

# PSYCHOMETRIC VALIDATION OF THE SLOVENIAN VERSION OF THE REVISED CHILD ANXIETY AND DEPRESSION SCALE - CHILD AND PARENT VERSIONS (RCADS AND RCADS-P)

## PSIHOMETRIČNA VALIDACIJA SLOVENSKE RAZLIČICE REVIDIRANE LESTVICE ANKSIOZNOSTI IN DEPRESIJE ZA OTROKE - OBLIKA ZA OTROKE (RCADS) IN STARŠE (RCADS-P)

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### ABSTRACT

#### Keywords:

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**Objective:** Anxiety and depression are common disorders in children and adolescents and can have a negative impact on their lives. The Revised Child Anxiety and Depression Scale - Child and Parent versions (RCADS and RCADS-P) are widely used standardized measurement tools, but the Slovenian versions have not yet been validated. The aim of the present study was to examine the psychometric properties of the Slovenian version of RCADS and RCADS-P in a representative Slovenian school sample.

**Methods:** We examined the psychometric properties (factor structure, internal reliability, short-term stability, inter-rater agreement and convergent validity) of the Slovenian version of the RCADS and the RCADS-P in 754 primary and secondary school students and parents of 485 students. The short-term stability of anxiety and depressive symptoms in youth was assessed in a subsample of 117 children and adolescents.

**Results:** Confirmatory factor analysis showed an acceptable fit of the 6-factor model with CFI=0.92, TLI=0.92 and RMSEA=0.056 for RCADS and with CFI=0.93, TLI=0.92 and RMSEA=0.047 for RCADS-P. Cronbach's  $\alpha$  and McDonald's  $\omega$  ranged from 0.70 to 0.95 for the total scale and the six subscales. The subscales correlated significantly positively with the total Child Anxiety Life Interference Scale score.

**Conclusion:** The results affirm the good psychometric properties of the Slovenian versions of RCADS and RCADS-P within a school-based sample. There is a need in the future to examine psychometric properties in clinical samples and to provide normative data.

### IZVLEČEK

#### Ključne besede:

RCADS  
RCADS-P  
anksiozne motnje  
depresije  
psihometrične lastnosti  
otroci  
mladostniki

**Namen:** Anksiozne motnje in depresija sodijo med pogostejše težave z duševnim zdravjem pri otrocih in mladostnikih. Revidirana lestvica anksioznosti in depresivnosti za otroke - oblika za otroke (RCADS) in starše (RCADS-P) je v svetu pogosto uporabljen, standardiziran merski pripomoček za ocenjevanje anksioznosti in depresivnosti pri otrocih in mladostnikih, ki pa v Sloveniji še ni bil psihometrično preverjen. Namen raziskave je bil preveriti psihometrične značilnosti slovenske oblike lestvic RCADS in RCADS-P na reprezentativnem vzorcu slovenskih osnovnošolcev in srednješolcev.

**Metoda:** Na vzorcu 754 otrok in mladostnikov ter 485 staršev smo preučevali psihometrične značilnosti (faktorsko strukturo vprašalnika, notranjo zanesljivost, kratkoročno stabilnost - retestno zanesljivost, strinjanje med ocenjevalci in konvergentno veljavnost) slovenske oblike vprašalnikov RCADS in RCADS-P. Kratkoročna stabilnost anksioznih in depresivnih simptomov je bila ocenjena v podvzorcju 117 otrok in mladostnikov.

**Rezultati:** Konfirmatorna faktorska analiza je pokazala sprejemljivo ustreznost šest-faktorskega modela z indeksi prilaganja CFI = 0,92, TLI = 0,92 in RMSEA = 0,056 za obliko za otroke in mladostnike (RCADS), ter z indeksi prilaganja CFI = 0,93, TLI = 0,92 in RMSEA = 0,047 za obliko za starše (RCADS-P). Koefficienti notranje zanesljivosti (Cronbachova  $\alpha$  in McDonaldova  $\omega$ ) so se gibali med 0,70 in 0,95 za celotno lestvico in podlestvice. Podlestvice so bile pomembno pozitivno povezane s skupnim rezultatom lestvice CALIS, ki ocenjuje vpliv tesnobe na življenje otrok, mladostnikov in njihovih staršev.

**Zaključek:** Rezultati potrjujejo ustrezne psihometrične lastnosti slovenskih oblik lestvic RCADS in RCADS-P pri šolskem vzorcu otrok in mladostnikov. V prihodnosti bi bilo potrebno lestvici preveriti tudi pri kliničnih vzorcih otrok ter zagotoviti normativne podatke za rabo lestvic.

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## 1 INTRODUCTION

Internalising disorders affect a substantial number of children and adolescents and are a major health priority because of their negative impact on later health, education and well-being (1-3). An increase in internalising symptoms and disorders in children and adolescents had already begun before the COVID-19 pandemic (4-6), and the prevalence of anxiety and depression disorders in children and adolescents increased significantly during the pandemic (7). A meta-analysis revealed an overall pooled prevalence of anxiety and depression of 32% in children and adolescents after the COVID-19 pandemic (8). There is high comorbidity between anxiety and depression (2, 9). Internalising disorders in childhood and adolescence are associated with impaired social functioning, peer difficulties, academic difficulties and underachievement, as well as psychopathology in adulthood (anxiety disorders, depression, substance abuse), and represent a severe social and economic burden (10-15). Early identification and treatment of internalising disorders in childhood and adolescence is important for reducing the negative impact of such disorders. One of the barriers to early identification of internalising symptoms and assessment of the treatment outcomes is the lack of comprehensive, consensus and valid measurement tools (16, 17).

The Revised Child Anxiety and Depression scale (RCADS and RCADS-P (18)) is currently one of the most widely used assessment tools in clinical and nonclinical settings for screening, differentiating and monitoring anxiety and depression symptoms in young people, which allows for the collection of data from multiple informants. Both child and parent versions measure symptoms of anxiety and depression that are included in the DSM criteria for separation anxiety disorder (SAD), social phobia (SP), generalized anxiety disorder (GAD), panic disorder (PD), obsessive-compulsive disorder (OCD), and major depressive disorder (MDD). Although obsessive compulsive disorder is categorized as Obsessive-Compulsive and Related Disorders rather than an anxiety disorder in DSM-5, it is clinically appropriate to continue to assess for OCD along with the anxiety disorders included in the RCADS measure, because of high comorbidity and common treatment components (19).

Favourable reliability, validity and a six-factor structure consistent with DSM-IV criteria for anxiety disorders and depression, have been proven for RCADS and RCADS-P in clinical and nonclinical groups of English-speaking children and adolescents and their parents (19-22). The RCADS has been translated into 26 languages and the RCADS-P into 20 languages. The translations are available on the official website (<https://rcads.ucla.edu/versions>). Sound psychometric properties have been replicated in clinical and nonclinical samples for both versions (17, 23-32).

In Slovenia, there are two comprehensive assessment tools for internalizing and externalizing disorders in children and adolescents: the Achenbach System of Empirically Based Assessment (*Child Behaviour Checklist - CBCL; Youth Self Report - YSR, Teacher Report Form - TRF*) (33) and *Strengths and Difficulties Questionnaire - SDQ* (34). They have not yet been psychometrically examined in the Slovenian sample. Given the increase in symptoms of internalising disorders in children and adolescents, there is a need for reliable and valid assessment tools for internalising problems in childhood and adolescence. The RCADS is a freely available, valid tool, with the option of multiple informant assessment, and can serve not only as a screening tool but also as a diagnostic and treatment monitoring/assessment tool (35). The RCADS is available to users who read and agree to the terms of use, which are provided in the User's Guide (18). The RCADS may be used for educational, professional and research purposes. The aim of the study was to investigate the psychometric and structural properties of the Slovenian versions of RCADS and RCADS-P in a nonclinical sample of children and adolescents aged 10 to 18 years. Based on previous research we hypothesized that the results of this study would confirm the reliability and validity of the six-factor Slovenian RCADS and RCADS-P. A secondary aim of the study was to assess parent-child agreement and short-term reliability of the child version of the RCADS.

## 2 METHOD

### 2.1 Participants

For our study we considered primary and secondary school students (female and male), aged from 10 to 18 years from all the Slovenian regions and their parents. We reached out to Slovenian public primary and secondary schools. Sample characteristics are described in the results in section 3. 1.

### 2.2 Measures

The Revised Child Anxiety and Depression Scale (RCADS) (18,36) and the Revised Child Anxiety and Depression Scale - Parent Version (RCADS-P) (18,36) are questionnaires with 47 items that were developed to assess anxiety and depression symptoms in children and adolescents aged 8 to 18 years. The items are rated on a 4-point Likert-scale. It comprises 6 subscales: separation anxiety disorder (SAD), social phobia (SP), generalized anxiety disorder (GAD), panic disorder (PD), obsessive compulsive disorder (OCD), and major depressive disorder (MDD). The sum of all six subscales results in the Total Internalizing Scale.

The RCADS and the RCADS-P were translated into Slovenian with the permission of the authors and according to the translation terms and author's instructions (<https://rcads.ucla.edu/node/15>). The translation was approved by the

authors. The Slovenian versions of the RCADS and RCADS-P are available at <https://rcads.ucla.edu/versions>.

The Child Anxiety Life Interference Scale (CALIS) (37) is a measure of the interference of anxiety on the lives of children and parents. The child version consists of 9 items, divided into two subscales (Outside home interference and Inside home interference) and total score. The parent version consists of 16 items divided into three subscales (Outside home interference, Inside home interference and Parent life interference) and total score. All items are rated on a five-point Likert scale (37). In the present study, we used the official translation, which was made according to the author's terms and guidelines (38) and was approved by the authors. The CALIS demonstrated strong psychometric properties in other languages (37, 39-41). The internal consistencies in our sample were for the children version  $\omega=0.89$  for total score,  $\omega=0.86$  for Outside home interference and 0.75 for Inside home interference. For the parent version, the internal consistencies were  $\omega=0.93$  for total score,  $\omega=0.87$  for Outside home interference,  $\omega=0.80$  for Inside home interference, and  $\omega=0.90$  for Parent life interference.

### 2.3 Procedure

The Ethics Committee of the Faculty of Arts at the University of Ljubljana approved the present study. We ensured that all participants - children, adolescents and their parents - were fully informed about the study, and they signed informed consent.

Drawing on data from the Statistical Office of the Republic of Slovenia regarding the number of students by gender in the Eastern and Western Cohesion Regions of Slovenia, we contacted sixteen primary and eleven secondary schools across both Slovenian regions (quota sampling). Out of the schools contacted, 12 primary and 11 secondary schools agreed to participate. School counsellors informed all students and their parents about the study and invited them to participate. However, only those students who themselves and their parents provided informed consent were enrolled in the study. Parents received questionnaires from children and completed them at home. The children completed the questionnaires in their classrooms, where a school counsellor was present to assist with any questions. Attrition rates are described in Results, section 3. 1.

After a three-month interval, a re-assessment was conducted with children from three schools (one elementary and two secondary) that agreed to participate in this step. A total of 129 questionnaires (17% from the original sample) were sent to schools to be distributed to all children and parents from these three schools. The questionnaires were completed in schools or at home. Attrition rates are described in Results, section 3. 1.

### 2.4 Statistical analysis

The confirmatory factor analysis (CFA) was performed with MPlus version 7.7. (42) to assess how well the empirical data fit a theoretical six-factor model confirmed in previous studies (17, 18, 24, 25, 27, 29, 30, 36). Three alternative models identified from the literature (43) that represent various competing conceptualizations of the relations among internalizing symptoms were tested as well (a single-factor model of internalising disorders, correlated two-factor model of anxiety and depression and five-factor model, combining GAD and MDD into a single factor). The analysis was conducted separately for child and parent versions of the questionnaire. We treated the 4-item Likert scale as categorical and therefore chose weighted least squares with mean and variance adjustment (WLSMV) as the estimation method for analysis. Goodness of fit was assessed using a chi-square statistic ( $\chi^2$ ), Comparative Fit Index (CFI) (44), Tucker-Lewis Index (TLI) (45) and Root Mean Square Error of Approximation (RMSEA) (46) with 90% confidence interval. CFI and TLI values between 0.90 and 0.95 indicate an adequate model fit, and CFI and TLI values above 0.95 indicate a good fit. RMSEA values above 0.05 and below 0.08 indicate an adequate fit and values below 0.05 indicate a good fit (47, 48).

All other statistical analyses were performed using IBM SPSS Statistics for Windows, version 29. Missing data across all RCADS subscales were managed in accordance with the questionnaire authors' recommendations, with calculations performed for each scale only if it contained fewer than two missing items (18, 36). The internal consistency of the questionnaire was assessed using Cronbach's Alpha ( $\alpha$ ) (49) and McDonald's omega ( $\omega$ ) (50). Reliability values above 0.70 are acceptable and above 0.80 are high (51). For the retest reliability analysis, an interclass correlation coefficient (ICC) was used with a two-way mixed-effects model with an average measure unit and absolute agreement definition. ICCs of 0.70 or higher are adequate (52).

To assess the convergent validity, we examined the correspondence between RCADS total scores and subscale scores and CALIS total scores. We assumed that the correlations between the RCADS and CALIS scores would be positive and significant, which could confirm the convergent validity of the Slovenian RCADS.

## 3 RESULTS

### 3.1 Sample description

Of the 878 children and adolescents and their parents who agreed to participate, 754 (86%) children and adolescents and 485 (64% of those whose children responded) parents returned the questionnaires. The sample consisted of 456 (60.5%) female and 289 (39.5%) male primary and secondary school students, aged 10-18 years ( $M$  13.27,  $SD$

2.08). 532 (70.6%) of the participants attended primary school and 222 (29.4%) attended secondary school. The average age of the boys was 13.19 (SD=2.08) and of the girls 13.32 (SD=2.07). Of those who were invited in the follow-up after three months, 117 children and adolescents (91%) and 36 parents (31% of those whose children responded) returned the questionnaires.

### 3.2 Factor structure

First, the factor structure of the RCADS was investigated. Table 1 presents the fit statistics for competing models, separately for child version (RCADS) and parent version (RCADS-P).

As seen in Table 1, the original six-factor model showed acceptable fit with the data for both child and parent versions. All factor loadings were significant and ranged from 0.43 to 0.86 for the child version and from 0.42 to 0.89 for the parent version. Poorer model fit was observed for one-, two- and five-factor models in comparison to the six-factor model.

### 3.3 Descriptive statistics, reliability and validity

#### 3.3.1. Descriptive statistics

The means, standard deviations, medians, skewness, kurtosis and internal consistency coefficients for the RCADS child and parent versions for the entire sample are shown in Tables 2 and 3.

Table 1. Statistics for competing models, for child version (RCADS) and parent version (RCADS-P).

Model	$\chi^2$	df	p	CFI	TLI	RMSEA	90% CI (RMSEA)
<b>RCADS</b>							
6 factor	3436.856	1019	0.000	0.922	0.918	0.056	0.054-0.058
5 factor	3653.978	1024	0.000	0.916	0.911	0.058	0.056-0.060
2 factor	4520.724	1033	0.000	0.888	0.883	0.067	0.065-0.069
1 factor	4728.787	1034	0.000	0.880	0.875	0.069	0.067-0.071
<b>RCADS-P</b>							
6 factor	2119.913	1019	0.000	0.927	0.923	0.047	0.044-0.050
5 factor	2261.578	1024	0.000	0.918	0.914	0.050	0.047-0.053
2 factor	2572.491	1033	0.000	0.898	0.893	0.055	0.053-0.058
1 factor	2703.374	1034	0.000	0.890	0.885	0.058	0.055-0.060

Note:  $\chi^2$ =chi-square; df=degrees of freedom; CFI=comparative fit index; TLI=Tucker-Lewis fit index; RMSEA=root mean square error of approximation; CI=90 % confidence interval for RMSEA

Table 2. Descriptive statistics for RCADS.

	M (SD)	Med	Skew.	Kurt.	M (SD) Girls (N=465)	M (SD) Boys (N=289)	$\alpha$	$\omega$
Total	37.64 (21.8)	35.0	0.93	0.90	42.77 (21.93)	29.96 (17.43)	0.95	0.95
SAD	3.77 (3.27)	3.0	1.09	0.99	4.44 (3.42)	2.68 (2.66)	0.71	0.70
GAD	5.72 (3.46)	5.0	0.81	0.51	6.44 (3.48)	4.56 (3.08)	0.82	0.82
PD	5.65 (4.77)	4.0	1.28	1.51	6.63 (5.17)	4.08 (3.35)	0.86	0.86
SP	10.85 (5.43)	10.0	0.51	-0.03	12.11 (5.37)	8.78 (4.88)	0.86	0.86
OCD	4.56 (3.25)	4.0	0.93	0.88	5.03 (3.34)	3.81 (2.95)	0.74	0.74
MDD	7.30 (5.07)	6.0	1.06	1.03	8.11 (5.31)	5.99 (4.34)	0.87	0.86

Note: RCADS=RCADS Child; RCADS-P=RCADS Parent; Total=Total RCADS Score; GAD=Generalised Anxiety; SP=Social Phobia; SAD=Separation Anxiety Disorder; PD=Panic Disorder; OCD=Obsessive Compulsive Disorder; MDD=Major Depressive Disorder.

**Table 3.** Descriptive statistics for RCADS-P.

	M (SD)	Med	Skew.	Kurt.	M (SD) Girls (N=313)	M (SD) Boys (N=172)	$\alpha$	$\omega$
<b>Total</b>	23.60 (13.45)	22.0	0.81	0.65	24.05 (13.01)	22.79 (14.22)	0.93	0.94
<b>SAD</b>	2.72 (2.72)	2.0	1.48	2.76	2.76 (2.57)	2.63 (2.98)	0.72	0.72
<b>GAD</b>	3.84 (2.54)	3.0	0.78	0.33	3.97 (4.51)	3.6 (2.58)	0.79	0.81
<b>PD</b>	2.19 (2.35)	4.0	2.16	7.87	2.34 (2.53)	1.93 (1.96)	0.74	0.73
<b>SP</b>	8.55 (4.18)	8.0	0.55	0.69	8.78 (4.18)	8.14 (4.16)	0.83	0.83
<b>OCD</b>	1.79 (2.09)	1.0	2.07	6.74	1.73 (1.87)	1.88 (2.44)	0.71	0.70
<b>MDD</b>	4.61 (3.38)	4.0	0.82	0.76	4.61 (3.30)	4.6 (3.52)	0.80	0.81

Note: RCADS=RCADS Child; RCADS-P=RCADS Parent; Total=Total RCADS Score; GAD=Generalised Anxiety; SP=Social Phobia; SAD=Separation Anxiety Disorder; PD=Panic Disorder; OCD=Obsessive Compulsive Disorder; MDD=Major Depressive Disorder

### 3.3.2 Internal consistency

Good internal consistency was found for all subscales and for total score of the child and parent versions. Tables 2 and 3 show the Alpha and Omega coefficients.

### 3.3.3 Retest reliability

Short-term stability was good with ICC's > 0.75 and statistically significant ( $p < 0.001$ ) for the child version (ICC<sub>sad</sub> = 0.82; ICC<sub>gad</sub> = 0.82; ICC<sub>pd</sub> = 0.79; ICC<sub>sp</sub> = 0.90; ICC<sub>ocd</sub> = 0.77; ICC<sub>mdd</sub> = 0.87; ICC<sub>tot</sub> = 0.88).

### 3.3.4 Inter-rater reliability

Interclass correlations (ICC) were conducted between parent and child ratings on the RCADS (sub)scales. Parent-child agreement was low for most subscales (below 0.50) and statistically significant for all subscales ( $p < 0.001$ ): ICC<sub>sad</sub> = 0.54; ICC<sub>gad</sub> = 0.44; ICC<sub>pd</sub> = 0.27; ICC<sub>sp</sub> = 0.49; ICC<sub>ocd</sub> = 0.23; ICC<sub>mdd</sub> = 0.44; ICC<sub>tot</sub> = 0.40.

There were no significant differences in the mean results for children and adolescents with or without parental reports ( $p_{tot} = 0.24$ ;  $p_{sad} = 0.09$ ;  $p_{gad} = 0.42$ ;  $p_{pd} = 0.53$ ;  $p_{sp} = 0.29$ ;  $p_{ocd} = 0.44$ ;  $p_{mdd} = 0.31$ ).

### 3.3.5 Convergent validity

RCADS total score and CALIS total score correlated statistically significantly ( $p < 0.001$ ) for children ( $r = 0.59$ ) and for parents ( $r = 0.66$ ).

Subscales for children correlated:  $r_{sad} = 0.48$ ;  $r_{gad} = 0.50$ ;  $r_{pd} = 0.45$ ;  $r_{sp} = 0.51$ ;  $r_{ocd} = 0.47$ ;  $r_{mdd} = 0.55$ . Subscales for parents correlated:  $r_{sad} = 0.44$ ;  $r_{gad} = 0.54$ ;  $r_{pd} = 0.46$ ;  $r_{sp} = 0.52$ ;  $r_{ocd} = 0.52$ ;  $r_{mdd} = 0.62$ .

## 4 DISCUSSION

The original factor structure of the RCADS was confirmed in our sample (18, 36). The results indicate that the six-factor structure provides satisfactory fit for both the child version and the parent version of the RCADS. The six-factor structure was also validated in various nonclinical samples, including French (25), Danish (23), Dutch (24), German (28), Irish (21), Norwegian (17) and Chinese (31) populations, as well as in a Turkish clinical sample (29). In addition, the six-factor structure for the parent version was confirmed in a Spanish school sample (27), in the original sample (43), in a Turkish clinical sample (30), and in a sample of youth with ADHD (53). The fit indexes for the child version were similar to those reported in the literature. Previous studies showed a CFI for the child version between 0.83 and 0.92 (17, 23-25, 29, 31, 32) and for the parent version from 0.87 to 0.94 (27, 30, 43, 53), and RMSEA for the child version between 0.034 and 0.052 (17, 23-25, 29, 31, 32) and for the parent version from 0.040 to 0.079 (27, 30, 43, 53). The internal consistency of the total scale was excellent for both the child and parent versions and was consistent with previous studies from several countries (54). The internal consistency of the subscales for the child and parent versions was good. Short-term reliability was good and statistically significant, and the ICC coefficients were like the short-term reliability of the Danish sample (24). Convergent validity was supported by statistically significant positive correlations of RCADS total and subscale scores with CALIS total scores suggesting that higher levels of internalizing symptoms in youth significantly affect their everyday functioning as well as the everyday functioning of parents.

The mean score of the total RCADS scale was higher in our sample than in other nonclinical samples, where scores ranged from 22.3 to 32.3 (23, 24, 28), except for the Norwegian sample, where the mean score for the total scale was higher - 50.7 (17). The mean score of the RCADS-P total scale was comparable to other studies in nonclinical samples (27, 43).

As can be seen from Tables 2 and 3, the parents reported a lower level of symptoms on all scales compared to the children. For most (sub)scales, agreement between parents and children was low (below 0.50), except for the SAD subscale, where agreement was moderate. Agreement was higher than in a previous study with a nonclinical sample, in which coefficients ranged from 0.14 to 0.39; in that study, agreement was also highest for the SAD subscale (43). The results suggest that parent-child agreement differs for different types of anxiety. In a clinical sample of adolescents, the agreement between adolescents and parents was slightly higher than in our sample; the coefficients ranged from 0.26 to 0.61 (55). Our results are consistent with the findings of a systematic review of previous studies, showing low to moderate agreement between children and parents in internalising disorders, which are not always easily detected by parents. (56).

The RCADS and RCADS-P are freely available, valid, and valuable measurement tools for assessing anxiety and depression symptoms in children and adolescents. RCADS was chosen with international consensus on a standard set of outcome measures for child and youth anxiety and depression (16). RCADS is aligned with DSM criteria and can be used to identify individuals who are at higher risk for developing an internalizing disorder and to offer them appropriate early intervention or treatment. RCADS allows for the simultaneous assessment of anxiety and depression which has very important clinical implications, as anxiety and depression are highly comorbid disorders (2, 9). Another potential use of RCADS is to assess treatment efficacy (35), which would be very valuable as we do not have psychometrically validated measures for this use in Slovenia. In clinical samples, both the RCADS and the RCADS-P also show good psychometric properties. They can be used to identify young people with anxiety and depression, and they are useful to clarify additional areas for assessment (20, 55, 57). The RCADS-P has been shown to be diagnostically efficient, sensitive, and fairly specific in diagnosing internalizing disorders in a clinical sample of children and adolescents with ADHD (53). It has also been shown to be useful in assessing internalizing problems in young people with autism spectrum disorders (58).

The present study has both strengths and limitations. We aimed for a high degree of generalizability of the results for our study. The sample was carefully selected in terms of representativeness of population; we took into account factors such as gender, age, geographical distribution and inclusion of different school types. In our study, we considered the assessment of contextual variations through a multi-informant assessment involving children, adolescents and parents. To ensure the reliability of our results, we repeated the assessment three months later and conducted a retest with a subsample of participants.

One of the main limitations of our study is use of a nonclinical population. To gain an insight into the value of the RCADS for clinical use, a replication of the present study in a clinical sample would be necessary in the future. Another limitation is limited assessment of validity, which could be extended by using other measures of anxiety and depression in children and adolescents and by investigating discriminant validity. In our sample, there was a gender imbalance - the sample had more girls (60.5%) than boys - and that could have an impact on our results. A suggestion for future research would be to examine the psychometric properties of RCADS and RCADS-P in clinical samples. It would also be beneficial to compare the results of RCADS and RCADS-P with those of other pure measures of anxiety and depression and with clinical interviews. Further research is required to assess the effectiveness of RCADS and RCADS-P in predicting clinical diagnoses of anxiety and depressive disorders within the Slovenian population. Additionally, to utilize RCADS and RCADS-P for screening purposes, it is essential to determine whether the original cut-off scores are appropriate for the Slovenian population.

There is a need for valid and psychometrically robust tools in the Slovenian language. In recent years, significant progress has been made in this area, with an increasing number of questionnaires from various fields being adapted and psychometrically validated (59-61). This study aims to contribute to this progress by providing a psychometric validation of RCADS and RCADS-P.

## 5 CONCLUSION

In conclusion, the Slovenian version of RCADS and RCADS-P has adequate psychometric properties. The factor structure favours a six-factor model, and internal consistency and convergent validity are high. The Slovenian version of RCADS and RCADS-P are valid and reliable instruments for measuring anxiety and depression symptoms. Further research is needed for validation in a clinical setting and for providing normative data for both school and clinical samples.

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## CONFLICTS OF INTEREST

The authors declare that they have no competing or potential conflicts of interest.

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## ETHICAL APPROVAL

The Ethics Committee of the Faculty of Arts, University of Ljubljana approved the study. The children, adolescents and parents were informed verbally and in writing about the study, and written informed consent was obtained.

## AVAILABILITY OF DATA AND MATERIALS

The data presented in this study can be obtained upon request from the corresponding author.

## CONTRIBUTORSHIP

All authors were involved in writing the paper and gave final approval of the submitted and published versions.

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