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Adaptation and psychometric evaluation of a Brazilian version of the CYRM-28

Aurino Lima Ferreira. Universidade Federal de Pernambuco
Marlos Alves Bezerra. Universidade Federal do Rio Grande do Norte
Leonardo Xavier de Lima e Silva. Ministério Público do Estado de Pernambuco
Philip Jefferies. Dalhousie University
Renata Maria Coimbra. Universidade Estadual Paulista
Djailton Pereira da Cunha. Universidade de Pernambuco
Andreza Souza Santos. Universidade Federal do Rio Grande do Norte
Maria Lúcia Ferreira da Silva. Universidade Federal de Pernambuco
Tatiana Lima Brasil. Universidade Federal de Pernambuco
Michael Ungar. Dalhousie University

Abstract

Using a sample of 832 young people, between 13 and 25 years old, the present research examined the psychometric properties of a Brazilian adaptation of the Child and Youth Resilience Measure-28 (CYRM-28), a scale empirically derived from a three-factor resilience model that has been promising for cross-cultural research. To establish validation, we use Confirmatory Factor Analysis to determine whether the traditional three-factor structure and the original items of CYRM-28 are compatible with a Brazilian sample. This was followed by tests of internal consistency by examining Cronbach's alpha and convergent validity by testing correlations with the CD-RISC-10. The results led to a reduced version of 19 items distributed in three resilience factors. The findings are consistent with those observed in samples from other cultures and suggest that CYRM-19-Br is promising for use in resilience research in Brazil.

Keywords: resilience; adaptation; psychometric evaluation.

Resumo

Adaptação e avaliação psicométrica de uma versão brasileira da CYRM-28. Utilizando uma amostra de 832 jovens, entre 13 e 25 anos, a presente investigação examinou as propriedades psicométricas de uma adaptação brasileira da *Child and Youth Resilience Measure-28* (CYRM-28), uma escala empiricamente derivada de um modelo de resiliência de três fatores que tem sido promissora para pesquisas interculturais. Para estabelecer a validação, usamos a Análise Fatorial Confirmatória para determinar se a estrutura tradicional de três fatores e os itens originais da CYRM-28 são compatíveis com uma amostra brasileira. Isso foi seguido por testes de consistência interna examinando o alfa de Cronbach e a validade convergente testando correlações com o CD-RISC-10. Os resultados levaram a uma versão reduzida de 19 itens distribuídos em três fatores de resiliência. Os achados são consistentes com aqueles observados em amostras de outras culturas e sugerem que a CYRM-19-Br é promissora para uso em pesquisas de resiliência no Brasil.

Palavras-chave: resiliência; adaptação; avaliação psicométrica.

Resumen

Adaptación y evaluación psicométrica de una versión brasileña del CYRM-28. Utilizando una muestra de 832 jóvenes, entre 13 y 25 años, la presente investigación examinó las propiedades psicométricas de una adaptación brasileña de Child and Youth Resilience Measure-28 (CYRM-28), una escala derivada empíricamente de un modelo de escala de tres factores de resiliencia que ha sido prometedor para la investigación intercultural. Para establecer la validación, utilizamos el Análisis Factorial Confirmatorio para determinar si la estructura tradicional de tres factores y los ítems originales de CYRM-28 son compatibles con una muestra brasileña. A esto le siguieron pruebas de consistencia interna examinando el alfa de Cronbach y la validez convergente probando las correlaciones con el CD-RISC-10. Los resultados llevaron a una versión reducida de 19 ítems distribuidos en tres factores de resiliencia. Los hallazgos son consistentes con los observados en muestras de otras culturas y sugieren que el CYRM-19-Br es prometedor para su uso en la investigación de resiliencia en Brasil.

Palabras-clave: resiliencia; adaptación; evaluación psicometrica.

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Resilience is a complex construct that has been studied from different perspectives. Researchers such as Cabral and Cyrulnik (2015) use resilience as a metaphor because humans, facing stress or traumatic issues, cannot return to a previous state without changes. Transcultural studies from Ungar (2011) advocated for a social ecological role of cultural context instead of chasing biological determinants and its effects. These studies and many others showed the complexity of resilience, shifting from an intrapersonal perspective for another taking account of cultural patterns, risk and protective factors, considering also adversity and protection as elements of a dynamic process.

Libório, Castro, and Coelho (2006) argue studies concerning resilience should avoid individual perspectives (personality, character, temper, etc.) isolation (without considering context and interpersonal relationships), "fate" (innatism, been born invulnerable, for example), stigmatization (classifications such as "being resilient" and "non resiliente") and instead should focus on dynamics, relativity and processuality. Other studies have considered cultural aspects, community and social-ecological frameworks ontologically linked to individual life stories (Ungar et al., 2020). Brasil (2019) and M. L. F. Silva (2019), advocates for resilience through integral, participative, multidimensional, processual and historic perspectives immersed in a complex network of subjective, objective, social and cultural mechanisms that might allow many possibilities for change. Furthermore, Bezerra (2015, 2021) emphasizes informal networks in stigmatized neighbourhoods and their relation with arts-based interventions; Francisco and Coimbra (2015) advocate personal and social significance as proposed by historical-cultural perspective.

A definition given by Ungar (2019) reflects all the previous elements by suggesting that resilience is better understood by both the capacity of individuals to navigate their way to the resources (psychological, social, cultural, and physical) that sustain their well-being, and their capacity to negotiate (individually and also collectively) for these resources to be provided in culturally meaningful ways.

In the specific field of studies related to children and youth, validation studies for resilience measures have taken place around the world using the Child and Youth Resilience Measure (CYRM-28) including: Canada (Daigneault, Dion, Hébert, McDuff, & Collin-Vézina, 2013; Liebenberg, Ungar, & Van de Vijver, 2012), New Zeeland (Sanders, Munford, Thimasarn-Anwar, & Liebenberg, 2017), South Africa (Van Rensburg, Theron, & Ungar, 2017), Iran (Zand, Liebenberg, & Shamloo, 2017), Spain (Listosella et al., 2019). Each of these studies has confirmed the CYRM-28 as a good measure for assessing resilience.

In 2018, Jefferies, McGarrigle and Ungar did a Rasch analysis after reviewing studies that have used the measures and explored their psychometric properties recommending a 17-item CYRM-R (subscales: "personal resilience" and "caregiver", 10 and 7 items respectively). In 2019, the Resilience Research Centre published a manual for both the CYRM-R and the Adult Resilience Measure (ARM-R, v.2.2). Although CYRM-R and ARM-R measures were developed in English, there are translations available in different languages such as Hind, Bengali, Arabian, Filipin, Turkish, Urdu, Lugandan, Spanish (Latin America and Spain).

In Brazil, a literature review indicated that resilience measures are scarce, particularly those appropriate for youth (Ahern, Kiehl, Lou Sole, & Byers, 2006; Angst, 2009; Oliveira & Nakano, 2018; Pesce et al., 2005). The Resilience scale adapted by Pesce et al. (2005) and an adaptation of the CD-RISC-10, by Lopes and Martins (2011), are the most used with youth.

The first Brazilian version of CYRM-28 was presented by Pessoa (2011) in a study with 31 adolescents between 13 to 15 years old. In his thesis, Pessoa (2015) stated that the "instrument has not yet been officially adapted to the Brazilian context, and the procedures adopted in this research may contribute to this process" (pp. 113-114). In the article from that thesis, Pessoa, Coimbra, Koller, and Ungar (2019) evaluated the indicators of hidden resilience in 551 adolescents and youth with or without involvement with drug traffic.

The CYRM-28 is a measure of the resources (individual, relational, community and cultural) available for individuals to deal with situations of adversity, developed by Ungar and Liebenberg (2011). Consisting of 28 items, which can be administered individually or in groups, taking between 5 and 10 minutes. The items are classified according to a Likert scale from 1 to 5 (where 1 = Not at all; 2 = A little; 3 = Somewhat; 4 = Quite a bit; 5 = A lot).

Each subscale has its own groups of items that serve as indicators of the main dimensions of the broader construct. The first subscale reflects an individual factor that includes personal skills (5 items:

2, 8, 11, 13, 21), peer support (2 items: 14 and 18) and social skills (4 items: 4, 15, 20, 25). The second subscale reflects caregiving (2 items: 5 and 7) and psychological care (5 items: 6, 12, 17, 24, 26). The third subscale comprises contextual components related to spirituality (3 items: 9, 22, 23), culture (3 items: 19, 27, 28) and education (2 items: 3 and 16) (Liebenberg et al., 2012).

Of its three subscales, only one can be considered an 'individualized' measure (the personal scale). The other two (relational and contextual) target social, cultural, economic and interpersonal factors that should be considered so that the overall measure remains broadly social-ecological in focus.

The objective of this work is to present the cultural adaptation and the evaluation of the psychometric properties of the Brazilian version of the Child and Youth Resilience Measure (CYRM-28) in a Brazilian sample. This will result in a measure for studies involving the resilience adolescents and young people in Brazil.

The methodological process of the adaptation and validation of CYRM-28 for Brazilian version

The adaptation and validation process of CYRM-28 for Brazil was carried out according to the recommendations proposed by Borsa, Damásio, and Bandeira (2012) which are in line with the contemporary theories of validity (American Psychological Association/ APA, 2020). This involves two processes: 1) translation and adaptation of the original version of the CYRM-28 for the Brazilian youth population and 2) evaluation of the psychometric properties of the adapted instrument. Ethical approval was obtained by the Research Ethics Committee of the University mentioned (National Report No. 1,684,065 - CAAE: 57860916.10000.5208).

Study 1

Translation and Adaptation Process

There were six stages in this phase: (1) instrument translation from the source language into the target language, (2) synthesis of the translated version, (3) a synthesis evaluation by expert judges, (4) instrument evaluation by the target population, (5) back translation, and (6) a pilot study. Each of these stages is explained in detail below.

Instrument Translation. The translation and cultural adaptation process was initiated by two translators proficient in English and Brazilian Portuguese, who independently translated the instructions of the CYRM-28, the response scale and the items into Portuguese. The translators produced a final version of the instrument compatible with the new context and congruent with the original version.

Synthesis of the translated version. Subsequently, the two translations were "synthesized" (Borsa et al., 2012), assuring cultural adaptation of the instrument and evaluating discrepancies between the translated versions and the original instrument.

Synthesis evaluation by expert judges. This synthesis was conducted by a committee specializing in the subject and formed by three psychologists and psychology professors. This committee examined whether the words, expressions or phrases were appropriate for different contexts, populations and target audiences.

Instrument evaluation by the target population. Ten young Brazilians, aged between 14 and 18 years old, tested the translated CYRM-28 in order to verify the items could be understood and the original intention remained intact. This group was also asked to provide written and/or oral comments for each item. In this step, we also compared the translation of the CYRM-28 scale performed by Pessoa (2015). Based on the observations and suggestions of the group of young people evaluating the instrument and comparison to the Pessoa (2015) translation, additional content reviews were carried out for some items, in order to elevate the likelihood of comprehension of young people of different educational and social levels.

Back translation. Two translators independently translated the scale from Portuguese back to English. Then, these translations were then fine-tuned by the expert committee, considering the equivalences of the translated measures and resolving any discrepancies. The back-translated version was shared with Jefferies et al. (2018) for his evaluation and comments. Items identified as problematic at this stage were reviewed.

Pilot study: focus group. Four pilot studies were carried out a single three-hour meeting. Half were held in Recife with young people from social projects in neighborhoods on the outskirts of the city. The groups had 55% of female representation. The average participation in both groups was 20 participants. In Natal, the average number of participants and the distribution between genders was practically identical. The results obtained in these groups ensured the

understanding of the items as well as confirming the appropriateness of the method of application (Borsa et al., 2012). Following these steps, the instrument was readied for the second study.

Study 2

Assessment of Psychometric Properties

The aim of the second study was to evaluate the psychometric properties of the adapted CYRM-28, examining the adequacy of the three-factor structure in relation to Brazilian youth. In order to determine the adequacy of the measure, efforts were made to confirm the factorial validity, internal consistency and convergent validity.

Design of the Study and Participants

Confirmatory Factory Analysis (CFA) was used to determine whether the traditional three-factor structure and the original items of the CYRM fit a sample from Brazil. This was followed by tests of internal consistency through examination of Cronbach's alpha. Then convergent validity was explored by testing correlations of the measure with another widely used tool for measuring resilience (CD-RISC-10).

The sample consisted of 832 individuals, 55.4% female, with an average age of 17.8 years, ranging from 13.0 to 24.9 years (*SD* = 2.36). Geographical representation was considered, with all five regions of Brazil included. The largest groups were from the Northeast (35.9%) and Southeast (26.0%). Almost a quarter of the sample (23.2%) reported having completed the second stage of elementary school, more than half (54.5%) reported being in high school, almost a fifth (18.7%) said they were studying at a university. The predominant self-declared ethnicity of the sample was "pardo" (brown) (48.6%), followed by white (30.3%) and black (19.8%). For family income, 70.9% reported receiving up to two minimum wages, indicating that the sample was composed mainly of young people in a low-income family situation. Regarding religious affiliation, a general balance between evangelicals (34.2%), Catholics (28.7%) and those who declared they had no affiliation (31.0%). All respondents were proficient in Brazilian Portuguese.

Measures, Procedures and Data Analysis

The questionnaire included sociodemographic questions to capture age, sex, race, education, family income, number of children, region of Brazil, religious affiliation and frequency of religious activity. In addition to these variables, it also included the translation of the CYRM-28. This was accompanied by several "local-specific" questions (S1, S2, S3 ... S10), the elaboration of which is recommended in the CYRM manual (Resilience Research Centre, 2016). These questions were generated by the local consultative group that involved nine specialists (teachers, psychologists, pedagogues and social educators) with experiences in working with adolescents and young people, and ten adolescents and young people contacted for this activity. Subsequently, the selected questions were evaluated in the focus groups in order to help contextualize the measure. The survey also included the 10-item Connor-Davidson Resilience Scale (CD-RISC-10 for Brazilians; Lopes & Martins, 2011).

The questionnaire was administered to students in public and private schools in all five regions of Brazil, between June 2019 and February 2020. The objectives of the study and the nature of the questionnaire were explained before the participants gave written informed consent. Parents provided consent in advance for minors. The sample was extended with another 64 individuals who were recruited through social networks. They were provided a text explanation about the study and selected an option to give their consent to participate, before filling in an online version of the questionnaire.

A quality-check was performed before the formal data analyses, screening for missing or invalid responses, and resulting in 1.5% of unusable data. Then, an CFA was performed, using the original CYRM composed of 3 dimensions and 28 items, without additional context-specific questions. The authors of the original scale suggest that the latter help to improve the specificity of the measure, but the 28-item version has been validated in several contexts; therefore, this was tested separately first.

As an inappropriate fit was found in initial analyses, specific context questions were included, and an Exploratory Factor Analysis (EFA) was performed to first identify an alternative factor structure. This was performed using a random half of the sample (*n*=416), followed by a CFA to validate the emergent model using the second random half of the sample. In both EFA and CFA, good model fit was reflected in good fit statistics such as a root mean square error of approximation (RMSEA) <.06 (Kenny, 2020), a root mean square residual/standardized root mean square residual (RMSR/SRMR) <.08 (Hu & Bentler, 1999), a non-significant (>.05)

chi-square test of model fit (Barrett, 2007). Additionally, just for the CFA, Comparative Fit (CFI) and Tucker-Lewis (TLI) indices >.90 (Hox, Maas, & Brinkhuis, 2010; Hu & Bentler, 1999). The estimated indices were obtained using a maximum likelihood estimation.

Internal consistency was established by reviewing Cronbach's alpha for each of the subscales of the model validated by the CFA. The subscales and the general score of the measure were then correlated with the CD-RISC-10 using Pearson's correlations as an indicator of convergent validity. All analyzes were completed using Jamovi v1.1.9. (The Jamovi Project, 2019).

Results

As mentioned above, CFA using the original CYRM-28 three-factor model was performed, but it resulted in an inadequate fit (χ^2 = 1750, *df* = 347, *p* < 0.001, CFI = 0.785, TLI = 0.766, RMSEA = 0.069). This suggested that the standard three-factor solution did not work well in the current sample. Therefore, this was followed by an AFE, including site-specific questions, using a random selection from half the sample (*n* = 416). Before EFA, the assumptions of the appropriateness of the data for the analysis were confirmed (Bartlett test; χ^2 = 2814, *df* = 253, *p* < 0.001; Kaiser-Meyer-Olkin test = 0.87).

When requesting parsimonious factorial solutions with eigen values >1, a three-factor model was returned. In this model, several items loaded on factors with values less than 0.32 (items 7, 9, 22, 27 and 28 of the CYRM-28). They were excluded as their values were too low to be considered good indicators of the factor. The analysis was then re-run to review the factors without the impact of these items. Item 1 of the CYRM-28 and site-specific item S7 were also removed, as they loaded on more than one factor. Then, items 4, 10, 15, 16, 19 and 25 of the CYRM were excluded, in addition to item site-specific S5, as they also loaded lower than the minimum acceptable level. The analysis was re-run without these items and no further adjustments were required (Table 1).

Factor 1 brought together all of the items from the original CYRM "relationship with primary caregivers" subscale, except item 7 ("If I'm hungry, there's enough to eat"), which had been removed. Factor 2 brought together four items of the "individual" dimension, in addition to site-specific questions S6, S8 and S9, which deal with self-perception of overcoming capacity problems, hope for a better life and self-confidence, respectively. These additional items also seem to be related to personal qualities involved in resilience, so the name of the factor was kept. The third factor included items 3 and 23 of the original contextual subscale (importance of education and service to the community, respectively), items 2, 14 and 18 of the individual subscale (cooperation with others and support from friends) and items S1, S2 and S4 on specific issues (school as a resource for a better life, the desire for formal work and the existence of prejudice in the neighborhood). The "contextual" name of this factor was also maintained, being a mixture of the individual and contextual dimensions of the CYRM-28.

Table 1. EFA Factorial Loads, Including Items from CYRM-28 and Contextual Questions

Item	Factor 1	Factor 2	Factor 3	Singularity
17	**.77**	-.01	.05	.37
6	**.76**	.04	-.13	.47
24	**.75**	.00	.07	.38
5	**.64**	-.05	.01	.60
S3	**.56**	-.04	.21	.55
26	**.54**	.05	.04	.66
12	**.50**	.20	-.02	.64
21	-.03	**.66**	-.04	.60
S9	.05	**.62**	.02	.58
20	.08	**.54**	.08	.62
8	-.06	**.50**	.06	.75
S6	-.09	**.46**	.01	.81
S8	.09	**.44**	.08	.73
S10	-.21	**-.41**	.09	.76
11	-.01	**.39**	.16	.78
14	-.06	.12	**.55**	.67
S1	.12	-.02	**.55**	.64
3	.14	.03	**.52**	.63
23	.10	-.07	**.51**	.71
18	-.03	.10	**.51**	.71
2	.02	.15	**.48**	.69
S2	.04	-.05	**.39**	.84
S4	-.27	-.05	**.34**	.90
Autovalor	5.29	1.26	1.00	--
Variância acumulativa	14.72%	1.23%	9.51%	34.5%

Note. The main axis factor extraction method was used in combination with an oblimin rotation. In bold are loads > .32. S = Site-specific items.
Factor 2: 21, S9, 20, 8, S6, S8, S10, 11.

A CFA was then performed on the emergent model using the other half of the sample. Initially, the fit statistics were not promising (χ^2 = 426, *df* = 182,

p < 0.001; CFI = 0.90; TLI = 0.88; RMSEA = 0.06). However, when reviewing the model parameters according to Tim Brown's (2015) and Rex Kline's (2016), it was found that the standardized estimate of item S4 was not significant (p > 0.05) and the value of the standardized estimate of item S10 was low (< 0.40); therefore, these items were removed from the model. Some items also had several standard residual values above .10 and were also removed: initially item 18 followed by item 14. Finally, covariance between the following pairs of items s was allowed: 2 - 23 and 2 - S1. These modifications resulted in good fit model (χ^2 = 321, df = 147, p < 0.001; CFI = 0.92; TLI = 0.91; RMSEA = 0.05, CI 90% = 0.05 -06) (Table 2). To distinguish this version from other CYRM iterations, we call this version CYRM-19-Br.

After confirming the model, the descriptive and reliability statistics of CYRM-19-Br are presented, together with those of CD-RISC-10, for comparison (Table 3). All Cronbach's alpha coefficients were above .7, except for the contextual subscale, which was slightly lower than desired (α = 0.67). The correlations between items were appropriate for all subscales and comparable to those detected for the CD-RISC-10.

Table 2. Standardized Regression Weights and Covariance Factors for CYRM-19-Br

Factor	Item	*b*		
1 Individual	S6. In general, I cope well with the problems that arise in my life.	.44		
	S8. I hope for a better life.	.49		
	S9. Overall, I have a lot to be proud of myself.	.67		
	8. I strive to finish what I start.	.55		
	11. People find me fun and easy to live with.	.44		
	2. I have the opportunity to show others that I am becoming an adult and that I can act responsibly.	.55		
	21. I am aware of my strengths.	.64		
2 Relationship with Primary Caregiver	S3. My family supports my dreams and life projects.		.67	
	5. My parents / guardians look after me carefully.		.76	
	6. My parents / guardians know a lot about me.		.61	
	12. I talk to my family / caregivers about my feelings.		.76	
	17. My family stays by my side in difficult times.		.73	
	24. I feel safe when I am with my family / caregivers.		.63	
	26. I like the traditions of my family / caregivers.		.66	
3 Context	S1. Going to school will help me to have a better life in the future			.64
	S2. I wish to have a formal job.			.44
	2. I help and cooperate with the people around me.			.59
	3. The study is important to me.			.71
	23. I think it is important to help / work / serve my community.			.41
Factor Covariances		**1**	**2**	**3**
Factor 1		-		
Factor 2		.56	-	
Factor 3		.65	.49	-

Note. S = Site-specific Questions. All regression weights significant at p < .001.

Table 3. Descriptive Statistics, Reliability and Correlation Coefficients between the Dimensions of CYRM-19-Br and CD-RISC-10

Dimensions	No. of items	Mean	*SD*	Min	Max	Cronbach's Alpha	Average Inter-item Correlation
Cy_Tot	19	54.17	1.46	8	76	.86	.25
Cy_Ind	7	19.50	4.44	0	28	.74	.29
Cy_Rel	7	18.75	5.91	0	28	.86	.47
Cy_Con	5	15.91	2.78	3	20	.67	.32
CD-R-10	10	23.95	6.77	2	40	.82	.33
	Product-moment Correlations						
	Cy_Ind	Cy_Rel	Cy_Con	Cy_Tot			
Cy_Ind							
Cy_Rel	.43*						
Cy_Con	.43*	42*					
Cy_Tot	.78*	.86*	.69*				
CD-R-10	.67*	.30**	27**	.52*			

Note. N = 832, except CD-RISC-10, N = 456.Cy_Ind = CYRM-19-Br Individual, Cy_Rel = CYRM-19-Br Relationship with Primary Caregiver, Cy_Con = CYRM-19-Br Context, Cy_Tot = CYRM-19-Br Total.
*p < .01; ** p < .001.

To establish convergent validity, the association of scores in the subscales of CYRM-19-Br and CD-RISC-10 were examined. All were positively correlated (p < 0.01), as expected, given both are positively worded measures of resilience (Table 3). The correlations were of appropriate strength (neither too weak nor too strong; r = 0.27-0.67). The individual factor was more strongly correlated with CD-RISC-10 (r = 0.67, p < 0.01), which makes sense, given that CD-RISC-10 strongly focuses on individual qualities associated with resilience. The subscales of the CYRM-19-Br also correlated appropriately with each other, again, not too weakly indicating they were measuring distinct constructs and not so strongly that they suggested problematic overlap (r = .42-.43).

Considering the variables sex, age and income, it is possible to state that statistically significant differences are found for each subscale (p < 0.05), with the exception of sex in the individual dimension (t = 0.57, p > 0.05).

Discussion

The objective that CYRM-28 could be adapted to the Brazilian reality was achieved, resulting in a robust measure for a variety of children and youth in the country. The alterations to the measure led us to distinguish it by renaming it the CYRM-19-Br.

Overall, the CYRM-19-Br has demonstrated evidence of various kinds of validity, such as structural validity, although the factor structure does not correspond to the structure initially proposed, though this is expected, due to the cultural specificities of the studied sample (Jefferies et al., 2018; Van Rensburg et al., 2017). Robustness is also encouraged based on the observed correlation pattern of the factors within the measure and to a comparable measure of resilience, and reliability based on Cronbach's alpha values (only one not excellent, but acceptable).

The fact that the model found in the present study is not identical to others found in adaptation studies of the CYRM-28 is not problematic, as the specific factorial structures are likely to reflect aspects of the cultural context (Langham et al., 2018). For instance, Govender, Cowden, Oppong Asante, George, and Reardon (2017) sought to validate the CYRM-28 measure among a sample of South African adolescents (n = 1854) with an average age of 14.88 years. After comparing the adjustment indices and the standardized factorial item loads for each model, their confirmatory factor analysis arrived at a 24-item model composed of 3 factors. In the study by Zand et al. (2017), the scores of the exploratory and confirmatory factor analysis resulted in 11 items distributed across three resilience factors, which presented satisfactory Cronbach's alphas.

In the CYRM-Br, Factor 1 brought together four items from the "individual" dimension of the original scale (03 from the personal skills cluster and one from social skills cluster), in addition to site-specific questions S6, S8 and S9, which deal with self-perception of overcoming capacity problems, hope for a better life

and self-confidence, respectively. These additional items also seem to be related to personal qualities involved in resilience, so the name of the factor was kept. As it is an individual dimension, it can be said that this reflects the way young people consider their possibilities to deal with society in general. In this sense, the focus is less on "peers" and social skills and more on the possibility of looking for ways to negotiate and navigate with the world around; as can also be seen in studies by Ungar (2019), Ungar et al. (2020) and Ungar, Theron, Murphy, and Jefferies (2021).

Factor 2 contained all the items about "relationship with primary caregivers" from the original CYRM, and only item 7 ("If I am hungry, there is enough to eat") was removed. This raises the question of the relevance of food scarcity and or the difficulty of admitting this, which could lead to a "more stigmatized view" of individuals surrounded by scarcity, privation and "deficiency" (Brasil, 2019; M. L. F. Silva, 2019; Bezerra, 2015).In Brazilian society, respect, protect and fulfil the rights of displaced children and youth starts acknowledging what was established at the Child and Adolescent Statute (ECA), for example. Unfortunately, it has been practiced a perverse policy (Takeuti & Bezerra, 2009) in which youth are encouraged to consider social problems as their own. But, on the other hand, the misconception that youth's "empowerment" depends on individual efforts has been strongly criticized by researchers (Bezerra, 2021; Tommasi & Corrochano, 2020).

The third factor in the emergent measure was named "contextual", since it addresses school, work and spirituality, aspects which have been highlighted in the literature as important resilience resources (Brasil, 2019; Francisco & Coimbra, 2015; Ungar, 2011, 2019). Interestingly, of the five items most clearly related to culture, none. Youth point out the relevance of the S2 'signed employment contract'. Youth also links culture to financial stability. Citizenship in a culturally significant way is reduced to have a formal contract, reflecting the precariousness of the world of labor. Even so, it is still possible to recognize the importance of school, although a meaningful way of accessing a horizon of possibilities is not identified in it (M. L. F. Silva, 2019). The third factor brought together items 2 and 23 from the original contextual subscale (importance of education and service to the community, respectively), items 2, 14 and 18 from the individual subscale (cooperation with others and support from friends) and items S1, S2 and S4 (school as a resource for a better life, the desire for formal job and the existence of prejudice in the neighborhood). The cultural subscale of the CYRM-28 reveals the crisis in the current context of youth in Brazil, the difficulties to foresee pathways of the future, youth's feeling as been "lost" due to high mortality rates and non-existent access to leisure and jobs, crucial points of young people's life (Cerqueira & Bueno, 2020). As for the items on spirituality, young people consider spirituality more focused on caring for/helping others, differentiating themselves from the traditional perspective of attending temples, etc. The distribution among religious denominations, as well as a perceptual of youth who call themselves without religion are in accordance with the literature in the area (Instituto Brasileiro de Geografia e Estatística, 2010; Jahn & Dell'Aglio, 2017).

There were differences between certain demographic subgroups completing the measure that merit further scrutiny. Such differences indicate the CYRM-28's focus on socio-ecological dimensions of resilience (Ungar, 2019; Ungar et al., 2020; Ungar et al., 2021), which are likely to lead to variations in scores. Langham et al. (2018) worked with youth from the middle-east of Australia and discovered that men had a higher score in the item "to be treated fairly" while women differed in the items "proximity to parents (caregivers)", "pride of indigenous culture" and "friends, supporters". These data corroborate the findings of CYRM-19-Br, however, they also warn of its limitations regarding the investigation of specific themes, for example, including issues such as cis/transgenerity (F. C. Silva, Souza, & Bezerra, 2019) in studies of resilience.

Regarding thresholds for the as is often desirable with (as is often desirable with measures in order to know what is "good" or "good enough") the CYRM-19-Br follows formulation of predecessors, where what is "good" would depend on the contextual reality of each group studied. While this remains to be determined, score scan be contrasted within or between samples, i.e., high scores can be contrasted with low ones and potential reasons for this discrepancy must be formulated and investigated (Resilience Research Center, 2018).

Finally, considering the design of research on resilience proposed by Ungar (2019) and Ungar et al. (2020), the CYRM-19-Br meets the indicated requirements. In this sense, the measure focus on protective factors that can and should be linked to government programs.

In terms of limitations, the scale has not been tested in indigenous communities, quilombolas, riverside communities in the Amazon region, gypsies, nomadic groups such as circus residents, young people diagnosed with mental disorders, young refugees living in Brazil and not adapted for youth of special needs (e.g.: deef, blind). There was no sample from socioeconomic strata A and B used by the IBGE, which corresponds to the segment with the highest purchasing power in the country. Further discussions regarding the limits and possibilities of using resilience scales need to be considered. Such limitations also provide the opportunity for future studies to address each of the aspects mentioned.

Conclusion

The CYRM-19-Br scale fits criteria for validation and psychometric adaptation and is therefore indicated for the use of research on resilience in Brazil with youth, filling a gap in this field of studies.

References

Ahern, N. R., Kiehl, E. M., Lou Sole, M., & Byers, J. (2006). A review of instruments measuring resilience. *Issues in Comprehensive Pediatric Nursing*, *29*(2), 103-125. doi: 10.1080/01460860600677643

American Psychological Association, APA Task Force on Psychological Assessment and Evaluation Guidelines. (2020). *APA guidelines for psychological assessment and evaluation*. Retrieved from https://www.apa.org/about/policy/guidelines-psychological-assessment-evaluation.pdf

Angst, R. (2009). Psicologia e resiliência: uma revisão de literatura. *Psicologia Argumento*, *27*(58), 253-260. Retrieved from https://periodicos.pucpr.br/psicologiaargumento/article/view/20225

Bezerra, M. A. (2015). Subjetividades juvenis e artes de fazer. In S. Cabral & B. Cyrulnik (Eds.), *Resiliência: como tirar leite de pedra* (pp. 289-312). São Paulo: Casa do Psicólogo.

Bezerra, M. A. (2021). *Jovens e redes de vida: experiências acadêmicas e experimentações sociais*. Natal: EDUFRN.

Barrett, P. (2007). Structural equation modelling: Adjudging model fit. *Personality and Individual Differences*, *42*(5), 815-824. doi: 10.1016/j.paid.2006.09.018

Borsa, J. C., Damásio, B. F., & Bandeira, D. R. (2012). Adaptação e validação de instrumentos psicológicos entre culturas: algumas considerações. *Paidéia*, *22*(53), 423-432. doi: 10.1590/S0103-863X2012000300014

Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). The Guilford Press.

Brasil, T. L. (2019). *Resiliência integral: um caminho de possibilidades para formação humana de futuros docentes* (Doctoral dissertation, Universidade Federal de Pernambuco, Recife). Retrieved from https://repositorio.ufpe.br/bitstream/123456789/34274/1/TESE%20Tatiana%20Lima%20Brasil.pdf

Cabral, S., & Cyrulnik, B. (2015.). *Resiliência: como tirar leite de pedra* (1ª ed., Vol. 1). São Paulo: Casa do Psicólogo.

Cerqueira, D. R. C., & Bueno, S. (Eds.). (2020). *Nota técnica - Atlas da violência 2020*. Brasília: Fórum Brasileiro de Segurança Pública/Ipea. doi: 10.38116.riatlasdaviolencia2020

Daigneault, I., Dion, J., Hébert, M., McDuff, P., & Collin-Vézina, D. (2013). Psychometric properties of the Child and Youth Resilience Measure (CYRM-28) among samples of French Canadian youth. *Child Abuse & Neglect*, *37*, 160-171. doi: 10.1016/j.chiabu.2012.06.004

Francisco, M. V., & Coimbra, R. M. (2015). Resiliência em-si na perspectiva da teoria histórico-cultural: rompendo com visões neoliberais. In R. M. Coimbra & N. A. Morais (Eds.), *A resiliência em questão: perspectivas teóricas pesquisa e intervenção* (pp. 57-82). Porto Alegre: Artmed.

Govender, K., Cowden, R. G., Oppong Asante, K., George, G., & Reardon, C. (2017). Validation of the child and youth resilience measure among South African adolescents. *PloS ONE*, *12*(10), e0185815. doi: 10.1371/journal.pone.0185815

Hox, J., Maas, C., & Brinkhuis, M. (2010). The effect of estimation method and sample size in multilevel structural equation modeling. *Statistica Neerlandica*, *64*, 157-170. doi: 10.1111/j.1467-9574.2009.00445.x

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1-55. doi: 10.1080/10705519909540118

Instituto Brasileiro de Geografia e Estatística. (2013). *Atlas do Censo Demográfico 2010*. Recuperado de https://biblioteca.ibge.gov.br/index.php/biblioteca-catalogo?view=detalhes&id=264529

Jahn, G. M., & Dell'Aglio, D. D. (2017). A religiosidade em adolescentes brasileiros. *Revista de Psicologia da IMED*, *9*(1), 38-54. doi: 10.18256/2175-5027.2017.v9i1.1541

Jefferies, P., McGarrigle, L., & Ungar. (2018). The CYRM-R: A rasch-validated revision of the Child and Youth Resilience Measure. *Journal of Evidence-Informed Social Work*, *16*(1), 70-92. doi: 10.1080/23761407.2018.1548403

Kenny, D. A. (2020). Measuring model fit [Software and training videos]. Retrieved from http://www.davidakenny.net/cm/fit.htm

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). New York, NY: Guilford Press.

Langham, E., McCalman, J., Redman-MacLaren, M., Hunter, E., Wenitong, M., Britton, A., … Bainbridge, R. (2018). Validation and Factor Analysis of the child and youth resilience measure for indigenous Australian boarding school students. *Frontiers in Public Health*, *6*, 299. doi: 10.3389/fpubh.2018.00299

Lei n. 8.069, de 13 de julho de 1990. (1990, 13 de julho). Dispõe sobre o Estatuto da Criança e do Adolescente e dá outras providências. *Diário Oficial da União, seção 1*.

Libório, R. M. C., Castro, B. M., & Coêlho, A. E. L. (2006). Desafos metodológicos para a pesquisa em resiliência: conceitos e reflexões críticas. In D. D. Dell'Aglio, S. H. Koller, & M. A. M. Yunes (Orgs.), *Resiliência e psicologia positiva:interfaces do risco à proteção* (pp. 89-116). São Paulo: Casa do Psicólogo.

Liebenberg, L., Ungar, M., & Van de Vijver, F. (2012). Validation of the Child and Youth Resilience Measure-28 (CYRM-28) among Canadian youth. *Research on Social Work Practice*, *22*, 219-226. doi: 10.1177/1049731511428619

Listosella, M., Gutiérrez-Rosado, T., Rodríguez-Rey, R., Liebenberg, L., Bejarano, Á., Gómez-Benito, J., & T. Limonero, J. (2019). Adaptation

and psychometric properties of the spanish version of Child and Youth Resilience Measure (CYRM-32). *Frontiers in Psychology*, *10*, 1410. doi: 10.3389/fpsyg.2019.01410

Lopes, V. R., & Martins, M. C. F. (2011). Validação fatorial da Escala de Resiliência de Connor-Davidson (CD-RISC-10) para brasileiros. *Revista Psicologia Organizações e Trabalho*, *11*(2), 36-50. Retrieved from http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1984-66572011000200004&lng=pt&tlng=pt

Oliveira, K. D. S., & Nakano, T. D. C. (2018). Resilience assessment in Psychology: A review of Brazilian scientific scenario. *Psicologia em Pesquisa*, *12*(1), 73-83. doi: 10.24879/2018001200100283

Pesce, R. P., Assis, S. G., Avanci, J. Q., Santos, N. C., Malaquias, J. V., & Carvalhaes, R. (2005). Adaptação transcultural, confiabilidade e validade da escala de resiliência. *Cadernos de Saúde P*ública, *21*, 436-448. doi: 10.1590/S0102-311X2005000200010

Pessoa, A. S. G. (2011). *O papel da escola na vida de adolescentes vítimas de violência sexual: risco e proteção* (Master's thesis, Universidade Estadual Paulista, São Paulo). Retrieved from http://hdl.handle.net/11449/97523

Pessoa, A. S. G. (2015). *Trajetórias negligenciadas: processos de resiliência em adolescentes com histórico de envolvimento no tráfico de drogas* (Doctoral dissertation, Universidade Estadual Paulista Júlio de Mesquita Filho, Presidente Prudente, São Paulo). Retrieved from https://repositorio.unesp.br/handle/11449/135963

Pessoa, A. S. G., Coimbra, R. M., Koller, S. H., & Ungar, M. (2019). Hidden resilience in the life of adolescents with involvement in drug trafficking. *Psicologia: Teoria e Pesquisa*, *34*, e34426. Epub. doi: 10.1590/0102.3772e34426

Resilience Research Centre. (2016). *The Child and Youth Resilience Measure (CYRM) user's manual*. Halifax, NS: Author.

Resilience Research Centre. (2018). *CYRM and ARM user manual*. Halifax, NS: Resilience Research Centre, Dalhousie University. Retrieved from http://www.resilienceresearch.org/

Sanders, J., Munford, R., Thimasarn-Anwar, T., & Liebenberg, L. (2017). Validation of the Child and Youth Resilience Measure (CYRM-28) on a sample of at-risk New Zealand youth. *Research on Social Work Practice*, *27*, 827-840. doi: 10.1177/1049731515614102

Silva, F. C., Souza, E. M. F., & Bezerra, M. A. (2019). (Trans)tornando a norma cisgênera e seus derivados. *Revista Estudos Feministas*, *27*(2), e54397. doi: 10.1590/1806-9584-2019v27n254397

Silva, M. L. F. (2019). *Resiliência integral e juventudes periféricas: análise de uma experiência formativa no campo educacional* (Master's thesis, Universidade Federal de Pernambuco, Recife). Retrieved from https://repositorio.ufpe.br/bitstream/123456789/34030/1/DISSERTA%C3%87%C3%83O%20Maria%20L%C3%BAcia%20Ferreira%20da%20Silva.pdf

Takeuti, N. M., & Bezerra, M. A. (2009). Trajetórias de um coletivo jovem: nem só de prática-gramática da ira. In N. M. Takeuti & C. Niewiadomski (Eds.), *Reinvenções do sujeito social: teorias* e práticas biográficas (pp. 105-125). Porto Alegre: Sulinas.

The Jamovi Project. (2019). *Jamovi*. (Version 1.1) [Computer Software]. Retrieved from https://www.jamovi.org

Tommasi, L., & Corrochano, M. C. (2020). Do qualificar ao empreender: políticas de trabalho para jovens no Brasil. *Estudos Avançados*, *34*, 353-372. doi: 10.1590/s0103-4014.2020.3499.021

Ungar, M. (2011). The social ecology of resilience: Addressing contextual and cultural ambiguity of a nascent construct. *American Journal of Orthopsychiatric*, *81*(1), 1-17. doi: 10.1111/j.1939-0025.2010.01067.x

Ungar, M. (2019). Designing resilience research: Using multiple methods to investigate risk exposure, promotive and protective processes, and contextually relevant outcomes for children and youth. *Child Abuse & Neglect*, *96*, 104098. doi: 10.1016/j.chiabu.2019.104098

Ungar, M., & Liebenberg, L. (2011). Assessing resilience across cultures using mixed-methods: Construction of the Child and Youth Resilience Measure-28. *Journal of Mixed Methods Research*, *5*(2), 126-149. doi: 10.1177/1558689811400607

Ungar, M., McRuer, J., Liu, X., Theron, L., Blais, D., & Schnurr, M. A. (2020). Social-ecological resilience through a biocultural lens: A participatory methodology to support global targets and local priorities. *Ecology and Society*, *25*(3), 8. doi: 10.5751/ ES-11621-25030

Ungar, M., Theron, L., Murphy, K., & Jefferies, P. (2021). Researching multisystemic resilience: A sample methodology. *Frontiers in Psychology*, *11*, 607994. doi: 10.3389/fpsyg.2020.607994

Van Rensburg, A. C., Theron, L. C., & Ungar, M. (2017). Using the CYRM-28 with South African young people: A factor structure analysis. *Research on Social Work Practice*, 1-10. doi: 10.1177/1049731517710326

Zand, B. K., Liebenberg, L., & Shamloo, Z. S. (2017). Validation of the factorial structure of the Child and Youth Resilience Measure for use with Iranian youth. *Child Indicators Research*, *10*, 797-809. doi: 10.1007/s12187-016-9412-0

Aurino Lima Ferreira, Doutor em Educação pela Universidade Federal de Pernambuco (UFPE), é Docente da Universidade Federal de Pernambuco (UFPE). Endereço para correspondência: Rua Acadêmico Hélio Ramos S/N, Recife, PE, CEP 50.740-533. Email: aurinolima@gmail.com ORCID: http://orcid.org/0000-0002-7883-9549

Marlos Alves Bezerra, Doutor em Ciências Sociais pela Universidade Federal do Rio Grande do Norte (UFRN), é Docente da Universidade Federal do Rio Grande do Norte (UFRN) e Vice-coordenador do curso de Psicologia. Email: marlos.bezerra@ufrn.br ORCID: https://orcid.org/0000-0003-0605-7297

Leonardo Xavier de Lima e Silva, Doutor em Educação pela Universidade Federal de Pernambuco (UFPE), é Analista Ministerial em Psicologia do Ministério Público do Estado de Pernambuco. Email: leopsixavier@gmail.com ORCID: http://orcid.org/0000-0002-2779-300X

Philip Jefferies, Doutor em Psicologia pela Psychology Dublin City University, é Pesquisador Sênior do Resilience Research Centre da Dalhousie University. Email: philip.jefferies@dal.ca ORCID: http://orcid.org/0000-0003-4477-9012

Renata Maria Coimbra, Doutora em Psicologia do Desenvolvimento pelo Instituto de Psicologia da Universidade de São Paulo (USP), é Professora assistente da Universidade Estadual Paulista (UNESP-Presidente Prudente). Email: renata.maria@unesp.br ORCID: http://orcid.org/0000-0003-2105-7260

Djailton Pereira da Cunha, Doutor em Educação Pela Universidade Federal de Pernambuco (UFPE), Doutor em Sciences de L'Éducation pela Université de Lyon, é Professor Adjunto da Universidade de Pernambuco (UPE). Email: djailton.cunha@upe.br ORCID: https://orcid.org/0000-0002-5024-7824

Andreza Souza Santos, Doutora em Multimedia in Education pela Universidade de Aveiro (UA), é Pedagoga da Universidade Federal do Rio Grande do Norte (UFRN). Email: doutoraandrezabrasil@gmail.com ORCID: https://orcid.org/0000-0003-4080-4380

Maria Lúcia Ferreira da Silva, Mestre em Educação pela Universidade Federal de Pernambuco (UFPE). Email: marialucia.f.d.s@hotmail.com ORCID: https://orcid.org/0000-0002-3243-4589

Tatiana Lima Brasil, Doutora em Educação pela Universidade Federal de Pernambuco (UFPE). Email: tatiana.limabrasil@gmail.com ORCID: https://orcid.org/0000-0002-2977-1509

Michael Ungar, Doutor em Social Work pela Wilfrid Laurier University, é Pesquisador Sênior do Resilience Research Centre da Dalhousie University. Email: michael.ungar@dal.ca ORCID: https://orcid.org/0000-0003-0431-347X

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