

Test Review: The Youth Anxiety Measure for the *DSM-5* (YAM-5)

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Keywords

test review, child anxiety measure, youth anxiety measure, psychometrics

Test Description

Introduction

The Youth Anxiety Measure for the *DSM-5* (YAM-5) is a self-report and/or parent-report measure that was created to assess the full spectrum of anxiety disorder symptoms in children and adolescents aged 8 through 18. The scale consists of two related sections. The first section (YAM-5-I) evaluates the major anxiety disorders; the second section (YAM-5-II) measures specific phobias and agoraphobia. The development of YAM-5 was grounded in the research literature on child and adolescent anxiety. The authors noted an important limitation of the most commonly utilized child anxiety measures with regard to their incongruence with the contemporary *Diagnostic and Statistical Manual of Mental Disorders (DSM)* criteria, which serves as their rationale for designing a new measure. To fill out this measurement gap in child anxiety research, YAM-5 is developed to evaluate the anxiety disorder symptoms of children and adolescents in terms of domains that align with the classification of anxiety disorders in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association, 2013). In this sense, all of the child and adolescent anxiety disorders defined in *DSM-5* are included in the scale. The YAM-5 is used as an initial screening tool that detects information about anxiety symptoms from the perspective of children and/or the perspectives of their caregivers.

Specific Description

The YAM-5 measures anxiety symptoms in clinical and non-clinical children and adolescents. The first section, YAM-5-I, contains 28 items focusing on major anxiety disorders, clustered into five subscales relating to separation anxiety disorder, selective mutism, social anxiety disorder, panic disorder, and generalized anxiety disorder. YAM-5-II contains 22 items addressed to different phobias, such as animal phobias, environmental phobias, blood injection-injury-phobias, situational phobias/agoraphobia, and other phobias. Moreover, the parent version of the instrument provides an opportunity for parents to add their point of view to the assessment. The parent subscale contains a total of 50 items divided into two sections. Similarly, the first section

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comprises 28 items and evaluates parent's report of child anxiety symptoms. The second section contains 22 items and assesses parent's report of specific phobia symptoms in children and youths. The measure is suitable for group administration. Despite the fact that the test is a self-report and can be administered to a large group of children and youths at once, the administrator is allowed to assist the respondents if they have any questions. The YAM-5 is a user-friendly test that can be easily administered and scored, and can be completed in a relatively short amount of time. The level of language used in the measure is reasonable and appropriate for the intended age groups. The respondents can solicit instruction whenever needed, and the interpretation of the results is straightforward. A 4-point Likert-type scale (0 = *never*, 1 = *sometimes*, 2 = *often*, and 3 = *always*) is used to rate the items. To calculate the total scores, the rating scores of whole items in each subset are sub-totaled, and then the scores of all of the individual subsets are totaled. A high score indicates a high chance of developing an anxiety disorder or symptoms of phobia. No indications of racial or sexual bias in any items of the measure were reported. Moreover, YAM-5-I has Dutch, English, and Spanish versions and YAM-5-II has Dutch and English versions (Garcia-Lopez, Saez-Castillo, & Fuentes-Rodriguez, 2017; Muris et al., 2016).

Technical Adequacy

Test Construction and Item Analysis

The construction of the YAM-5 followed a series of steps. Initially, a total of 74 items representing child and adolescent anxiety disorder symptoms that are congruent with the *DSM-5* criteria were developed. The item pool was then emailed to the International Child and Adolescent Anxiety Assessment Expert Group (ICAAAEG), an international panel of researchers whose expertise is childhood anxiety. These experts evaluated the quality of each item and assessed each of the 74 items by rating each one on the extent to which they believed the item corresponded to the *DSM-5*'s descriptions of the specific type of anxiety. Based on the opinions of these experts, items were retained, modified, or discarded.

Following the modifications after the expert review, the final scale (YAM-5), consisting of 50 items, was divided into two major parts. YAM-5-I consisted of 28 items divided into five subscales, with each subscale representing one of the major child and adolescent anxiety disorders. YAM-5-II consisted of 22 items divided into five subscales, and each subscale addressed a specific type of phobia. Next, the final measure was distributed to an international panel of clinicians who deal with childhood and adolescent anxiety disorders. They performed a face validity check of the final measure by matching each anxiety item with its anxiety domain. With the exception of some items in the selective mutism subscale and in some phobia subscales, the clinical experts accurately linked the vast majority of items to the intended anxiety category.

Next, the psychometric properties of the instrument was investigated in several studies (Garcia-Lopez et al., 2017; Muris, Mannens, Peters, & Meesters, 2017; Simon, Bos, Verboon, Smeekes, & Muris, 2017). Based on the results of those studies, the scores that are produced by the YAM-5 were found to be reliable and valid. Moreover, confirmatory factor analysis (CFA) yielded further support that the majority of the items in the YAM-5 loaded on the anxiety domain that they were intended to measure (Garcia-Lopez et al., 2017; Simon et al., 2017). YAM-5-I was also found to be invariant across gender and age among 13- to 17-year-old Spanish-speaking adolescents (Garcia-Lopez et al., 2017).

Standardization Sample

The YAM-5 was initially tested on samples of non-clinical youths ($N = 132$), as well as on clinically referred children and youths ($N = 64$) and their caregivers ($N = 63$). The measure has been

also used for over 1,000 non-clinical samples of children and adolescents (Garcia-Lopez et al., 2017; Muris et al., 2017; Simon et al., 2017). No normative data, however, are available for the YAM-5 that have been collected from clinical or non-clinical child and adolescent populations. It should also be noted that using clustered sampling method, Garcia-Lopez et al. (2017) evaluated the psychometric properties of the YAM-5 with a sample of 505 Spanish-speaking adolescents, aged 13 to 17 years, whose socioeconomic status and ethnic distribution represent the demographics of the general youth population in Spain.

Reliability

The YAM-5 has evidenced good reliability. The overall internal consistencies of the total YAM-5-I assessing major anxiety disorders (i.e., $\alpha = 0.93$ for the non-clinical sample; $\alpha = 0.92$ for the clinical sample) and YAM-5-II assessing specific phobias (i.e., $\alpha = .86$ for the non-clinical and clinical sample), as well as of the majority of their subscales (α 's were between .78 and .89), were proven to be good, in both clinical and non-clinical samples. The internal consistencies of the selective mutism subscale that is part of the YAM-5-I (i.e., $\alpha = .65$ for the non-clinical sample; $\alpha = .55$ for the clinical sample) and of some phobia subscales, part of the YAM-5-II (i.e., $\alpha = 0.47$ for the non-clinical sample; α 's were between 0.41 and 0.59 for the clinical sample), however, were found to be poor. Further studies assessing the reliability of the instrument reported similar results, revealing good to excellent internal consistency for the total YAM-5-I and YAM-5-II, and acceptable to good internal consistencies for the majority of their subscales, except for the selective mutism subscale and some phobia subscales (Garcia-Lopez et al., 2017; Simon et al., 2017). The low internal consistency found for the selective mutism subscale has been attributed to the low incidence of the disorder and to the limited number of items assessing this anxiety domain. Furthermore, the 4-week, test–retest reliability of the YAM-5 was assessed with a sample of 181 children ranging from 8 to 12 years of age (Simon et al., 2017). The test–retest reliability of the YAM-5-I and YAM-5-II, including that of their subscales, ranged from .73 to .90, suggesting that the measure is suitable for assessing the anxiety symptoms of children and adolescents over time, to evaluate changes in treatment. Furthermore, there was moderate to high level of concordance between the parent self-report and the child/youth self-report for the total YAM-5-I ($r = .69$) and YAM-5-II ($r = .70$) in the clinical sample, which provides evidence that the scores generated by the parent subscale were reliable.

Validity

Content validity refers the degree to which an instrument captures and assesses all aspects of a given content. More specifically, content validity of the YAM-5 can be evidenced by the correspondence between the items of the YAM-5 and every single symptom of children and adolescents anxiety disorders listed in the *DSM-5*. To establish content validity, Muris et al. (2016) first created a pool of 74 items that capture all children and adolescent anxiety disorders symptoms, including the recently included two children anxiety disorders: selective mutism and agoraphobia. The pool of items then became subject to evaluation by an international group of children anxiety disorders researchers who are experts of the content. This process led to the final version of the YAM-5 since only the items that best represent the main characteristics of various child anxiety disorders based on experts' review were retained, and ensured that scores generated by YAM-5 are content valid.

Evidence was also found to support construct validity, which is the extent to which an instrument actually measures what it purports to measure. The construct validity of the YAM-5 was assessed using CFA in a community sample of children. Based on the results, the hypothesized five-factor structure for YAM-5-I (each factor representing a major anxiety disorder) and the

five-factor structure for YAM-5-II (each factor representing a distinct type of phobia) were supported (Simon et al., 2017). Garcia-Lopez et al.'s (2017) study also supported the multi-factorial structure of the YAM-5-I in a Spanish-speaking youth sample although it yielded a six-factorial structure for YAM-5-I since the items of separation anxiety disorder loaded onto two different factors.

As subtypes of construct validity, the convergent and divergent validities of the YAM-5 were also obtained. Convergent validity refers to the correlation between the instrument and other measures that assess theoretically related construct, and is evidenced in this case by the significant positive correlations found between the YAM-5 and the internalizing problems subscale of the Achenbach questionnaire. Divergent validity, however, is established when the instrument is unrelated to measures that assess theoretically irrelevant constructs. Given that anxiety is viewed as an internalizing disorder, divergent validity was evidenced by the non-significant association found between the YAM-5 scores and the scores of the externalizing scales of the Achenbach questionnaire. Moreover, the higher levels of anxiety scores observed among clinically referred children and youths as compared to non-clinical group provided further support to divergent validity (Muris et al., 2016).

Concurrent validity is used to gauge the extent to which an instrument corresponds to previously standardized or well-validated measures that assess the same construct. The YAM-5 demonstrated good concurrent validity, as evidenced by the significant positive relationship between the YAM-5 scores and the number of anxiety symptoms reported during semi-structured clinical interviews based on the Junior SCID (Severe combined immunodeficiency), which is used to identify *DSM-5* anxiety symptoms through interviews with children and their caregivers (r 's were between .36 and .64) (Muris et al., 2017). Further studies provided additional support for concurrent validity of the YAM-5 by revealing a significant positive correlation coefficient between the YAM-5 subscales (for major anxieties and phobias) and subscales of previously validated measures on child anxiety, fear, and depression, including the Screen for Child Anxiety Related Emotional Disorders, the Behavioral Inhibition Questionnaire for Children-Short Form, The brief version of the Social Phobia and Anxiety Inventory, and The Social Anxiety Scale for Adolescents (Garcia-Lopez et al., 2017; Simon et al., 2017).

Commentary and Recommendations

The YAM-5 was developed as a screening instrument in an attempt to assess child and adolescent anxiety disorders that are listed in the *DSM-5*, the most recent diagnostic manual of mental disorders. Reliability studies conducted on YAM-5-I and YAM-5-II reveal good internal consistency and test-retest reliability for the total scales and the majority of subscales. Moreover, good content validity, construct validity, convergent, divergent, and concurrent validity were evidenced for the YAM-5. Given the lack of information with regard to the predictive validity of the YAM-5, however, future research is needed to ensure that the YAM-5 is a useful measure for capturing changes in anxiety levels over time.

Considering the complex nature of anxiety, the YAM-5 is the only measure that has been developed to capture the multifaceted nature of *DSM-5* anxiety symptoms in children and adolescents. This is important because evidence shows that anxiety symptoms in children and adolescents are grouped into categories that are compatible with those in the *DSM* (Spence, 1997). In this sense, the YAM-5 is a great addition to the literature, since its outcomes for anxiety assessment are aligned with those of anxiety disorder as defined by the *DSM-5*. Since the measure provides an opportunity to collect data from both students and parents, the test results might be used to compare the perspectives of both groups. Moreover, considering the fact that the YAM-5 has two separate sections for measuring the symptoms of anxiety disorders and phobias, it is possible to use one portion of the test and ignore the other if there is no need for it. In addition, the

YAM-5 is a time-efficient instrument for assessing anxiety disorder symptoms in children and adolescents.

Several limitations of the instrument should also be acknowledged. First of all, psychometric properties of the YAM-5 have been investigated among Dutch- and Spanish-speaking adolescents (Garcia-Lopez et al., 2017). To utilize the YAM-5 with increased confidence, further research should continue to examine the psychometric properties of the instrument both in non-clinical and clinically referred child and adolescent samples across different ethnic groups, and include the YAM-5 parent subscale in their analysis. Cross-validation of the YAM-5 across different age groups of children and adolescents is also warranted. Moreover, items of the YAM-5 have been investigated qualitatively and no information is available with regard to the quantitative evaluations of the items by utilizing Classical Test Theory or Item Response Theory.

Authors' Note

Elif M. Çankaya, PhD, reviewed the technical adequacy of the instrument and contributed to the commentary/recommendation section of the review. Emel Cevik, MEd, provided review for the test description section and opinion for the commentary/recommendation section.

Declaration of Conflicting Interests

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