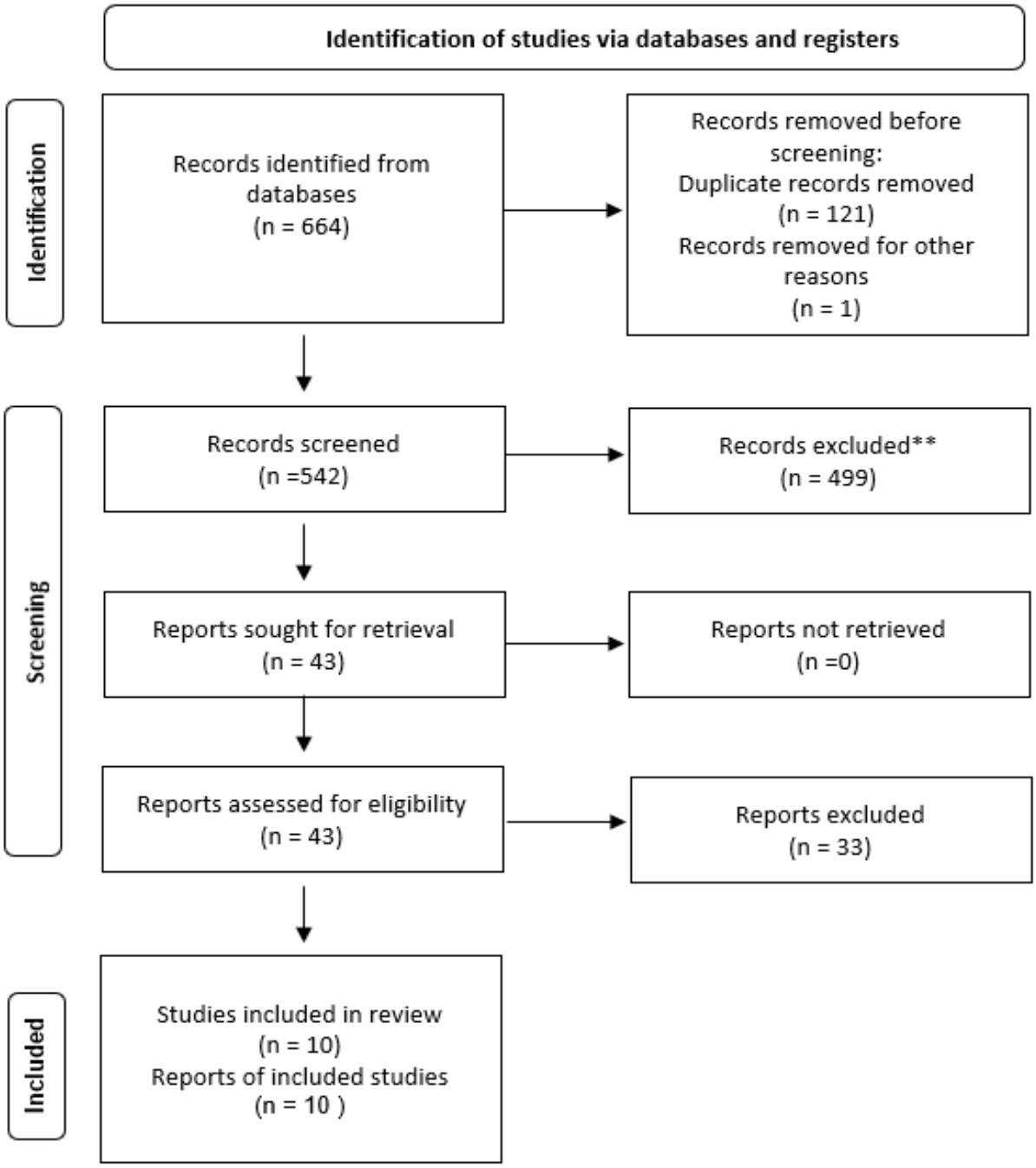

Figure S1 PRISMA Diagram Search Results.

Table S1 Included Studies.

1. Dowling, K., Simpkin, A.J. & Barry, M.M. (2019). A cluster randomized-controlled trial of the MindOut social and emotional learning program for disadvantaged post-primary school students. *Journal of Youth and Adolescence, 48,* 1245-1263. https://doi.org/10.1007/s10964-019-00987-3. [1].
2. Iizuka, C. A., Barrett, P. M., Gillies, R., Cook, C. R., & Marinovic, W. (2015). Preliminary evaluation of the FRIENDS for Life program on students' and teachers' emotional states for a school in a low socio-economic status area. *Australian Journal of Teacher Education, 40*(3), 1-20. https://doi.org/10.14221/ajte.2014v40n3.1 [2].
3. Lewis, K.M., DuBois, D.L., Bavarian, N., Acock, A., Silverthorn, N., Day, J., Ji, P., Vuchinich, S. & Flay, B.R. (2013). Effects of positive action on the emotional health of urban youth: A cluster-randomized trial. *Journal of Adolescent Health, 53*(6), 706-711. https://doi.org/10.1016/j.jadohealth.2013.06.012. [3].
4. Mifsud, C. & Rapee, R.M. (2005). Early intervention for childhood anxiety in a school setting. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(10), 996-1004. https://doi.org/10.1097/01.chi.0000173294.13441.87. [4].
5. Pophillat E., Rooney, R.M., Nesa, M., Davis, M.C., Baughman, N., Hassan, S. & Kane, R.T. (2016). Preventing internalizing problems in 6-8 year old children: A universal school-based program. *Frontiers in Psychology, 7*(1928), 1-13. https://doi.org/10.3389/fpsyg.2016.01928. [5].
6. Roberts, C.M., Kane, R., Bishop, B., Cross, D., Fenton, J. & Hart, B. (2010). The prevention of anxiety and depression in children from disadvantaged schools. *Behaviour Research and Therapy, 48*, 68-73. https://doi.org/10.1016/j.brat.2009.09.002. [6].
7. Rodgers, A. & Dunsmuir, S. (2015). A controlled evaluation of the 'FRIENDS for Life' emotional resiliency programme on overall anxiety levels, anxiety subtype levels and school adjustment. *Child and Adolescent Mental Health, 20*(1), 13-19. https://doi.org/10.1111/camh.12030. [7].
8. Rooney, R., Hassan, S., Kane, R., Roberts, C.M. & Nesa, M. (2013). Reducing depression in 9-10 year old children in low SES schools: A longitudinal universal randomized controlled trial. *Behaviour Research and Therapy, 51,* 845-854. https://doi.org/10.1016/j.brat.2013.09.005. [8].
9. Rooney, R; Roberts, C; Kane, R; Pike, L; Winsor, A; White, J., Brown, A. (2006). The prevention of depression in 8- to 9-year-old children: A pilot study. *Australian Journal of Guidance and Counselling, 16*(1), 76-90. https://doi.org/10.1375/ajgc.16.1.76. [9].
10. Stopa, J.E., Barrett, P.M. & Golingi, F. (2010). The prevention of childhood anxiety in socioeconomically disadvantaged communities: A universal school-based trial. *Advances in School Mental Health Promotion, 3*(4), 5-24. https://doi.org/10.1080/1754730X.2010.9715688. [10].

Table S2 Sum of Outcome Measures, Primary and Secondary Outcomes for Each Study.

Authors	Outcome Measure	Primary Outcomes	Secondary Outcomes
Dowling et al. (2019) [1]	Depression, Anxiety and Stress Scale (DASS-21)	Non-significant intervention effect on anxiety levels.	Significant intervention effect on anxiety levels for female students.
Iizuka et al. (2015) [2]	Spence Children's Anxiety Scale (SCAS)	Significant intervention effect on anxiety levels of 'at-risk' students. No significant changes for the 'not at-risk' group.	Significant changes in separation anxiety, obsessive compulsive disorder and physical anxiety from pre- to post-test.
Lewis et al. (2013) [3]	Behaviour Assessment System for Children (BASC)	Significant intervention effect on anxiety levels.	Indirect effect of the programme on change in anxiety via social and emotional character development was significant.
Mifsud & Rapee (2005) [4]	SCAS Children's Automatic Thoughts Scale (CATS) Spence Children's Anxiety Scale-Parent version (SCAS-P) Internalising scales of the Child Behaviour Checklist (CBCL)- teacher report form	Significant group x time interaction. Children in the intervention group reported a significant change from before to after intervention and from before intervention to follow up.	Significant group x time interaction. Teachers reported a significant change from before to after intervention and from before intervention to follow-up for intervention group children.
Pophillat et al. (2016) [5]	SCAS & SCAS-P	No main effects for group or time; no group x time interaction effect.	Parent report- Significant group x time interaction showing a significant pre-post decrease in anxiety symptoms for the intervention group but not for the control group. Significant gender x group x time interaction for SCAS-P indicates that gender moderates the intervention effect. Post-hoc tests how a decrease in parent reported anxiety for the intervention in males. There

			was no pre-post change for the intervention in females.
Roberts et al. (2010) [6]	RCMAS CBCL (parent)	No significant group effects for anxiety at post-test, 6 or 18 month follow-ups.	No significant group differences in the prevalence of high-risk students with clinical CDI/RCMAS.
Rodgers & Dunsmuir (2015) [7]	SCAS SCAS-P	No significant main effect of group, significant main effect of time, significant interaction between group and time. Intervention groups' anxiety scores reduced significantly between pre- and post-intervention, while the control groups did not.	Intervention groups' parent anxiety scores reduced significantly between pre- and post-intervention while control groups' did not, separation anxiety scores reduced significantly between pre- and post-intervention whole the control groups' scores did not.
Rooney et al. (2013) [8]	SCAS	No group x time interaction. Anxiety symptoms decreased across assessments at the same rate for both groups. Significant group effect indicates that the control group were less anxious than the intervention group at pre-test, and this difference was maintained throughout the study.	Females reported higher anxiety at pre-test, post-test and 18 month follow-up. Significant group x time interaction. Three way gender x group x time interaction was not significant for any of the student-reported outcomes, meaning gender did not moderate the previously reported intervention effects.
Rooney et al. (2006) [9]	RCMAS	No significant group effect at post-test, or at either of the follow-ups, for anxiety.	No secondary outcomes reported.
Stopa et al. (2010) [10]	RCMAS SCAS	SCAS- Significant main effect for time was found, indicating anxiety scores decreased significantly from pre-intervention to post-intervention. There was no significant difference	Girls had significantly higher anxiety scores than boys. For the SCAS total score, girls demonstrated a higher improvement score than boys.

				between post-intervention and follow-up scores. RCMAS-Significant main effect for time found.			

Note. BASC = Behaviour Assessment System for Children, CATS = Children's Automatic Thoughts Scale, CBCL = Child Behaviour Checklist, DASS-21 = Depression Anxiety Stress Scale- 21 Items, RCMAS = Revised Children's Manifest Anxiety Scale, SCAS = Spence Children's Anxiety Scale, SCAS-P = Spence Children's Anxiety Scale-Parent version.

Table S3 CASP Quality Assessment of the Seven Randomised Controlled Trials Included in the Systematic Literature Review.

CASP RCT Checklist Questions	Pophillat et al. (2016) [5]	Mifsud & Rapee (2005) [4]	Roberts et al. (2010) [6]	Dowling et al. (2019) [1]	Lewis et al. (2013) [3]	Rodgers & Dunsmuir (2015) [7]	Rooney et al. (2013) [8]
1. Clearly focused question?	Y	Y	Y	Y	Y	Y	Y
2. Assignment of participants randomised?	Y	Y	Y	Y	Y	Y	Y
3. All participants accounted for at conclusion?	Y	Y	Y	Y	Y Of the original 624 students at the beginning of the trial, 131 remained at wave 8, reflecting the high mobility of low-income urban students	N Student attrition was not mentioned. Pre and post intervention group numbers were not reported	Y

4.	Participants and study personnel blinded?	N	N	N	N	N	N	N
5.	Groups similar at start of trial?	Y	Y	Y	Y	Y	N (twice as many girls than boys)	Y
6.	Groups treated equally aside from experimental intervention?	Y	Y	Y	Y	Y	Y	Y
7.	How large was the intervention effect?	Reported- Y Large effect for time	Reported- Y SCAS- small effect for intervention group	Reported- N	Reported- Y DASS-21 stress and depression- large effect.	Reported- Y Small, positive effect for depression anxiety	Reported- N	Reported- N
8.	How precise was the estimate of intervention effect?	Not reported precisely (no CIs provided)	Not reported precisely (no CIs provided)	Not reported precisely (no CIs provided)	Not reported precisely (no CIs provided)	Not reported precisely (no CIs provided)	Not reported precisely (no CIs provided)	Not precisely reported (no CIs provided)
9.	Can the results be applied to the local population?	Y	Y	Y	Y	Y	Y	Y
10.	Were all clinically important outcomes considered?	Y	N (depression, which can be comorbid with anxiety, was not considered)	Y	Y	Y	N (depression, which can be comorbid with anxiety, was not considered)	Y

11. Benefits worth harm and costs?	Y	Y	Y	Y	Y	Y	Y
Total Score	9/11 = 82%	8/11 = 73%	8/11 = 73%	9/11 = 82%	9/11 = 82%	5/11 = 45%	8/11 = 73%

Note. CIs = Confidence Intervals, DASS-21 = Depression Anxiety and Stress Scale- 21 items, SCAS = Spence Children's Anxiety Scale, Y = Yes, N = No, U = Unsure.

Table S4 CASP Quality Assessment Table of the Three Cohort Studies Included in the Systematic Literature Review.

CASP Cohort Study Checklist Questions	Iizuka et al. (2015) [2]	Stopa et al. (2010) [10]	Rooney et al. (2006) [9]
1. Clearly focused question?	Y	Y	Y
2. Cohort recruited in an acceptable way?	Y	Y	Y
3. Exposure accurately measured to minimise bias?	Y	Y	Y
4. Outcome accurately measured to minimise bias?	Y	Y	Y
5. All confounding variables identified?	N	Y	N
6. Account taken of confounding factors in design and/or analysis?	N	Y	N
7. Follow up of subjects complete enough?	Y	Y	Y
8. Follow up of subjects long enough?	N	Y	Y
9. How precise are the results?	Quite precise, no CIs reported	Quite precise, no CIs reported	Quite precise, no CIs reported
10. Do you believe the results?	Y	Y	Y
11. Can the results be applied to the local population?	Y	Y	Y
12. Do results fit with other available evidence?	Y	Y Numerous other studies have shown that FRIENDS for Life is effective at reducing the anxiety symptoms of children.	N Other studies have shown medium-term effects for anxiety symptomatology (e.g., Barrett & Turner, 2001), but

			the current study found no significant effects for anxiety symptoms.
Total Score	8/12 = 67%	11/12 = 92%	8/12 = 67%

Note. CIs = Confidence Intervals, Y = Yes, N = N, U = Unsure.

Table S5 Intervention Description and Related Studies.

1. ***Dowling et al. (2019) -Mind Out***: The Mind Out programme consists of thirteen weekly sessions, each lasting approximately forty minutes each. The content of the programme is based on CASEL's (Collaborative for Academic, Social and Emotional Learning) five core competencies for social and emotional learning, namely: self-awareness, self-management, social awareness, relationship management and responsible decision making. The programme employs interactive teaching strategies, including collaborative activities and videos, to engage students in activities that allow for skill building. These skills include identifying and managing emotions, coping with challenges, overcoming negative thinking, communication and developing empathy and relationship skills. It also provides strategies to help promote social and emotional development at a whole-school level [1].
2. ***Iizuka et al. (2015) [2]; Rodgers & Dunsmuir (2015) [7]; Stopa et al. (2010) [10]-FRIENDS for Life:*** The 'FRIENDS for Life' emotional resiliency programme is a group CBT (Cognitive Behavioural Theory) intervention. The word FRIENDS is an abbreviation to help young people remember the steps they must follow when they are feeling anxious. It stands for the following: F- Feeling worried? R- Relax and feel good, I- I can do it! E- Explore solutions and coping step plans, N- Now reward yourself, D- Don't forget to practice and S- Stay cool! The programme lasts for ten weeks with each lesson lasting approximately two to two and a half hours. The programme consists of three main components based on CBT principles. The first component, learning and behaviour, involves helping students develop six-step problem solving plans, use coping step plans and identify positive role models and support networks. The next component is the cognitive component and involves helping students to use positive self-talk, challenge negative self-talk, evaluate themselves realistically and reward themselves. The physiological component is the final element and involves teaching young people to be aware of their body cues, to use relaxation techniques and to self-regulate. FRIENDS for Life has a strong evidence base and the World Health Organisation (WHO) have listed it as the only evidence-based programme effective at reducing anxiety in young people [7].
3. ***Lewis et al. (2013) -Positive Action:*** Positive Action (PA) is a comprehensive, school-wide social and emotional learning programme. It is grounded in theories of self-concept, particularly Self-Esteem Enhancement Theory (SET). This theory assumes that a person's desire to feel

good about themselves is a universal need and individuals will use a range of cognitive, affective and behavioural strategies to acquire and sustain feelings of worth. PA includes a classroom-based curriculum that establishes the motivation to feel good about oneself. All programme components are organised around six core concepts: self-concept, positive actions for body and mind, positive actions for focusing on getting along with others, and managing, being honest with and continually improving oneself. The PA programme is designed to create a foundation for positive emotional health. For Kindergarten to 6th Grade, the programme consists of 140 lessons lasting approximately 15-20 minutes, designed to be delivered four days a week. The lessons are age-appropriate and sequenced per grade. For grades 7 and 8, 70 lessons lasting 20 minutes each are taught two days a week. Other elements of the programme include teacher, counsellor and family training and school-wide climate development, using strategies such as posters in corridors and assemblies [3].

4. ***Mifsud & Rapee (2005) -Cool Kids Programme:*** The Cool Kids Programme is based on earlier clinical programmes for the management of anxiety disorders. The programme covers education about the nature of anxiety, cognitive restructuring to challenge anxious thoughts, graduated hierarchies to expose fear-related stimuli and additional skills including assertiveness, social skills and dealing with teasing. Children receive eight separate sessions on a weekly basis during school time. Sessions last approximately one hour and are supported by a structured workbook [4].
5. ***Pophillat et al. (2016) - Aussie Optimism: Feelings and Friends Programme:*** This programme comprises ten modules and is designed to be delivered by class teachers to whole classes. It is hypothesised to have its effect by targeting salient risk and protective factors for internalising difficulties. The programme is designed to enhance social and emotional competence, in combination with equipping children with behavioural coping skills. The ten modules are based on the following topics: 'My Feelings,' 'Body Cues and First Aid for Feelings', 'First Aid for Being Scared and Worried', 'First Aid for Anger', 'Other People's Feelings', 'Caring About Other People's Feelings', 'Friendly Habits', 'Solving Problems', 'Mad, Sad and Glad Solutions' and 'Quiz Time' [5].
6. ***Roberts et al. (2010) -Aussie Optimism: Optimistic Thinking Skills and Social Life Skills Programmes:*** These programmes contain ten, sixty minute sessions. The lessons include didactic information, activities such as role-plays, games and cooperative learning tasks, cross-curriculum applications, worksheets, and homework activities to integrate skills into the home setting. Each lesson is related to interpersonal or self-management skills. The ten modules are as follows: 'Introduction and Feelings', 'Decision Making', 'Communication Skills', 'Assertiveness I', 'Assertiveness II', 'Negotiation,' 'Coping Skills', 'Networks, Friends and Family' and 'Review and Transition'. The ten modules of the Social Life Skills Programme are based on the following topics: 'Awareness and Identification of Feelings', 'Identification of Self-Talk', 'Linking Thoughts and Feelings', 'Thinking Styles', 'Putting It All Together', 'Generating Alternatives', 'Looking for Evidence', 'Challenging Unhelpful Thoughts', 'De-Catastrophising' and 'Review and Self-evaluation' [6].

7. ***Rooney et al. (2013) [8] & Rooney et al. (2006) [9]: Aussie Optimism: Positive Thinking Skills Programme:*** This programme is designed to meet the developmental needs of children in the middle classes of primary school. It includes ten, 60 minute weekly sessions on cognitive and behavioural principles. Sessions focus on identifying thoughts and feelings, exploring connections between thoughts, feelings and behaviours, evaluating and challenging thoughts, learning to think in a more positive and accurate manner, learning coping techniques such as relaxation, distraction and scheduling enjoyable activities, and the creation of a fear hierarchy. Games and activities are used to teach cognitive and behavioural skills to children in sessions [8].

Table S6 Description of Anxiety Measures Used.

1. ***Behaviour Assessment System for Children (BASC)-used by Lewis et al. (2013) [3]:*** A comprehensive set of rating scales and forms including the teacher rating scales (TRS), parent rating scales (PRS), self-report of personality (SRP), student observation system (SOS), and structured developmental history (SDH). These scales and forms help to evaluate the behaviour and self-perception of children between the ages of two and a half and eighteen. They enable differential diagnosis and the educational classification of a myriad of emotional and behavioural difficulties (Reynolds & Kamphaus, 2002).
2. ***Child Behaviour Checklist (CBCL)- used by Mifsud & Rapee (2005) [4] (teacher) & Roberts et al. (2010) [6] (parent):*** The CBCL is a high quality, standardised screening measure of child and adolescent emotional and behavioural difficulties and social competencies. It assists in the evaluation of adaptive and maladaptive functioning in children and adolescents. Both the CBCL parent and teacher versions are designed for completion on 6-18 year olds. One of the scales covers anxious and depressed symptoms (Bordin et al., 2013). The CBCL has been shown to be reliable and valid in many studies cross-culturally [6].
3. ***Children's Automatic Thoughts Scale (CATS)- used by Mifsud & Rapee (2005):*** The CATS is a 40 item measure of children's beliefs and attitudes and covers four scales: social threat, physical threat, loss and failure and hostility. In Mifsud & Rapee's [4] study, the social threat and physical threat subscales were combined into a single subscale of threat beliefs. The measure has good psychometric properties [4].
4. ***Depression, Anxiety and Stress Scale (DASS-21)- used by Dowling et al. (2019):*** The DASS-21 is a 21 item self-report scale used to measure levels of symptoms related to three subscales: depression, anxiety and stress. It was originally developed for adults, but has been validated and used in a number of studies with children both in Ireland and internationally. Each of the three subscales is composed of 7 scale items. High internal consistencies were shown for each of the subscales [1].
5. ***Revised Children's Manifest Anxiety Scale (RCMAS)- used by Roberts et al. (2010) [6], Rooney et al. (2006) [9], & Stopa et al. (2010) [10]:*** The RCMAS is a self-report measure of children's anxiety and is aligned to the DSM classifying system. It is a 37 item measure that assesses

physiological symptoms, worry, over sensitivity, plus social and concentration concerns. Scores range from 0-28 with high scores indicating more severe symptoms. Reliability and internal consistency have been established [9].

6. ***Spence Children's Anxiety Scale (SCAS)- used by Iizuka et al. (2015) [2], Mifsud & Rapee (2005) [4], Pophillat et al. (2016) [5], Rodgers & Dunsmuir (2015) [7], Rooney et al. (2013) [8] & Stopa et al. (2010) [10]:*** The SCAS is a 38 item measure of children's anxiety that covers several of the anxiety disorders described in the DSM-V. The measure has strong psychometric properties and correlates well with other measures of anxiety [4].
7. ***Spence Children's Anxiety Scale-Parent (SCAS-P)- used by Mifsud & Rapee (2005) [4], Pophillat et al. (2016) [5] &Rodgers & Dunsmuir (2010) [6]:*** The SCAS-P is a parallel version of the SCAS children's version with similar psychometric properties [4].

References

1. Dowling K, Simpkin AJ, Barry MM. A cluster randomized-controlled trial of the mindout social and emotional learning program for disadvantaged post-primary school students. J Youth Adolesc. 2019; 48: 1245-1263.
2. Iizuka CA, Barrett PM, Gillies R, Cook CR, Marinovic W. Preliminary evaluation of the friends for life program on students' and teachers' emotional states for a school in a low socio-economic status area. Aust J Teach Educ. 2015; 40: 1-20.
3. Lewis KM, DuBois DL, Bavarian N, Acock A, Silverthorn N, Day J, et al. Effects of positive action on the emotional health of urban youth: A cluster-randomized trial. J Adolesc Health. 2013; 53: 706-711.
4. Mifsud C, Rapee RM. Early intervention for childhood anxiety in a school setting: Outcomes for an economically disadvantaged population. J Am Acad Child Adolesc Psychiatry. 2005; 44: 996-1004.
5. Pophillat E, Rooney RM, Nesa M, Davis MC, Baughman N, Hassan S, et al. Preventing internalizing problems in 6-8 year old children: A universal school-based program. Front Psychol. 2016; 7: 1928.
6. Roberts CM, Kane R, Bishop B, Cross D, Fenton J, Hart B. The prevention of anxiety and depression in children from disadvantaged schools. Behav Res Ther. 2010; 48: 68-73.
7. Rodgers A, Dunsmuir S. A controlled evaluation of the 'FRIENDS for Life'emotional resiliency programme on overall anxiety levels, anxiety subtype levels and school adjustment. Child Adolesc Ment Health. 2015; 20: 13-19.
8. Rooney R, Hassan S, Kane R, Roberts CM, Nesa M. Reducing depression in 9-10 year old children in low SES schools: A longitudinal universal randomized controlled trial. Behav Res Ther. 2013; 51: 845-854.
9. Rooney R, Roberts C, Kane R, Pike L, Winsor A, White J, et al. The prevention of depression in 8-to 9-year-old children: A pilot study. J Psychol Couns Sch. 2006; 16: 76-90.
10. Stopa JE, Barrett PM, Golingi F. The prevention of childhood anxiety in socioeconomically disadvantaged communities: A universal school-based trial. Adv Sch Ment Health Promot. 2010; 3: 5-24.