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Psychometric Features of the First Part of the Youth Anxiety Measure (Yam-5-I) in the Turkish Children's Sample

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Abstract

Murris et al (2017) developed the Youth Anxiety Measure (YAM-5-I), according to DSM V criteria in order to determine the anxiety levels of children and young people. In this study, basic validity and reliability studies were carried out by Simon et al (2017) within the framework of adapting the 27-item form of this scale for children aged 8-12, in which they carried out validity and reliability studies, to the Turkish sample. Youth Anxiety Measure (YAM-5-I), the Perceived Family Social Support Scale and the Cognitive Distortion Scale for Children were used as data collection tools. In the construct valid study conducted within the framework of validity studies, it was seen that the second-level factor structure with five factors of the scale had good fit values (χ^2/sd= 1.86, CFI= .90, IFI= .90, TLI= .90, GFI= .90 and RMSEA= .04). In another validity study, significant relationships were found between the total score and subscale scores of the scale and the Perceived Family Social Support Scale and the Cognitive Distortion Scale for Children, except for the Separation Anxiety subscale. In reliability studies, the Cronbach alpha coefficient is .87 for the total scale and subscales. Between 65, the correlation between the synonyms is .80 for the total scale and the test-retest correlation coefficients are .74 for the total scale; For the subscale, it was found to vary between .64 and .90. These findings show that the MCQ 5-I measure the anxiety levels of the Turkish child sample in a valid and reliable manner.

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INTRODUCTION

In addition to being one of the most common psychological disorders (Jacobi et al., 2004), anxiety is a major problem that can cause significant deterioration in the emotional, social, and academic functioning of young people (Essau et al.,2000; Messer & Beidel, 1994; Strauss et al., 1987; Strauss et al., 1988; Turner et al., 1987). This disorder in childhood becomes typically chronic in adulthood (Baxter et al., 2014; Kessler, et.al., 2005) and is a critical risk factor particularly for depression, while increasing the risks for other psychopathologies (Cole et al.,1998; Polikandrioti et al., 2018). Thus, research on childhood anxiety disorders take on a new significance. For this reason, numerous studies have focused on the root of the anxiety problem and the factors affecting effective treatment (Muriset al., 2017).

Extensive epidemiological studies conducted among adults (Kessler et al., 1994; Regier et al., 1984; Wittchen et al.,1991; Wittchen & Essau, 1993) have shown that anxiety disorders mostly begin early in life, such as during childhood and adolescence. According to the study performed by Pollack, et.al. (1996), 54% of adults with panic disorder suffer from childhood anxiety disorders, and the adults who suffered from anxiety disorders in their childhood have significantly more anxiety and depressive disorders than those with no history of such disorders in their childhood. Further, scholarly evidence shows that anxiety disorders of childhood are not just temporary for many children, and if untreated, such disorders may affect their adolescence and adulthood (Pfeffer et al., 1988; Keller,et.al., 1992). Therefore, it is of great importance to identify clinically anxious children as early as possible and to offer them appropriate interventions (Spence, 1998).

Although anxiety is naturally functional, high levels of anxiety can undermine the life quality of individuals, leading to a significant decrease and dysfunction (Achenbach, Howell, McConaughy & Stranger, 1995; Essau, et.al., 2000). Moreover, high levels of anxiety tend to persist for a long time and may even evolve into anxiety disorders (Kessler et al., 2005; Simon et al.,2014). Afterall, childhood and adolescence anxiety is not always temporary, and in many cases; It is aimed at mathematics class (Özbek & Uyumaz, 2020), learning a foreign language (Sönmez & Kurtoğlu, 2021) and general anxiety, but is thought to cause other resident psychological disorders in later childhood and adulthood (Cartwright-Hatton et al.,2006). Valid and reliable measurement tools are needed to identify children with anxiety and to make early intervention in childhood anxiety which may underlie the development of anxiety disorders in later life.

There are various widely known measurement tools aimed at measuring children's anxiety levels or symptoms. The most popular one among these tools is the State-Trait Anxiety Inventory for Children developed by Spielberger et al., (1983) and adapted into Turkish by Özusta (1995) as the State-Trait Anxiety Inventory for Children. Another measurement tool is the Revised Children's Manifest Anxiety Scale-2, developed by Reynolds & Richmond (1978) and adapted into Turkish by Çözümlü (2014) as the Explicit Anxiety Scale for Children. Further, the Screen for Child Anxiety & Related Disorders (SCARED) was developed by Birmaheret al. (1997) and adapted into Turkish the Childhood Anxiety Screening Scale (Çakmakçı, 2004). The Social Anxiety Scale for Children (SASC-R) was designed by La Greca & Stone (1993) and adapted into Turkish by Demir et al., (2000) as the Revised Form of the Social Anxiety Scale for Children. Another scale used to measure the anxiety of children in Turkey is the Separation Anxiety Assessment Scale (Eisen & Schaefer, 2005), which has been introduced to the Turkish literature by Teze and Arslan (2016) as the Separation Anxiety Assessment Scale. There are also scales that have been developed but not adapted to Turkish. Among them, there are the Fear Survey Schedule for Children-Revised (Ollendick, 1983), the Social Phobia and Anxiety Inventory for Children (Beidel & Turner, 1998), the Multi-dimensional Anxiety Scale for Children (March et al., 1997) and the Spence Children's Anxiety Scale (Spence, 1998). As can be seen, the scales used in Turkey are adapted scales.

Though there are a whole lot of evidence on the reliability and validity of each of these scales, the most notable weakness of these scales is that they fail to recognize the changes in the Statistical Manual of Mental Disorders Psychiatric 5 (2013) by the American Association Diagnostic that may affect the assessment of anxiety. The first of these changes involves the inclusion of selective mutism in anxiety, which is considered as the principal symptom of the anxiety problem (Muris & Ollendick, 2015), and the second is the exclusion of obsessive-compulsive disorder and post-traumatic stress disorder, which are no longer considered a syndrome of anxiety. Considering these changes, it is plausible to argue that the scales presented above are not directly linked to the newly identified anxiety disorders. Therefore, evaluating and classifying anxiety based on these scales may lead to differences, which result in inconsistencies in the way practitioners and researchers discuss anxiety problems in children and youth (Muris et al., 2017). Furthermore, given the growing evidence that selective mutism is a prominent feature of anxiety (Wittchen et al.,2010), selective mutism has evolved into an aspect that needs consideration in the determination and investigation of childhood anxiety disorder, and that contributed to the need for new measurement tools to include selective mutism. Because of all these, it is considered important to bring a measurement tool suitable for the new criteria of childhood anxiety disorder into Turkish, as it can fill the gap in this area.

The above-mentioned SCARED (Birmaher et al., 1997) is one of the scales aimed at evaluating the factors related to generalized anxiety disorder, separation anxiety disorder, panic disorder, social phobia, and school phobia as well as different forms of anxiety disorders. However, the original scale development studies on the SCARED were carried out on children clinically diagnosed with anxiety. This has necessitated the need to develop a Turkish measurement tool for which a validity and reliability study is conducted in a sample of children not clinically diagnosed.

In this regard, this study has examined the validity and reliability of the first part of the Anxiety Scale for Children developed considering the DSM (5) criteria of Murris et al. (2017), which consists of 28 items, on the 27-item form obtained from confirmatory factor analysis (CFA) on the non-clinical sample of children by Simon, et. al. (2017), in the non-clinical Turkish sample. It is reported that the 5-factor model fits better when the item (17th item in the original scale) that reads "*When I panic, I am afraid that I could die*" in the original 28-item scale is removed from the scale (Simon et al., 2017). Moreover, 90% of the children in that study responded "Never" to this item. For this reason, and also because of the potentially negative impacts of the concept of death on children, this item has not been included to the analyses and the resulting 27-item form has been adapted accordingly.

That said, the purpose of this study is to perform the psychometric studies related to the validity and reliability of the 27-item form, which was designed for children aged 8 to 12 years by Simon et al., (2017), of the 28-item first part of the Youth Anxiety Measure developed considering the DSM (5) criteria proposed by Murris et al. (2017) to determine the anxiety levels of children and adolescents aged 8 to 18 in the sample of Turkish children.

METHOD

This section informs on the study groups, the data collection tools and data analysis.

STUDY GROUPS

With in the framework of this study, data were collected from three groups according to the permission of Hatay Mustafa Kemal University Rectorate Social and Humanities Scientific Research and Publication Ethics Commission dated 05.03.2021 and numbered 12. Data were gathered first from 456 children (including 248 female and 208 male) with an average age of 12.70 (.99) for confirmatory factor analysis, then from 83 children (50 female and 33 male) with an average age of 12.30 (1.03) for test-retest, and lastly from 56 children (116 female and 140 male) with an average age of 11.95 (1.20) for criterion-related validity.

DATA COLLECTION TOOLS

YOUTH ANXIETY MEASURE (YAM-5-I): The original scale was developed by Murris et al. (2017) on a sample ranging from 8 to 18 in age; its validity and reliability studies for children aged 9-12 were conducted by Simon et al. (2017). The item (17th item) that reads "When I panic, I am afraid that I could die" in the original 28-item scale was removed from the scale considering modification suggestions because 90% of the children participating in the study answered “never” to this item. The resulting 27-item form consists of 5 sub-scales, including Separation Anxiety (6 items), Selective Mutism (4 items), Social Anxiety Disorder (6 items), Panic Disorder (5 items) and General Anxiety Disorder (6 items). After removing the item (item 17) with a low factor load in the CFA conducted for the construct validity, the five-factor second-order model, as the original construct, fits well ($\chi2$=829, df=314; $\chi2$/df=2.5; RMSEA=0.063, SRMR=0.057). The YAM-5-I, which is a Likert-type self-rating scale, is scored from 0 to 3 (0 being “never”, 1 being “occasionally”, 2 “often” and 3 “always”). For the internal consistency of the scale, the McDonald's omega (ω) coefficient of the entire scale was found as .92 whereas the internal consistency coefficients of the sub-scales ranged between .75 and .82. The test-retest reliability study yielded .86 for the entire scale, .75 for separation anxiety, .54 for selective mutism, .81 for social anxiety, .81 for panic disorder, and .78 for general anxiety. All items in the measurement tool are positively scored, and higher scores obtained from both the total scale and the sub-scales represent higher levels of anxiety.

SURVEY OF CHILDREN'S SOCIAL SUPPORT (SOCSS): To determine the perceived social support of children from their families, this study drew on the Perceived Family Support sub-scale of the SOCSS. The original scale was developed by Dubow and Ullman (1989). The adaptation of this scale into Turkish was carried out by Gökler (2007). The measurement tool is a Likert-type scale with 41 items and a 5-point scoring. The principal component analysis was performed for the construct validity of the scale, and it showed that the items of the scale were under three factors explaining 40.22% of the total variance. These factors were named as “Support Received from Friends”, “Support Received from Family” and “Support Received from Teacher” considering the original measurement tool. As for the criterion-related validity, a negative significant correlation was found between the total scores on the scale and the total scores on the Depression Scale for Children. For the reliability of the scale, the Cronbach's alpha internal consistency coefficient was found as .93 for the entire scale, and as .89, .86 and .88 for the sub-scales, respectively. To ensure reliability, a test-retest study was conducted as well; the correlation coefficient was calculated as .49. Further, the split-half reliability of the scale was .82; the item-total test correlations ranged between .34 to .64. High scores on the scale mean high perceived social support by the individual. The internal consistency coefficient of the Sub-Scale of Perceived Family Social Support was found as .86.

COGNITIVE TRIAD INVENTORY FOR CHILDREN (CTI-C): The measurement tool was developed by Kaslow et al., (1992) to measure automatic thoughts that reflect cognitive distortions in children. The adaptation of this scale into Turkish was carried out by Güloğlu (2006). The scale uses a 4-point Likert-type scoring. The EFA yielded that 20 items in the original version of the scale were removed because they lacked sufficient load value in any factor, and a two-factor structure was obtained. The CFA on the two-factor structure obtained through the EFA, showed that the scale fits well ($\chi2$ (103)=243.42, $p< .001$, $\chi2$ /df =2.36, GFI =.93, AGFI= 0.91, CFI= 0.93, RMSEA=.057, and SRMR =.056). The criterion-related validity study was conducted for validity, and the correlation coefficient between the CDSFC and the Hopelessness Scale for Children (HP-C) was obtained as .66. To test the reliability of the scale, the Cronbach's alpha internal consistency coefficient was calculated and found as .81 for the entire scale, and .80 and .75 for the sub-factors, respectively. High scores on this scale represents high cognitive distortion. The internal consistency coefficient of this scale was found as .83 based on these data.

DATA ANALYSIS

The data were entered into the SPSS (Statistical Package for Social Sciences) 22. In analyzing the missing data, the data were replaced by the mean of the series. That is, the mean of the scores in the column with the missing data is calculated and empty cells are filled with the mean accordingly. According to Tabachnick and Fidell (2001), a small number of missing data in large samples is very unlikely to cause significant changes in the values of parameter estimates of complex models.

Most of the analyses were performed using the statistical package program SPSS; also, confirmatory factor analysis was carried out using the AMOS 22 package program. The Pearson's Product-Moment Correlation Coefficient was calculated for the test-retest reliability study performed at a two-week interval. Further, the MANOVA test was used for reliability to identify the difference between the groups considering the gender variable. The internal consistency coefficient was determined using Cronbach's alpha (α). The correlations between the YAM-5-I and the Perceived Family Support Scale and the Cognitive Distortion Scale were calculated for the criterion-related validity. Before performing all these analyzes, it was examined whether the data were normally distributed and whether there was a multi collinearity problem. Accordingly, the Skewness coefficient was .501 and the Kurtosis coefficient was -.096. This finding indicates that the data are normally distributed. In addition, it is seen that the correlation coefficients for the relationship between dependent and independent variables vary between -.49 and -.01. These findings show that there is no multi collinearity problem between the variables.

Confirmatory factor analysis (CFA) was conducted using AMOS 22 to reveal the factor structure of the YAM-5-I. The single scale factor, five-factor first-order, five-factor second-order and second five-factor second-order models of the scale (the item that reads "Meeting new people makes me uncomfortable" under the sub-scale of Social Anxiety in the original scale was included in the sub-scale of Selective Mutism based on the suggestion of Modification Indices and because of the low factor load of the sub-scale of Social Anxiety) were tested. Chi-square (χ2/sd), TLI, CFI, IFI, GFI and RMSEA fit indices were used for the criteria of good fit values for the model. A good fit is indicated by a χ2/sd value below 5 according to Anderson and Gerbing (1984), by the TLI and CFI values ranging between 0.90 and 0.95 according to Yuan & Bentler (1998), by the IFI value of 0.90 and above according to Marsh, Balla & Hau (1996), by the GFI value of 0.90 and above according to Shevlin & Miles (1998), and by the RMSEA value less than 0.05 according to Browne and Cudeck (1993).

FINDINGS

This section presents findings on the validity and reliability studies performed on the measurement tool.

VALIDITY STUDIES

For the validity of the YAM-5-I, criterion-related validity and construct validity were examined. The findings obtained are given below.

For the criterion-related validity, the relationship between the YAM-5-I and the perceived family support and cognitive distortion was investigated. Table 1 offers the findings obtained.

Table 1. *Correlation Between The Total Score And Sub-Scales Of The Yam-5-I And The Family Support Scale And The Cognitive Distortion Scale*

Variables		1	2	3	4	5	6	7	8
YAM-5-I	1-Selective Mutism	1							
	2-Social Anxiety	.27**	1						
	3-General Anxiety	.19**	.64**	1					
	4-Panic Disorder	.27**	.60**	.69**	1				
	5-Separation Anxiety	.20**	.39**	.40**	.44**	1			
	6-Total Anxiety	.44**	.83**	.85**	.84**	.65**	1		
7- Perceived Family Social Support		-.12*	-.14**	-.16**	-.26**	-.01	-.19**	1	
8- Cognitive Distortion		.21**	.25**	.25**	.34**	.09	.31**	-.49**	1

*p<.05, **p<.01

Table 1 shows that the total score and sub-scale scores of the YAM-5-I had significant negative correlations with the scores of the perceived family social support, except for the sub-scale of Separation Anxiety, but had significant positive correlations with the cognitive distortion. Further, all the sub-scales of the YAM-5-I had significantly positive correlations with each other and with the total scale.

Table 2 presents the model fit values obtained for alternative models designed to test the structural validity of the YAM-5-I

Table 2. *Alternative Models Of The Yam-5-I And Goodness-Of-Fit Values*

Model	**χ^2**	**sd**	**p**	**χ^2/sd**	**CFI**	**IFI**	**TLI**	**GFI**	**RMSEA**
1-Single-Factor Model	955.909	323	0.00	2.95	.77	.77	.75	.84	.07
2-Five-Factor First-Order Model	662.586	314	0.00	2.11	.87	.87	.86	.89	.05
3-Five-Factor Second Order	645,75	315	0.00	2.05	.90	.89	88	.90	.05
4-Five-Factor Second Order (after the inclusion of item 11 to the sub-scale of Selective Mutism)	592.456	317	0.00	1.86	.90	.90	.90	.90	.04

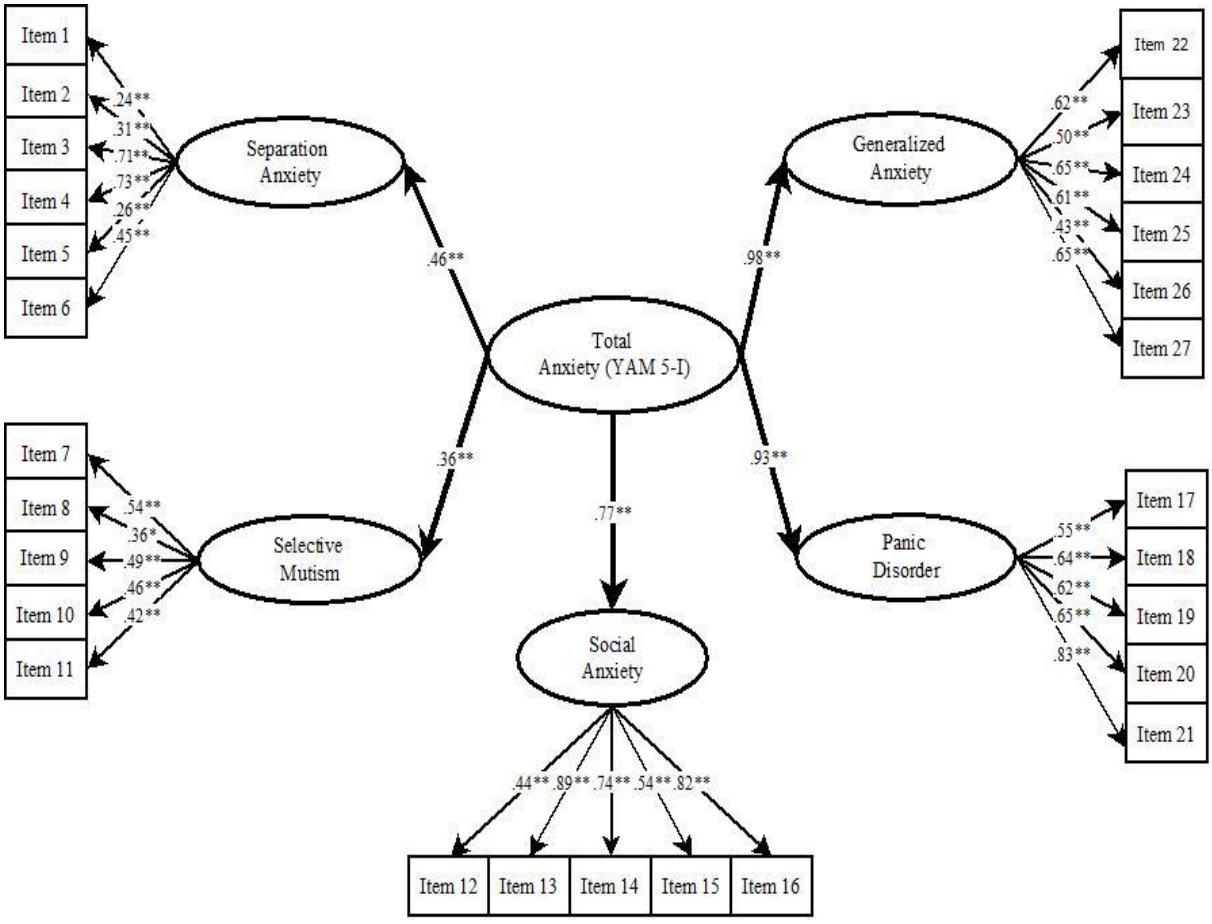
It is clear from Table 2 that an alternative factor analysis strategy was followed in the CFA on the YAM-5-I. Accordingly, the original structure of the scale was compared to one-factor, five-factor first-order and five-factor second-order models. However, in the five-factor second-order factor analysis, the 11th item (that reads meeting new people makes me uncomfortable) under the sub-scale of Social Anxiety in the original scale was included in the sub-scale of Selective Mutism based on its modification index, and it is notable that the five-factor second-order CFA yielded better fit values (Model 4). Thus, the 11th item, which was under the sub-scale of Social Anxiety in the original scale, was included in the sub-scale of Selective Mutism.

Table 2 demonstrates that the χ^2/sd value obtained in model 4 (1.86) showed a better fit compared to the values obtained in model 1(χ^2/sd = 2.95), model 2 (χ^2/sd= 2.11) and model 3 (χ^2/sd= 2.05). Also, it is notable that the CFI, IFI, TLI, GFI and RMSEA values of the Model 4 were better than other models. Consequently, it is plausible to argue that the Five-Factor Second-Level model obtained from Model 4 has good fit values for children living in Turkey (See Table 2).

Figure 1 indicates that the path coefficients for the items of the sub-scale of “Separation Anxiety” ranged between .26 and .73; for the items of the sub-scale of ”Selective Mutism" ranged between .36 and.54; for the items of the sub-scale of ”Social Anxiety" varied between .44 and .89; for

the items of the sub-scale of ”General Anxiety" ranged between .43 and .65 whilst the path coefficients for the items of the sub-scale of “Panic” varied between .55 and .83. The coefficients for all the identified paths were found significant.

Figure 1. *Standardized Factor Loading Values for Second Level Confirmatory Factor Analysis of the Turkish Version of the Youth Anxiety Measure Developed According to DSM-5 Criteria*



**p<.00

RELIABILITY STUDIES

The correlation coefficient between the test-retest studies conducted at a two-week interval was r=.74 for the total scale. In the test-retest study, this was .64 for the sub-scale of Separation Anxiety, .82 for Selective Mutism, .90 for Social Anxiety, .90 for Panic Disorder and .90 for General Anxiety. Based on the data of the CFA, the Cronbach's alpha coefficient was .87 for the total scale, .70 for the sub-scale of Separation Anxiety, .65 for the sub-scale of Selective Mutism, .80 for Social Anxiety, .76 for Panic Disorder and .79 for General Anxiety Disorder. Further, the correlation between the split-halves for the total scale is (Spearman-Brown) was found as .80. The item total test correlations ranged between .17 and .63.

Table 3 offers findings on the differentiation of the general anxiety and the sub-scales of the YAM-5-I by sex (girls and boys), which was determined in another reliability study performed to identify the expected differences in the Anxiety Scale for Children adapted into Turkish between groups.

Table 3. *The MANOVA Results On The Total and Sub-Scale Scores Of The Children On The Yam-5-I By Sex*

YAM-5-I	Gender	$\overline{X}$	Sd	F	p	η2
Separation Anxiety	Girl	10.01	2.78	2.406	.122	.005
	Boy	9.58	3.17			
Selective Mutism	Girl	6.81	1.77	4.604	.032	.010
	Boy	7.21	2.22			
Social Anxiety	Girl	10.76	3.87	1.977	.160	.004
	Boy	10.27	3.62			
General Anxiety	Girl	12.78	4.00	6.667	.010	.014
	Boy	11.82	3.91			
Panic Disorder	Girl	9.55	3.21	14.676	.000	.031
	Boy	8.44	2.92			
Total Anxiety	Girl	49.93	11.59	5.430	.020	.012
	Boy	47.33	12.19			

The results of the MANOVA conducted on the General Anxiety and sub-scales by gender reveal significant differences in children by gender [Wilks Lambda (Λ)=.944, F=5.358, p<.000]. This finding means that the scores of the children on the linear component that consists of anxiety and its sub-scales vary depending on their gender. Table 2 demonstrates that separation anxiety (F= 2.406, p>.05) and social anxiety (F= 1.977, p>.05) in children do not differ by gender; however, there are significant differences for boys in selective mutism (F= 4.604, p<.05), for girls in general anxiety (F= 6.667, p<.05), for girls in panic disorder (F= 14.676, p<.05) and for girls in total anxiety (F= 5.430, p<.05). The effect size was assessed considering the d index proposed by Cohen (1988), since the independent variable has two levels. The results yield that gender has a "small" effect on separation anxiety, selective mutism, social anxiety, general anxiety, and total anxiety whereas it has a "moderate" effect on panic disorder.

DISCUSSION, CONCLUSION AND SUGGESTIONS

This study has performed the basic validity (construct validity, criterion relative validity) and reliability (Cronbach's alpha internal consistency, Spearman-Brown split-half reliability and test-retest reliability) studies on the Turkish adapted version of the first part (the original measurement tool consists of two parts, measuring anxiety in the first part and panic disorder in the second) of the Anxiety Scale for Children, developed based on the DSM-5 criteria, on the normal (non-sick) children aged 10-15 years. The YAM 5-I (i.e., the first part of the scale) includes items that measure separation anxiety, selective mutism, social anxiety disorder, panic disorder and general anxiety disorder, which are defined as the components of anxiety by the DSM-5.

The confirmatory factor analysis on the Turkish children sample of the YAM-5-I determined that when the item that reads "Meeting new people makes me uncomfortable" under the sub-scale of Social Anxiety in the original scale was included in the sub-scale of Selective Mutism based on the suggestion of Modification Indices, the resulting five-factor second-order CFA yielded better fit values. Therefore, it can be argued that this also validated the predicted five-factor structure with the newly added sub-scale of “selective mutism” based on the DSM-5 and indicated its compatibility with the original scale. In an interview with three children (two girls and one boy) in this age range about the inclusion of the item that reads “Meeting new people makes me uncomfortable” to the sub-scale of “Selective Mutism” differently from that in the original scale, these children were asked whether meeting new people make them uncomfortable or not; all of them, similarly answered that meeting new people would not make them uncomfortable, but they find it bothering to meet new people because they don't want to answer questions such as Which team do you support?, How is school going? or Which parent do you love more? right after they meet such people. These answers also

explain why this item has been included in the sub-scale of “Selective Mutism". Thus, cultural factors seem to play a critical role in this regard.

In the study conducted for the validity of the YAM-5-I, the correlations between the YAM-5-I and Cognitive Distortion for Children were examined; and the results showed significantly positive correlations with the total score on the YAM -5-I and its sub-scale, except the sub-scale of Selective Mutism. There is no scholarly evidence in the literature that supports such finding. Nevertheless, the studies performed with similar variables in different samples support that the scale can yield the psychometric values necessary for criterion-related validity. For example, with the sample of the 6th graders attending secondary school, Gökkaya (2019) reported a positive correlation between exam anxiety and cognitive distortion, but did not find any significant correlation between cognitive distortion and constant anxiety scores. İsaoğlu & Tuzcuoğlu (2021) studied with the Syrian immigrant university students and found out a significantly positive relationship between cognitive triad and anxiety. Similarly, Jacobs and Joseph (1997) carried out a study with adolescents aged 13 to 18 and identified significantly positive correlations between cognitive triad and anxiety. From this standpoint, the significant correlations between the scores of the YAM -5-I and cognitive distortion supported the criterion-related validity of the scale.

Besides, the correlations between the YAM -5-I and the total score on the Perceived Family Social Support were examined; the results revealed significantly negative correlations between the sub-scale scores, excluding the sub-scale of Selective Mutism, and the Perceived Family Social Support Scale. There are no research findings obtained with a similar sample and measurement tools reported in the literature that directly support this finding. However, there are findings reported by studies with similar sample and similar variables. One of them, Öztürk (2014) found out that the perceived parental support negatively predicts social anxiety in university students, indicating a negative correlation between these variables. In another study, Karalar et al. (2018) determined a significantly negative relationship between perceived parental social support and social anxiety. Baltacı & Hamarta (2013) yielded a significantly negative relationship between all sub-dimensions of perceived social support (family, friends, and teachers) and social anxiety among university students. These findings provide another evidence of criterion-related validity regarding the YAM -5-I, as it reveals significantly negative relationships with perceived family support, as theoretically expected. Güler (2012) argues that when the adapted scale produces significant relationships with the measurement tools, this indicates that the adapted scale achieves criterion-related validity. In other words, the YAM-5-I validly measures anxiety in children.

Within the framework of criterion-related validity, significant correlations were obtained between the other subscales of YAM-5-I, with the exception of the Selective Mutism subscale, and between total anxiety and cognitive distortion and perceived family social support. In developing the scale in the age group of 8-18 (Murris et al., 2017), most experts who contributed to this process considered the items of the sub-scale of Selective Mutism, which is the new sub-scale of anxiety disorder, as the items of the sub-scale of Social Anxiety. This may be linked to the rare cases of selective mutism and the lack of knowledge among the experts to distinguish these two conditions from each other. Therefore, in this scale, it was evaluated that it would be appropriate to measure selective mutism in children with new items that can be an indicator of selective silence in daily life. Further, Murris et al. (2017) stated that the fact that selective mutism is a low-prevalence condition in society can also bring about a number of problems about the validity of the sub-scale of Selective Mutism.

As for the reliability of the scale, the Cronbach's alpha internal consistency coefficients of the scale were calculated first. The results show that this coefficient was .87 for the total scale, .65, the lowest, for the sub-scale of Selective Mutism and .80, the highest, for General Anxiety Disorder. These obtained values indicate the reliability of the scale in general terms. According to Tezbaşaran (1996), a reliability coefficient of .70 and above indicates the reliability of the scale. In the study that designed the YAM-5-I (Murris et al., 2017), the Cronbach's Alpha internal consistency coefficient was .91 for the

total scale, .67, the lowest, for the sub-scale of Selective Mutism, and .87, the highest, for the sub-scale of General Anxiety Disorder. Also, in the validity and reliability study conducted for the YAM-5-I for the age group of 8-12, Simon et al. (2017) calculated the omega(ω) reliability coefficients as .91 for the total scale, .50, the lowest, for the sub-scale of Selective Mutism and .82, the highest for the sub-scale of General Anxiety Disorder. The adaptation study performed in the Spanish sample (Fuentes-Rodriguez et al., 2018) found the Cronbach's Alpha reliability coefficient of the YAM-5-I as .84 for the total scale, .58, the lowest, and .86, the highest, respectively for Selective Mutism and General Anxiety Disorder. It is plausible to argued that the findings from these developments and adaptation studies support the findings obtained under this study. The common findings from all the studies underline that the internal consistency of the total scale is high whereas the sub-scale with the highest reliability is General Anxiety Disorder, and the sub-scale with the lowest reliability is Selective Mutism. Murris et al. (2017) stated that the reason for this may be related to the fact that a small number of items aimed at measuring selective mutism seek to reveal its low-level correlation with anxiety. Therefore, this might be also due to the fact that children in this age group derive different meanings from these items on selective mutism. As already mentioned above, a significant number of experts in the study group of anxiety stated that they had difficulty in distinguishing the items of selective mutism and social anxiety from one another (International Child and Adolescent Anxiety Assessment Expert Group).

The correlation coefficient between the test-retest studies conducted at a two-week interval was r=.74 for the total scale. In the test-retest study, this was .64 for the sub-scale of Separation Anxiety, .82 for Selective Mutism, .90 for Social Anxiety, .90 for Panic Disorder and .90 for General Anxiety. This finding is congruent with the findings of Murris et al. (2017), Fuentes-Rodriguez et al. (2018) and Simon, et.al. (2017). The similarity of the scores obtained in different time periods once again shows that this scale can give reliable information about the course of anxiety in children and the gains in treatment of anxiety as a result of interventions.

Moreover, this study examined whether the total score on the YAM-5 and on its sub-scale differed by gender and concluded that the impact of gender on anxiety (separation anxiety, selective mutism, social anxiety, general anxiety, and total anxiety) is small and moderate (panic disorder). This finding is supported by the findings that the research with the sample of Spanish children usually report that gender has a small effect on anxiety symptoms (Fuentes-Rodriguez et al. 2018; Orgilés et al., 2012). This indicates that this scale can achieve a stable measurement in different cultures.

The studies that compare anxiety levels in children by gender with the Spanish sample determined that the scores of girls on the total scale were higher than those of boys; girls outscored boys in Separation Anxiety, Social Anxiety, Panic Disorder and General Anxiety Disorder whereas there was no significant difference in Selective Mutism (Fuentes-Rodriguez, et al., 2018). Castellanos and Hunter (1999), Costello, Mustillo et al. (2003) and Craske (1997) found that demographic variables such as age and gender are important in investigating anxiety in children, and most studies point out that girls experience more anxiety than boys. On this, another study was conducted to find out why girls may experience more anxiety; Bodden et al. (2009) reported that girls experience more anxiety due to stereotypes related to their gender. According to these authors, it is recognized that girls culturally exhibit more symptoms of anxiety. Another study by Muris et al. (2017) concluded that girls had higher scores in separation anxiety, social anxiety disorder, general anxiety disorder and total anxiety compared to boys whilst there was no difference in selective mutism and panic disorder.

Simon, et.al. (2017) also ascertained that girls had higher scores in Separation Anxiety and Social Anxiety Disorder, while boys had higher scores in Total Score; further, there was no significant difference in Selective Mutism, Panic Disorder and General Anxiety Disorder. Studying the sample of Iranian children, the researchers concluded that there was no difference between girls and boys in Total Anxiety; that boys had higher scores than girls in Selective Mutism, and that there was no difference in Separation Anxiety, Social Anxiety, General Anxiety and Panic Disorder by gender (Soltani et al.,2020). In contrast to these findings, another study found no significant difference by gender

(Fuentes-Rodriguez, et al., 2018). Notably, there are different findings regarding gender reported by different studies. In this regard, it seems that the findings of this study are supported by the findings obtained from the studies in different cultures and with different samples.

All the findings on reliability and validity indicate that the YAM-5-I incorporates psychometric values that can measure childhood anxiety in the Turkish children sample. Despite this, this study, like any other study, has some limitations. The limitations identified and recommendations for these limitations are as follows:

- Anxiety is a critical psychological problem, and it may be misleading to make serious decisions about it based on the findings of a single study. Therefore, further validity and reliability studies for this scale in various different samples are needed.
- Since there is no finding on whether the scale can classify individuals as anxious and non-anxious, future studies that concentrate on this may provide important insights into anxiety-related modeling.
- The fact that this study has been conducted with a non-clinical sample alone may provide misleading findings about the validity and reliability of the measurement tool with a clinical sample. For this reason, it is important to consider the findings on this scale in clinical and non-clinical samples comparatively.
- The scale did not have a cut-off score, which may pose a problem for classification. In this regard, studies with a large sample may benefit from gender-specific cut-off scores or norms.
- It is known that gender and age are important factors in anxiety; yet, this study did not involve the measurement invariance of the scale by these variables. Thus, future studies may focus on the measurement invariance of this scale based on variables such as gender, age, place of birth (village, city).
- The data regarding the scale were collected from a restricted area. Therefore, there may be problems in the generalizability of the findings. To eliminate this, it is recommended to collect more extensive data from different educational backgrounds and geographical regions and re-perform the analysis based on these data.
- This study has investigated the validity and reliability of the scale for children. However, its validity or reliability has not been tested in a sample of adolescences. Future studies may test the validity and reliability of the scale in a sample of adolescences.

COMPLIANCE WITH ETHICAL STANDARDS

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.
Consent to Participate: Informed consent was obtained from all individual participants included in the study
Conflict of Interest: On behalf of all authors, the corresponding author states that there is no conflict of interest.
Funding: No funding was received for conducting this study.
Data Availability: Data and material are available from the corresponding author upon reasonable request.

AUTHOR CONTRIBUTION

- The first author contributed to the analysis of the data, literature review and findings section.
-The second author contributed to the collection of data, introduction, conclusion and discussion section.
- Both authors contributed to the design of the research.

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