Reliability and Validity of the full-length Greek-Cypriot version of the Children's Depression Inventory 2 (CDI-2)

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Background: The Children's Depression Inventory is probably the most widely used and cited self-reported depressive symptoms scale for children. The present study aims to investigate the reliability and validity of the full-length Greek Cypriot version of the Children's Depression Inventory 2 (CDI-2) among schoolchildren in Cyprus.

Results: The final sample consisted of 196 schoolchildren. Of these, 89 (45.4%) were boys and 107(54.6%) were girls and their ages ranged from 10 to 13 years (mean = 11.08, SD = 0.42). The internal consistency reliability was α= .907 as well as the Guttman split-half coefficient (*.884*). In addition, Cronbach's alpha was equally adequate for the subscales, specifically, the measurements ranged from *.698* to *.853*. Factor analysis with Promax rotation resulted in four factors explaining 48.9% of the variance. Bartlett's test for factor analysis was 1896 with df = 376 and KMO =.885 (p<.001). The following were the model fit indices: CFI = 882, TLI = 0,865, and the RMSEA= 0.056 with 90%CI =0.047-0.065 for the four factors (Figure).
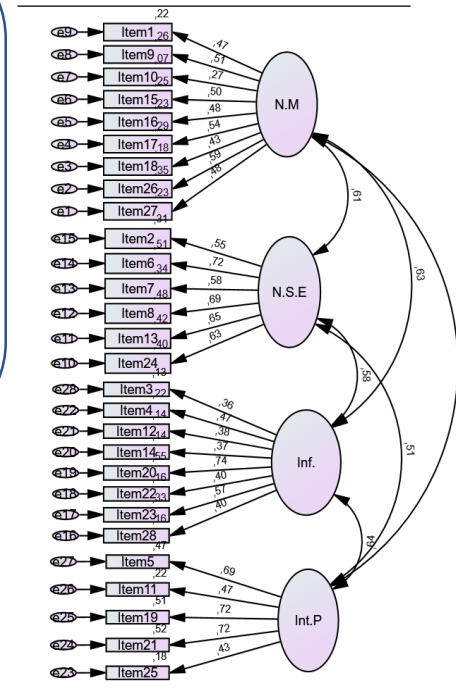
Conclusion: As a result, the Greek-Cypriot version of the CDI-2 has excellent reliability and validity and is a reliable instrument for assessing depressive symptoms.

Methods: A methodological instrument validation design was carried out on a nationwide random sample of public elementary schools between 2020 and 2023. The internal consistency and construct validity of the CDI-2 was assessed. The internal consistency of the CDI-2 was assessed by Cronbach's alpha coefficient and Inter-Correlations were assessed to support the internal consistency reliability of the CDI-2. Guttman split-half alpha for the entire scale, while Cronbach's alpha was also calculated for each subscale. Additionally, the number of variables with high loadings on a factor was reduced using the Promax orthogonal rotation, resulting in the identification of significant factors. We set four fixed factors for CFA according to previous studies. The indices assessed for the fit of the models were: the comparative fit index (CFI), Root Mean Square Error of Approximation (RMSEA). Bartlett's test and Kaiser–Meyer–Olkin (KMO) were also assessed to test the appropriateness of factor analysis.

Figure: Confirmatory Factor Analysis (CFA) model of Children Depression Inventory-2(CDI-2)

N.M: Negative Mood/Physical symptoms, N.S.E: Negative Self-Esteem, Inf. : Ineffectiveness, Int.P: Interpersonal Problems.

Intercorrelation and Cronbach's α

CDI2	CDI 2 Total score	Emotional Problems	Negative Mood/Physical Symptoms	Negative Self Esteem	Functional Problems	Ineffectiveness	Interpersonal Problems	Cronbach 'α
Total score	1.000							.884*
Emotional Problems	0.930*	1.000						.853*
Negative Mood/Physical Symptoms	0.866*	0.919*	1.000					.709*
Negative Self Esteem	0.814*	0.876*	0.650*	1.000				.796*
Functional Problems	0.924*	0.733*	0.694*	0.651*	1.000			.799*
Ineffectiveness	0.881*	0.675*	0.648*	0.582*	0.582*	1.000		.698*
Interpersonal Problems	0.669*	0.618*	0.544*	0.627*	0.627*	0.490*	1.000	.725*

* Correlation is significant at the 0.01 level (2-tailed).

Characteristics of the sample (N=196)

	Frequency (N)	Percentage (%)
Age		
10-11	158	80.6
12-13	38	19.4
M±SD= 11.18± 0.42		
Gender		
Male	89	45.4
female	107	54.6
Ethnicity		
Cypriot	180	91.8
Creek	2	1.1
Other Ethnicities	14	7.1

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