



International Journal of Psychological Research
ISSN: 2011-2084
ISSN: 2011-7922
Facultad de Psicología. Universidad de San
Buenaventura, Medellín

Children and Young Anxiety ScaleCYAS: Scale Development and Psychometric Properties in Brazilian Sample

Pereira-Soares, Thiago Francisco; Nunes-Baptista, Makilim

Children and Young Anxiety ScaleCYAS: Scale Development and Psychometric Properties in Brazilian Sample

International Journal of Psychological Research, vol. 12, no. 2, 2019

Facultad de Psicología. Universidad de San Buenaventura, Medellín

Available in: <http://www.redalyc.org/articulo.oa?id=299062446005>

DOI: 10.21500/20112084.4203

Children and Young Anxiety Scale CYAS: Scale Development and Psychometric Properties in Brazilian Sample

Escala de Ansiedad Infantil y Joven-CYAS: desarrollo de la escala y propiedades psicometricas en una muestra brasileña

Thiago Francisco Pereira-Soares^{1 *}

São Francisco University, Brazil

Makilim Nunes-Baptista²

São Francisco University, Brazil

International Journal of Psychological Research, vol. 12, no. 2, 2019

Facultad de Psicología. Universidad de San Buenaventura, Medellín

Received: 10 January 2019

Revised document received: 15 July 2019

Accepted: 29 July 2019

DOI: 10.21500/20112084.4203

CC BY-NC-SA

Abstract.: The aim of the study was to search for evidence of validity based on the relationship with external variables, and incrementally for the Child-Youth Anxiety Scale (CYAS). The convenience sample consists of 500 children and adolescents aged 10 to 18 years. The correlation between the scores of the CYAS factors and the scores of the instruments of the other constructs ADHD (MTA-SNAP-IV), anxiety (OQPS), rumination (QRR) and mood states (BRUMS) was initially performed, finding medium and strong correlations, which shows a satisfactory linear relation between the constructs to attest validity based on the relation with external variables. Structural Equation Modeling (SEM) was also performed with total MTA-SNAP-IV and its factors as criterion. In the modeling, it was possible to observe that, when introduced in the models, the CYAS becomes the latent variable with the greatest contribution, decreasing and canceling the OQPS contribution. These results affirm incremental validity for the CYAS.

Keywords: Measurement, Statistics, Numerical Data, Psychometrics, Anxiety Scale, Young.

Resumen.: El objetivo del estudio fue buscar pruebas de validez basadas en la relación con variables externas, y de forma incremental para la Escala de Ansiedad Infantil-Juvenil (CYAS). La muestra por conveniencia está formada por 500 niños y adolescentes de 10 a 18 años. La correlación entre los puntajes de los factores CYAS y los puntajes de los instrumentos de las otras construcciones TDAH (MTA-SNAP-IV), ansiedad (OQPS), rumiación (QRR) y estados de ánimo (BRUMS) se realizó inicialmente, encontrando correlaciones medio y fuerte, lo que muestra una relación lineal satisfactoria entre los constructos para certificar la validez en función de la relación con las variables externas. También se realizaron modelos de ecuación estructural (SEM) con MTA-SNAP-IV total y sus factores como criterio. En el modelado fue posible observar que, cuando se introdujo en los modelos, el CYAS se convierte en la variable latente con la mayor contribución, disminuyendo y cancelando la contribución de OQPS. Estos resultados afirman la validez incremental para el CYAS.

Palabras Clave: Medida, Estadística, Datos Numéricos, Psicometría, Escala de Ansiedad, Juventud.

1. Introduction

Anxiety is a prevalent psychopathology in children and adolescents, and interferes negatively with the psychosocial functioning of these individuals (Baptista & Soares, 2017; Bandelow & Michaelis, 2015; Erskine et al., 2016; Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). Persistent and excessive concerns are major features of anxiety disorders, in addition to being accompanied by physical symptoms related to autonomic hyperactivity and muscle tension. These concerns are not restricted to a particular theme, but are excessively generalized, sometimes involving themes that do not concern most people, and are difficult to control. For diagnosis, these symptoms need to interfere with a person's performance or significant distress (APA, 2014).

It is important to observe characteristics related to sex and age in relation to anxiety in children and adolescents, considered as high impact socio-demographic factors that interfere directly with young people suffering with anxiety. When it comes to sex, girls, when compared to boys, have the most symptoms related to mental disorders, such as oscillation in appetite, sleep, weight, anxiety, depressed mood, among others (Asbahr, 2004; Caíres & Shinohara, 2010; Nolen-Hoeksema & Jackson, 2003). Comorbidities and other characteristics are also relevant aspects when dealing with anxiety in children and adolescents.

Attention Deficit Hyperactivity Disorder (ADHD), mood disorders and ruminative behavior are some of the examples (Romanzini, 2015). The relationship between anxiety and mood disorders in children and adolescents with ADHD varies widely (Mannuzza et al., 1991). Fischer, Barkley, Smallish, and Fletcher (2002) indicate significantly higher rates of depression in young adults who were diagnosed with ADHD and some childhood anxiety disorder. Epidemiological studies point to anxiety as the construct with the highest rate of comorbidities with Attention Deficit Hyperactivity Disorder (ADHD), present in about 25% of children and adolescents (Jensen, 2009).

The commitment associated with comorbidity with externalizing disorders in adolescence (Youngstrom, Findling, & Calabrese, 2003; Silva, 2016) suggests a higher probability of co-occurrence of anxiety and depression in children with ADHD. A meta-analysis study by Schatz and Rostain (2006) shows that anxiety in ADHD can worsen cognitive deficits, showing strong correlations with high levels of anxiety.

DiMatteo, Lepper, and Croghan (2000), in metaanalysis, report on the relationship between anxiety and mood, mainly depressed, indicating that depressive patients present higher levels of anxiety compared to nondepressives. Other recent studies have identified the origin of many mental illnesses in the infantile-juvenile period, mainly the anxiety in comorbidity with problems related to humor, with high prevalence that can be found in 30% to 80% of cases of anxiety (Caspi et al., 2014; Thapar, Collishaw, Pine, & Thapar, 2012).

Ruminant activity is also a feature found with anxiety in childhood and adolescence, and it is represented by a maladaptive style of response

associated with depressed mood (Calvete, Orue, & González-Díez, 2013; Cohen, Mor, & Henik, 2015). Rumination is defined as a way of responding to the anguish that involves the repetitive focus of thoughts and their possible causes and consequences (Martínez-monteagudo, Inglés, Granados, Aparisi, & García-fernández, 2019; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). Moser, Moran, Schroder, Donnellan, and Yeung (2013) demonstrate in meta-analysis that anxious apprehension is defined by concern and rumination brought about by future threats. The comorbidities found with anxiety show the importance of studies and instruments that are increasingly refined and robust for the screening of this pathology.

Anxiety scales are valuable tools that can be used for research purposes, as well as for practical reasons. For example, in non-clinical samples, to identify children and adolescents at risk for this type of problem, or clinical populations, to measure and or to track the levels of symptoms and evaluate the progress that was made with certain treatment (Bandelow et al., 2015; Bandelow, Michaelis, & Wedekind, 2017). These measurement instruments can be classified in those that only evaluate the neurovegetative factors, that is, the anxious response, and those that combine the evaluation of physiological, somatic/vegetative factors with the cognitive and behavioral factors (Bandelow et al., 2015).

In this sense, the Children and Young Anxiety Scale (CYAS) stands out, which evaluates multiple factors of anxiety, such as cognitive, and somatic/vegetative symptoms. This is an original scale constructed with the purpose of clinical screening of symptoms related to anxiety for the public children and young Brazilians; its importance is supported by the lack of instruments for this purpose in Brazil, in addition to being a scale that was constructed using robust and current psychometric inferences, compared to in the Brazilian research scenario (Rosamilha, 1971; Baptista & Soares, 2017; Biaggio, Natalício, & Spielberger, 1977; Gorayeb & Gorayeb, 2008).

The instruments of psychological evaluation to be recognized for use need to present several evidence of validity. One of these is validity based on the relationship with external variables, which relates to the correlation of the test with other measures or background variables (Emory, 1985; Messick, 1989). This is an important type of validity because it demonstrates how much an instrument is related to others, or how much the construct that an instrument proposes to measure is related to other constructs that show relationship in the literature. This is an important point in the clinical context because

the pathology hardly presents isolated symptomatology (Cronbach, 1996; Nunes & Primi, 2010). Another type is incremental validity, which concerns the issue of a particular measure providing explanatory power over and beyond another measure to predict a relevant criterion (Bryant, 2000). In psychometric terms, this is an important type of validity, for attesting if an instrument explains a particular construct compared to another instrument with the same purpose.

It is thus observed that anxiety is a pathology present in the development of children and adolescents, and shows comorbidity related to ADHD, mood states and ruminative thinking. Besides, consistent evidence of validity is important for the construction of a psychometric test. Therefore, the general objective of the study was to find evidence of validity in children and adolescents, based on the relationship with external variables, and incremental for the Children and Young Anxiety Scale (CYAS), studying the relationship with the Scale What I Feel What I Feel (OQPS), The Brunel Humor Scale (BRUMS), the Rumination and Reflection Questionnaire (QRR), and the School and Family Scale Children and Adolescents (MTA-SNAP-IV). In addition to searching through group average comparison, it was also important to identify if the CYAS scale discriminates scores of individuals with student anxiety disorder.

2. Method

2.1 Participants

The total sample of this stage consisted of 700 children and adolescents aged 10 to 18 years (WHO, 2009). This sample number is justified by the literature that demonstrates it is an acceptable number for carrying out the analyzes contained in this study (Guadagnoli & Velicer, 1988; Hair, Sarstedt, & Hopkins, 2014).

2.1.1 Clinical Group (CG)

50 subjects aged 10 to 18 years ($M = 15.22$, $SD = 1.79$). 72% ($n = 36$) are girls, diagnosed with some type of anxiety disorder or comorbidity, made by a professional psychiatrist, through guidelines in the Diagnostic and Statistical Manual of Mental Disorders. The most prevalent disorders were ADHD, generalized anxiety disorder and posttraumatic stress disorder. Data were collected at a University Rehabilitation Center in the interior of Minas Gerais.

2.1.2 Group Students (GS)

450 primary and secondary school students aged 10 to 18 years ($M = 14.31$; $SD = 1.69$), 54% ($n = 243$) of whom were male. The data were collected in schools of a city in the interior of Minas Gerais.

2.2 Instruments

2.3 Procedures

Individuals who met the stipulated age range were initially used as inclusion criteria, and the exclusion criteria were individuals outside the age group, individuals diagnosed with a psychiatric disorder other than anxiety, and individuals diagnosed with intellectual disability. For the participation, the parents or guardians of the children signed the informed consent form (ICF), as well as children signed the informed assent form (IAF). The ICF and MTA-SNAP-IV were sent to parents or guardians. Once they signed, the application was performed only in the individuals who presented the signed ICF and the completed MTA-SNAP-IV. CAAE (80601417.4.0000.5514).

The student group (GS) was formed by young students from public and private schools in the interior of Minas Gerais, Brazil, and the instruments were applied collectively by a group of psychology students, under the guidance of a trained psychologist, in separate rooms with approximately 50 students each, with an estimated time of 60 minutes. CG participants were recruited at a University Rehabilitation Center in the interior of Minas Gerais. Participants who were diagnosed with any type of anxiety or comorbid disorder by a professional psychiatrist were selected through guidelines from the Diagnostic and Statistical Manual of Mental Disorders. Data from this group were collected by the center's own psychologists in a room with a time of 60 minutes.

2.4 Data Analysis

Initially, the relationship of CYAS with its factors, and with the other scales used, was analyzed through Pearson's correlation. Subsequently the data were analyzed by means of Structural Equation Modeling (SEM), in order to verify the comparisons of means, and regressions.

Four models were created, two without the CYAS as one of the latent variables (models 1 and 3), and two with the CYAS (models 2 and 4), to determine if there is a difference in modeling results when this variable is introduced. In the modeling, the latent criterion (dependent) variables were the total MTA-SNAP-IV and its factors (inattention F1, hyperactivity/impulsivity F2, and opposing behavior F3), and the independent variables were CYAS, OQPS, QRR and BRUMS. ADHD was established as a latent variable criterion because it presents in the literature symptomatology of all other constructs evaluated by the instruments contained in this research, including anxiety (Angold, Costello, & Erkanli, 1999; Fischer, Barkley, Smallish, & Fletcher, 2002; Gittelman, Mannuzza, Shenker, & Bonagura, 1985; Mannuzza et al., 1991; Youngstrom et al., 2003).

Mplus 7.0 software was used to perform the modeling. These analyzes will attest validity based on the relation with external variables and

incremental for the CYAS, through Beta (β) values between OQPS (gold standard instrument) and other variables, and the effect that Betas and R² suffer when introduced the CYAS in the modeling.

3. Results

Initially, correlations between the factors/total CYAS and other constructs (instruments) were performed. The results can be seen in Table 1.

The results of Table 1 show that the CYAS factors present strong correlations with total CYAS, and among the instruments, correlations showed magnitude ranging from moderate to strong ($r = 0.50$ the $r = 0.74$). In relation to CYAS factors, F1 (somatic/vegetative) showed a stronger correlation magnitude with OQPS (anxiety), and F2 (cognitive factor) with MTA-SNAP-IV (ADHD). The total scores of CYAS presented a higher correlation with OQPS and MTA-SNAP-IV as in factors.

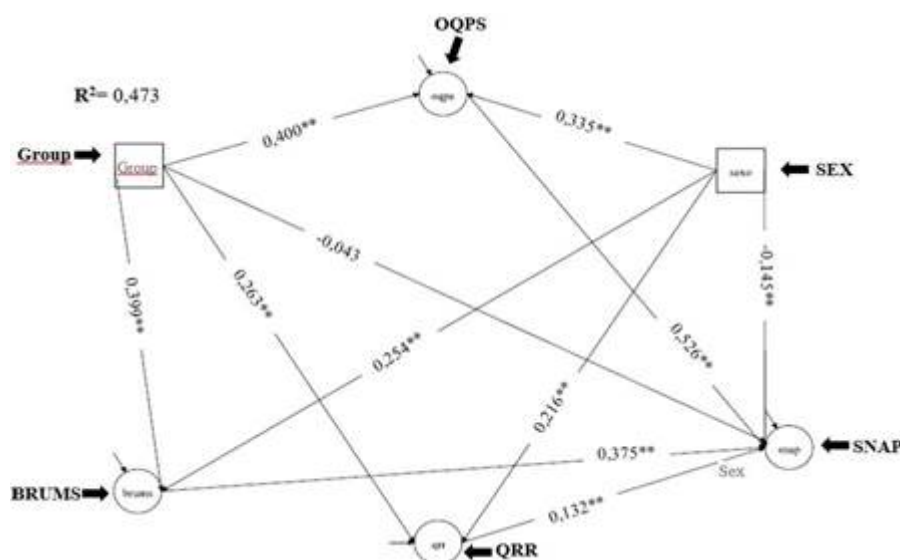


Figure 1

Model 1. SEM total SNAP without CYAS. Adjustment Indexes: $\chi^2 = 19663, 632 / 6095$; RMSEA = 0.054; CFI = 0.942; TLI = 0.933; SRMR = 0.082. ** $\leq, 000$. Factor loadings ≥ 0.30 .

Source: Author

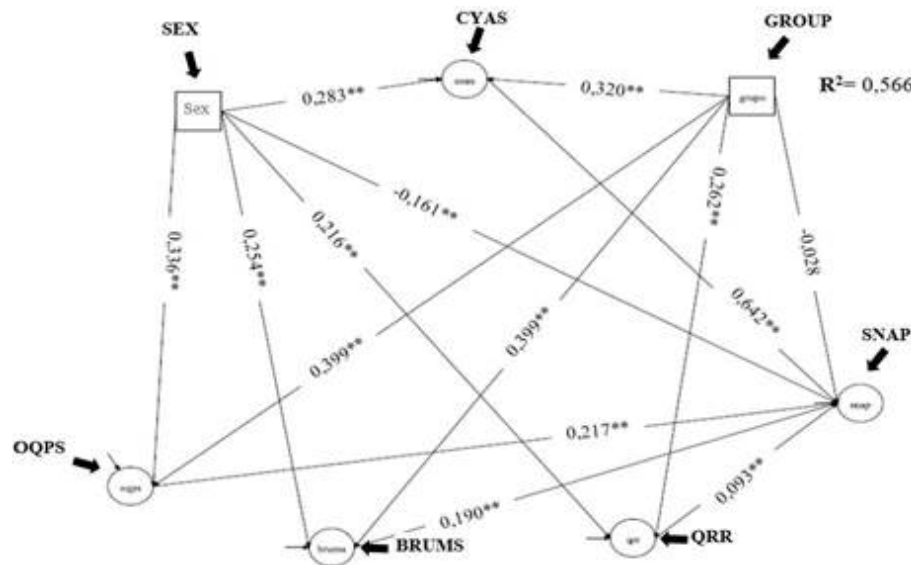


Figure 2

Model 2.SEM Total SNAP with CYAS. Adjustment Indices: $\chi^2 = 27984.081 / 9440$; RMSEA = 0.053; CFI = 0.937; TLI = 0.930; SRMR = 0.082. ** $\leq .000$. Factor loadings ≥ 0.30 .

Source: Author

The SEMs containing the means comparisons and the regression models with latent variables are presented in figures 1, 2, 3, and 4. In figures 1 and 3, the models without CYAS are shown; in figures 2 and 4 latent variable is introduced. In figure 1, in relation to the variable observed group (clinical and student) the only contribution that was not significant was with MTA-SNAP-IV (ADHD). In the remaining latent variables (BRUMS, QRR and OQPS), the clinical group contributed more. Regarding sex, all the contributions were significant, with the girls presenting more contribution, and the model 1 has the OQPS with the highest contribution and shows an R^2 of 0.473. In Figure 2 we can see the introduction of the latent variable CYAS (anxiety), and that its contribution, when introduced, becomes greater ($\beta = 0.642$), decreasing the contribution of OQPS, which in model 1 was $\beta = 0.526$ and in model 2 became $\beta = 0.217$ and the R^2 passed 0.566.

In figure 3 the contributions of the observed variable group did not present any significance for any of the MTA-SNAP-IV factors, but the clinical group showed a greater contribution to the other variables (rumination QRR, anxiety-OQPS, and humor-BRUMS). With regard to the sex, all the contributions were significant; however, the boys contributed more in the three factors of the MTA-SNAP-IV, and the girls in the other variables (QRR, OQPS and BRUMS). The OQPS is the variable that contributed the most to the three factor model of MTA-SNAP-IV ($\beta = 0.553$, $\beta = 0.473$, and $\beta = 0.414$), which shows in factor 1 an $R^2=0.442$; in factor 2 $R^2=0.400$, and factor 3 $R^2=0.375$.

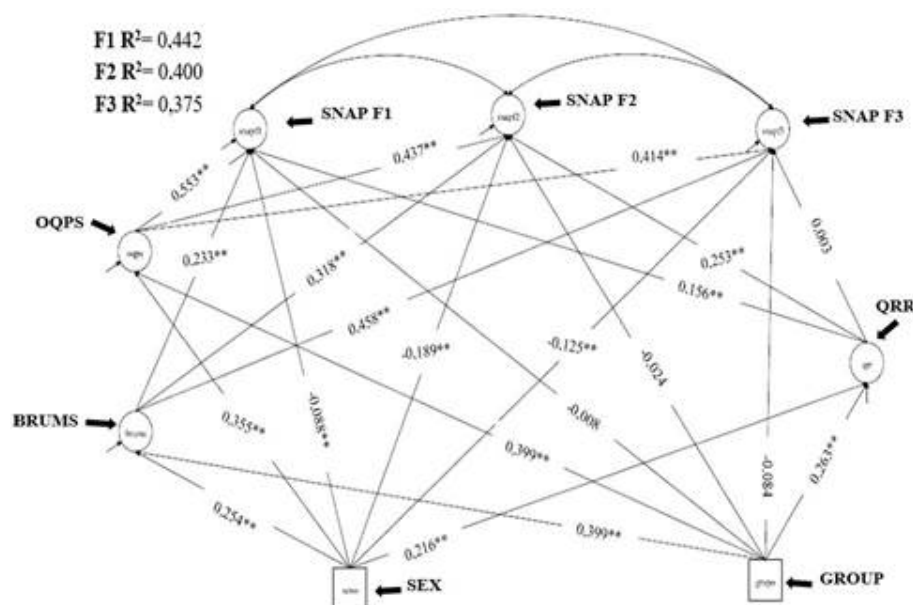


Figure 3

Model 3.SEM SNAP factors without CYAS. Adjustment Indexes: $\chi^2 = 19180.288 / 6082$; RMSEA = 0.056; CFI = 0.917; TLI = 0.908; SRMR = 0.083. ** $\leq .000$. Factor loadings ≥ 0.30 .

Source: Author

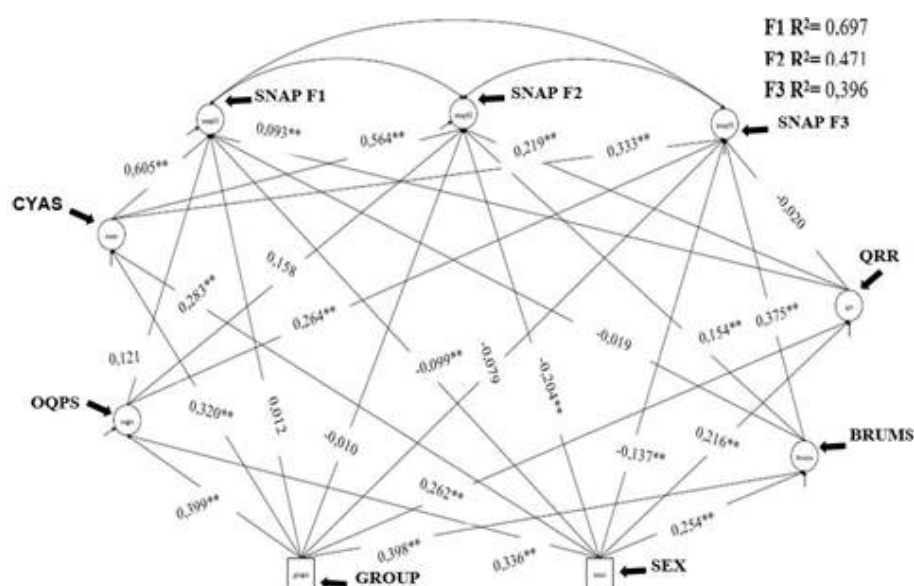


Figure 4

Model 4.SEM SNAP factors with CYAS. Adjustment Indexes: $\chi^2 = 27396.243 / 9425$; RMSEA = 0.052; CFI = 0.924; TLI = 0.912; SRMR = 0.083. ** $\leq .000$. Factor loadings ≥ 0.30 .

Source: Author

In Figure 4, when the CYAS was introduced, it again became the latent variable with the highest contributions to the model ($\beta = 0.605$, $\beta = 0.564$, and $\beta = 0.333$), making the OQPS contributions with the factor 1 and 2 of MTA-SNAP-IV non-significant, and decreasing with factor 3. This model had factor 1 $R^2=0.697$, in factor 2 $R^2=0.471$ and in factor 3 $R^2=0.366$. It can be noticed an increase in the explained proportion of all

modeling, as it was observed when the CYAS was included, and with this being the latent variable with the greatest contribution to the modeling.

4. Discussion

The present study initially proposed to search for evidence of validity based on the relationship with external and incremental variables for the Children and Young Anxiety Scale-CYAS. Considering the results obtained in the correlations and modeling performed, a positive relationship between the CYAS factors with its total score and all the other instruments (latent constructs and variables) was observed, which shows that the CYAS, in a first moment, demonstrates validity based on the relation with external variables (Emory, 1985; Messick, 1989).

Michelini, Eley, Gregory, and McAdams (2015) had the objective of analyzing the relationships between anxiety subtypes and ADHD problems in a sample of 1.564 adolescents, finding moderate correlations between the constructs; Liu, Yang, Ko, Yen, and Yen (2014), analyzing the relationship between ADHD and anxiety symptoms in 4,716 adolescents, found low and medium correlations between the constructs; Chan, Chan, and Kwok (2014), evaluating 2.802 adolescents, found a mean correlation between anxiety and rumination; Gustavon, Du Pont, Whisman, and Miyake (1985), in turn, with a sample of 643 adolescents, found a moderate correlation between anxiety and rumination; Zinbarg et al. (2016), aiming to test hypotheses about prospective associations among latent variables related to mental health of 547 students, found results demonstrating mean and high relationships between anxiety and mood states. These results corroborate those found in the validity correlations based on the relation with external variables of the present study.

In the SEM performed, the contributions of the observed variables were analyzed initially against the latent variables (constructs). The contribution of the clinical group was higher in all models (but not all significant) in relation to the group of students. Corroborating current research that discusses anxious children and adolescents to demonstrate more mental pathologies when compared to non-anxious ones (Klein et al., 2015; Kessler et al., 2015; Simpson, Suarez, Cox, & Connolly, 2018). In addition, these results demonstrate that the instrument (CYAS) discriminates children and adolescents diagnosed with some anxiety disorder, in opposition to those without diagnosis (Salmond, 2008).

We also compared the contributions of the observed sex variable. The girls presented greater contributions in relation to the boys in almost all comparisons, in agreement with the studies and estimates found in the literature that show the girls as a group with more mental disorders compared to boys (Asbahr, 2004; Altemus, Sarvaiya, & Neill Epperson, 2014; Caíres & Shinohara, 2010; Nolen-Hoeksema & Jackson, 2003; Organização Mundial de Saúde, 2009). This greater contribution of the girls can be understood due to them being more prone to internalize the anguish than the boys, which contributes to disorders

associated with mental pathologies (Canetto, 1997). Other authors explain the gender differences in mental disorders, due to physiological and personality characteristics such as predisposing factors among girls, hormonal changes, menarche, and personality traits such as introversion and neuroticism, may increase the likelihood of developing mental disorders (Cloninger, Sigvardsson, & Bohman, 1988; Sher & Trull, 1994; Zucker, Fitzgerald, & Moses, 1995; Zuckerman, 1994).

The SEMs between the latent variables verified the contribution of the CYAS, and the predictive capacity of each model against the variables ADHD (MTA-SNAP-IV) and its factors. The decrease in the relationship between the OQPS and the criterion variable from model 1 to model 2, and the CYAS becoming the variable with the highest Beta, shows that this contributes to more than the OQPS contributed, indicating that almost all the variance of OQPS was shared with CYAS in modeling (Haynes & Lench, 2003; Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001).

In the other models performed, with the MTA-SNAP-IV (ADHD) factors as latent criterion variables (models 3 and 4), it can be seen that in model 4, in which CYAS (anxiety) was included, the values of R^2 increased, and the Betas existing between the criterion variables and the OQPS (gold standard instrument) decreased or ceased to be significant, even in the results found in previous modeling. The contributions to modeling, and the increase of predictions in all models when added the CYAS, are empirical evidences of validity based on external variables and incremental validity for CYAS. The incremental validity is characterized by the particular measure of CYAS, providing explanatory power over and beyond another measure (OQPS) to predict a relevant criterion that in this case is ADHD and its factors (MTA-SNAP-IV) (Bryant, 2000; Hunsley & Mash, 2007; Sheldon & Houser-Marko, 2001).

These are important discussions, firstly for the validity of an instrument as a minimum requirement for use in a psychological assessment (Padilha, Noronha, & Fagan, 2007), specifically about validity based on the relationship with external variables and clinical screening as the focus. This is an important type of validity because it demonstrates how much an instrument in question has the capacity to relate to others, and how much a pathological construct in question, in this case anxiety, is related to the other mental pathologies. Taking into account the comorbidities found, an instrument that has adequate validity with external variables, besides evaluating the construct in which it is proposed, points to association with other pathological constructs (Cronbach, 1996).

When it comes to incremental validity in the clinical context of psychology, it is important to construct more refined instruments over time, because the mental pathologies do not remain static. Therefore, it is necessary that new instruments are constructed, and demonstrate evaluative capacities, in addition to some existing ones. In the case of CYAS in question, this is an important finding, since the incremental validity attested in this study demonstrates that a scale constructed in Brazil presents contributions and explanations of anxiety in children

and adolescents, in addition to a commonly used instrument, of foreign origin, but standardized (Bryant, 2000; Hutz, Bandeira, & Trentini, 2015), a point that can aid in the tracing related to this pathology.

In this way, it was concluded that this study leaves contributions with its contemplated objectives, which were to obtain evidence of validity based on external variables and incremental for the CYAS. The results were satisfactory and relevant. In addition, limitations of the study should be highlighted, which come from the sample limit itself. The study participants are from schools in the interior of Minas Gerais, with a delimited profile, thus requiring a more representative sample. Therefore, for future studies with the scale, a larger and more representative sample size is necessary, especially considering the subjects with a diagnosis of some anxiety disorder, which in the present study was reduced.

References

- Altemus, M., Sarvaiya, N., & Neill Epperson, C. (2014). Sex differences in anxiety and depression clinical perspectives. *Frontiers in Neuroendocrinology*, 35 (3), 320-330. doi:10.1016/j.yfrne.2014.05.004.
- American Psychiatric Association (APA). (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: American Psychiatric Press.
- American Psychiatric Association (APA). (2014). *Diagnostic and statistical manual of mental disorders* dsm-5 (5th ed.). Washington, DC: American Psychiatric Press.
- Angold, A., Costello, E. J., & Erkanli, A. (1999). Comorbidity. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 40 (1), 57-87.
- Asbahr, F. R. (2004). Transtornos ansiosos na infância e adolescência: aspectos clínicos e neurobiológicos. *Jornal de Pediatria*, 80 (2), 28-34. Retrieved from: <http://www.scielo.br/pdf/jped/v80n2s0/v80n2S a05.pdf>.
- Bandelow, B., & Michaelis, S. (2015). Epidemiology of anxiety disorders in the 21st century. *Dialogues Clin Neurosci*, 17 (3), 327-335.
- Bandelow, B., Michaelis, S., & Wedekind, D. (2017). State of the art. treatment of anxiety disorders. *Servier Research Group*, 19 (2), 93-107.
- Bandelow, B., Reitt, M., Rover, C., Michaelis, S., Gorlich, Y., & Wedekind, D. (2015). Efficacy of treatments for anxiety disorders: a meta-analysis. *Int Clin Psychopharmacol*, 30 (4), 183-192. doi:10.1097/YIC.0000000000000078.
- Baptista, M., & Soares, T. (2017). Revisão integrativa da ansiedade em adolescentes e instrumentos para avaliação na base científica eletrônica library online. *Revista Avaliação Psicológica*, 16 (1), 97-105. doi:10.15689/ap.2017.1601.11.
- Biaggio, A. M. B., Natalício, L., & Spielberger, C. D. (1977). Desenvolvimento da forma experimental em português do inventário de ansiedade traço-estado (idade) de spielberger. *Arq. Bras. Psiq.*, 29 (3), 31-44. Retrieved from: <http://bibliotecadigital.fgv.br/ojs/index.php/abpa/article/viewFile/17827/16571>.

- Bryant, F. (2000). *Assessing the validity of measurement .in l. g. grimm & p. r. yarnold (eds.), reading and understanding more multivariate statistics (pp. 991-146)*. Washington, DC: American Psychological Association.
- Calvete, E., Orue, I., & González-Díez, Z. (2013). An examination of the structure and stability of early maladaptive schemas by means of the young schema questionnaire-3. *European Journal of Psychological Assessment*, 29 (4), 283-290. doi:10.1027/1015-5759/a000158.
- Canetto, S. (1997). Meanings of gender and suicidal behavior during adolescence. *Suicide and Life Threatening Behavior* , 27 (4), 339-351.
- Caíres, M. C., & Shinohara, H. (2010). Anxiety disorders in children: A look at the communities. *Revista Brasileira de Terapias Cognitivas*, 6 (1), 62-84. doi:10.5935/1808-5687.20100005.
- Caspi, A., Houts, R., Belsky, D., Goldman-Mellor, S., Harrington, H., Israel, & Moffitt, T. (2014). The p factor: One general psychopathology factor in the structure of psychiatric disorders? *Clinical Psychological Science*, 2 (2), 119-137. doi:10.1177/2167702613497473.
- Chan, S. M., Chan, S. K., & Kwok, W. (2014). Ruminative and catastrophizing cognitive styles mediate the association between daily hassles and high anxiety in hong kong adolescents. *Child Psychiatry and Human Development*, 46 (1), 57-66. doi:10.1007/s10578-014-0451-9.
- Cloninger, C. R., Sigvardsson, S., & Bohman, M. (1988). Childhood personality predicts alcohol abuse in young adults. *Alcohol Clin Exp Res*, 12 (4), 494-505. doi:10.1111/j.1530-0277.1988.tb00232.x.
- Cohen, N., Mor, N., & Henik, A. (2015). Linking executive control and emotional response: A training procedure to reduce rumination. *Clinical Psychological Science* , 3 (1), 15-25. doi:10.1177/2167702614530114.
- Cronbach, L. J. (1996). *Fundamentos da testagem psicológica* (5 . ed.). Artes Médicas.
- DiMatteo, M. R., Lepper, H. S., & Croghan, T. W. (2000). Depression is a risk factor for noncompliance with medical treatment. *Archives of Internal Medicine*, 160 (14), 2101-2107. doi:10.1001/archinte. 160.14.2101.
- Emory, C. (1985). *Business research methods the irwin series in information and decision sciences* (3. ed.). Homewood.
- Erskine, H. E., Baxter, A. J., Patton, G., Moffitt, T. E., Patel, V., & Whiteford, H. A. (2016). The global coverage of prevalence data for mental disorders in children and adolescents. *Epidemiology and Psychiatric Sciences*, 26 (4), 395-402. doi:10.1017/S2045796015001158.
- Fischer, M., Barkley, R. A., Smallish, L., & Fletcher, K. (2002). Young adult follow-up of hyperactive children: Self-reported psychiatric disorders, comorbidity, and the role of childhood conduct problems and teen cd. *Journal of Abnormal Child Psychology*, 30 (5), 463-475. doi:10.15689/ap.2016.1501.14.
- Gittelman, R., Mannuzza, S., Shenker, R., & Bonagura, N. (1985). Hyperactive boys almost grown up: I. psychiatric status. *Archives of General Psychiatry*, 42 (10), 937-947. doi:10.1001/archpsyc.1985.01790330017002.
- Gorayeb, M. A. M., & Gorayeb, R. (2008). “o que penso e sinto” adaptação da revised children’s manifest anxiety scale (rcmas) para o português. *Temas em Psicologia*, 16 (1), 35-45. Retrieved from: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1413-389X2008000100003.

- Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin*, 103 (2), 265-275.
- Gustavon, D. E., Du Pont, A., Whisman, M. A., & Miyake, A. (1985). Evidence for transdiagnostic repetitive negative thinking and its association with rumination, worry, and depression and anxiety symptoms: A commonality analysis. *Collabra: Psychology*, 4 (1), 1-18. doi:10.1525/collabra.128.
- Hair, J., Sarstedt, M., & Hopkins, L. (2014). Partial least squares structural equation modeling (pls-sem): An emerging tool for business research. *European Business Review*, 26 (2), 106-121. doi:10.1108/EBR-10-2013-0128.
- Haynes, S. N., & Lench, H. C. (2003). Incremental validity of new clinical assessment measures. *Psychological Assessment*, 15 (4), 456-466. doi:10.1037/1040-3590.15.4.456.
- Hunsley, J., & Mash, E. (2007). Evidence-based assessment. *Annual Review of Clinical Psychology*, 3, 29-51.
- Hutz, C. S., Bandeira, D. R., & Trentini, C. M. E. (2015). *Psicometria*. Porto Alegre: Artmed.
- Jensen, P. S. (2009). Clinical considerations for the diagnosis and treatment of adhd in the managed care setting (research support, non-u.s. gov't review). *American Journal of Managed Care*, 15 (5), S129-S140.
- Kessler, N. A., R. C. and Sampson, Berglund, P., Gruber, M. J., Al-Hamzawi, A., Andrade, L., & Wilcox, M. A. (2015). Anxious and non-anxious major depressive disorder in the world health organization world mental health surveys. *Epidemiology and Psychiatric Sciences*, 24 (3), 210-226. doi:10.1017/S2045796015000189.
- Klein, A. M., Rapee, R. M., Hudson, J. L., Schniering, C. A., Wuthrich, V. M., Kangas, M., & Rinck, M. (2015). Interpretation modification training reduces social anxiety in clinically anxious children. *Behaviour Research and Therapy*, 75, 78-84. doi:10.1016/j.brat.2015.10.006.
- Kraemer, H. C., Stice, E., Kazdin, A., Offord, D., & Kupfer, D. (2001). How do risk factors work together? mediators, moderators, and independent, overlapping, and proxy risk factors. *Am J Psychiatry*, 158 (6), 848-856. doi:10.1176/appi.ajp.158.6.848.
- Liu, T. L., Yang, P., Ko, C. H., Yen, J. Y., & Yen, F. (2014). Association between adhd symptoms and anxiety symptoms in taiwanese adolescents. *Journal of Attention Disorders*, 18 (5), 447-455. doi:10.1177/1087054712439936.
- Mannuzza, S., Klein, R. G., Bonagura, N., Malloy, P., Giampino, T. L., & Addalli, K. (1991). Hyperactive boys almost grown up: V. replication of psychiatric status. *Archives of General Psychiatry*, 48 (1), 77-83. doi:10.1001/archpsyc.1991.01810250079012.
- Martínez-monteaigudo, M. C., Inglés, C. J., Granados, L., Aparisi, D., & García-fernández, J. M. (2019). Personality and individual differences trait emotional intelligence profiles, burnout, anxiety, depression, and stress in secondary education teachers. *Personality and Individual Differences*, 142, 53-61. doi:10.1016/j.paid.2019.01.036.
- Mattos, P., Pinheiro, M. A. S., Rohde, L. A., (2006). Apresentação de uma versão em português para uso no brasil do instrumento mtasnap-iv de avaliação de sintomas de transtorno do déficit de atenção/hiperatividade e sintomas

- de transtorno desafiador e de oposição. *Revista de Psiquiatria RS*, 28 (3), 290-297. doi:10.1590/S0101-81082006000300008.
- McNair, D. M., Lorr, M., & Droppleman, L. F. (1971). *Manual for the profile of mood states*. San Diego, CA: Educational and Industrial Testing Services.
- Messick, S. (1989). *Validity. em r. linn (org.), educational measurement . (3. ed., 13-103)*. New York, NY: American Council on Education and Macmillan Publishing Company.
- Michellini, G., Eley, T. C., Gregory, A. M., & McAdams, T. A. (2015). Aetiological overlap between anxiety and attention deficit hyperactivity symptom dimensions in adolescence. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 56 (4), 423-431. doi:10.1111/jcpp.12318.
- Moser, J. S., Moran, T. P., Schroder, H. S., Donnellan, M. B., & Yeung, N. (2013). On the relationship between anxiety and error monitoring: a meta-analysis and conceptual framework. *Frontiers in Human Neuroscience*, 7, 1-19. doi:10.3389/fnhum.2013.00466.
- Nolen-Hoeksema, S., & Jackson, B. (2003). Mediators of the gender difference in rumination. *Psychology of Women Quarterly*, 25 (1), 37-47. doi:10.1111/1471-6402.00005.
- Nolen-Hoeksema, S., Wisco, B. E., (2008). Rethinking rumination. *Perspectives on Psychological Science*, 3 (5), 400-424. doi:10.1111/j.1745-6924.2008.00088.x.
- Nunes, C., & Primi, R. (2010). *Aspectos técnicos e conceituais da ficha de avaliação dos testes psicológicos. in conselho federal de psicologia (cfp), avaliação psicológica: diretrizes na regulamentação da profissão (pp. 101-128)*. Brasília: CFP.
- Organização Mundial de Saúde. (2009). *Integração da saúde mental nos cuidados de saúde primários: Uma perspectiva global*. Retrieved from: http://www.who.int/eportuguese/publications/Integracao_saude_mental_cuidados_primarios.pdf. NJ: Erlbaum.
- Padilha, S., Noronha, A., & Fagan, C. (2007). Instrumentos de avaliação psicológica: uso e parecer de psicólogos. *Avaliação Psicológica*, 6 (1), 69-76.
- Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual research review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*, 56 (3), 345-365. doi:10.1111/jcpp.12381.
- Rohlf, I. C. P. D. M., Carvalho, T. D., Rotta, M., & Krebs, R. J. (2004). Aplicação de instrumentos de avaliação de estados de humor na detecção da síndrome do excesso de treinamento. *Revista Brasileira de Medicina Do Esporte*, 10 (2), 176-181. Retrieved from: <http://www.scielo.br/pdf/rbm/v10n2/a05v10n2.pdf>.
- Romanzini, L. (2015). *Prevalência de distúrbios do sono em adolescentes em situação de vulnerabilidade social e sua relação com transtornos cognitivos e comportamentais (master's dissertation on medicine and health sciences)*. Retrieved from: <http://repositorio.pucrs.br/dspace/handle/10923/7717>.
- Rosamilha, N. (1971). *Psicologia da ansiedade infantil*. São Paulo: Edusp. Retrieved from https://books.google.com.br/books/about/Psicologia_da_ansiedade_infantil.html?id=wMMfAAAAIAAJ&redir_esc=y.

- Salmond, S. S. (2008). Evaluating the reliability and validity of measurement instruments. *Orthop Nurs*, 27 (1), 28-30. doi:10.1097/01.NOR.0000310608.00743.54.
- Schatz, D. B., & Rostain, A. L. (2006). Adhd with comorbid anxiety: A review of the current literature. *Journal of Attention Disorders*, 10 (2), 141-149. doi:10.1177/1087054706286698.
- Sheldon, K. M., & Houser-Marko, L. (2001). Selfconcordance, goal attainment, and the pursuit of happiness: Can there be an upward spiral? *Journal of Personality and Social Psychology*, 80 (1), 152-165. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/11195887>.
- Sher, K. J., & Trull, T. J. (1994). Personality and disinhibitory psychopathology: alcoholism and antisocial personality. *Journal of Abnormal Psychology*, 103 (1), 92-102. doi:10.1037/0021-843X.103.1.92.
- Silva, M. D. G. D. M. (2016). Transtorno de déficit de atenção e hiperatividade e o uso dos jogos educativos. , 47, 1-23. Retrieved from: https://monografias.ufrn.br/jspui/bitstream/1234_56789/2723/3/TDAH%20e%20o%20Uso%20de%20Jogos%20Educativos_Artigo_2016.pdf.
- Simpson, D., Suarez, L., Cox, L., & Connolly, S. (2018). The role of coping strategies in understanding the relationship between parental support and psychological outcomes in anxious youth. *Child and Adolescent Social Work Journal*, 0 (0), 1-15. doi:10.1007/s10560-018-0531-y.
- Soares, T. F. P., & Baptista, M. N. (2019). *Escala de ansiedade infanto-juvenil (esan-ij): Construção e estudos psicométricos. (master's dissertation on psychology)*. Retrieved from: <https://www.usf.edu.br/galeria/getImage/385/1686047817857116.pdf>.
- Thapar, A., Collishaw, S., Pine, D., & Thapar, A. K. (2012). Depression in adolescence. *The Lancet*, 379 (9820), 1056-1067. doi:10.1016/S01406736(11)60871-4.
- Trapnell, P., & Campbell, J. (1999). Private selfconsciousness and the five-factor model of personality: Distinguishing rumination from reflection. *Journal of Personality and Social Psychology*, 76 (2), 284-304. doi:10.1037/0022-3514.76.2.284.
- World Health Organization. (2009). *World health statistics 2009*. Geneva. Retrieved from https://www.who.int/whosis/whostat/EN_-WHS09_Full.pdf?ua=1.
- Youngstrom, E. A., Findling, R. L., & Calabrese, J. (2003). Who are the comorbid adolescents? agreement between psychiatric diagnosis, youth, parent, and teacher report. *Journal of Abnormal Child Psychology*, 31 (3), 231-245. doi:10.1023/A:1023244512119.
- Zanon, C., & Teixeira, M. (2006). Adaptação do questionário de ruminação e reflexão (qrr) para estudantes universitários brasileiros. *Interação Em Psicologia*, 10 (1), 75-82. doi:10.5380/psi.v10i1.5771.
- Zinbarg, R. E., Mineka, S., Bobova, L., Craske, M. G., Vrshek-Schallhorn, S., Griffith, J. W., & Anand, D. (2016). Testing a hierarchical model of neuroticism and its cognitive facets: Latent structure and prospective prediction of first onsets of anxiety and unipolar mood disorders during 3 years in late adolescence. *Clinical Psychological Science*, 4 (5), 805-824. doi:10.1177/2167702615618162.
- Zucker, R. A., Fitzgerald, H. E., & Moses, H. D. (1995). Emergence of alcohol problems and the several alcoholisms: A developmental perspective on

etiologic theory and life course trajectory. In D. Cicchetti & D. J. Cohen (Eds.), *Wiley series on personality processes. Developmental psychopathology*, Vol. 2. *Risk, disorder, and adaptation* (pp. 677-711). Oxford, England: John Wiley & Sons.

Zuckerman, M. (1994). *Behavioral expressions and biosocial bases of sensation-seeking*. New York, NY: Cambridge University Press.

Author notes

*

Corresponding author: Thiago Francisco Pereira Soares Email: soarestfp@gmail.com