International Journal of Clinical Science and Medical Research

ISSN(print): 2770-5803, ISSN(online): 2770-582X

Volume 03 Issue 01 January 2023

DOI: https://doi.org/10.55677/IJCSMR/V3I1-01/2023, Impact Factor: 5.868

Page No: 01-06



The Validity of the Screen for Child Anxiety Related Emotional Disorders for Assessment of Anxiety Disorders Among Kenyan Youth

Josephine Muchiri (PhD)¹, Winnie Mucherah (PhD)²

^{1,2}Lecture, Daystar University Kenya

ABSTRACT Published Online: January 3, 2023

This study investigated the structural equivalence of the Screen for Child Anxiety Related Emotional Disorders (SCARED) in the assessment of anxiety disorders among youth (8-16 years) from low social economic backgrounds in Kenya. Respondents were 163 students from two mixed-sex public primary day schools, whose first language was either the native language or Swahili. They completed the SCARED (English version), a 41-item questionnaire with a cutoff score of 25 out of 82 for presence of anxiety disorders. The overall prevalence rate and severity was 79.1% (Mean $[\mu]$ =33.67) and for the different syndromes it was; (separation anxiety; 78.5%, μ =7.36, 5 items, generalized anxiety; 35.6%, μ =6.96, 9 items, panic disorder;

72.4%, μ =10.06, 13 items, social anxiety; 83%, μ =7.45, 8 items, significant school avoidance; 29.4%, μ =1.85, 3 items). An exploratory factor analysis revealed that 37 of the 41 items had high loadings (0.453-0.826) showing that the SCARED could assess anxiety for this sample. As for the different anxiety syndromes, a 14-factor model was produced where only 3 factors (generalized anxiety, panic disorder, social anxiety) had items loading accordingly, each having only 4 items. The inability of the items to load into the sub-scales accordingly may be attributed to a combination of cultural differences between Kenyan children and the Western children on whom the scale was initially normed. In addition, the complexity of the sentence structures of some items, which may have been confusing for the non-native English-speaking students. Nevertheless, the SCARED can be used as a measure for prevalence and severity of overall anxiety disorders, but caution needs to be taken when differentiating between the anxiety syndromes in these differing cultural contexts.

KEYWORDS:

Anxiety, SCARED, Adolescents, Children, Assessment, Culture, Emotions, Relevance, Validity

INTRODUCTION

APA (2013) classifies anxiety disorders into eleven categories based upon the fear evoking stimuli in the current Diagnostic statistical manual (DSM-5) where the first seven are separation anxiety disorder, selective mutism, social anxiety disorder, specific phobias, panic disorder, agoraphobia, and generalized anxiety disorder. The emergence of anxiety disorders is typically during childhood, adolescence or early

Corresponding Author: Josephine Muchiri

*Cite this Article: Josephine Muchiri (PhD), Winnie Mucherah (PhD) (2023). The Validity of the Screen for Child Anxiety Related Emotional Disorders for Assessment of Anxiety Disorders Among Kenyan Youth. International Journal of Clinical Science and Medical Research, 3(01), 01-06

adulthood, with a peak occurring in middle age and a subsequent decline in old age (Jalnapurkar et al., 2018). They are highly comorbid and chronic which calls for both early detection and interventions to prevent later complications (Canals et al., 2019; Mohammadi et al., 2020; Olofsdotter et al., 2016); Saha et al, 2021).

Although the Screen for Child Anxiety and Related Emotional Disorders (SCARED) has widely been used for assessment of anxiety disorders among children and adolescents globally and in Kenya, the structural equivalence especially for use within a Kenyan culture needs to be ascertained.

The SCARED consists of 41 items, each scored as a Likert-type scale of 0 to 2 'not true or hardly ever true' 'somewhat true or sometimes true', and 'very true or often true',

for a total score ranging from 0 to 82. The recommended cutoff score for distinguishing between anxious and non-anxious cases is 25. The SCARED exists in both child-report and parent-report versions, both intended for children and adolescents aged 8 to 18 years. The scale constitutes of five sub scales each with specific cut-off scores; Panic disorder, generalized anxiety disorder, Separation anxiety disorder, Social anxiety disorder and Significant school avoidance (CEBC, n.d).

Among some Western and Eastern cultures, the psychometric properties of the (SCARED) have been tested and both reliability and validity confirmed (Ivarsson et al., 2018; Su et al., 2008). Muris & Steerneman (2010) also confirmed that the SCARED distinguished well between anxiety disorders and disruptive disorders. Arab et al (2016) study in Saudi Arabia additionally confirmed the five-factor structure model of the SCARED and found that it had a good model fit for the population in the study. Muris et al (2006) in a sample of South African youths also found that the psychometric properties of the SCARED were satisfactory and acceptable in colored, black children and adolescents. It was found that the colored and black youths displayed higher SCARED scores than white youths. Ndetei et al (2008) also compared a number of instruments' efficacy in eliciting anxiety syndromes among Kenyan youths in public secondary schools. It was found that the SCARED elicited higher prevalence of anxiety (50100%) as compared to Multidimensional Anxiety Scale for Children (MASC), which recorded 12.9%, and the Ndetei-Othieno-Kathuku (NOK) scale for Depression and Anxiety, which recorded 49.3% for moderate to severe anxiety. The study therefore, validated the SCARED as a sufficient tool for screening of anxiety disorders among Kenyan youths. Given the wide use of the SCARED for assessment of anxiety disorders among the youth, this study found it imperative to ascertain the factor structure of the SCARED for Kenyan youth aged 8-16 years in a bid to inform future research utilizing the tool.

RESEARCH QUESTIONS

- 1. What is the prevalence rate of anxiety disorders and the different syndromes as assessed by the SCARED among the respondents?
- 2. Is the factor structure of the SCARED among this sample similar to the 5-factor model recommended by the developers?

METHODOLOGY

Participants & Procedures

The participants were 163 children and adolescents recruited from Grade 4 and Grade 8 in two schools in Nairobi, Kenya; Girls; n = 94: Boys; n = 69. The age distribution was 8-10 years; n = 42, 11-13 years; n = 40) and 14-16 years; n = 81. Data collection was in form of selfreported paper and pencil questionnaires. For those respondents who could not comprehend the questions, or those who needed clarification, interpretations were made using the Swahili language which is familiar to all of them.

Instrumentation

The Screen for Child Anxiety Related Emotional Disorders (SCARED) designed for children and adolescents aged 8-18 years assessed for some of the DSM-5 anxiety disorders (α = 0.886). It is a 41 item self-report inventory scored on ordinal levels from 0 to 2, used to measure the severity of anxiety symptoms. The cut-off score for determining presence of an anxiety disorder is 25 out of the possible maximum score of 82.

Data Analysis

Descriptive statistics were utilized to obtain prevalence and severity measures using frequencies, percentages, means and standard deviation. Factor analysis using Principal Component Analysis, Rotation Method, and Varimax with Kaiser Normalization was used to obtain the factor structure and the factor loadings for the 41 items in SCARED.

Ethical Considerations

Permissions to conduct the research were obtained from Daystar University Ethics Review Board, the National Commission for Science, Technology and Innovations (NACOSTI) and the Ministry of Education. Informed consent for participation in the research was also sought from the parents/guardians of the respondents and participation into the research was voluntary.

RESULTS

The Prevalence Rate and Severity of Anxiety Disorders and the Different Syndromes.

The prevalence rate was calculated in terms of those who attained total raw scores equivalent to or higher than stipulated the cut-off for overall anxiety and the specific cut-offs for the different syndromes. Findings are presented in frequencies and percentages to depict the prevalence rates and the severity is described in terms of means and standard deviations as shown in table 1.

Table 1: Prevalence and Severity of the Different Types of Anxiety Disorders

Anxiety Disorders		<u>Prevalen</u> ce		Severity	
Scale and cut- off score	Total	N	Percent	Mean	Standard
				(µ)	Deviation(SD)
Anxiety disorder (≥25)	163	129	79.1	33.67	12.87
Social Anxiety Disorder (≥8)	163	83	50.9	7.45	3.22
Panic Disorder (≥7)	163	118	72.4	10.06	4.92
Generalized Anxiety Disorder (≥9)	163	58	35.6	6.96	3.51
Separation Anxiety Disorder (≥5)	163	128	78.5	7.36	3.48
Significant School Avoidance (>3)	163	48	29.4	1.85	1.81

Mean range for total anxiety scores 0-82; cut-off score≥25

Table 1 shows the prevalence rate and severity (means) of anxiety disorders and the different syndromes. Overall, the prevalence rate and severity was high at 79.1% (μ =33.67) and for the different syndromes it was; (separation anxiety; 78.5%, μ =7.36, 5 items, generalized anxiety; 35.6%, μ =6.96, 9 items, panic disorder; 72.4%, μ =10.06, 13 items,

social anxiety; 83%, μ =7.45, 8 items, significant school avoidance; 29.4%, μ = 1.85, 3 items.

Factor structure of the SCARED

Findings concerning the factor structure are presented in table 2.

Table 2: The Factor Structure and Factor Loadings for the SCARED Among the Respondents

FACTOR 1		FACTOR 2		FACTOR 3		FACTOR 4	
ITEMS I feel nervous with people I don't know well.(social)	F.L .785	ITEMS I get stormachaches at school.(school)	F.L .723	People tell me that I worry too much.	F.L .649	ITEMS I have nightmares about something bad happening to me (separation)	F.I.
I don't like to be with people I don't know well(social)	.772	I get headaches when I am at school.(school)	.696	I feel like going crazy when frightened plants	.636	I find it hard to breathe when frightened passed	.66
I feel shy with people don't know well(social)	.681	I worry that something bad might happen to my parents (separation)	.516	I feel like passing out when frightened manual	.617		
It is hard to talk with people don't know well(social)	.453			I feel things are not real when frightened posses	.528		
				When I get frightened, I feel like throwing up.	.481		
FACTOR 5		FACTOR 6		FACTOR 7		FACTOR S	
I worry about going to school. (school)	.774	I am afraid to be alone in the house (separation)	.813	I worry about being as good as other kids (general sed)	.752	My heart beats fast when frightened pants	.76
I am scared to go to school.(school)	.600	I worry about sleeping alone.(separation)	.674	I worry about what is going to happen in the future (constalined)	.532	I feel nervous being watched as I do something(social)	.59
I worry about other people liking me. (general red)	.519	People tell me I look nervous penne	.369	I worry about how well I do things (generalized)	.526		
I feel nervous when going to places with people I don't know well e.g. parties(social)	.368			I get really frightened for no reason at all. (pains)	.458		
FACTOR 9		FACTOR 10		FACTOR 11		FACTOR 12	
I am nervous a puorca	.778	When I get frightened, I feel dizzy.	.699	I follow my mother or father wherever they go. (separation)	.826	When frightened I sweat a lot many	.749
I am shy(social)	,505	When I get frightened, I feel like I am choking.	.648	3-8		I worry about things working out for me. severalized	.54
I am afraid of having anxiety (or panic) attacks (panic)	.454	I don't like to be away from my family (separation)	.381			I get scared if I sleep away from home.(separation)	.37
FACTOR 13	636	FACTOR 14	76.				
I get shaky (pane)	.630	I am a womer (seperalized)	.751				
I worry about things that have already happened (general red)	.616						

Table 2 shows the findings for the factor structure of the SCARED among this sample. Findings indicated that the 41 items loaded onto 14 factors. It is also clear that 37 of the 41 items had high factor loadings ranging from 0.453 - 0.826. Only 4 items did not load highly, probably indicating irrelevance of the questions since most of the youth have limited exposure to the outside world, except school. These items were 'I feel nervous when going to places with people I don't know well e.g., parties' (F.L:0.368), 'People tell me I look nervous'(F.L:0.369), 'I get scared if I sleep away from home' (F.L:0.376) and 'I don't like to be away from my family' (F.L: -0.381).

Among the 14 factors, the loading on each factor was as follows; Factor 1: 3 items for social anxiety disorder (F.L:0.453-0.785), Factor 2: 2 items for significant school avoidance and 1 item for separation anxiety (F.L: 0.516-0.723). Factor 3: 5 items, 3 for panic disorder, 1 for panic disorder,1 for separation anxiety (F.L: 0.481-0.649). Factor 4: 2 items 1 for separation anxiety, 1 for panic disorder (F.L: 0.662-0.703). Factor 5: 5 items, 2 for school avoidance, 2 for social anxiety, 1 for generalized anxiety (F. L=0.368-0.774). Factor 6: 3 items, 2 for separation anxiety, 1 for panic disorder (F.L:0.369-0.813). Factor 7: 4 items, 3 for generalized, 1 for panic disorder (F.L: 0.458-0.752). Factor 8:2 items, 1 for panic disorder, 1 for social anxiety. Factor 9: 3 items 2 for panic, 1 for social anxiety (F.L: 0.454-0.778). Factor 10: 3 items, 2 for panic disorder, 1 for separation anxiety (F.L:0.381-0.699). Factor 11: 1 item for separation anxiety (F.L: 0.826). Factor 12: 3 items, 1 for panic, 1 for generalized anxiety and 1 for separation anxiety (F. L= 0.376-0.749). Factor 13: 1 item for panic disorder (F. L=0.630). Factor 14: 1 item for generalized anxiety (F. L=0.751).

DISCUSSION OF RESULTS

The internal consistency of the SCARED total score in this study was good (α = 0.886) and it compared well with other studies conducted among non-western respondents. For example, Su et al (2008) among a sample of Chinese values found an internal consistency of α =

0.89 for the total score. Russel et al (2013) also found good internal consistency (Cronbach's $\alpha =$

0.89) among 500 adolescents in an Indian community context.

Overall, the instrument detected high prevalence rates for the anxiety (79.1%) and the different syndromes where highest prevalence was for social anxiety (83%), then separation anxiety (78.5%) and panic disorder (72.4%). The high prevalence rates do not differ much with prevalence rates obtained in other studies among children and adolescents in Kenyan settings. Towards this end, Mathenge et al (2019) found

a prevalence rate of 80.8% among 224 children and adolescents attending a private school in Nairobi, Kenya. On the same line, Amani (2022) found a prevalence rate of 80.4% for anxiety disorders among 214 respondents attending a primary school in Nairobi Kenya. Similar to this study, the three disorders had the highest prevalence amongst the respondents in Mathenge et al (2019) study were panic disorder (76.2%), separation anxiety (71%) social anxiety disorder (54.7%).

Regarding the factor structure, the factors did not load as expected into the 5 recommended scales in the SCARED questionnaire since 14 factors emerged. Similarly, Ang (2020) in a study among Malaysian children found that the factor analysis did not reveal the four factors but instead, a fourfactor structure emerged for the Malaysian sample. It is possible that respondents in this study misinterpreted some of the questions due to lack of comprehension, and because of the paucity of emotional expressions in the African languages. While the English language has a continuum of words to describe specific emotions, the African languages mostly use one word to describe a range of emotions. For example "Fear" in the English language may be differentiated into specific emotions such as 'worry' 'anxiety' 'panic', 'terror', 'frightened' among others. On the contrary, in the African languages, all these emotions may be grouped into one word.

In support of this, Gendron et al (2014); as cited in Lindquist et al (2015) found evidence from cross-cultural research showing that language plays a constitutive role in emotion. Speakers of Herero, a dialect spoken by the remote Himba tribe in Namibia, Africa, and American English speakers were found to perceive emotions differently on faces. The English-speakers created relatively distinct piles for anger, disgust, fear, sad, happy and neutral faces, but Herero-speakers did not sort in this pattern. The Herero-speakers instead produced piles that reflected multiple categories of facial expressions (e.g., smiling, neutral, wrinkled nose, scowling, and frowning faces). The study thus showed that the Herero speakers understood the instructions but were using different perceptual cues than the English-speakers to guide their sorts.

In this regard therefore, respondents in this study may have failed to differentiate between the words such as 'frightened', 'worry', 'shy', 'nervous', 'panic', 'anxiety'. This is seen in

Factors, 6, 7, and 12, where items describing 'generalized anxiety', 'separation anxiety' and 'panic anxiety' got mixed up. The word 'worrier' which loaded singly, in factor 14 was also confusing to them.

Another problem could have been the differing cultural contexts, making some items irrelevant. In Factor 2, for

example, there was a mix up of items related to the scales of 'significant school avoidance' and 'separation anxiety'. The item 'I worry that something bad might happen to the parents' was supposed to load with items for 'separation anxiety' but it loaded with items for 'significant school avoidance'. This could probably be because these respondents mostly experience this worry only when they are at school. Another example is in factor 11, where only one item loaded; 'I follow my mother and father wherever they go'. The item may have been irrelevant to the respondents because they mostly go to school on their own and spend the whole day at school without their parents' presence.

Furthermore, in the African languages, feelings are ignored and the emphasis is more on the physical manifestations of the emotion. The items that involved description of physical symptoms or common feelings seemed to load well; for example, in Factor 3 where four items for panic disorder loaded well (passing out, feeling things are not real, throwing up, going crazy). This was also seen in factor 3 where three items for generalized anxiety loaded well ('worry about being as good as other kids', 'what will happen in the future', 'how well I do things'). These findings are validated in Dzokoto (2010) study, which demonstrated the uniqueness of affective experiences using Ghanaian and Euro-American university student samples. The study showed that Ghanaian participants paid more attention to their body and less to emotions than did American participants.

Thus, it can be concluded that even though the SCARED can be used to assess for anxiety in a Kenyan setting, it is necessary to re-word some of the items, to promote cultural relevance in terms of emotional expressions and to reflect cultural settings.

RECOMMENDATIONS

The SCARED is reliable and an effective tool for the assessment of overall anxiety disorders. However, for samples whose first language is non-English such as this study's sample, caution must be applied when interpreting the individual scales since emotional expressions in the English and non-English speakers may be different.

Researchers who want to use the tool in cultures where English is not the first language must consider revising the sentence construction of some items to make them culturally relevant, while retaining the DSM-5 symptoms guidelines.

Utilization of different measures for assessment of the same construct is also recommended for further corroboration of the findings. There is also need to develop a psychometrically sound anxiety measure that has cultural relevance in African settings.

LIMITATIONS AND DELIMITATIONS

The study only used a small sample of children and adolescents who were attending two public primary schools in Nairobi Kenya. Thus, generalizations may not be possible. Future studies ought to consider larger samples encompassing respondents from different Counties in the Country. Only one instrument was used to assess for anxiety and thus correlation of the SCARED with other anxiety measures could not be ascertained. Given the high prevalence rates of anxiety that were found, it is important to consider comparisons with other standardized anxiety measures.

CONCLUSION

The Screen for Child Anxiety Related Emotional Disorders is a tool that has widely been used for the assessment of anxiety disorders globally. It is effective and useful as it distinguishes between anxious and non-anxious symptoms and the different types of DSM-5 anxiety disorders.

However, caution must be applied when using it among samples whose first language is not English, such as the sample under study. Some items may be culturally irrelevant and the sentence construction in some items may be confusing. Additionally, emotional expressions in the Western cultures may differ from the non-Western cultures such as the Kenyan sample in this study. Having a culture relevant tool adhering to the DSM- 5 symptomatology guidelines and utilizing multiple assessment tools is thus highly recommended.

REFERENCES

- Amani, M. (2022). Prevalence and Predictors of Anxiety Disorder among Adolescents In Selected Mixed Public Secondary Schools In Dagoretti South Sub County, Nairobi County, Kenya. [Unpublished Master's Thesis]. Daystar University, Nairobi, Kenya.
- American Psychiatric Association [APA]. (2013).
 Diagnostic and Statistical Manual of Mental Disorders (5th ed.). American Psychiatric Publishing.
- 3. Ang C. S. (2020). Anxiety in Malaysian children and adolescents: validation of the Screen for Child Anxiety Related Emotional Disorders (SCARED). *Trends in psychiatry and psychotherapy*, *42*(1), 7–15. https://doi.org/10.1590/2237-6089-2018-0109
- 4. Arab, A., Keshky, M.E., & Hadwin, J.A. (2016). Psychometric properties of the Screen for Child Anxiety and Related Emotional Disorders (SCARED) in a non-clinical sample of children and adolescents in Saudi Arabia. *Child Psychiatry and Human Development*, 47, 554-562.

https://doi.org/10.1007/s10578-015-0589-0

- California Evidence-Based Clearing House for Child Welfare. (n.d). Screen For Childhood Anxiety Related Emotional Disorders (SCARED). Developers; Birmaher, B., Brent, D., Chiappetta, L., Bridge, J., Monga, S. Baugher, M. Western Psychiatric Institute & Clinic, Department of Child Psychology.
- Canals, J., Voltas, N., Hernández-Martínez, C., Cosi, S., & Arija, V. (2019). Prevalence of DSM-5 anxiety disorders, comorbidity, and persistence of symptoms in Spanish early adolescents. *Eur Child Adolesc Psychiatry*, 28(1), 131-143. https://doi.org/10.1007/s00787-018-1207-z.
- 7. Dzokoto, Vivian. (2010). Different ways of feeling: Emotion and somatic awareness in Ghanaians and Euro-Americans. *Journal of Social, Evolutionary, and Cultural Psychology.* 4. 68. 10.1037/h0099299.
- 8. Ivarsson, T., Skarphedinsson, G., Andersson, M., & Jarbin, H. (2018). The validity of the Screen for Child Anxiety Related Emotional Disorders Revised (SCARED-R) scale and sub-scales in Swedish youth. *Child Psychiatry and Human Development*, 49,234. https://doi.org/10.1007/s10578-017-0746-8
- Lindquist, K. A., MacCormack, J. K., & Shablack, H. (2015). The role of language in emotion: predictions from psychological constructionism. *Frontiers in psychology*, 6, 444. https://doi.org/10.3389/fpsyg.2015.00444
- Mathenge, J., Ayuya C., Ongaro K., & Khasakhala L.
 (2019). Prevalence and Correlation of Anxiety Disorders among Primary School Children in Nairobi, Kenya. International
- Journal of Humanities Social Sciences and Education (IJHSSE) Volume 6, Issue 12, December 2019, PP 134-138 ISSN 2349-0373 (Print) & ISSN 2349-0381 (Online) http://dx.doi.org/10.20431/2349-0381.0612011 www.arcjournals.org
- 12. Mohammadi, M.R., Pourdehghan, P., Mostafavi, S.A., Hooshyari, Z., Ahmadi, N., Khaleghi, A. (2020). Generalized anxiety disorder: Prevalence, predictors, and comorbidity in children and adolescents. *J Anxiety Disord.*, 73:102234. 1016/j.janxdis.2020.102234.
- Muris, P., Loxton, H., Neumann, A., Plessis, M., King, N., & Ollendick, T.(2006). DSM- defined anxiety disorders symptoms in South African youths: Their assessment and relationship with perceived parental rearing behaviors. *Behavior Research and Therapy*, 44(6), 883-896.
- Muris, P., & Steerneman, P. (2010). The revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R): First evidence for

- its reliability and validity in a clinical sample. *British Journal of Psychology*.
- Ndetei, D. M., Khasakhala, L., Seedat, S., Syanda, J., Ongecha-Owuor, F., Kokonya, D.A., & Mutiso, V. (2008). Psychometric properties of the Multidimensional Anxiety Scale for Children (MASC) amongst Nairobi public secondary school children, Kenya. Journal of Child and Adolescent Mental Health, 20(2),101-109. https://doi.org/10.2989/JCAMH.2008.20.2.6.689
- Olofsdotter, S., Vadlin, S.,Sonnby, K., Furmark, Nilsson, K. (2016). Anxiety disorders among adolescents referred to general psychiatry for multiple causes: Clinical presentation, prevalence, and comorbidity. Scandinavian Journal of Child and Adolescent Psychiatry and Psychology, 4(2), 55-64, https://doi.org/10.21307/sjcapp2016-010
- Russell, P. S., Nair, M. K., Russell, S., Subramaniam, V. S., Sequeira, A. Z., Nazeema, S., & George, B. (2013). ADad 2: the validation of the Screen for Child Anxiety Related Emotional Disorders for Anxiety Disorders among adolescents in a rural community population in India. *Indian journal of pediatrics*, 80 Suppl 2, S139–S143. https://doi.org/10.1007/s12098-013-1233-2
- Su, L., Wang, K., Fan, F., Su, Y., & Gao, X. (2008).
 Reliability and validity of the screen for child anxiety related emotional disorders (SCARED) in Chinese children. Journal of Anxiety Disorders, 22(4), 612–621. https://doi.org/10.1016/J.JANXDIS.2007.05.011