

Supplementary Data

Threat Bias Assessment—Dot-Probe Task Description

The measurement task was composed by 120 trials. In each trial, a fixation cross appeared for 500 milliseconds, followed by a pair of faces appearing for 500 milliseconds. The pair of faces was retrieved from the NimStim stimulus set and display pictures of the same actor showing a neutral or angry expression appearing one above the other. The pairs of faces displayed were of two types (neutral-angry or neutral-neutral). Face pairs were immediately followed by a probe (“<” or “>”) appearing in the location of either the top or bottom face. Participants were instructed to indicate the orientation of the probe by clicking the left or right mouse button (left for “<” and right for “>”) using their dominant hand. The probe remained on-screen until the participant responded, and then the next trial began. Angry-face location, probe location, probe type, and actor were fully counterbalanced in presentation. Reaction time differences of threat-incongruent minus threat-congruent trials provided a measure of attention bias. Positive values indicate attention bias toward threat cues; negative values indicate bias away from threat cues. Inaccurate responses, trials with response latencies faster than 150 milliseconds and slower than 2000 milliseconds, and trials with response latencies above or below 2.5 standard deviations from the subject’s mean were excluded.

Secondary Outcomes Description

Screen for Child Anxiety Related Emotional Disorders

The Screen for Child Anxiety Related Emotional Disorders (SCARED) (Birmaher, et al. 1997, 1999) is a 41-item self-report measure of pediatric anxiety, investigating symptoms of generalized anxiety (nine items), separation anxiety (eight items), social anxiety disorder (seven items), panic/somatic (13 items), and school phobia (four items). Items are rated in a three-point scale, and total scores range from 0 to 82 with higher scores reflecting higher anxiety levels. There is a self-report version and a parent-report equivalent version of the SCARED to assess the child’s anxiety symptoms. The SCARED has been translated to Brazilian-Portuguese and the Brazilian version presented good psychometric properties (Isolan et al. 2011; DeSousa et al. 2013). The SCARED total score was used as the dependent measure (DeSousa et al. 2014b). The Cronbach’s alpha for SCARED-P and SCARED-C in the baseline of this sample was 0.890 and 0.883, respectively.

Spence Children’s Anxiety Scale

The Spence Children’s Anxiety Scale (SCAS) (Spence 1997, 1998) is a 38-item self-report measure of pediatric anxiety, which investigates generalized anxiety (six items), separation anxiety (six items), social anxiety disorder (six items), panic/agoraphobia (nine items), obsessive-compulsive problems (six items), and fears of physical injury (five items). Items are rated in a four-point scale, and total scores range from 0 to 114 with higher scores reflecting higher anxiety levels. There is a self-report version and a parent-report equivalent version of the SCAS to assess the child’s anxiety symptoms. The SCAS has been cross-culturally adapted to Brazil (DeSousa et al. 2012) and presented good psychometric properties in Brazilian community and clinical samples (DeSousa et al.

2014a). The total score was used as the dependent measure. The Cronbach’s alpha for SCAS-P and SCAS-C in the baseline of this sample was 0.874 and 0.885.

Children’s Depression Inventory

The Children’s Depression Inventory (CDI) (Kovacs 1992) is a 27-item self-report measure of pediatric depressive symptoms. The CDI has been translated to Brazilian Portuguese and studies investigating the psychometric properties of the Brazilian version developed a shortened 20-item version of the instrument that presented good psychometric properties (Gouveia et al. 1995; Golfeto et al. 2002). Items are rated in a three-point scale, and total scores range from 0 to 60 with higher scores reflecting higher depressive symptomatology levels. The Cronbach’s alpha for CDI in the baseline of this sample was 0.843.

Swanson, Nolan, and Pelham Questionnaire

The Swanson, Nolan, and Pelham Questionnaire (SNAP-IV) have 18 items about ADHD and 8 additional items about oppositional-defiant symptoms. The questionnaire is a parent-rated four-point scale, and total scores range from 0 to 78. The Brazilian version of SNAP-IV was successfully adapted to Brazilian Portuguese (Mattos et al. 2006). The Cronbach’s alpha for SNAP total score in the baseline of this sample was 0.943.

Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ) (Goodman 2001) is a 25-item self-report screening questionnaire for youth mental health, evaluating emotional, conduct, hyperactivity-inattention, and peer problems. In addition, the SDQ contains an impact supplement, which investigates impact on symptoms on child distress and impairment in different settings (with family, friends, school, and during leisure activities). The SDQ has been translated to Brazilian Portuguese and is well used in Brazil (Goodman et al. 2007). The total SDQ scores as well as impact scores were used in the main analysis. The Cronbach’s alpha for SDQ total score and impact scores in the baseline of this sample was 0.802 and 0.671.

Friends for Life Program

This group cognitive behavioral therapy (G-CBT) manual has three main therapy process components: behavioral, cognitive, and physiological. In the behavioral component, children learn how to develop problem-solving plans, to use coping strategies, and to identify role models and support networks to deal with the anxiety symptoms. The cognitive component accounts for cognitive restructuring techniques, stimulating children’s positive self-talk (referred in the program as “green thoughts” as opposed to their “red thoughts,” i.e., negative self-talk) and using realistic self-evaluation to reward themselves when achieving goals. Finally, the physiological component accounts for learning about their own emotions and body clues that help them self-regulate through the use of relaxation techniques when feeling anxious. At the end of each session, parents were invited to participate for 10 minutes and received instructions about how to help their children with homework assignments.

Control Therapy

This intervention was designed specifically to not contain any G-CBT component. A session-by-session description is provided as follows as an example of groups of children from 9 to 11 years of age.

- Session 1—Children performed identification cards for each group participant, played the “memory” game, read stories, and were instructed to draw about the central theme of the story;
- Session 2—Children played a puzzle game, and common playful activities typical from Brazil (“Estátua,” “Elefante colorido,” “Cada macaco no seu galho,” and “Mamãe posso ir”), read stories, and were instructed to draw about the central theme of the story;
- Session 3—Children played “Jogo da Vida (The Game of Life),” read stories, and were instructed to draw about the central theme of the story;
- Session 4—Children played the typical Brazilian playful activity “Amarelinha” and “Tapete de Dança”;
- Session 5—Children played “Banco Imobiliário (Monopoly)” and read stories;
- Session 6—Children played “Detetive (Clue)” and “Uno” and read stories;
- Session 7—Children played “Ligue 4” and read stories;
- Session 8—Children played “Lince” and read stories;
- Session 9—Children played “Can-Can” and read stories;
- Session 10—Children read stories and talked about the group experience.

Supplementary Analysis

Analyzing the effects of treatment on anxiety primary outcome measures in subjects that changed threat biases over the course of treatment

A total of 24 participants had lower threat bias in endpoint assessment compared to baseline assessment. In those participants, we found significant time effects for the primary continuous outcome [$F(1,20)=11.85, p=0.003$], but again, no significant time by group interaction was found [$F(3,20)=0.792, p=0.513$]. Same results were found comparing time by group effects for groups with attentional bias modification treatment (ABMT) component versus non-ABMT. Nevertheless, these analyses are likely to be underpowered.

Supplementary References

Birmaher B, Brent DA, Chiappetta L, Bridge J, Monga S, Baugher M: Psychometric properties of the Screen for Child Anxiety Related

- Emotional Disorders (SCARED): A replication study. *J Am Acad Child Adolesc Psychiatry* 38:1230–1236, 1999.
- Birmaher B, Khetarpal S, Brent D, Cully M, Balach L, Kaufman J, Neer SM. The Screen for Child Anxiety Related Emotional Disorders (SCARED): Scale construction and psychometric characteristics. *J Am Acad Child Adolesc Psychiatry* 36:545–553, 1997.
- DeSousa DA, Pereira AS, Petersen CS, Manfro GG, Salum GA, Koller SH: Psychometric properties of the Brazilian-Portuguese version of the Spence Children’s Anxiety Scale (SCAS): Self- and parent-report versions. *J Anxiety Disord* 28:427–436, 2014a.
- DeSousa DA, Petersen CS, Behs R, Manfro GG, Koller SH: Brazilian Portuguese version of the Spence Children’s Anxiety Scale (SCAS-Brasil). *Trends Psychiatry Psychother* 34:147–153, 2012.
- DeSousa DA, Salum GA, Isolan LR, Manfro GG: Sensitivity and specificity of the Screen for Child Anxiety Related Emotional Disorders (SCARED): A community-based study. *Child Psychiatry Hum Dev* 44:391–399, 2013.
- DeSousa DA, Zibetti MR, Trentini CM, Koller SH, Manfro GG, Salum GA: Screen for child anxiety related emotional disorders: Are subscale scores reliable? A bifactor model analysis. *J Anxiety Disord* 28:966–970, 2014b.
- Golfeto JH, Veiga MH, Souza L, Barbeira C: Psychometrical properties of the Inventory of Child Depression (CDI) in a sample of children in Ribeirão Preto. *Rev Psiquiatr Clín* 29:66–70, 2002.
- Goodman R: Psychometric properties of the strengths and difficulties questionnaire. *J Am Acad Child Adolesc Psychiatry* 40:1337–1345, 2001.
- Goodman A, Fleitlich-Bilyk B, Patel V, Goodman R: Child, family, school and community risk factors for poor mental health in Brazilian schoolchildren. *J Am Acad Child Adolesc Psychiatry* 46:448–456, 2007.
- Gouveia VV, Barbosa GA, Almeida HJF, Gaião AA: Children’s depression inventory—CDI: Adaptation study with students of João Pessoa. *J Brasil Psiquiatr* 44:345–349, 1995.
- Isolan L, Salum GA, Osowski AT, Amaro E, Manfro GG: Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED) in Brazilian children and adolescents. *J Anxiety Disord* 25:741–748, 2011.
- Kovacs MA: Children’s Depression Inventory Manual. In: Multi-Health Systems. North Tonawanda, NY, 1992.
- Mattos P, Serra-Pinheiro MA, Rohde LA, Pinto D: A Brazilian version of the MTA-SNAP-IV for evaluation of symptoms of attention deficit/hyperactivity disorder and oppositional-defiant disorder [In Portuguese]. *Rev Psiquiatr Rio Gd Sul* 28, 2006.
- Spence SH: Structure of anxiety symptoms among children: A confirmatory factor-analytic study. *J Abnorm Psychol* 106:280–297, 1997.
- Spence SH: A measure of anxiety symptoms among children. *Behav Res Ther* 36:545–566, 1998.