety symptoms in children. Five of these subscales measure anxiety disorder symptoms as conceptualized in the DSM-IV-TR: panic disorder, generalized anxiety disorder, separation anxiety disorder, school phobia, and social anxiety. First, its reliability is very good. The five factors have good internal consistency, assessed by means of Cronbach's alpha, as well as good test-retest reliability [8]. Second, the SCARED has shown good discriminant validity,

differentiating between youths with and without anxiety disorders, between individuals with specific anxiety disorders, and also between children with anxiety disorders and children with depressive disorders [8, 9]. Third, the convergent validity of the SCARED is good [10]. Therefore, it is of utmost importance to have adequate tools to screen the severity of anxiety symptoms in the general children and adolescent population. The purpose of the present study was to examine the reliability and the validity of the Iranian translation of the 41-item SCARED in a large community sample of school children and adolescent in Iran.

Materials and Methods

The data for the Iranian sample were collected in 2012. The Iranian sample consisted of 300 participants (150 male and 150 female) attending school of Isfahan of Iran. Participants ranged in age from 11 to 18 years (Mean \pm SD =12.68 \pm 2.44). Multi-stage cluster sampling method was used to select the sample. The measuring tools in this study have been the SCARED, Social Anxiety Inventory (SAI) and Cognitive Emotion Regulation questionnaire (CERQ). The SCARED [9] is a self-report measure designed to screen for DSM-IV anxiety disorders. SCARED is designed to measure AD symptoms from both the child and parent point of view. Originally published in 1997 as a 38-item questionnaire, the SCARED has been revised three times to contain 41 items, 66 items and finally 71 items for measuring AD symptoms in youth 8-18 years old. The SCARED includes 7 factors: somatic/panic (13 items; e.g., "When I feel frightened, it is hard to breathe"), generalized anxiety (9 items; e.g., "I worry about other people liking me"), separation anxiety (8 items; e.g., "I get scared if I sleep away from home"), social phobia (7 items; e.g., "I don't like to be with people I don't know well"), and school phobia (4 items; e.g., "I get headaches when I am at school").

The participants rated the items of each factor on a 3-point scale (0= not true or hardly ever true, 1= sometimes true, and 2= true or often true). The SCARED total score, derived by adding the responses of the 41 items, ranges from 0 to 82. All scores are totaled; a higher score reflects higher levels of anxiety. Through discriminant analysis, a score of 33 was determined to be the cut-off point between high and low anxious youth. In other words, scores above 33 commonly indicate high anxiety while scores under 33 indicate less severe anxiety. The SAI is a 31-item self-report measure designed to screen for apparent anxiety. Its reliability is very good. The factors have good internal consistency, assessed by means of Cronbach's alpha, as well as good test-retest reliability [11].

The participants rated the items on a 3-point scale (0= not true or hardly ever true, 1= sometimes true, and 2= true or often true). The cut off points score was 15. The CERQ is a very easy to administer, self-report questionnaire consisting of 36 items. The CERQ measures a total of nine different cognitive coping strategies, of

which, independent of each other, clinical-psychological literature shows that this to a significant degree relates to the extent to which psychopathology is involved or otherwise, namely Blaming yourself, referring to thoughts in which you hold yourself responsible for what happened to you, accepting, referring to thoughts where you resign yourself to what has taken place, ruminating, referring to thinking about the feelings and thoughts associated with the negative event, concentrating on other, positive aspects, referring to thinking about other, pleasant things instead of the event in question, concentrating on planning, or thinking what steps must be taken to cope with the event, positive reinterpretation, or giving positive significance to the event in terms of personal growth, putting into perspective, or saying that worse things happen in the world, catastrophizing, referring to constantly recurring thoughts about how terrible the event was Blaming Others, referring to thoughts in which you hold other people responsible for what happened to you [12, 13].

The reliability of the subscales of the CERQ for the various populations is good to very good. Most alpha-coefficients are above 70, and in a lot of cases even above 80. In order to examine the factor structure of the SCARED we conducted both exploratory factor analyses. We calculated Pearson's product-moment correlations in order to test con-vergent/concurrent and discriminant validity to examine whether correlations were significantly different. Internal consistency was examined by calculating Cronbach's coefficient alpha and test-retest.

Results

The convergent validity was supported by testing correlation between the SCARED was associated with SAI and CERQ ($p < 0.001$). Pearson correlations were calculated between the SCARED and total/subscale scores of all SAI and CERQ measures. The correlations are presented in table 1. Significant positive correlations were found between anxiety and all subscales of the SAI. Also, significant positive correlations were found between the SCARED and subscales (Self-blame, Rumination, Catastrophizing, Blaming others) of the CERQ, $r = 0.30$, $r = 0.21$, $r = 0.24$ and $r = 0.17$ respectively. And Significant negative correlations were found between the SCARED and subscales (Acceptance, Positive refocusing, Refocus on planning, Positive reappraisal, Putting into perspective) of the CERQ, $r = -0.33$, $r = -0.23$, $r = -0.28$, $r = -0.23$ and $r = -0.12$ respectively. As observed in table 2 Cronbach's coefficient alpha demonstrated acceptable internal consistency of the total score (0.57 to 0.84).

The correlation between the two subscales was $r = 0.55$, $p < 0.001$, and both subscale had high correlations with the total score. The Kaiser-Meyer-Olkin test (KMO) measure of sampling represents the sufficiency of sample size of this study for factor analysis. If the amount of KMO is between 0.8-0.90, it shows that the sample size is good and Bartlett's test of sphericity significant ($p < 0.01$).

Table 1. Correlations between the subscales of the SCARED and SAI

Factors	1	2	3	4	5	6	7	8	9
Total Factor	1								
Panic	0.88*	1							
GAD	0.84*	0.75*	1						
Social Phobia	0.81*	0.66*	0.64*	1					
Separation Anxiety	0.82*	0.70*	0.63*	0.63*	1				
OCD	0.81*	0.63*	0.68*	0.62*	0.64*	1			
PTSD	0.78*	0.66*	0.67*	0.63*	0.58*	0.64*	1		
Special Phobia	0.82*	0.63*	0.57*	0.59*	0.57*	0.59*	0.61*	1	
SAI	0.74*	0.72*	0.67*	0.57*	0.62*	0.59*	0.57*	0.54*	1

* ($p < 0.01$)

Table 2. Reliability coefficient (of Cronbach's Alpha) of (BDMCS) and its factors

Sample	Total sample		Male		Female	
	α	Test-retest	α	Test-retest	α	Test-retest
Total Factor	0.93	0.89	0.92	0.89	0.94	0.85
Panic	0.84	0.82	0.83	0.81	0.85	0.83
GAD	0.72	0.72	0.72	0.73	0.65	0.61
Social Phobia	0.72	0.71	0.72	0.71	0.72	0.70
Separation Anxiety	0.65	0.65	0.62	0.64	0.61	0.63
OCD	0.64	0.62	0.58	0.62	0.67	0.61
PTSD	0.57	0.61	0.52	0.58	0.52	0.52
Special Phobia	0.69	0.68	0.68	0.63	0.65	0.73

Table 3. Factor analysis of the SCARED and its constituent elements

Factor Number	Special Phobia	PTSD	OCD	Separation Anxiety	Social Phobia	GAD	Panic
1		-	-	-	-	-	0.54
2	0.32	-	-	-	-	-	-
3	-	-	-	-	-	-	-
4	-	-	-	0.47	0.41	-	-
5	-	-	-	-	-	-	-
6	-	-	0.56	-	-	-	-
7	-	-	-	0.54	-	-	-
8	-	-	-	-	-	0.41	-
9	-	-	-	-	-	-	0.50
10	-	-	0.47	-	-	-	-
11	-	-	-	-	-	0.32	-
12	-	-	0.49	-	-	-	-
13	-	-	-	0.51	-	-	-
14	-	-	-	-	-	-	0.59
15	-	-	-	-	0.38	-	-
16	0.56	-	-	-	-	-	-
17	-	-	-	0.63	-	-	-
18	-	-	-	-	-	-	0.37
19	-	-	-	0.57	-	-	-
20	0.47	-	-	-	-	-	-
21	-	-	-	-	-	0.34	-
22	0.36	-	-	-	-	-	-
23	0.48	-	-	-	-	-	-
24	-	-	-	-	0.40	-	-
25	-	-	0.41	-	-	-	-
26	-	-	-	-	-	-	-
27	-	-	0.57	-	-	-	-
28	-	-	-	-	-	-	0.34
29	0.36	-	-	-	-	-	-
30	-	-	-	0.38	-	-	-
31	-	-	-	0.52	-	-	-
32	-	-	0.36	-	-	-	-
33	-	-	-	-	0.38	-	-
34	0.66	-	-	-	-	-	0.43
35	-	-	-	-	-	-	-
36	0.43	-	-	-	-	-	-
37	-	-	-	-	-	-	0.52
38	-	-	-	0.37	-	-	-
39	-	-	-	-	0.47	-	-
40	-	-	-	-	-	-	-
41	-	-	-	-	-	0.37	-
42	-	-	0.31	-	-	-	-
43	-	-	-	-	-	-	0.38
44	-	-	-	-	-	0.51	-
45	-	-	-	-	-	-	-
46	-	0.38	-	-	-	-	-
47	-	-	-	-	-	-	0.37

48	-	-	-	0.49	-	-	-
49	-	0.44	-	-	-	-	-
50	-	-	-	-	0.43	-	-
51	-	-	-	-	-	-	0.60
52	-	-	-	-	-	0.61	-
53	-	-	-	0.44	-	-	-
54	-	-	-	-	-	-	0.38
55	-	-	-	0.31	-	-	-
56	-	-	-	-	0.58	-	-
57	-	-	0.32	-	-	-	-
58	-	-	-	-	-	0.40	-
59	-	-	-	-	-	-	0.36
60	-	-	-	-	-	0.42	-
61	-	-	-	0.55	-	-	-
62	-	-	-	-	-	0.45	-
63	-	-	-	-	0.41	-	-
64	-	-	-	-	-	-	0.43
65	0.45	-	-	-	-	-	-
66	-	-	0.46	-	-	-	-
67	0.39	-	-	-	-	-	-
68	-	0.37	-	-	-	-	-
69	0.30	-	-	-	-	-	-
70	0.34	-	-	-	-	-	-
71	-	-	-	-	0.36	-	-

Seven factors have been derive from the SCARED in total, that these 7 factor have extracted 52.01% of total variance of the scale. As observed in table 3 the loads under 0.3 have been omitted and 7 factors have been extracted.

Discussion

Anxiety disorders represent one of the most common psychiatric disorders in children. The current study examined the psychometric properties, factor structure, and convergent, divergent, and discriminant validity of the Iranian version of the SCARED-41.

Results from the present study indicate that the SCARED-41 has acceptable psychometric properties, with reliable assessing symptom severity and impairment.

The model showed an acceptable fit in the sample. This confirms the construct validity of the measure and the underlying assumption of distinct symptom dimensions/subtypes belonging to category anxiety disorder in Children and adolescences (Table 3). Findings of this study revealed that the Iranian version of the SCARED-41 has a clear one-factor structure, congruent with its theoretical conceptualization (Table 3). This is congruent with the results of [8, 14-18]. In addition, results indicated the higher positive correlation and significance of this scale with SAI and CERQ measures represents good convergent validity of this scale.

The scale possesses high internal consistency. This is congruent with the results of [8, 14-18]. In summary, our

findings demonstrate that the Iranian version of the SCARED-41 is, like the original version, a brief, psychometrically sound and valid measure for the assessment of a broad range of anxiety disorders symptoms in children and adolescences, appropriate for the use in clinical and research settings. The present study replicated and extended previous findings with the original scale in a different cultural context. It would be necessary to determine the structure and reliability over time and with other samples. In addition studies are required to examine the sensitivity of scale to treatment effects and recovery if the scales are to prove useful treatment evaluation tools. However, despite these limitations, All in all, it can be concluded that this instrument is a useful measure for assess anxiety disorders symptoms in clinical assessment.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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