The Revised Children’s Anxiety and Depression Scale – Analyses for a Very Brief Scale Based on Multi-country Data

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OBJECTIVES: A brief valid and reliable tool to measure adolescent anxiety and depression is needed for largescale population-based surveys, where minimal administrative and participant burden is essential.

BACKGROUND: The RCADS is a widely used screening tool consisting of 47 items. Shorter versions have been developed using various approaches.¹ The present study sought to establish which items best discriminate and may be appropriate for a very brief anxiety and depression scale for use in national surveys within low- and middle-income country settings.

METHODS: Data of 3,985 adolescents from 10 countries in the International Child Mental Health Study² were used: Brazil, Bulgaria, Croatia, Indonesia, Montenegro, Nigeria, Palestinian Territories, Portugal, Romania and Serbia.

The 47 items are examined using a Master’s Partial Credit model, a Rasch-based approach. Infit and outfit statistics are based on mean-square residuals, with expected value of 1. Items with fit above 1 are noisy (more random), items below 1 are potentially underfitting (less variance than predicted). We examine the item-fit for each of the subscales to identify misfitting items.

RESULTS: Item-fit statistics for five subscales are presented in order of ascending outfit. All items are well-fit to the model. Notably, some of the items with best fit are not included in existing short versions of the RCADS.

CONCLUSION: A new brief version of the RCADS developed using a Rasch-based approach may contain items that differ from existing previous short versions.

RCADS Item – Depression Subscale			
depression	2. I feel sad or empty	0.89	0.90
	40. I feel like I don’t want to move	0.95	1.00
	25. I cannot think clearly	0.95	0.97
	47. I feel restless	0.96	0.96
	19. I have no energy for things	0.98	1.01
	29. I feel worthless	0.98	1.00
	21. I am tired a lot	1.00	1.01
	11. I have trouble sleeping	1.10	1.07
	6. Nothing is much fun anymore	1.16	1.11
	15. I have problems with my appetite	1.20	1.15

References:
1. For review, see: Piqueras, J. A., Martín-Vivar, M., Sandín, B., San Luis, C., Pineda, D. 2017. The Revised Child Anxiety and Depression Scale: A systematic review and reliability generalization meta-analysis. Journal of Affective Disorders, 218(15), 153-169.
2. Stevanovic, D., Bagheri, Z., Atilola, A., Vostanis, P., Stupar, D., Moreira, P., Franic, T., Davidovic, N., Knez, R., Niksic, A., Dodig-Curkovic, K., Avicenna, M., Noor, M.I., Nussbaum, L., Deljkovic, A., Thabet, A.A., Petrov, P., Ubalde, D., Monteiro, L.A., Ribas, R., 2016. Cross-cultural measurement invariance of the Revised Child anxiety and depression scale across 11 world-wide societies. Epidemiol. Psychiat. Sci. 1, 11–13.

RCADS Item – Anxiety Subscales			
generalized anxiety	27. I worry that something bad will happen to me	0.81	0.83
	22. I worry that bad things will happen to me	0.83	0.85
	35. I worry about what is going to happen	0.93	0.95
	13. I worry that something awful will happen to someone in my family	1.05	1.05
	1. I worry about things	1.21	1.18
	37. I think about death	1.26	1.19
panic	39. My heart suddenly starts to beat too quickly for no reason	0.80	0.89
	26. I suddenly start to tremble or shake when there is no reason for this	0.88	0.90
	34. All of a sudden I feel really scared for no reason at all	0.91	0.97
	14. I suddenly feel as if I can't breathe when there is no reason for this	0.97	1.01
	41. I worry that I will suddenly get a scared feeling when there is nothing to be afraid of	0.97	1.00
	36. I suddenly become dizzy or faint when there is no reason for this	1.00	1.02
	28. When I have a problem, I feel shaky	1.00	1.02
	24. When I have a problem, my heart beats really fast	1.06	1.07
separation anxiety	3. When I have a problem, I get a funny feeling in my stomach	1.24	1.23
	17. I feel scared if I have to sleep on my own	0.71	0.84
	5. I would feel afraid of being on my own at home	0.86	0.91
	46. I would feel scared if I had to stay away from home overnight	0.95	0.97
	45. I worry when I go to bed at night	1.10	1.03
	18. I have trouble going to school in the mornings because I feel nervous or afraid	1.10	1.07
social anxiety	33. I am afraid of being in crowded places (like shopping centers, the movies, buses, busy playgrounds)	1.13	1.09
	9. I worry about being away from my parents	1.17	1.16
	43. I feel afraid that I will make a fool of myself in front of people	0.87	0.90
	20. I worry I might look foolish	0.89	0.92
	32. I worry what other people think of me	0.92	0.94
	30. I worry about making mistakes	0.94	0.94
	8. I feel worried when I think someone is angry with me	0.99	0.99
	38. I feel afraid if I have to talk in front of my class	1.04	1.08
	4. I worry when I think I have done poorly at something	1.07	1.07
	12. I worry that I will do badly at my school work	1.10	1.10
	7. I feel scared when I have to take a test	1.12	1.12