

Psychometric properties of Persian version of child and youth resilience measure-revised in adolescents

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Abstract

Purpose: This study explores the psychometric properties of the Persian version of the Child and Youth Resilience Measure-Revised (CYRM-R) in adolescent population.

Method: A sample of 323 Iranian adolescents (12–18 years old) completed the CYRM-R, Resilient Scale (RS), Beck Depression Inventory (BDI-II), and Mental Health Continuum Short Form (MHC-SF). Confirmatory factor analysis was conducted to investigate the goodness of fit. Face, content, concurrent validity, and internal consistency were evaluated.

Results: The results showed acceptable face and content validity. Goodness-of-fit was adequate and internal consistency (Cronbach's α exceeded .883) was strong. The CYRM-R score correlated positively to the RS and MHC-SF total score and negatively to the total score of BDI-II, supporting the scale's concurrent validity. In addition, Factor analysis confirmed the two-factor structure of this measure.

Conclusion: The Persian version of the CYRM-R presents adequate psychometric properties. It is a reliable and valid instrument that can be used to assess resilience in adolescents.

KEYWORDS

adolescent, CYRM-R, psychometric properties, resilience

1 | INTRODUCTION

Mental disorders affect one in seven adolescents aged 10–19-year-olds worldwide (World Health Organization [WHO], 2021). Common mental disorders refer to depressive and anxiety disorders, respectively estimated in 4.4% and 3.6% of adolescents, impacting their quality of life and health (Silva et al., 2020). Adolescents are usually exposed to various behavioral, emotional, and psychological problems. They may feel a sense of dissatisfaction with life (Konaszewski et al., 2021). There are always short-term and long-term individual and social issues in the home, school, and community that can affect adolescents' future, growth, and entry to adulthood (Nimisha & Deepak, 2018). Parents are often concerned about their hazardous adolescent behaviors (such as substance abuse, impulsivity, and sexual behaviors) and according to a study on adolescents, many behaviors, including alcohol and substance use and sexual and eating behaviors that lead to harm, are common between the ages of 12 and 17 (Eaton et al., 2006).

Despite all the dangers that threaten adolescents, not everyone will have severe problems and adverse outcomes when they encounter stressful events (Zhang et al., 2019). Environmental and educational conditions can act as risk or protective factors for adolescent resilience. Therefore, shaping health-promoting behaviors during childhood and their manifestation in adolescence is particularly important and can serve as a supportive and protective tool against high-risk behaviors (Haase, 2004). According to Ungar, resilience is both the capacity of individuals to navigate their way to the psychological, cultural, social and physical resources which can sustain their well-being when they exposure to adversity, and collectively and individually capacity to negotiate for resources to get accessed in culturally meaningful ways (Ungar, 2022). It worth to mention that interaction with social surroundings and culture can also foster and embed interests as a psychology concept that is symbolized by the emotive component of positive emotions (Bergin, 2016). Personal interests are essential for the development of self-growth, future direction, drive to learn, positive emotions, and finally wellbeing during the adolescent phase (Dehghanizadeh et al., 2020). In resilience, adolescents develop a sense of personal empowerment and gain more control over life by changing negative behavioral patterns and misconceptions (Resnick, 2000). Resilience changes during human life and development and can be created or enhanced at any stage (Southwick et al., 2014). Furthermore, attention to resilience is essential from a health perspective. This view states that it is not appropriate to look at the negative aspects of health, that is, disorders and diseases, and health promotion and its positive side are important too (Wallerstein, 1983).

There is a need for the proper tool to assess and plan particular protocols for increasing resilience. There are some tools for measuring resilience, including the Connor & Davison Resilience Scale (CD-RISC) (2003), the Resilience Scale (RS) (1987), and Child and Youth Resilience Measure-Revised (CYRM-R) (2018), and so forth. Although most of these tools are used in the adult population, the RS and CYRM-R are designed especially for adolescents.

Another quality that needed in choosing a tool is culture independency. For years, studies on adolescents have pointed out the similarities and differences between the characteristics of adolescence and activities related to this age in different cultures. Adolescent adjustment patterns depend highly on their community, culture, and family. Therefore, today, adolescents' issues are highly reliant on culture, and cultural issues which have made the study of resilience face problems such as ambiguity in defining the positive consequences of behavior, lack of predictability of behavioral model, and semantic burden of questionnaires (Ungar et al., 2013). Only CYRM-R has been created among the available tools to assess adolescent resilience in different socio-cultural contexts. It is the only comprehensive tool that can be used for other cultures and social classes. It also considers the adolescent's personality traits, social support, and cultural and social resources, while the RS does not address cultural issues (Sanders et al., 2015). Ungar et al. (2008) examined CYRM-R in 11 countries and aimed to identify appropriate measures for assessing adolescent resilience. Their study stated that other instruments for measuring resilience were defined in the positive consequences of resilience are weak and cannot measure resilience by considering cultural factors (Ungar et al., 2008).

The third advantage of the CYRM-R is parallel forms for children, adolescents, and adults. These forms allow the researcher to compare the resilience of parents and children or individuals of different ages. Furthermore, this scale is offered in a 3- and 5-point response scale, with simplified or standard wording. This variety helps researchers use the appropriate measure depending on their participants. Although there are different versions of CYRM, according to Ungar, CYRM-R is one of the most popular and best measures for research (Jefferies et al., 2018).

CYRM-R was designed in 2018 as a valid, reliable, and culture-independent scale dedicated to assessing adolescents' resilience. Jefferies et al. (2018) used Rasch-validate revision to improve its psychometric properties, and during the study, the number of items was changed from 28 (the initial version) to 17. Culturally and linguistically biased things for adolescents were removed, leaving only items that increased the scale's validity and reliability. Finally, a revised form was created named CYRM-R (Jefferies et al., 2018). This scale has higher psychometric properties and is more consistent with the information obtained from caregivers and adolescents than the previous version, with 28 questions (Ungar et al., 2013). The results for the Rasch analyses described good psychometric properties for both subscales, and acceptable item and person fit residuals. Also, it indicated that the discriminant ability of this scale is good, and problematic local dependency and differential item functioning are not found. Although there are different versions of CYRM, according to Ungar, CYRM-R is one of the most popular and best measures for research (Jefferies et al., 2018).

Since CYRM-R is a proper scale for assessing adolescents' resilience and there is no research about its psychometric properties in the Middle East, this study aimed to investigate the psychometric properties of the Persian version of CYRM-R in a sample of adolescents. The examined properties included face, content and concurrent validity, confirmatory factor analysis, and internal consistency.

2 | MATERIALS AND METHODS

2.1 | Research participants

The population consisted of 323 Iranian adolescents (79.6% girls and 20.4% boys) between 12 and 18 years old, selected using a convenient sampling method in 2021. The number of participants needed for factorial analysis was estimated to be 15 per item (Tabachnick & Fidell, 2014). Due to 17 items, 255 people are appropriate sample size.

2.2 | Measures

2.2.1 | Child and Youth Resilience Measure-Revised (CYRM-R)

CYRM-R was designed in 2018 by Ungar and Jefferies. This scale has 17 items and assesses resilience in the age group of 10–23 years. The adolescent RS has two subscales of intrapersonal and interpersonal or caregiver resilience. The results of the Rasch analysis showed that both subscales have good psychometric properties. The items are appropriate to the age of the participants and their socio-cultural differences and can distinguish adolescents in resilience. This scale has 3- and 5-point response scale with simplified or standard wording. CYRM-R has been translated into different languages, and researchers from different countries have proved its psychometric properties (Borualogo & Jefferies, 2019; Cusinato et al., 2020; Jefferies et al., 2018).

Additionally, face validity and content validity are acceptable and have good fit statistics (RMSEA = 0.59, RMSR = 0.55). The adolescent RS retest reliability was above 0.7 at 2 weeks and 3 months. Cronbach's α of this scale is reported to be .82. The personal subscale is 0.82, and the relational subscale are 0.87; also, Pearson's internal consistency is 0.74, which indicates good reliability (Jefferies et al., 2018).

2.2.2 | RS

Wagnild and colleagues designed the RS in 1993. This scale consists of 25 items on a 7-point Likert scale with two subscales, including acceptance of self and life and personal competence. Seventeen items related to the "Personal Competence" subscale are specific to mastery, determination, independence, resourcefulness, and self-reliance; the "Acceptance of Self and Life" subscale has eight items associated with flexibility, balance, adaptability, and a balanced perspective of life. RS provides a permissible score range: 25 to 175. Higher scores depicted more robust resilience. Scores were considered high if exceeding 147, and mid-range scores were 121–146, while scores below 121 were regarded as low RS scores (Wagnild & Young, 1993). In Wagnild and Young's research, the RS had high Cronbach's α reliability (0.91), which means high internal consistency of the instrument. Also, construct validity was obtained by measuring the correlation of the RS with the relevant constructs in theory, such as life satisfaction (0.30) and depression (−0.37), demonstrating the construct validity of the instrument (Scoloveno, 2017). Psychometric properties of the Persian version of RS were assessed in Iran and reported high reliability and validity for this scale (Kazerouni et al., 2013).

2.2.3 | Beck Depression Inventory-II (BDI-II)

BDI-II is one of the most popular psychometric tests to measure depression severity, designed by Beck. BDI-II is a multichoice self-assessment questionnaire with 21 questions. It's used to measure signs and symptoms associated with depression in individuals above 12. Questions of this inventory include hopelessness, irritability, guilt, physical symptoms, and weight loss. BDI-II is scored based on Likert's four-choice spectrum; each item is divided into four degrees based on intensity and scores ranging from 0 to 3. The total scores would be 0–63. The range of scores between 0 and 13 represents minimum depression, scores 14–19 refer to mild depression, scores 20–28 depict moderate depression, and scores 29–63 show severe depression. The content validity of the BDI-II was proved because the following item replacements are compatible with DSM-IV criteria for major depressive disorders. The mean correlation coefficients of clinical ratings of depression and the BDI-II for nonpsychiatric and psychiatric populations are between 0.60 and 0.72 (Beck et al., 1988). Construct validity for the medical symptoms was high, $\alpha = .92$ for psychiatric outpatients and 0.93 for college students. Internal consistency was 0.89, and test–retest reliability were greater than 0.06 (Beck et al., 1988).

The Persian version of this scale has a high internal consistency with a Cronbach's α of .87, for affective-cognitive is 0.84, and for somatic vegetative is .78 (Rajabi & Karju, 2012). The test–retest reliability was 0.73, which was acceptable (Rahimi, 2014). In factor analysis, somatic vegetative and affective-cognitive factors fit better than models with one total factor. These data support the reliability and concurrent validity of the BDI-II Persian to measure depressive symptoms in nonclinical samples. The Pearson correlation coefficient for the BDI-II with the Automatic Thoughts Questionnaire was 0.77, indicating an acceptable correlation between the two measures of depression (Ghassemzadeh et al., 2005).

2.2.4 | Mental Health Continuum Short Form (MHC-SF)

The MHC-SF is derived from the long-form (MHC-LF), which measured the three dimensions of Ryff's (1989) model of psychological well-being. This form includes 14 questions and three components based on Likert's six-choice spectrum; the mental health continuum measures social well-being, psychological, and emotional (Keyes, 2005). The minimum score is 14, and the maximum score is 84. Scores between 28 and 56 indicate moderate mental health levels, and above 56 represent high mental health levels. Internal reliability for the total MHC-SF is 0.89, and subscales of social well-being, psychological, and emotional are 0.74, 0.89, and 0.83. The validity of the MHC-SF is accepted (Lamers et al., 2010). In Iran, confirmatory factor analysis confirmed the proposed initially three-factor

structure, with these factors accounting for about 68 percent of the variance (Rafiey et al., 2017). This questionnaire's reliability has been reported to be 0.88 (Ghalami & Shoa, 2019).

2.3 | The translation process of the CYRM-R

First, we received permission for research from the original author, Dr. Ungar. Next, we asked two professional translators who mastered Persian and English to translate the questionnaire items into Persian. Then, the questionnaire was translated from Persian to English using the back translation method, and two other translators who are proficient in Persian and English did this. To ensure the accurate transfer of concepts, the questionnaire is reviewed by experts and compared with the original measure. After agreeing on the coordination of the final English version and the Persian content of the questionnaire, the temporary Persian version of the questionnaire has been sent to the author, and we edited the questionnaire until he finally accepted the last version. In the next step, as a pilot study, the questionnaire was administered to 30 girls and 30 boys in adolescence. The items explained to adolescents and which ones were unclear to them were changed and adjusted. Finally, the questionnaire was ready for the main administration. The method used for adapting the scale Cross-Culturally was a 5-stage method (Beaton et al., 2000).

Regarding the participants, the 5-point response scale version of CYRM-R with standard wording was used in this research. Since another resilience test called Adult Resilience Measure-Revised (ARM-R) is applied for participants over 18 years old, we decided to use CYRM-R for those under 18 years old, so our participants were between 12 and 18 years old. To assess the convergent and divergent validity of the CYRM-R, the adolescents were asked to respond to the BDI-II, MHC-SF, and RS.

2.4 | Ethical considerations

This study obtained the ethics code from the Iran University of Medical Sciences Ethics Committee, which is IR.IUMS.REC.1399.963 to observe ethical research principles. The researchers also gave the participants the necessary information to ensure they were informed. They obtained informed written consent from the target group participating in the research project. The participants were reassured about the confidentiality and the right to cancel participation in the research project whenever they didn't want to continue.

3 | RESULTS

Three hundred and twenty-three adolescents participated in this study. The mean age was 15.99 (SD = 5.65), 275 (79.6%) were female, and 66 (20.4%) were male. Participants were in the age range of 12–18 years. The highest number of participants (101) was 17 years old (31.3%), and the lowest number (16) was 12 years old (5%). the percentage of adolescents at the ages of 13, 14, 15, 16, and 18 were ordering 6.2%, 9.6%, 11.8%, 17.6% and 18.6%. Based on Kolmogorov–Smirnov test which applied on age variable, the skewness is -0.783 (SD = 0.136). This result indicates that the distribution of age is not normal. All of them were single and presented means close to a low level for BDI-II and a high level for RS. Details are shown in Table 1.

3.1 | Face validity

Face validity means the tool's appearance is appropriate for collecting the desired information, especially from the respondents' perspective. To aim that, 30 girls and boys aged 12–18 were interviewed face-to-face. They expressed

TABLE 1 Means, standard deviations, minimum and maximum.

Variables	Mean	SD	Minimum	Maximum
RS	128.6780	18.86372	43	173
MHC-SF	45.8731	9.57283	14	70
BDI-II	16.1146	11.23393	0	58
CYRM-R	60.4272	11.91364	22	85

Abbreviations: BDI-II, Beck Depression Inventory-II; CYRM-R, Child and Youth Resilience Measure-Revised; MHC-SF, Mental Health Continuum-Short Form; RS, Resilience Scale; SD, Standard Deviation.

their views on the level of difficulty, the degree of inconsistency, the ambiguity of expressions, or the existence of inadequacies in the meanings of words. Their opinions were applied to a questionnaire.

To determine the face validity quantitatively, for all items of the questionnaire in the 5-point response scale, 20 adolescent girls and boys were surveyed. In this section, participants were asked about the importance of each item. Finally, the effect of every item was calculated. The impact score for all items is higher than 1.5, which is statistically acceptable.

3.2 | Content validity

The purpose of measuring this type of narrative is to ensure the ability of the instrument to measure the phenomenon (concept) that it claims to measure. In the qualitative study of content validity, considering that this questionnaire aims to assess the resilience of Iranian adolescents. Ten university professors in different fields (3 PhD in counselling, 3 PhD in clinical psychology, 2 PhD in statistics, and 1 PhD in Educational Psychology) were asked to submit their corrective views in writing after carefully studying the instrument. It was also emphasized that in evaluating the quality of content validity, experts should consider the grammar, the use of appropriate words, the importance of the questions, the placement of the questions in the appropriate place, and the completion time of the designed tool. After gathering experts' opinions, the necessary changes in the tool were noticed, including several grammar and vocabulary changes.

To determine the quantitative validity of the content of the questionnaire, 20 experts, as suggested in the literature (Taghizadeh et al., 2017) in the fields of counselling, psychology, and statistics, were asked to say "necessary," "not necessary but useful," and "not necessary" for all items of the questionnaire. The results were calculated based on the CVR formula and matched with the "Lawshe" table numbers. According to the number of specialists, the minimum value of CVR is equal to 0.62 (Lawshe, 1975). Since all items obtained values higher than this amount, no items were omitted. Considering that the overall CVI report of the tool is more efficient and eloquent than the individual CVR report in many cases, the total CVI was also calculated. The final value of CVI based on its formula is 0.87 that is considered acceptable.

3.3 | Factor analysis

The creators of CYRM-R and related researchers have obtained an overall resilience score and two subscales in their research, so confirmatory factor analysis has been used to confirm the homogeneity of the items of the CYRM-R in terms of content Infrastructural dimensions. Due to previous research regarding the two-factor nature of this test (intrapersonal and interpersonal or caregiver factors), confirmatory factor analysis was used, which showed a good agreement with these two factors (Ungar, 2019).

TABLE 2 Goodness-of-fit statistics for CYRM-R.

Characteristics	CYRM-R
SRMR	0.0629
RMR	0.0448
GFI	0.89
AGFI	0.857

Abbreviations: AGFI, Adjusted Goodness of Fit Index; CYRM-R, Child and Youth Resilience Measure-Revised; GFI: Goodness of Fit Index; RMR: Root Mean Square Residual; SRMR: Standardized Root Mean Squared Residual.

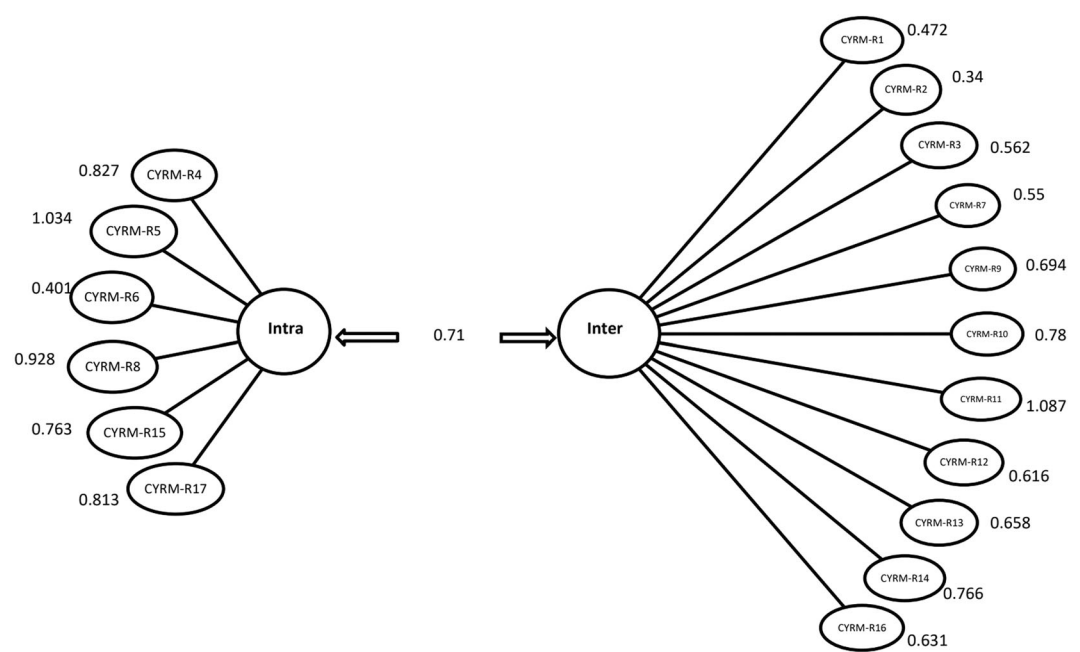


FIGURE 1 Diagram of standardized coefficient of CYRM-R two-factor structure path. CYRM-R, Child and Youth Resilience Measure-Revised.

For this purpose, LISREL software has been used. There are several fitness characteristics to evaluate factor analysis models. In this study, the degree of freedom is 119, the χ^2 coefficient is 916.56, and the significance level is 0.00. The root value of the estimated variance of the approximation error (RMSEA) is 0.044. The goodness-of-fit characteristics obtained for CYRM-R are listed in Table 2.

In the obtained model (Figure 1) according to the scores, 0.892 and 0.845, respectively, indicate the acceptable fit of the model. Table 3 summarizes the factor loading obtained per item in CYRM-R.

3.4 | Reliability

Internal consistency and Cronbach's α were used to determine the reliability of CYPM-R. The results show that Cronbach's α for the total score, intrapersonal or caregiver subscale, and interpersonal subscale, respectively, are .883, .859, and .798, which indicate a high internal correlation of questions.

TABLE 3 Factor loadings of per CYRM-R items.

Items	English/Persian	Interpersonal	Intrapersonal
1	I collaborate with people around me من با افراد دوروبرم همکاری می‌کنم	0.472	
2	Having an education is important to me داشتن تحصیلات برای من مهم است	0.340	
3	I know how to behave in different social situations می‌دانم در موقعیت‌های مختلف اجتماعی چگونه رفتار کنم	0.562	
4	My parent(s)/caregiver(s) are taking care of me والدین یا مراقبانم واقعاً مواظبم هستند		0.827
5	My parent (s)/caregiver(s) really know me very well والدین یا مراقبانم، من را به خوبی می‌شناسند		1.034
6	If I feel hungry, enough foodstuffs are found to eat اگر گرسنه باشم مواد غذایی کافی برای خوردن وجود دارد		0.401
7	People like to spend time with me مردم دوست دارند با من وقت بگذرانند	0.550	
8	I talk to my family/caregiver(s) about how I feel در مورد اینکه چه احساسی دارم با خانواده یا مراقبانم صحبت می‌کنم		0.928
9	I feel I am supported by my friends احساس می‌کنم توسط دوستانم حمایت می‌شوم	0.694	
10	I feel I belong/belonged at my school نسبت به مدرسه‌ام احساس تعلق می‌کردم و می‌کنم	0.780	
11	My family/caregiver(s) stay with me during difficult times خانواده یا مراقبانم در لحظات دشوار از من حمایت می‌کنند	1.087	
12	My friends stay with me during difficult times دوستانم در لحظات دشوار از من حمایت می‌کنند	0.616	
13	I'm treated fairly in the society در جامعه با من منصفانه رفتار می‌شود	0.658	
14	I have opportunities to show others that I am becoming adult and I can act responsibly فرصت‌هایی دارم تا به دیگران نشان بدهم که در حال بزرگ شدن هستم و میتوانم مسئولانه رفتار کنم	0.766	
15	I feel safe when I am with my family/caregivers هنگامی‌که با خانواده یا مراقبانم هستم احساس امنیت می‌کنم		0.763
16	I have opportunities to expand some skills that will be useful in my future life (like occupational skills and skills for taking care of others) فرصت‌هایی دارم تا مهارت‌هایی را که بعداً در زندگی مفید خواهند بود بیاموزم یا گسترش دهم (مثلاً مهارت‌های شغلی و مهارت‌هایی برای مراقبت از دیگران)	0.631	
17	I enjoy my family/caregivers' cultural and family traditions از آداب و رسوم فرهنگی و خانوادگی مراقبان یا خانواده‌ام لذت می‌برم		0.813

TABLE 4 Correlations between the CYRM-R and other Scales.

Scale	RS	MHC-SF	BDI-II	CYRM-R
RS	1	0.648**	-0.495**	0.475**
MHC-SF	0.648**	1	-0.659**	0.675**
BDI-II	-0.495**	-0.659**	1	-0.608**
CYRM-R	0.475**	0.675**	-0.608**	1

Abbreviations: AGFI, Adjusted Goodness of Fit Index; CYRM-R, Child and Youth Resilience Measure-Revised; GFI, Goodness of Fit Index; RMR, Root Mean Square Residual; SRMR, Standardized Root Mean Squared Residual.

** $p < .001$.

3.5 | Concurrent validity

Three scales of RS, MHC-SF, and BDI-II have been used to determine the validity of concurrent and divergent criteria. The correlation results are shown in Table 4.

As the results show, the correlation between the total score of the CYRM-R and RS and MHC-SF is positively significant, and the correlation between the CYRM-R and the BDI-II is negative and significant, indicating the concurrent validity of CYRM-R.

4 | DISCUSSION

Many articles today deal with the concept of resilience. It has various manifestations at different ages, and we need specific tools for each age to measure it. Adolescents may experience intense emotions and difficulties because of changes in their lives. It is known that resilience is a process of reducing the adverse effects of challenging events, overcoming problems, and coping with tragic experiences (Fergus & Zimmerman, 2005). In Ungar's theory, resilience is described as protecting peoples' well-being and helping them overcome the difficulties of developmental stresses (Ungar & Theron, 2020). It relies on individual strengths and environmental resources, and there is a dynamic interaction process between them (Lerner, 2006). Adolescents can use individual, relational and contextual resources under challenging situations (Höltge et al., 2021) and Having resources lead to fewer negative and more positive outcomes (Sandler et al., 2003). Although resilience is an important factor in adolescence, in the background of adolescent resilience research, adult questionnaires such as CD-RISC have been used (Connor & Davidson, 2003) while CYRM-R is considered a powerful measure that can assess resilience in adolescents (Liebenberg et al., 2011).

Since using tools related to different countries to measure the resilience of Iranian adolescents requires culturally adaptation and adequate psychometric properties, this study outlines the psychometric properties of the Persian version of CYRM-R in adolescents.

One of the cross-cultural methods in translation and adaptation of psychological measures is back-translation, which is used to ensure the construct validity of adapted measures. Also, it is a valuable technique to compare the original and back-translated versions of one scale (Borualogo & Jefferies, 2019). The original scale was in English, and this study used this method to consider the Iranian context. No dissimilarities between the original and the back-translated version of CYRM-R were found. Therefore, the measure seemed to have appropriate construct validity.

The CYRM-R has been appropriately adapted for use in the Iranian context, and the findings show appropriate validity and reliability. Face and content validity are acceptable and the confirmatory factor analysis results of the CYRM-R in Iranian adolescent align with the original model and have a similar pattern (Jefferies et al., 2018). In addition, results indicate that both subscales: "interpersonal resilience" and "intrapersonal or caregiver resilience,"

had good psychometric properties. It is compatible with the past research that showed resilience in adolescents across different situations depends on a combination of social relationships, responsibilities, self-efficacy, cognitive skills, and competence (Masten et al., 1990).

There was a positive correlation between CYRM-R and Mental Health Continuum and a significant negative correlation between CYRM-R and Beck Depression Inventory-II that shows acceptable concurrent validity of this measure. This indicates that adolescents who reported greater resilience also exhibited greater mental health and showed fewer depression signs and symptoms.

Since CYRM-R and RS (0.475) are both prepared for resilience assessment, the moderate correlation between their scores is that CYRM-R is a socio-cultural scale that measures resilience in terms of interpersonal components and intrapersonal context (Jefferies et al., 2018). On the other hand, RS is not specific to circumstances and contexts, and it is based on personal competency and acceptance of self and life (Abiola & Udofia, 2011).

Strong internal consistency of CYRM-R in Iranian adolescents is in line with the original scale (Jefferies et al., 2018) and similar studies in Italy (Cusinato et al., 2020) and Indonesia (Borualogo & Jefferies, 2019).

By applying this scale, researchers can determine at-risk or vulnerable adolescents and identify the area of resilience resources that may be lacking (Borualogo & Jefferies, 2019). They can use the Persian CYRM-R to assess the levels of resilience in Iranian adolescents in terms of interpersonal and intrapersonal or caregiver resilience.

5 | CONCLUSION

The Persian version of the CYRM-R showed generally valid and reliable psychometric properties. In addition, factor analysis confirmed the two-factor structure. Therefore, the CYRM-R has been adapted successfully to Iranian adolescents and is suitable for measuring and studying the resilience of adolescents in Iran.

6 | LIMITATIONS AND SUGGESTIONS

In this study, there are fewer male participants than females and the age distribution was skewed. It is suggested that this measure should be conducted on male and younger adolescents (12–16 years old) with a higher sample size.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

This study obtained the ethics code from the Iran University of Medical Sciences Ethics Committee, which is IR.IUMS.REC.1399.963 to observe ethical research principles. The authors confirm that they have all necessary patient consent forms.

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