

Community Trial of the FRIENDS for Life Prevention Program with Children at Risk for Internalizing Disorders

FRIENDS Prevention Program in Brazil

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Abstract: The aim of this study was to investigate the effectiveness of the FRIENDS for Life program in the selective prevention format with children at risk for internalizing disorders living in countryside areas. The study also examined the association between response to treatment and a series of individual variables. Participants were 111 children aged 7 to 12 years old ($M = 9.33$; $SD = 1.58$), 55% boys. The intervention was delivered in 10 sessions by trained teachers supervised by a clinical psychologist, in groups of six to twelve children each. There was a significance reduction in anxiety and depressive symptoms after the intervention, with a small effect size. The only predictor that demonstrated significant association with response to treatment was the severity of pre-treatment anxiety. Our results support the effectiveness of the FRIENDS for Life program in the prevention format in a new culture and a non-privileged context.

Keywords: community trial, FRIENDS for Life, prevention, children, internalizing disorders

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Introduction

Anxiety disorders are the most common group of mental disorders in childhood (Beesdo-Baum, & Knappe, 2012). They are highly comorbid (Kendall et al., 2010) and are associated with significant distress and functional impairment for the children and their family (Ramsawh, Chavira, & Stein, 2010). If left untreated, childhood anxiety disorders are associated with various psychiatric problems in adolescence and adulthood, such as other anxiety disorders, depression, suicide behavior, and externalizing disorders (Bittner et al., 2007; Bolton et al., 2008, & Pine, Cohen, Gurley, Brook, & Ma, 1998), lower educational achievement, failure to attend university (Woodward, & Fergusson, 2001), and poorer quality of life (Olatunji, Cisler, & Tolin, 2007; Salum et al., 2014).

Among psychotherapeutic options for anxiety disorders, Cognitive Behavioral Therapy (CBT) is the approach with more evidence of effectiveness as compared to waiting lists or attention control interventions (Davis, May, & Whiting, 2001; James, James, Cowdrey, Soler, & Choke, 2013; Reynolds, Wilson, Austin, & Hooper, 2012). There are positive CBT results in both prevention (Barrett, Farrell, Ollendick, & Dadds, 2006; Barrett, & Farrell, 2007; Fisak, Richard, & Mann, 2011; Stallard, Simpson, Anderson, Hibbert, & Osborn, 2007; Stallard, Simpson, Anderson, & Goddard, 2008) and treatment approaches for pediatric anxiety (Barrett, Duffy, Dadds, & Rapee, 2001; Becker, Becker, & Ginsburg, 2012; Tobon et al., 2011; Walkup et al., 2008). In a meta-analysis that gathered 48 studies ($n = 3,740$) about intervention programs for childhood anxiety, the overall effect size of CBT was .66 (.77 when compared to passive control and .39 when compared to active control; both significant), while the effect size for non-CBT intervention programs was not significant (Reynolds et al., 2012).

Among a variety of CBT protocols developed to treat pediatric anxiety, the FRIENDS for Life program is particularly attractive and had been widely implemented in several countries. The FRIENDS for Life, developed in Australia, is a group CBT intervention for childhood anxiety that has demonstrated promising results in a large number of investigations (Barrett, & Turner, 2001; Barrett, Sonderegger, & Xenos, 2003; Barrett et al., 2006; Dadds, Spence, Holland, Barrett, & Laurens, 1997; Dadds, Holland, Barrett, Laurens, & Spence, 1999; Farrell, Barrett, & Claassens, 2005; Liddle, & Macmillan, 2010; Lowry-Webster, Barrett, & Lock, 2003; Rodgers, & Dunsmuir, 2015; Stallard et al., 2007; Stallard et al., 2008; Stallard et al., 2014). Studies have found

positive results for the FRIENDS for Life program in both immediate and long term follow-up measures, leading the World Health Organization (World Health Organization, 2004) to recognize it as an effective evidence-based program to reduce pediatric anxiety. The program has been applied around the world as universal prevention, selective prevention, and indicated targeted intervention (Barrett, & Turner, 2001; Barrett et al., 2003; Barrett et al., 2006; Dadds et al., 1997; Dadds et al., 1999; Farrell et al., 2005; Liddle, & Macmillan, 2010; Lowry-Webster, Barrett, & Dadds, 2001; Lowry-Webster et al., 2003; Rodgers, & Dunsmuir, 2015; Stallard et al., 2007; Stallard et al., 2008; Stallard et al., 2014). Results of a more recent meta-analysis considered the FRIENDS for Life program a well-established treatment for pediatric anxiety, but underscored the importance of further investigating the effectiveness of the program in various cultures and countries (Fisak et al., 2011). Considering the aforementioned, the present study was conducted in order to investigate the effectiveness of the FRIENDS for Life program in the selective prevention format for the population of children at risk for internalizing disorders enrolled in public municipal elementary schools in the countryside areas of a small Brazilian town.

Response to treatment within a CBT intervention is influenced by various factors. Studies have shown that individual factors play a moderator role in determining whether or not a child will benefit from a CBT in the anxiety treatment. For example, there is evidence that higher levels of comorbidities are associated with lower response to CBT treatment for pediatric anxiety (Kley, Heinrichs, Bender, & Tuschen-Caffier, 2012; Liber et al., 2010). However results from a literature review (Ollendick, Jarrett, Grills-Taquechel, Hovey, & Wolff, 2008) and a meta-analytic study have questioned the moderator role of comorbidities (Olatunji, Cisler, & Tolin, 2010). There has also been mixed evidence of the pre-treatment severity of anxiety symptoms as a predictor of treatment response. On one hand, some studies found that higher severity of anxiety symptoms in pre-treatment was associated with higher response to treatment, probably due to offering room for improvement (Kley et al., 2012). On the other hand, other studies found that higher severity of symptoms was associated with lower response to treatment, probably due to requiring more sessions, combined treatments, or interventions specialized in treatment-resistant symptoms (Liber et al., 2010). Demographic characteristics of the child seeking for treatment have also been investigated as potential predictors of response to treatment for pediatric anxiety, but results from a systematic literature review report no moderation effect of gender and age

on treatment response (Nilsen, Eisemann, & Kvernmo, 2013). Given these mixed results, it seems necessary to further investigate whether individual factors are able to predict optimal response to treatment when applying a CBT protocol intervention for pediatric anxiety. Therefore the present study also examined the association between response to treatment and a series of individual variables: (1) dimensional severity of comorbidity symptoms (depressive; attention deficit and hyperactivity; oppositional-defiant; conduct); (2) severity of pre-treatment anxiety symptoms; and (3) demographic characteristics (gender; age).

Methods

Participants and Procedures

We invited all children aged 7 to 12 years old enrolled in public municipal elementary schools in the countryside areas of Jaguarão (approximately 500 children), a small town in Rio Grande do Sul, the southernmost state of Brazil. Through schools' mail system, informed consent forms explaining the research project were sent to addresses of parents of all children and 289 families returned the forms to schools consenting that their children participated in the study. The 289 families answered the Child Behavior Checklist (CBCL) (Achenbach, & Rescorla, 2001; Paula, Duarte, & Bordin, 2007) at home visits to screen for internalizing symptomatology in their children. CBCL protocols were most frequently answered by the biological mother (76.7%) or the biological father (10%) of the child – other respondents included grandmothers, adoptive parents and stepparents. In line with previous research screening for children at risk for developing internalizing problems (Martinsen, Aalberg, Gere, & Neumer, 2010), inclusion criterion was presenting a score higher than the 65 normative T-Score in the CBCL's DSM-oriented scales of depressive problems, anxiety problems, or somatic problems. Of the 289 children assessed, 167 (57.79%) were selected through this criterion.

These 167 children were invited to voluntarily take part on the FRIENDS for Life groups. The intervention groups were scheduled to happen at the time of the day when children were free from classes. For children who studied in the morning period, the intervention happened during the afternoon, and vice-versa. Of the 167 children, 56 children declined to participate or had activities already scheduled at the hours of the intervention. Thus, the final sample that started the community trial was composed of

111 children, aged 7 to 12 years old ($M = 9.33$; $SD = 1.58$), 55% boys ($n = 61$). No significant differences in terms of gender, age, or any of the CBCL scores of internalizing and externalizing problems (all p -values $> .10$) were found between the invited group that started the intervention and the invited group that declined or was not able to participate (Table 1). There were no dropouts after the start of the intervention.

Table 1.

Characterization of the Sample

	Invited sample that started intervention ($n = 111$)	Invited sample that declined or could not participate ($n = 56$)	χ^2 and t-test statistics
Gender (% boys)	55.0	58.9	$\chi^2 = .24$; $p = .625$
Age M (SD)	9.33 (1.58)	8.93 (1.57)	$t = 1.56$; $p = .121$
CBCL depression M (SD)	5.95 (3.64)	5.67 (3.24)	$t = .43$; $p = .666$
CBCL anxiety M (SD)	5.88 (2.13)	5.61 (2.19)	$t = .75$; $p = .453$
CBCL somatic M (SD)	2.59 (2.58)	2.38 (2.33)	$t = .52$; $p = .607$
CBCL ADHD M (SD)	6.86 (3.56)	6.95 (3.64)	$t = -.14$; $p = .888$
CBCL ODD M (SD)	4.40 (2.65)	4.54 (2.54)	$t = -.32$; $p = .752$
CBCL conduct M (SD)	3.34 (2.68)	3.07 (2.54)	$t = .61$; $p = .540$

Note. CBCL: Child Behavior Checklist; ADHD: attention deficit hyperactivity disorder; ODD: oppositional defiant disorder.

The groups in which children received the intervention were controlled for age, divided into two age ranges: younger children (7-9 years old; 59 children; 53.2%) and older children (10-12 years old; 52 children; 46.8%). This study was designed as a pre-experimental trial with pre-treatment and post-treatment assessments of the child's self-report of psychiatric symptoms of anxiety and depression. Before starting the intervention, the children participating completed a set of self-report measures of anxiety and depression symptoms. The intervention lasted for 10 consecutive weeks, one session per week (duration of the session around one hour and fifteen minutes). Parents participated only in the first session when the framework of the intervention was explained in detail and therapists conducted a psychoeducation parent module about

childhood anxiety. At the end of the intervention, the children completed the same set of measures to assess response to treatment.

For ethical reasons, no control group was established since these children were known to be at risk for internalizing disorders and the intervention offered, even though not yet tested in Brazil, is largely recognized worldwide as more effective than waiting lists or placebo interventions (Reynolds et al., 2012; Fisak et al., 2011; World Health Organization, 2004). The present study was approved by the Ethics Committee of the Institute of Psychology, Federal University of Rio Grande do Sul. Prior to all assessment and intervention procedures, parents of all participants gave their informed consent and children gave their verbal assent.

Intervention (The FRIENDS for Life program)

The FRIENDS for Life program is a group Cognitive Behavioral Therapy (CBT) intervention protocol for childhood anxiety developed in Australia. The protocol consists of a 10-session CBT module with three main components related to the therapy process: (1) Behavioral; (2) Cognitive; and (3) Physiological. The program objective is also to increase resilience and social and emotional skills. The behavioral component accounts for learning processes for the children. Children learn how to develop problem-solving plans, use coping strategies, and identify role models and support networks to deal with the anxiety symptoms. The cognitive component accounts for cognitive restructuring techniques. The program stimulates children's positive self-talk (referred as "green thoughts" as opposed to their "red thoughts" – negative self-talk) and the use of 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 (Barrett, & Turner, 2001; Dadds et al., 1997; Dadds et al., 1999; Lowry-Webster et al., 2001; Lowry-Webster et al., 2003; Rodgers, & Dunsmuir, 2015).

In our study the FRIENDS for Life program was delivered by trained teachers that were supervised by a senior therapist who had certified rights to use the FRIENDS protocol in Brazil. The 10 CBT sessions were delivered in small groups (of six to twelve children each). Each group was guided by a facilitator (teacher) who delivered the FRIENDS protocol with the help of an undergraduate student in Education or Psychology who worked as a co-facilitator.

Measures

The *Child Behavior Checklist* school-age assessment form (CBCL/6-18) (Achenbach, & Rescorla, 2001) was used as screening measure to identify children at risk for internalizing disorders. The CBCL is a parent-report measure of childhood internalizing and externalizing problems, comprising items consistent with DSM-5 categories of disorders and divided into six DSM-oriented scales: depressive problems; anxiety problems; somatic problems; attention deficit/hyperactivity problems; oppositional defiant problems; and conduct problems (Achenbach, 2015). The official Brazilian-Portuguese version of the CBCL was used in this study in the baseline assessment (Paula et al., 2007). The internalizing scales (i.e., depressive problems, anxiety problems, or somatic problems) were scored for screening purposes and the externalizing scales (i.e., attention deficit/hyperactivity problems; oppositional defiant problems; and conduct problems) were scored for testing predictors of response to treatment.

The *Screen for Child Anxiety Related Emotional Disorders* (SCARED) (Birmaher et al., 1997; Birmaher et al., 1999) was used as the primary outcome to measure the effectiveness of the FRIENDS intervention as a treatment/prevention program for anxiety. The SCARED is a 41-item self-report measure of childhood anxiety symptoms, divided into five factors/subscales: generalized anxiety (9 items); separation anxiety (8 items); social phobia or social anxiety disorder (7 items); panic/somatic (13 items); and school phobia (4 items). The SCARED has been translated to Brazilian-Portuguese and the Brazilian version presented adequate psychometric properties (DeSousa, Salum, Isolan, & Manfro, 2013; Isolan, Salum, Osowski, Amaro, & Manfro, 2011). Nonetheless a study evaluating a bifactor model structure alternative for the SCARED in a Brazilian large community sample demonstrated that the SCARED score offers more reliable information as a total anxiety score than as disorder-specific subscale scores (DeSousa et al., 2014).

The *Spence Children's Anxiety Scale* (SCAS) (Spence, 1997; Spence, 1998) was used as a secondary outcome applied to half of the sample to provide comparable data from an anxiety measure that was consistently used in investigations of the effectiveness of the FRIENDS for Life program worldwide. The SCAS is a 38-item self-report measure of childhood anxiety symptoms, arranged in six factors/subscales: generalized anxiety (6 items); separation anxiety (6 items); social phobia or social

anxiety disorder (6 items); panic/agoraphobia (9 items); obsessive-compulsive problems (6 items); and fears of physical injury (5 items). The latter subscale relates to specific phobias. The SCAS (self- and parent-report versions) has been cross-culturally adapted to Brazil⁴⁹ and the Brazilian version presented adequate psychometric properties (DeSousa et al., 2014).

The *Children's Depression Inventory* (CDI) (Kovacz, 1992) was used as a secondary outcome to investigate the effectiveness of the FRIENDS program on reducing depression symptoms. The CDI is a 27-item self-report measure of childhood 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 adequate psychometric properties (Golfeto, Veiga, Souza, & Barbeira, 2002; Gouveia, Barbosa, Almeida, & Gaião, 1995).

Data analysis

Paired-sample tests of Student (t-tests) were conducted to examine response to treatment by comparing children's pre-treatment and post-treatment anxiety scores in the SCARED and SCAS, and depression scores in the CDI. General Linear Models of Repeated Measures were calculated to investigate the association between individual variables and response to treatment measured by the main outcome: (1) dimensional severity of comorbidity symptoms (depressive; attention deficit and hyperactivity; oppositional-defiant; conduct); (2) severity of pre-treatment anxiety symptoms; and (3) demographic characteristics (gender; age). All statistical analyses were conducted based on two-tailed tests with alphas set at 5%. Effect size estimates and significance *p*-values are reported.

Results

Results from the paired-sample t-tests found a significant reduction in symptoms of anxiety as measured by the SCARED scores in the sample. Children displayed a lower mean level of anxiety in the post-treatment assessment, and this difference presented a significant small effect size ($p = .010$; Cohen's $d = .216$; Table 2). A subsample of 61 children also answered the SCAS to provide further evidence from another anxiety measure. As can be seen in Table 2, consistently with the SCARED results, there was also a significant reduction in the SCAS scores in the post-treatment assessment, with a small effect size ($p = .010$; Cohen's $d = .273$; Table 2). In regard to

differences in depressive symptoms, there was a significant reduction in CDI scores at post-treatment, with a small effect size ($p < .001$; Cohen's $d = .340$; Table 2).

Table 2.

Paired-sample t-tests comparing pre- and post-treatment anxiety and depression

Outcome	Pre-treatment <i>M (SD)</i>	Post-treatment <i>M (SD)</i>	Paired-sample t-test statistics	Cohen's <i>d</i>
SCARED	29.45 (11.48)	26.71 (13.80)	$t(110) = 2.64; p = .010$	.216
–PD	6.56 (4.42)	6.51 (5.28)	$t(110) = .108; p = .914$	.010
–GAD	7.83 (3.63)	6.57 (3.90)	$t(110) = 3.909; p < .001$	.334
–SeAD	7.15 (3.17)	6.37 (3.34)	$t(110) = 2.608; p = .010$	.240
–SoAD	6.34 (3.13)	5.67 (3.37)	$t(110) = 1.880; p = .063$	.206
–SCH	1.57 (1.30)	1.59 (1.54)	$t(110) = .173; p = .863$	–.014
SCAS	36.93 (16.32)	32.52 (15.99)	$t(60) = 2.678; p = .010$	.273
–GAD	6.72 (3.61)	5.67 (3.40)	$t(60) = 2.354; p = .022$	.299
–SeAD	6.00 (3.50)	5.03 (3.60)	$t(60) = 2.421; p = .018$	.273
–SoAD	6.61 (3.71)	6.00 (3.99)	$t(60) = 1.115; p = .269$	.158
–PD	4.90 (3.82)	4.98 (4.00)	$t(60) = .180; p = .858$	–.020
–OCD	8.23 (3.87)	7.02 (3.62)	$t(60) = 2.314; p = .024$	.323
–FEARS	4.48 (3.56)	3.82 (3.10)	$t(60) = 1.979; p = .052$	.198
CDI	8.91 (6.55)	6.84 (5.59)	$t(110) = 4.27; p < .001$	.340

Table 3 depicts the analyses of possible predictors of response to treatment in the sample: (1) dimensional severity of comorbid symptoms (depressive; attention deficit and hyperactivity; oppositional-defiant; conduct); (2) severity of pre-treatment anxiety symptoms; and (3) demographic characteristics (gender; age). As can be seen in Table 3, the only predictor that demonstrated significant association with response to treatment in the sample was the severity of pre-treatment anxiety.

More anxious children presented higher rates of response to treatment both when considering dimensional measurement of the anxiety symptoms (Figure 1) and when

considering groups of children above and below the clinical cutoff suggested for the SCARED in Brazil (DeSousa et al., 2013). Children with pre-treatment scores above the cutoff presented a SCARED mean of 35.01 ($SD = .89$) at pre-treatment and a mean of 30.73 ($SD = 1.42$) at post-treatment, while children with pre-treatment scores below the cutoff presented a SCARED mean of 16.85 ($SD = 1.35$) at pre-treatment and a mean of 17.62 ($SD = 2.14$) at post-treatment. The remaining variables tested as moderators of the intervention results (i.e., comorbid symptoms and demographic characteristics) did not present significant effects.

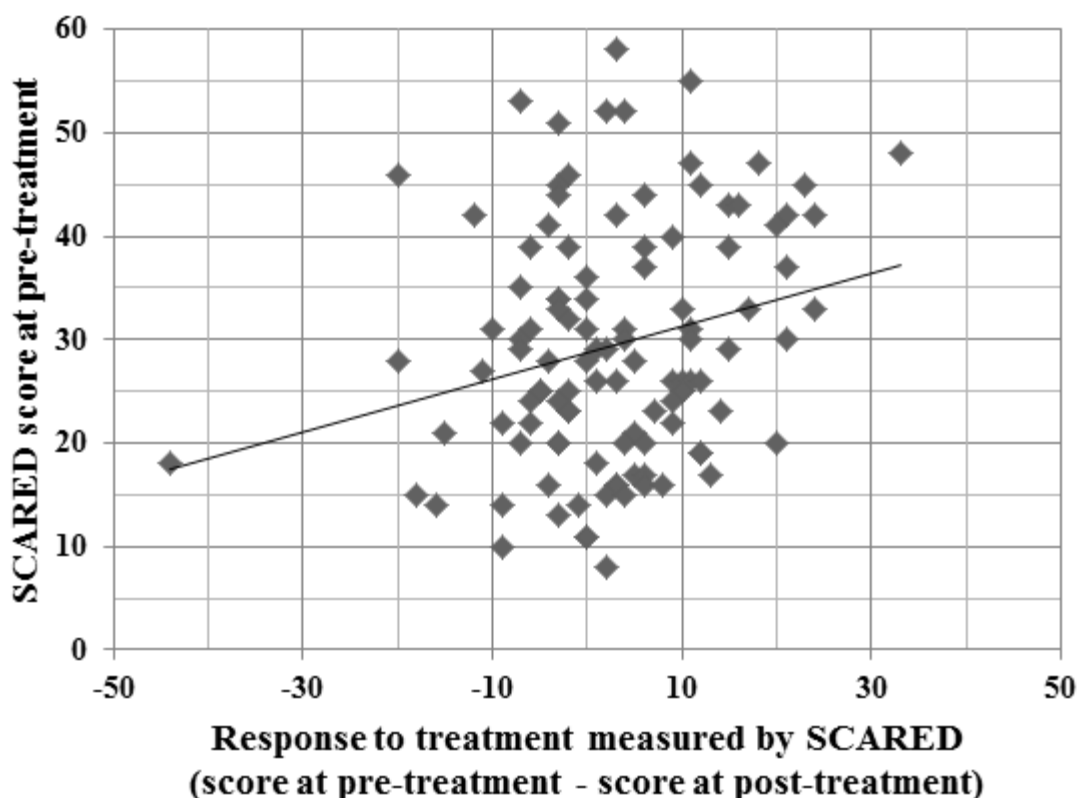


Figure 1. Response to treatment (i.e., pre-treatment SCARED score – pos-treatment SCARED score) as a function of anxiety base level (i.e., SCARED score at pre-treatment).

Table 3.

Predictors of response to treatment (measured by the primary outcome: comparison of pre- and post-treatment SCARED scores)

Variable interaction	<i>F</i>	<i>p</i> -value	Partial η^2
Response * Depression	.274	.602	.003
Response * ADHD	.613	.435	.006
Response * ODD	.112	.738	.001
Response * Conduct	1.283	.260	.012
Response * SCARED score at pre-treatment	6.861	.010	.059
Response * SCARED cutoff at pre-treatment	5.216	.024	.046
Response * Gender	.120	.729	.001
Response * Age Group	.223	.637	.002

Note. ADHD: attention deficit hyperactivity disorder; ODD: oppositional defiant disorder.

Discussion

The present study investigated the effectiveness of the FRIENDS for Life program in a community sample of children at risk for internalizing disorders living in the countryside areas of a small Brazilian town. A significant reduction in anxiety and depressive symptoms was found in the post-treatment assessment after the FRIENDS intervention. Our results are consistent with previous research assessing the prevention program in community settings in Australia (Barrett, & Turner, 2001; Farrell et al., 2005) and Scotland (Liddle, & Macmillan, 2010).

Our results on the main and secondary outcomes support the effectiveness of the CBT protocol tested with children at risk for internalizing disorders. Although effect sizes were small for the associations found, considering that our outcomes assessed mental problems symptomatology, small improvements are interesting and many times expected when dealing with a prevention program. Possibly positive and strength-based developmental outcomes could have offered a stronger effect size response to treatment outcomes. Effects of the FRIENDS for Life program on positive outcomes have been analyzed by previous research, such as effects on self-esteem in a universal sample (Stallard et al., 2007) and in follow-up studies (Stallard et al., 2008; Barrett et al., 2003).

A possible increase in the well-being of the children reinforces the importance of a community based program not only as a preventive intervention but also as a mental health promotion intervention. Future studies could benefit from assessing further positive and strength-based developmental outcomes in universal and selective prevention studies of the FRIENDS program, such as self-esteem and self-efficacy levels, happiness, subjective well-being, and/or satisfaction with life. Assessing these wider benefits of the FRIENDS program is important in order to have more data about the constructs that assist the coping with anxiogenic situations and to improve them.

The analysis of the SCARED and SCAS subscale scores revealed a significant improvement on generalized (GAD) and separation anxiety (SeAD) symptoms. The SCAS subscale obsessive-compulsive (OCD) has further demonstrated significant difference (the SCARED does not measure OCD symptoms). Although evidence from factorial analysis stimulate the use of total scores rather than subscale scores (DeSousa et al., 2014), this analysis is useful to provide data to compare our results to previous research. A previous study in Scotland has equally found improvement on the SCAS's separation anxiety and obsessive-compulsive subscales (Liddle, & Macmillan, 2010), suggesting that these might be the symptoms most susceptible to the program activities. However, they have also found differences on panic symptoms, which were not found on our results (Liddle, & Macmillan, 2010). In our sample, the baseline scores of panic symptoms were very low, considering that this is the SCAS's subscale with most items. This characteristic is expected in a community sample since panic is a less prevalent disorder in childhood as compared to other anxiety symptoms/diagnoses (American Psychiatric Association, 2013). Therefore differences between our results and results from the Scottish study (Liddle, & Macmillan, 2010) regarding panic symptoms might have been driven for the prevalence of the panic symptoms, although this hypothesis could not be examined since the previous study does not report baseline rates of subscale symptoms in the sample.

The consistent reduction in the GAD and SeAD scores in both SCAS and SCARED measures suggests the FRIENDS program activities work well for these symptoms. Furthermore, the reduction in the CDI scores reinforces the effectiveness of the program for general prevention on mental health internalizing symptoms. In regard to predictors of response to treatment, our results showed that children who presented higher pre-treatment anxiety symptoms had higher rates of improvement. In our sample, room for improvement seemed to be a valuable predictor of response, such as indicated

by previous research (Kley et al., 2012). It is possible that since a community sample was assessed in this study no severe cases of anxiety were included. Possibly severe cases would be the ones that do not respond to simple treatment (Liber et al., 2010). Future studies should focus on non-linear associations between pretreatment severity and response to treatment. Other variables tested as predictors were not associated with response to treatment, supporting evidence in the literature for no moderation role of comorbid symptoms (Ollendick et al., 2008; Olatunji et al., 2010) or demographic characteristics (Nilsen et al., 2013) in the treatment of children at risk childhood anxiety. Our results must be interpreted considering differences in the intervention protocol used here (i.e., FRIENDS for Life program) and in other CBT studies testing moderators of response to treatment (Kley et al., 2012; Liber et al., 2010; Ollendick et al., 2008; Olatunji et al., 2010; Nilsen et al., 2013), such as the fact that the FRIENDS program was applied in groups and delivered by trained teachers at schools.

The FRIENDS program offers children strategies to avoid unhelpful negative thinking and to take positive steps towards addressing anxiety provoking issues. It is important to assess the effectiveness of these strategies within different age ranges and different cultures. Specifically about Brazil, it has been noticed that the prevalence of psychiatric symptoms in Brazilian children was the highest among 44 different societies (Kieling et al., 2011), which might explain the very high prevalence of children at-risk for internalizing disorders in our sample (57.79%) when using CBCL's international cutoffs for screening participants. The high prevalence might also be related to interest of parents on participating in the research, i.e., among all children recruited in the first step, parents of children with more problems were more prone to accept the invitation and return the forms. Cost-effective alternatives for treating mental health problems are scarce in low- and middle-income countries (Rescorla et al., 2012), specially in the countryside areas of a small town in the border of Brazil's territory, bordering Uruguay. In this context, the present study offers important data endorsing the effectiveness of the FRIENDS program as a preventive intervention for youth at risk for these neglected populations.

The present study has some limitations that have to be acknowledged. First, we did not include a control group for comparing results of our intervention as it would be expected from a randomized control trial. Our study followed a pre-experimental design, which limits our ability to establish causal inference that the intervention caused the reduction in the anxiety and depression scores. Since there was no randomized

control group to formally prove the efficacy of the intervention, the pre-experimental design does not control for possible spontaneous reduction or remission of symptoms caused by the passing of time. Nonetheless, advisement was sustained not to use a control group due to ethical reasons previously described. Second, logistic and financial constraints prevented us from following these children after the intervention ended. Therefore, there were no follow-up data to evaluate if the response to treatment remains stable over time.

Despite these limitations, this study has some methodological strengths that can be highlighted. First, this was the first study to test the effectiveness of the FRIENDS for Life program as a community preventive intervention in a Brazilian setting. Second, it included the use of self-report scales to measure outcomes of internalizing dimensions of mental health (i.e., anxiety and depression), which are described as investigated more accurately through the report of the children themselves (Conolly, & Bernstein, 2007). Third, a large sample was recruited from a population basis of a small town in public municipal elementary schools. Fourth, the results in reduction of scores were consistent for two different measures internationally well-recognized (i.e., SCAS and SCARED) and there were no dropouts after the intervention started.

The study has also social strengths that should be taken into consideration when considering endeavors in mental health access. First, there was a high impact of this sort of intervention in a small town since it provided mental health care to a large percentage of the children population in the city over a short period, mobilizing parents, teachers, and the government city hall. Second, the program was delivered by trained teachers supervised by a clinical psychologist. This optimizes the distribution of the FRIENDS intervention in small towns and other places that do not have large array of clinicians available. Trained teacher leaders are a promising strategy to deliver school-based intervention programs, possibly integrating similar actions into classroom curriculum (Barrett, & Turner, 2001). It has also been reported that trained school nurses can effectively deliver the FRIENDS program (Stallard et al., 2007), which is a more feasible health professional possibility in schools considering that the Brazilian law in some states require the presence of a nurse in schools. Finally, the intervention took place in public schools, which in Brazil enrolls mostly low socioeconomic status students, who otherwise would have difficulty getting access to such program in the preventive mental health field.

Overall, our results support the effectiveness of the FRIENDS for Life program in a community sample of children at risk for internalizing disorders living in the countryside areas of a small Brazilian town. The intervention provided mental health care to a large percentage of the children population in the city over a short period, mobilizing parents, teachers, and the government city hall. Delivering an effective group mental health intervention with trained teachers as group leaders optimizes the distribution of the program in vulnerable contexts.

References

- Achenbach, T. (2015). *Achenbach System of Empirically Based Assessment DSM-5-Oriented Scales (DSM-5)*. Retrieved from <http://www.aseba.org/dsm5.html>.
- Achenbach, T.M., & Rescorla, L.A. (2001). *Manual for the ASEBA school-age forms & profiles: An integrated system of multi-informant assessment*. Burlington: Research Center for Children, Youth and Families, University of Vermont.
- American Psychiatric Association (2013). *Diagnostic and statistical manual of mental disorders, 5th ed.* Arlington: American Psychiatric Publishing,
- Barrett, P., & Farrell, L. (2007). Prevention of childhood emotional disorders: Reducing the burden of suffering associated with anxiety and depression. *Child and Adolescent Mental Health*, 12, 43-51.
- Barrett, P.M., Duffy, A.L., Dadds M.R., & Rapee, R.M. (2001). Cognitive-behavioral treatment of anxiety disorders in children: long-term (6-year) follow-up. *Journal of Consulting and Clinical Psychology*, 69,135-141.
- Barrett, P.M., Farrell, L.J., Ollendick, T.H., & Dadds, M. (2006). Long-term outcomes of an Australian universal prevention trial of anxiety and depression symptoms in children and youth: an evaluation of the Friends program. *Journal of Clinical Child & Adolescent Psychology*, 35, 403-411.
- Barrett, P.M., Sonderegger, R., & Xenos, S. (2003). Using ‘FRIENDS for Life’ to combat anxiety and adjustment problems among migrants to Australia: a national trial. *Clinical Child Psychology and Psychiatry*, 8, 241–260.
- Barrett, P.M., & Turner, C. (2001). Prevention of anxiety symptoms in primary school children: Preliminary results from a universal school-based trial. *British Journal of Clinical Psychology*, 40, 399–410.
- Becker, E., Becker, K., & Ginsburg, G. (2012). Modular cognitive behavioral therapy for youth with anxiety disorders: a closer look at the use of specific modules and

- their relation to treatment process and response. *School Mental Health*, 4, 243-253.
- Beesdo-Baum, K., & Knappe, S. (2012). Developmental epidemiology of anxiety disorders. *Child and Adolescent Psychiatric Clinics of North America*, 21, 457-478.
- Birmaher, B., Brent, D.A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a replication study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1230–1236.
- Birmaher, B., Khetarpal, S., Brend, D., Cully, M., Balach, L., & Kaufman, J. (1997). The Screen for Child Anxiety Related Emotional Disorders (SCARED): scale construction and psychometric characteristics. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 545–553.
- Bittner, A., Egger, H.L., Erkanli, A.E., Costello, J.E., Foley, D.L., & Angold, A. (2007). What do childhood anxiety disorders predict? *Journal of Child Psychology and Psychiatry*, 48, 1174–1183.
- Bolton, J.M., Cox, B.J., Affi, T.O., Enns, M.W., Bienvenu, O.J., & Sareen, J. (2008). Anxiety disorders and risk for suicide attempts: findings from the Baltimore Epidemiologic Catchment area follow-up study. *Depression and Anxiety*, 25, 477-481.
- Conolly, S.D., & Bernstein, G.A. (2007). Practice parameter for the assessment and treatment of children and adolescents with anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46, 267–283.
- Dadds, M.R., Holland, D., Barrett, P.M., Laurens, K., & Spence, S. (1999). Early intervention and prevention of anxiety disorders in children: Results at 2-year follow-up. *Journal of Consulting and Clinical Psychology*, 67, 145–150.
- Dadds, M.R., Spence, S.H., Holland, D.E., Barrett, P.M., & Laurens, K.R. (1997). Prevention and early intervention for anxiety disorders: A controlled trial. *Journal of Consulting and Clinical Psychology*, 65, 627–635.
- Davis, T.E., May, A., & Whiting, S.E. (2011). Evidence-based treatment of anxiety and phobia in children and adolescents: current status and effects on the emotional response. *Clinical Psychology Review*, 31, 592-602.
- DeSousa, D.A., Pereira, A.S., Petersen, C.S., Manfro, G.G., Salum, G.A., & Koller, S.H. (2014). Psychometric properties of the Brazilian-Portuguese version of the

- Spence Children's Anxiety Scale (SCAS): self- and parent-report versions. *Journal of Anxiety Disorders*, 28, 427-436.
- DeSousa, D.A., Petersen, C.S., Behs, R., Manfro, G.G., & Koller, S.H. (2012). Brazilian Portuguese version of the Spence Children's Anxiety Scale (SCAS-Brasil). *Trends in Psychiatry and Psychotherapy*, 34, 147-153.
- DeSousa, D.A., Salum, G.A., Isolan, L.R., & Manfro, G.G. (2013). Sensitivity and specificity of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a community-based study. *Child Psychiatry & Human Development*, 44, 391–399.
- DeSousa, D.A., Zibetti, M.R., Trentini, C.M., Koller, S.H., Manfro, G.G., & Salum, G.A. (2014). Screen for Child Anxiety Related Emotional Disorders: are subscale scores reliable? A bifactor model analysis. *Journal of Anxiety Disorders*, 28, 966-970.
- Farrell, L.J., Barrett, P.M., & Claassens, S. (2005). Community trial of an evidence-based anxiety intervention for children and adolescents (the FRIENDS program): a pilot study. *Behaviour Change*, 22, 236–248.
- Fisak, B.J. Jr., Richard, D., & Mann, A. (2011). The prevention of child and adolescent anxiety: a meta-analytic review. *Prevention Science*, 12, 255-268.
- Golfeto, J.H., Veiga, M.H., Souza, L., & Barbeira, C. (2002). Psychometrical properties of the Inventory of Child Depression (CDI) in a sample of children in Ribeirão Preto. *Revista de Psiquiatria Clínica*, 29, 66-70.
- Gouveia, V.V., Barbosa, G.A., Almeida, H.J., & Gaião, A.A. (1995). Children's depression inventory – CDI: adaptation study with students of João Pessoa. *Jornal Brasileiro de Psiquiatria*, 44, 345-349.
- Isolan, L., Salum, G.A., Osowski, A.T., Amaro, E., & Manfro, G.G. (2011). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED) in Brazilian children and adolescents. *Journal of Anxiety Disorders*, 25, 741-748.
- James, A.C., James, G., Cowdrey, F.A., Soler, A., & Choke, A. (2013). Cognitive behavioural therapy for anxiety disorders in children and adolescents. *The Cochrane Database of Systematic Reviews*, 6:CD004690.
- Kendall, P., Compton, S., Walkup, J., Birmaher, B., Albano, A.M., Sherrill, J., Ginsburg, G., Rynn, M., McCracken, J., Gosch, E., Keeton, C., Bergman, L., Sakolsky, D., Suveg, C., Iyengar, S., March, J., & Piacentini, J. (2010). Clinical

- characteristics of anxiety disordered youth. *Journal of Anxiety Disorders*, 24, 360–365.
- Kieling, C., Baker-Henningham, H., Belfer, M., Conti, G., Ertem, I., Omigbodun, O., Rohde, L.A., Srinath, S., Ulkuer, N., & Rahman, A. (2011). Child and adolescent mental health worldwide: evidence for action. *The Lancet*, 378, 1515-1525.
- Kley, H., Heinrichs, N., Bender, C., & Tuschen-Caffier, B. (2012). Predictors of outcome in a cognitive-behavioral group program for children and adolescents with social anxiety disorder. *Journal of Anxiety Disorders*, 26, 79–87.
- Kovacz, M.A. (1992). *Children's Depression Inventory manual*. North Tonawanda: Multi-Health Systems.
- Liber, J.M., van Widenfelt, B.M., van der Leeden, A.J., Goedhart, A.W., Utens, E.M., & Treffers, P.D. (2010). The relation of severity and comorbidity to treatment outcome with cognitive behavioral therapy for childhood anxiety disorders. *Journal of Abnormal Child Psychology*, 38, 683–694.
- Liddle, I., & Macmillan, S. (2010). Evaluating the FRIENDS programme in a Scottish setting. *Educational Psychology in Practice*, 26, 53–67.
- Lowry-Webster, H.M., Barrett, P.M., & Dadds, M.R. (2001). A universal prevention trial of anxiety and depressive symptomatology in childhood: preliminary data from an Australian study. *Behaviour Change*, 18, 36-50.
- Lowry-Webster, H.M., Barrett, P.M., & Lock, S. (2003). A universal prevention trial of anxiety symptomatology during childhood: results at one-year follow-up. *Behaviour Change*, 20, 25–43.
- Martinsen, K.D., Aalberg, M., Gere, M., & Neumer, S. (2010). Using a structured treatment, Friends for Life, in Norwegian outpatient clinics: results from a pilot study. *The Cognitive Behaviour Therapist*, 2, 10-19.
- Nilsen, T.S., Eisemann, M., & Kvernmo, S. (2013). Predictors and moderators of outcome in child and adolescent anxiety and depression: a systematic review of psychological treatment studies. *European Child & Adolescent Psychiatry*, 22, 69–87.
- Olatunji, B.O., Cisler, J.M., & Tolin, D.F. (2007). Quality of life in the anxiety disorders: a meta-analytic review. *Clinical Psychology Review*, 27, 572-581.
- Olatunji, B.O., Cisler, J.M., & Tolin, D.F. (2010). A meta-analysis of the influence of comorbidity on treatment outcome in the anxiety disorders. *Clinical Psychology Review*, 30, 642-654.

- Ollendick, T.H., Jarrett, M.A., Grills-Taquechel, A.E., Hovey, L.D., & Wolff, J.C. (2008). Comorbidity as a predictor and moderator of treatment outcome in youth with anxiety, affective, attention deficit/hyperactivity disorder, and oppositional/conduct disorders. *Clinical Psychology Review*, 28, 1447-1471.
- Paula, C.S., Duarte, C.S., & Bordin, I.A. (2007). Prevalence of mental health problems in children and adolescents from the outskirts of Sao Paulo City: treatment needs and service capacity evaluation. *Revista Brasileira de Psiquiatria*, 29, 11-17.
- Pine, D.S., Cohen, P., Gurley, D., Brook, J., & Ma, Y. (1998). The risk for early-adulthood anxiety and depressive disorders in adolescents with anxiety and depressive disorders. *Archives of General Psychiatry*, 55, 56-64.
- Ramsawh, H.J., Chavira, D.A., & Stein, M.B. (2010). Burden of anxiety disorders in pediatric medical settings: prevalence, phenomenology, and a research agenda. *Archives of Pediatrics and Adolescent Medicine*, 164, 965–972.
- Rescorla, L., Ivanova, M.Y., Achenbach, T.M., Begovac, I., Chahed, M., Drugli, M.B., Emerich, D.R., Fung, D.S., Haider, M., Hansson, K., Hewitt, N., Jaimes, S., Larsson, B., Maggiolini, A., Markovic, D., Mitrovic, D., Moreira, P., Oliveira, J.T., Olsson, M., Ooi, Y.P., Petot, D., Pisa, C., Pomalima, R., da Rocha, M.M., Rudan, V., Sekulic, S., Shahini, M., de Mattos Silveiras, E.F., Szivoczka, L., Valverde, J., Vera, L.A., Villa, M.C., Viola, L., Woo, B.S., & Zhang, E.Y. (2012). International Epidemiology of Child and Adolescent Psychopathology II: Integration and Applications of Dimensional Findings From 44 Societies. *Journal of the American Academy of Child and Adolescent Psychiatry*, 51, 1273-1283.
- Reynolds, S., Wilson, C., Austin, J., & Hooper, L. (2012). Effects of psychotherapy for anxiety in children and adolescents: a meta-analytic review. *Clinical Psychology Review*, 32, 251-262.
- 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, 13–19.
- Salum, G.A., DeSousa, D.A., Bosa, V.L., Schuch, I., Goldani, M., Isolan, L.R., Teche, S.P., Fleck, M.P., Rohde, L.A., & Manfro, G.G. (2014). Internalizing disorders and quality of life in adolescence: evidence for independent associations. *Revista Brasileira de Psiquiatria*, 36, 305-312.
- Spence, S.H. (1997). Structure of anxiety symptoms among children: a confirmatory factor-analytic study. *Journal of Abnormal Psychology*, 106, 280-297.

- Spence, S.H. (1998). A measure of anxiety symptoms among children. *Behaviour Research and Therapy*, 36, 545-566.
- Stallard, P., Simpson, N., Anderson, S., & Goddard, M. (2008). The FRIENDS emotional health prevention programme: 12 month follow-up of a universal UK school based trial. *European Child & Adolescent Psychiatry*, 17, 283–289.
- Stallard, P., Simpson, N., Anderson, S., Hibbert, S., & Osborn, C. (2007). The FRIENDS emotional health programme: initial findings from a school-based project. *Child and Adolescent Mental Health* 12, 32–37.
- Stallard, P., Skryabina, E., Taylor, G., Phillips, R., Daniels, H., Anderson, R., & Simpson, N. (2014). Classroom-based cognitive behaviour therapy (FRIENDS): a cluster randomised controlled trial to Prevent Anxiety in Children through Education in Schools (PACES). *The Lancet Psychiatry*, 1, 185-192.
- Tobon, J.I., Eichstedt, J.A., Wolfe, V.V., Phoenix, E., Brisebois, S., Zayed, R.S., & Harris, K.E. (2011). Group cognitive-behavioral therapy for anxiety in a clinic setting: does child involvement predict outcome? *Behavior Therapy*, 42, 306-322.
- Walkup, J.T., Albano, A.M., Piacentini, J., Birmaher, B., Compton, S.N., Sherrill, J.T., Ginsburg, G.S., Rynn, M.A., McCracken, J., Waslick, B., Iyengar, S., March, J.S., & Kendall, P.C. (2008). Cognitive behavioral therapy, sertraline, or a combination in childhood anxiety. *The New England Journal of Medicine*, 359, 2753–2766.
- Woodward, L.J., & Fergusson, D.M. (2001). Life course outcomes of young people with anxiety disorders in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 1086-1093.
- World Health Organization (2004). *Prevention of mental disorders: effective interventions and policy options*. Geneva: WHO.

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