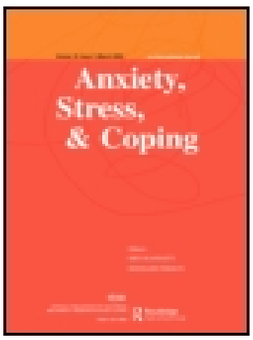

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Spanish version of *Super Skills for Life*: short- and long-term impact of a transdiagnostic prevention protocol targeting childhood anxiety and depression

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ABSTRACT

Background and Objectives: Super Skills for Life (SSL) is a transdiagnostic protocol based on cognitive–behavioral therapy designed for children with internalizing problems. The present study examined for the first time the impact of the Spanish-adapted version of SSL in reducing anxiety and depressive symptoms in Spanish-speaking children.

Design: A quasi-experimental design with one group, pre- and posttest, and 1-year follow-up was conducted. Analyses were performed on an intent-to-treat basis.

Methods: Participants were 119 children (42.9% female; 8–12 years) recruited from nine schools. Children completed assessments of anxiety, depression, emotional and behavioral difficulties, and the extent to which anxiety interfered with life before and after receiving the 8-session SSL, and 12-months post-intervention.

Results: Anxiety and depressive symptoms were significantly reduced at post-test and 12-month follow-up assessments. SSL also had positive impact on other symptoms assessed (e.g., interference of anxiety with children's life, peer problems, conduct problems). Overall, the long-term benefits of SSL appeared to be greater than the short-term benefits.

Conclusions: The results of this study suggest that SSL may be useful in reducing symptoms of anxiety and depression, and a broad range of other issues, in Spanish children.

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Anxiety; children; depression; prevention; Super Skills for Life

Introduction

Anxiety and depression in childhood

Depression and anxiety disorders are common mental health problems in children, with estimated prevalences of c. 2% and 5% respectively (Costello, Erkanli, & Angold, 2006; Rapee, 2018). Within school ages, c. 8–12 years seems especially important in the development of these disorders. Previous studies have reported the presence of elevated symptoms of anxiety and depression in children aged 8–12 (Bernaras, Jauregizar, Soroa, Ibabe, & de las Cuevas, 2013; Romero et al., 2010), as well as increases in the prevalence of both disorders between 9 and 11 years (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). Anxiety and depression symptoms and disorders are associated with distress and impairment in children's lives, and a higher risk of additional psychopathology. Additionally, both conditions tend to co-occur in youth; this co-occurrence is associated with several negative outcomes, such as greater distress, impairment, severity of symptoms, and worse treatment outcomes compared to one condition alone (Cummings, Caporino, & Kendall, 2014; Garber & Weersing, 2010). Further, in 8–12-year-olds, a strong association has been found between anxiety and depressive symptoms (Muris, Mannens, Peters, & Meesters, 2017), with

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co-occurrence rates of up to 82% (Romero et al., 2010). Targeting these symptoms is critical since they tend to remain relatively stable across childhood without intervention, and may be predictive of later depressive and/or anxiety disorders (e.g., Broeren, Muris, Diamantopoulou, & Baker, 2013; Keenan, Feng, Hipwell, & Klostermann, 2009; Long, Young, & Hankin, 2018).

Transdiagnostic approach to treatment of childhood anxiety and depression

In recent years, researchers have stressed the suitability of addressing comorbid anxiety and depression disorders in youth via transdiagnostic interventions, which address risk factors and underlying processes common to different conditions within a single protocol (Cummings et al., 2014; García-Escalera, Chorot, Valiente, Reales, & Sandín, 2016). Transdiagnostic approaches to treatment of comorbid anxiety and depression can be useful to enhance the response to treatment in these cases (Kennedy, Bilek, & Ehrenreich-May, 2018). Thus, considering this transdiagnostic approach may be warranted, given the substantial comorbidity between conditions and the associated negative impacts, as described above, such as greater severity of symptoms or worse treatment outcomes (e.g., Garber & Weersing, 2010). Overall, the literature supports the effectiveness of transdiagnostic treatments based on cognitive behavioral therapy (CBT) principles for comorbid anxiety and depression disorders, and suggests that such treatments may outperform disorder-specific CBT in reducing comorbid symptoms of childhood anxiety and depression (see García-Escalera, Chorot, et al., 2016).

Prevention of childhood anxiety and depression

In contrast, studies have emphasized the value of preventive childhood interventions to reduce the likelihood of early onset of anxiety and depressive disorders (Broeren et al., 2013; Kovacs, Obrosky, & George, 2016). In this regard, review studies of depression-preventive programs have reported promising effects in terms of reductions of depressive symptoms and incidence of episodes (Brunwasser & Garber, 2016; Garber, Webb, & Horowitz, 2009; Gladstone, Beardslee, & O'Connor, 2011). Similarly, anxiety prevention programs have demonstrated positive effects in reducing anxiety symptoms and risk of developing an associated disorder (Fisak, Richard, & Mann, 2011; Neil & Christensen, 2009; Teubert & Pinquart, 2011). However, it has been noted that prevention interventions for anxiety or depression in youth tend to demonstrate treatment effects (i.e., reduction in symptoms or disorders in the intervention group compared to controls), rather than true preventive effects (i.e., increases in symptoms in controls and diminished increase or no increase in the intervention condition). That is, most prevention studies would be more accurately categorized as early intervention-treatment studies (Horowitz & Garber, 2006; Nehmy, 2010). Additionally, the review by Nehmy (2010) concluded that there is a lack of conclusive evidence by which to recommend a particular prevention program, with the most promising programs being those based on CBT principles.

Transdiagnostic approach to the prevention of childhood anxiety and depression

Further, while prevention programs have generally been directed toward anxiety or depression specifically (Dozois, Seeds, & Collins, 2009), the results have been mixed regarding the effects of such specific interventions on secondary symptoms of anxiety or depression; strong effects have been reported, but also modest or no effects (see Garber & Weersing, 2010). Recent reviews have revealed positive but small effects of current anxiety and/or depression prevention interventions, including universal, indicated, and selective approaches (Ahlen, Lenhard, & Ghaderi, 2015; Werner-Seidler, Perry, Calear, Newby, & Christensen, 2017). Accordingly, as anxiety and depression tend to co-occur and share modifiable vulnerability and risk factors (e.g., stress, avoidance coping, maladaptive cognitions), it has been suggested that focus on a transdiagnostic approach to prevention (i.e., addressing shared vulnerability factors) of anxiety and depression, particularly based on CBT

principles, may improve the effectiveness, efficiency, and generalizability of preventive interventions (see Dozois et al., 2009; Nehmy, 2010).

Transdiagnostic treatments and prevention protocols of childhood anxiety and depression

Several CBT-based transdiagnostic protocols have been recently described. These were predominately characterized as treatments, which showed positive effects in reducing anxiety and depressive symptoms and disorders in school-aged children from 6 to 8 years old. Such protocols include the Brief Behavioral Therapy (BBT; Weersing et al., 2017), the Emotions Detective Treatment Protocol (Bilek & Ehrenreich-May, 2012), and the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders in Children (UP-C; Kennedy et al., 2018). In contrast, to date there is less research on CBT-based transdiagnostic interventions that aim to prevent anxiety and depression in children (García-Escalera, Valiente, et al., 2017). One of the few such protocols is the EMOTION: Coping Kids Managing Anxiety and Depression, which is a 20-session protocol that targets children with initial anxiety and depressive symptoms (Martinsen et al., 2019). Overall, findings suggest support for the effectiveness of these transdiagnostic treatments and prevention programs for the improvement of anxiety and depressive symptoms in school-aged children (e.g., Bilek & Ehrenreich-May, 2012; Martinsen et al., 2019; Weersing et al., 2017), endorsing the appropriateness of using protocols based on a transdiagnostic approach to address childhood anxiety and depression problems.

The Super Skills for Life program

A recent and promising transdiagnostic protocol for the prevention of childhood anxiety and depression is the *Super Skills for Life (SSL)* program (Essau & Ollendick, 2013). SSL is an eight-session, CBT-based, transdiagnostic intervention designed for children with symptoms of anxiety and/or depression. The program is intended to help children deal with and reduce such emotional difficulties, thereby reducing the likelihood of developing a depression and/or an anxiety disorder. SSL delivers a range of skills or strategies that have been suggested as relevant for the transdiagnostic prevention of anxiety and depression, given targeted shared vulnerability and risk factors, such as social skills training and behavioral activation (e.g., targeting factors such as withdrawal/avoidance), cognitive restructuring (e.g., addressing automatic and maladaptive thoughts), self-monitoring (e.g., addressing negative cognitive automated processing, subtle avoidance), and training in problem-solving skills and relaxation techniques (e.g., addressing stress impact and adaptive coping; see Dozois et al., 2009). Moreover, SSL is the first transdiagnostic CBT-based protocol that includes behavioral activation, social skills training, and video-feedback with cognitive preparation (Essau et al., 2014). Integrating these strategies may be beneficial in several ways: self-observation using video recordings with prior cognitive preparation may help children to obtain corrective feedback that improves negative self-perceptions; behavioral activation may improve worry, mood, and self-esteem by increasing involvement in reinforcing activities; and social-skills training may enhance children's social behaviors, which is important as impaired social competence is related to internalizing symptoms from early ages (Dozois et al., 2009; Essau et al., 2014; Huber, Plötner, & Schmitz, 2019).

In the original study by Essau et al. (2014), the SSL program demonstrated significant reductions in anxiety symptoms (i.e., overall anxiety, social phobia, generalized and separation anxiety) in a sample of Anglo-Saxon children, aged 8–10 years, with elevated symptoms of anxiety. Hyperactivity, and peer and conduct problems symptoms were also significantly reduced even though the program was not designed to target these issues. In the original study most of the significant improvements were found at six-month follow-up, except for separation anxiety symptoms, which showed an immediate reduction at post-test. Additionally, some changes as a function of gender were found in the intervention's effect on emotional and behavioral problems: for emotional symptoms (i.e., anxiety and depression), significant pre-to-follow-up reductions were found only in boys, while boys showed higher scores on conduct-problem symptoms after the intervention. Essau et al. (2014) did not use a

control condition; however, the symptom reductions suggest that SSL may benefit children who present symptoms in a wide range of problem areas. SSL has been translated and currently is being validated in several countries (e.g., Germany, Cyprus, Greece, Portugal, Turkey, and Poland).

The current study

In Spain, few studies have focused on early prevention of childhood anxiety and depression, despite the frequent co-occurrence of such disorders and elevated symptoms in Spanish children (Ezpeleta & Toro, 2009; Romero et al., 2010). In recent years, specific prevention programs and transdiagnostic protocols for anxiety and depression have been described, although these have focused primarily on pre-adolescent or adolescent populations (e.g., Balle & Tortella-Feliu, 2010; García-Escalera, Valiente, et al., 2017). To the best of our knowledge, in Spain, no data exist concerning the effectiveness of CBT-based transdiagnostic prevention programs specifically designed to address anxiety and depressive problems in school-aged children.

A quasi-experimental design with one group, pre- and posttest, and 1-year follow-up was conducted to examine for the first time the impact of the Spanish-adapted version of the transdiagnostic protocol Super Skills for Life (SSL) in a community sample of Spanish-speaking children aged 8–12 years with symptoms of anxiety and/or depression. Specifically, the primary goal was to examine changes from pre- to post-intervention and from pre-intervention to 12-month post-intervention in children's anxiety and depressive symptoms (primary outcomes). Additionally, following the original SSL study (Essau et al., 2014), a second goal was to examine the impact of SSL on the Spanish sample in terms of other secondary outcomes, namely reducing interference of anxiety with children's life (i.e., at home and outside home), reducing symptoms of emotional and behavioral difficulties (i.e., emotional symptoms, hyperactivity/inattention, peer and conduct problems), and improving prosocial behavior. Examining these secondary outcomes is of interest, as anxiety and depression in youth tend to co-occur with externalizing problems (e.g., conduct problems, hyperactivity/inattention; Costello, Egger, & Angold, 2005; Maughan, Collishaw, & Stringaris, 2013). Such problems have been linked to distress and interference in the child's life (e.g., school performance, interpersonal relationships; Garber & Weersing, 2010) and peer problems (Coplan & Ooi, 2013), and can be accompanied by a lack of prosocial behavior (Goodman, 2001). Furthermore, as the original SSL study examined changes as a function of gender and showed that emotional problems tended to be more pronounced in girls (e.g., Ortuño-Sierra, Fonseca-Pedrero, Paíno, & Aritio-Solana, 2014), a third goal of this study was to examine the changes of the intervention as a function of gender.

Finally, based on prior promising findings with SSL (Essau et al., 2014), we hypothesized there would be significant: (a) reductions in symptoms of primary outcomes, namely symptoms of anxiety (i.e., panic/significant somatic symptoms, generalized anxiety, separation anxiety, social anxiety, and school anxiety) and depression (i.e., dysphoria and negative self-esteem), and (b) positive improvements in the secondary outcomes analyzed, namely interference of anxiety with children's life (i.e., at home and outside home), symptoms of emotional and behavioral difficulties (i.e., emotional symptoms, hyperactivity/inattention, peer and conduct problems), and prosocial behavior at post-test and 12-month follow-up assessments compared to the pre-test baseline assessment. Additionally, changes as a function of gender were examined in order to try to replicate the initial SSL trial by Essau et al. (2014).

Methods

Study design and participants

In the current quasi-experimental design with one group, pre- and posttest, and 1-year follow-up, 119 children aged 8–12 years ($M = 9.39$; $SD = 1.26$) participated. All were recruited from nine schools located in the South-East region of Spain, who received the intervention in 2016. Participants were evaluated at baseline (pre-intervention), immediately after receiving the intervention, and 12-

months post-intervention (in 2017). Figure 1 shows the number and percentage of children who participated in the study by assessment. At the post-test, 112 children (94.1% retention) answered the survey. At the 12-month follow-up, 110 children (92.4% retention) received the assessment. Children who provided data at baseline, post-test, and 12-month follow-up were included in the analyses. Inclusion criteria were that the children: (a) were between 3rd and 6th grades of primary education and (b) reached or exceeded a cut-off point of four on the Emotional Symptoms (i.e., anxiety and depression) subscale of the Strengths and Difficulties Questionnaire – parent version (SDQ-P, Goodman, 1997), which indicates the presence of pronounced symptoms, and the risk of anxiety and/or depression disorders (Goodman, 2001). The exclusion criteria were that the children (a) had a psychiatric diagnosis already established or (b) were receiving pharmacological or psychological treatment for their psychological problems.

SSL intervention

The original version of the program was provided by the SSL team at the University of Roehampton, London, United Kingdom. Two bilingual translators from the Miguel Hernández University, Spain, translated the original program into European-Spanish, and checked the translation by comparing English and Spanish versions. To verify that the program was adequately adapted to the Spanish culture and that Spanish children understood it well, it was pilot-tested at the authors' institution on 8 children who voluntarily participated (age 8–12 years). The Spanish research team in charge of adapting the program was advised and guided throughout the process of cultural adaptation and implementation by one of the main developers of the SSL (Dr. Cecilia A. Essau).

Prior to the intervention, program facilitators (six psychologists, each with a master's degree in child and adolescent psychology; all females, mean age 26 years) were trained by the directors of the Spanish research team via an intensive one-day workshop that included a presentation of the program, its procedure and objectives, as well as a review of each session's contents (e.g., aims, revision and practice of exercises). Additionally, during the implementation, there was a brief meeting

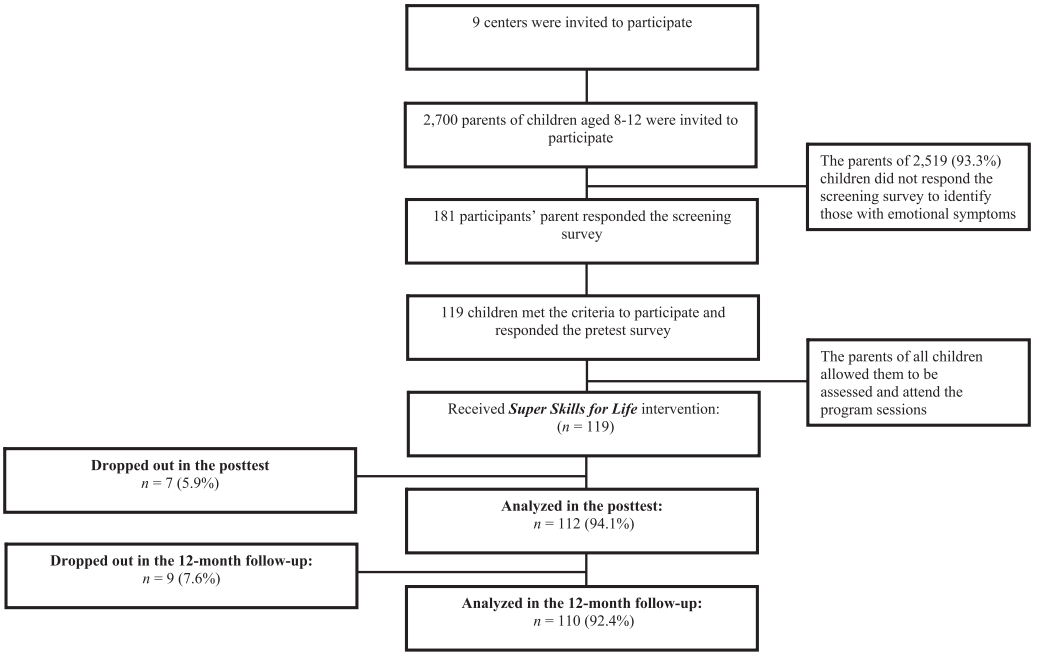

Figure 1. Progress of children participating in the trial. Children who were not followed-up dropped out of the study, were absent at the time of the follow-up session, or failed to respond to the questionnaire for unknown reasons.

Table 1. Description of the *Super Skills for Life (SSL)* program.

Duration	Eight 45-minute sessions, once a week
Session	Objective
1	To introduce the concepts of anxiety and self-esteem, and to teach children to recognize in which situations they feel anxiety and how to improve their self-esteem
2	To introduce the concept of emotions, to teach children to recognize different emotions in oneself and in others through facial expression and body posture, to train children to assess and monitor the subjective degree of well-being or discomfort, and to understand that being active helps them feel good and what activities can make them feel good
3	To introduce the concept of thoughts, to teach children to differentiate the thoughts that help them feel good from those that help them feel bad, to detect and change maladaptive thoughts, and how to develop skills by planning small steps and practice
4	To teach children the relationship between thoughts, emotions and behavior, and to recognize and differentiate their body signals when they feel anxious (e.g., rapid breathing, sweaty hands, and muscular tension) and relaxed
5	To teach children the benefits of relaxation and to train them in specific relaxation strategies by practice (e.g., slow and deep breathing, and progressive muscle relaxation)
6	To teach children in social skills necessary to interact effectively with others and practice them through role play (e.g., learning how to start and maintain conversations, how and when to join or leave a group conversation, including basic nonverbal skills such as eye contact or interpersonal distance)
7	To teach children how to solve successfully social problems. Steps for problem solving are taught and their application to social problems raised by children is practiced
8	To conduct a review of all learned skills
Methodology	Skills are taught to children through adapted explanations and examples, readings, games, individual and group activities, role-playings, exposures to social situations being video-taped (e.g., acting through role-playings), analysis and feedback of video-tapings, and homework to practice the skills between sessions

with the facilitators each week to review the functioning of the groups, review the next session, and deliver materials for the next session, to ensure implementation fidelity.

SSL was carried out in the afternoon at children's schools. The sessions took place over eight weeks and were delivered to small groups of 6–8 children. Homework/practice to be completed between sessions was assigned as part of the group intervention. Table 1 presents the description of the SSL program, including the objectives addressed throughout the sessions.

During the sessions, facilitators continuously reinforced the children's positive behavior (e.g., attendance and participation, doing/trying homework) through social reinforcement, stickers of different colors and shapes or putting colorful stamps on the activity sheets. Parents received weekly information via email about the sessions (i.e., objectives addressed, exercises practiced, guidelines and assigned homework for the next session), and feedback on the improvements observed in their children after participating in the program.

Measures

Primary outcomes

Depression. The Child Depression Inventory (CDI; Kovacs, 1992) is a self-report questionnaire that assesses depressive symptoms experienced in the past two weeks in children aged 7–17. Twenty-seven items assess two dimensions: dysphoria (17 items) and negative self-esteem (10 items). Ratings from 0 to 2 indicate symptom severity. The CDI total score is obtained by summing all the items (range: 0–54). Higher scores indicate more severe symptoms of depression. Ordinal alpha for the current sample was .91. Thus, the CDI total score (named "depression" in this study), and dysphoria and negative self-esteem subscales were considered outcomes in the current study.

Anxiety. The Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher et al., 1999) is a 41-item self-report questionnaire that measures the frequency with which symptoms of the most common anxiety disorders occur in children, via five subscales: panic disorder or significant somatic symptoms, generalized anxiety, separation anxiety, social anxiety, and school anxiety. Responses are made via a 3-point rating scale, ranging from 0 (never or almost never) to 2 (often). The total score

is obtained by summing scores for each subscale (scores range from 0 to 82). Higher scores denote more severe symptoms. Ordinal alpha for SCARED in the current sample was .92.

Thus, the SCARED total score (named "anxiety" in this study) and the five SCARED subscales were considered outcomes in the current study.

Secondary outcomes

Interference of anxiety with children's life. The *Child Anxiety Life Interference Scale* (CALIS-C; Lyneham et al., 2013) is a 9-item self-report measure that assesses life interference and impairment associated with anxiety in the child's school, social, and home/family settings. The items are grouped into two subscales: at home and outside home interference. The CALIS-C total score may be obtained by summing all items (scores range from 0 to 36). Items are rated on a five-point Likert scale: not at all (0), only a little (1), sometimes (2), quite a lot (3), and a great deal (4). Higher scores reflect greater anxiety-related interference. The original version of CALIS-C has good psychometric properties and internal consistency (.84). Ordinal alpha was .91 for this study. The CALIS-C total score, as well as its two subscales were considered secondary outcomes in the current study.

Emotional and behavioral difficulties and prosocial behavior. The *Strengths and Difficulties Questionnaire* (SDQ; Goodman, 1997) is a brief self-report questionnaire that measures prosocial behavior and general difficulties in children aged 4–17 years. It consists of 25 items divided among five subscales, with five items per subscale (scores range from 0 to 10): emotional symptoms (i.e., anxiety and depression), conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior. Response options are 0 = *not true*, 1 = *somewhat true*, and 2 = *certainly true*. The total difficulties score is obtained by summing all subscales except the prosocial behavior subscale (scores range from 0 to 40). Higher scores reflect greater general problematic attributes, except for the prosocial behavior subscale, which is scored inversely. Ordinal alpha of the SDQ was .77 in this study. For this study, the total difficulties score and the SDQ subscales were considered secondary outcomes.

Participant selection measure

The *Strengths and Difficulties Questionnaire – Parent version* (SDQ-P; Goodman, 1997) was only used for study participant selection purposes; thus, the results of this measure were not included in the trial analyses. Children were selected to participate based on their parents' ratings on the SDQ-P, considered one of the study selection criteria, as explained above in the Study Design and Participants section. Parents choose the response to each item based on their child´s behavior over the last 6 months. The number of items, scales, and rating ranges are the same as in the self-reported version. Only the emotional symptoms subscale score was analyzed for participant selection. The original 3-band categorization was used (www.sdqinfo.com). A total score between 0 and 3 is considered normal, a score of 4 represents a limit, and a score between 5 and 10 is considered abnormal or pathological. This subscale is a reliable measure of anxiety and depressive symptoms, whereby high scores (i.e., cut-off scores of 4–5) are associated with increased risk of developing a disorder (Goodman, 2001). Cut-off scores $\geq$4 was used as a selection criterion. Ordinal alpha of the SDQ-P was .72.

Procedure

The Ethics Committee of Miguel Hernández University (Spain) approved the study (reference DPS.MO.02.14). Nine primary schools distributed throughout the province of Alicante, southeast Spain, were invited and agreed to participate in the study. Schools were selected based on their availability and their representativeness of the socioeconomic structure of the Spanish population. Each school principals' consent was obtained after inviting their school to participate in the study by means of a letter. A meeting was held with each principal to explain in more detail the aims and procedure of the investigation. No schools were excluded as already undertaking activities related to the study's aims. Parents

of children aged 8–12 years were informed about the study through a letter sent by their children's schools and informed that confidentiality of the data would be maintained. Interested parents voluntarily accessed an online form, via which they provided sociodemographic details about themselves and their children, and completed the SDQ-P (Goodman, 1997). Children were selected based on SDQ-P emotional symptoms subscale scores (scores ≥4) and the other inclusion/exclusion criteria described above. Parents' informed assent for their selected children to participate was obtained (98.4% acceptance) in meetings held in each school, which presented details of the study and the SSL program.

Children who participated completed a set of self-report measures (i.e., CDI, SCARED, CALIS-C, and SDQ) before the first session (pre-test), at the end of the last session (post-test) of SSL, and 1-year after receiving the intervention. Data were collected via paper-and-pencil questionnaires by the same facilitators who delivered the program to their assigned groups. Facilitators read each item slowly and clearly, while the children completed them individually. Additionally, a member of the research team was always present as support and to assisting with individual child´s questions. Children were informed that they could stop participating in the program whenever they wanted since their participation was voluntary, and that their answers to the questionnaires would be kept confidential. In this study there was no control condition and all youth who participated received the intervention.

Statistical analysis

Analyses were performed using SPSS v.24. The individual was the prior unit of analysis in this trial, and center was controlled in all of the analyses. Before analyzing the efficacy of the intervention, we used logistic regression to test whether attrition was related to sociodemographic variables or any of the baseline measures. Descriptive statistics were used to describe the sample of this trial. Differences in sociodemographic and main outcomes between boys and girls were studied to compare the changes of the intervention by gender. Effect sizes of gender differences were calculated using Cohen's *d*, and differences were controlled in the analyses.

The efficacy of the intervention at post-test and 12-month follow-up was assessed using generalized estimation equations (GEE), adjusting for longitudinal repeated measures on participants clustered in centers (Fitzmaurice, Laird, & Ware, 2004; Liang & Zeger, 1986). GEE is one of the most widely used procedures to test the efficacy of interventions. Specifically, GEE allows controlling the internal measurements of the subject to estimate the changes produced over time through a variance/covariance matrix, it increases the power of analyses with a large number of repeated measures in small sample sizes, controls the correlations between responses when the participants are grouped in clusters (e.g., schools), estimates the size of the variation in the outcome variables over time, and allows the use of incomplete databases in the follow-up measures, without excluding the participants from the analyses (El Rafihi-Ferreira, Silvares, Asbahr, & Ollendick, 2018; Liang & Zeger, 1986).

Four prespecified hypotheses were tested: (1) a contrast compared post-test and 12-month post-intervention changes with baseline scores (intragroup comparison), (2) a contrast compared post-test and 12-month post-intervention changes with baseline scores only for girls (intragroup comparsion), (3) a contrast compared post-test and 12-month post-intervention changes with baseline scores only for boys (intragroup comparsion), and (4) a contrast compared post-test and 12-month post-intervention scores between girls and boys to identify whether the program had different impact by gender (intergoup comparison). Adjusted odds ratios (AORs) and 95% confidence intervals were obtained. Analyses were adjusted for age, gender, and school. Gender differences at baseline were controlled for intergroup comparisons (prespecified Hypothesis 4). Analyses were performed using an intent-to treat perspective, in which data from all participants were included, regardless of the number of sessions and data-collection sessions they attended. Moreover, in the current study we studied the progression (at post-test and 12-month follow-up) of children who presented clinically significant emotional symptoms (i.e., anxiety and/or depression) at baseline to test the impact of SSL on reducing clinically significant emotional symptoms in this subsample. The clinically significant emotional symptoms range was set as a cutoff score at or above .25 for SCARED total score and at 19 or above for CDI total score. The

cutoffs were selected as the most commonly used in the literature (Canals, Hernández-Martínez, Cosi, & Domènech, 2012; Figueras, Amador-Campos, Gómez-Benito, & del Barrio, 2010).

Results

Figure 1 illustrates the flow of children who enrolled and participated in the study. The return rates were 94.1% and 92.4% at the post-test and 12-month follow-up, respectively (Figure 1). Results of the logistic regression indicated that dropout (yes/no) was unrelated to sociodemographic variables (i.e., age and gender) and main outcomes (including depression and anxiety symptoms). On average, children's attendance at SSL sessions was high ($M = 7.26$; SD = 1.13; range 3–8). Of the children who received the intervention, 84% ($n = 100$) attended 7 or 8 sessions (almost all or all sessions).

Sample characteristics

At baseline, 51 of the participants were females (42.9%). Of the participants, 42 (35.3%) were 8 years old, 23 (19.1%) were 9 years old, 24 (20.2%) were 10 years old, 26 (21.9%) were 11 years old, and 4 (3.5%) were 12 years old. All participants were Spanish-speaking children, of whom most were born in Spain (96.8%), one in the United States (0.8%), one in Austria (0.8%), one in Poland (0.8%), and one in Russia (0.8%). Middle and high socioeconomic class predominated in this sample. The mean number of siblings was 1.11 (SD = .91). The *T*-test for independent samples indicated that there were no gender differences for sociodemographic variables or analyzed outcomes, except that girls were more likely to report emotional symptoms than boys ($p = .02$; $d = .10$) and boys were more likely to present conduct problems than girls ($p = .01$; $d = .60$). Tables 2 and 3 provide the baseline, post-intervention, and 12-month post-intervention marginal means for primary and

Table 2. Estimated marginal mean of the primary outcomes between pre-, post- and 12-months follow-up by gender.

Outcomes	Sample	Pre-intervention Mean (95% CI)	Post-intervention Mean (95% CI)	12-month follow-up Mean (95% CI)
Depression (CDI total score)	Girls	11.61 (10.86, 12.37)	8.48 (6.91, 10.06)	7.50 (6.10, 8.90)
	Boys	11.08 (10.44, 11.71)	9.80 (8.42, 11.19)	8.04 (6.87, 9.21)
	Total	11.35 (10.85, 11.84)	9.14 (8.11, 10.18)	7.77 (6.87, 8.68)
Dysphoria	Girls	7.34 (6.85, 7.83)	5.22 (4.28, 6.16)	4.63 (3.62, 5.63)
	Boys	6.81 (6.40, 7.22)	5.86 (4.99, 6.72)	4.95 (4.16, 5.74)
	Total	7.12 (6.81, 7.44)	5.56 (4.91, 6.20)	4.79 (4.15, 5.43)
Negative self-esteem	Girls	4.28 (3.96, 4.60)	3.27 (2.48, 4.05)	2.88 (2.33, 3.42)
	Boys	4.09 (3.81, 4.73)	3.83 (3.27, 4.40)	3.10 (2.62, 3.57)
	Total	4.22 (4.01, 4.43)	3.58 (3.09, 4.08)	2.98 (2.62, 3.34)
Anxiety (SCARED total score)	Girls	27.13 (26.20, 28.07)	24.70 (22.32, 27.07)	21.82 (18.39, 25.25)
	Boys	27.50 (26.72, 28.29)	25.70 (23.50, 27.90)	23.29 (20.84, 25.74)
	Total	27.32 (26.71, 27.93)	25.20 (23.58, 26.82)	22.55 (20.45, 24.66)
Panic	Girls	6.03 (5.60, 6.36)	5.76 (4.81, 6.72)	4.89 (3.70, 6.09)
	Boys	6.21 (5.90, 6.52)	6.08 (5.19, 6.97)	4.86 (3.99, 5.73)
	Total	6.12 (5.89, 6.35)	5.92 (5.27, 6.57)	4.87 (4.14, 5.61)
Generalized Anxiety	Girls	6.57 (6.18, 6.96)	5.54 (4.76, 6.32)	6.09 (5.12, 7.06)
	Boys	6.64 (6.32, 6.97)	6.62 (5.87, 7.37)	6.62 (5.95, 7.29)
	Total	6.61 (6.35, 6.86)	6.08 (5.54, 6.62)	6.35 (5.77, 6.94)
Separation Anxiety	Girls	6.77 (6.45, 7.09)	6.80 (5.95, 7.66)	5.53 (4.45, 6.22)
	Boys	7.09 (6.79, 7.38)	5.78 (5.07, 6.50)	5.36 (4.60, 6.12)
	Total	6.93 (6.72, 7.14)	6.29 (5.73, 6.85)	5.34 (4.76, 5.93)
Social Anxiety	Girls	6.05 (5.76, 6.35)	5.28 (4.54, 6.03)	4.82 (3.89, 5.75)
	Boys	5.99 (5.73, 6.26)	5.70 (4.98, 6.43)	5.42 (4.53, 6.30)
	Total	6.02 (5.83, 6.22)	5.49 (4.97, 6.01)	5.12 (4.48, 5.76)
School Anxiety	Girls	1.67 (1.51, 1.82)	1.21 (.88, 1.54)	.62 (.28, .96)
	Boys	1.54 (1.41, 1.68)	1.50 (1.14, 1.86)	1.03 (.72, 1.33)
	Total	1.60 (1.50, 1.70)	1.35 (1.11, 1.60)	.82 (.59, 1.05)

Note: CI = Confidence Interval. CDI = Child Depression Inventory. SCARED = Screen for Child Anxiety Related Emotional Disorders. Higher scores denote greater symptomatology.

Table 3. Estimated marginal mean of the secondary outcomes between pre-, post- and 12-months follow-up by gender.

Outcomes	Sample	Pre-intervention Mean (95% CI)	Post-intervention Mean (95% CI)	12-month follow-up Mean (95% CI)
Anxiety Life Interference (CALIS-C total score)	Girls	10.72 (9.56, 11.89)	8.10 (6.05, 10.15)	5.98 (4.11, 7.84)
	Boys	10.82 (9.71, 11.92)	8.90 (6.41, 11.39)	6.48 (4.68, 8.27)
	Total	10.77 (9.98, 11.57)	8.50 (6.89, 10.11)	6.23 (4.95, 7.51)
Ouside home	Girls	4.89 (4.14, 5.64)	3.14 (2.01, 4.27)	2.29 (1.22, 3.36)
	Boys	5.25 (4.48, 6.02)	4.16 (2.74, 5.57)	2.69 (1.65, 3.74)
	Total	5.07 (4.54, 5.60)	3.65 (2.74, 4.55)	2.56 (1.82, 3.30)
Inside home	Girls	5.62 (5.14, 6.11)	4.80 (3.89, 5.72)	3.57 (2.52, 4.63)
	Boys	5.55 (5.11, 5.99)	4.64 (3.56, 5.72)	3.55 (2.80, 4.44)
	Total	5.59 (5.26, 5.91)	4.72 (4.02, 5.43)	3.60 (2.93, 4.26)
Total difficulties (SDQ total score)	Girls	13.56 (13.05, 14.07)	11.20 (9.82, 12.58)	10.27 (8.91, 11.64)
	Boys	13.36 (12.95, 13.77)	13.24 (12.18, 14.30)	10.27 (8.91, 11.64)
	Total	13.46 (13.14, 13.78)	12.22 (11.35, 13.09)	10.42 (9.52, 11.33)
Emotional symptoms	Girls	3.75 (3.48, 4.02)	2.69 (2.10, 3.29)	2.32 (1.63, 3.01)
	Boys	3.32 (3.09, 3.56)	3.22 (2.73, 3.72)	2.57 (2.11, 3.03)
	Total	3.54 (3.36, 3.71)	2.96 (2.58, 3.34)	2.44 (2.04, 2.85)
Conduct problems	Girls	2.82 (2.61, 3.04)	2.41 (1.85, 2.98)	2.37 (1.88, 2.86)
	Boys	3.22 (3.01, 3.43)	3.21 (2.75, 3.67)	2.43 (2.02, 2.85)
	Total	3.02 (2.87, 3.17)	2.81 (2.45, 3.18)	2.40 (2.08, 2.72)
Hyperactivity/Inattention	Girls	4.48 (4.28, 4.67)	3.82 (3.21, 4.43)	4.35 (3.83, 4.88)
	Boys	4.45 (4.30, 4.60)	4.46 (4, 4.92)	3.94 (3.34, 4.53)
	Total	4.46 (4.34, 4.59)	4.14 (3.76, 4.52)	4.14 (3.75, 4.54)
Peer relationship problems	Girls	2.50 (2.27, 2.72)	2.26 (1.73, 2.78)	1.22 (.82, 1.63)
	Boys	2.35 (2.18, 2.52)	2.33 (1.91, 2.75)	1.61 (1.21, 2.02)
	Total	2.42 (2.29, 2.56)	2.29 (1.96, 2.63)	1.42 (1.13, 1.70)
Prosocial behavior	Girls	8.04 (7.87, 8.21)	8.05 (7.58, 8.53)	8.42 (7.95, 8.88)
	Boys	8.02 (5.59, 10.41)	7.81 (7.41, 8.22)	8.13 (7.64, 8.62)
	Total	8.03 (7.91, 8.15)	7.93 (7.62, 8.25)	8.27 (7.94, 8.61)

Note: CI = Confidence Interval. CALIS-C = Child Anxiety Life Interference Scale. SDQ = Strengths and Difficulties Questionnaire. Higher scores denote greater symptomatology; except for Prosocial behavior (higher scores indicate more prosocial behaviors).

secondary outcomes (respectively) by gender and overall. At baseline, a total of 77 children presented clinically significant symptoms of anxiety and/or depression (65.3%); the remainder of the children were symptomatic, but exhibited scores below the set cutoff points.

The primary goal of the current study was to test the impact of SSL in reducing symptoms of anxiety and depression (primary outcomes) in Spanish-speaking children, as well as the intervention's impact on a range of secondary outcomes as a secondary goal. Tables 4 and 5 show the impact of the program on primary and secondary outcomes (respectively) post-intervention and at the12-month follow-up.

Changes from pre-intervention to post-intervention

GEE analyses indicated that there were improvements in 10 of the 18 outcomes at post-test compared to pre-test in the whole sample.

Primary outcomes

After the intervention, children reported significantly lower scores for measures of depression ($p = .001$), dysphoria ($p = .001$), negative self-esteem ($p = .04$), generalized anxiety ($p = .03$), and separation anxiety ($p = .02$) compared to baseline. Anxiety and social anxiety decreased at post-test compared to baseline, although the effect approached significance ($ps = .08$). In addition, no significant reductions in scores were found for panic/significant somatic symptoms ($p = .67$) and school anxiety ($p = .11$) at post-test (Table 4).

Secondary outcomes

Compared to baseline, children reported significantly lower scores for measures of interference of anxiety with children's life ($p = .03$), both inside home ($p = .04$) and outside home ($p = .02$)

Table 4. Generalized linear models for repeated measures and effect size estimates for the intervention's impact on primary outcomes in the posttest and 12-month follow-up (compared to the baseline) in general and by gender.

Outcomes	Sample	Post-intervention		12-month follow-up	
		AOR (95% CI)	*P* value	AOR (95% CI)	*P* value
Depression (CDI total score)	Girls	.05 (.009, .36)	.002	.01 (.003, .09)	≤.001
	Boys	.16 (.03, .83)	.02	.03 (.007, .12)	≤.001
	Total	.12 (.03, .44)	.001	.03 (.01, .09)	≤.001
Dysphoria	Girls	.15 (.04, .47)	.001	.06 (.01, .23)	≤.001
	Boys	.25 (.09, .71)	≤.001	.09 (.03, .24)	≤.001
	Total	.22 (.10, .49)	.001	.10 (.04, .22)	≤.001
Negative self-esteem	Girls	.36 (.14, .90)	.03	.24 (.12, .50)	≤.001
	Boys	.68 (.34, 1.35)	.26	.30 (.16, .54)	≤.001
	Total	.55 (.31, .99)	.04	.29 (.18, .46)	≤.001
Anxiety (SCARED total score)	Girls	.08 (.006, 1.20)	.08	.005 (.004, .26)	.005
	Boys	.23 (.02, 2.56)	.23	.02 (.002, .29)	.004
	Total	.12 (.02, .69)	.08	.009 (.001, .09)	.009
Panic	Girls	.76 (.26, 2.21)	.63	.32 (.08, 1.26)	.10
	Boys	1.05 (.40, 2.72)	.91	.31 (.12, .78)	.01
	Total	.82 (.40, 1.67)	.67	.28 (.12, .63)	.002
Generalized Anxiety	Girls	.35 (.14, .87)	.02	.61 (.18, 2.03)	.42
	Boys	1.04 (.45, 2.43)	.92	1.04 (.48, 2.27)	.90
	Total	.36 (.14, .87)	.03	.61 (.18, 2.03)	.61
Separation Anxiety	Girls	.94 (.40, 2.63)	.85	.23 (.08, .68)	.008
	Boys	.37 (.17, .81)	.01	.24 (.10, .55)	.001
	Total	.48 (.26, .89)	.02	.20 (.10, .39)	≤.001
Social Anxiety	Girls	.46 (.20, 1.05)	.10	.29 (.09, .85)	.02
	Boys	.70 (.32, 1.54)	.37	.52 (.20, 1.34)	.18
	Total	.60 (.34, 1.06)	.08	.42 (.20, .87)	.02
School Anxiety	Girls	.63 (.42, .93)	.02	.35 (.22, .54)	≤.001
	Boys	.85 (.56, 1.27)	.43	.53 (.37, .75)	≤.001
	Total	.80 (.60, 1.05)	.11	.47 (.35, .63)	≤.001

Note: AOR = Adjusted Odds Ratio. CI = Confidence Interval. CDI = Child Depression Inventory. SCARED = Screen for Child Anxiety Related Emotional Disorders. Each analysis was adjusted for the baseline measure, gender, age and school-level.

interference, total difficulties ($p = .02$), and emotional symptoms ($p = .02$) at post-test. No significant reductions in scores were found for hyperactivity/inattention ($p = .16$), conduct problems ($p = .39$), peer relationship problems ($p = .25$), and prosocial behavior ($p = .56$) after the intervention (Table 5).

Changes from pre-intervention to 12-month follow-up

Twelve months later, GEE analyses indicated that there were improvements in 15 of the 18 outcomes compared to pre-test in the whole sample (Tables 4 and 5).

Primary outcomes

Compared to the pre-test, children reported significantly lower scores for measures of depression ($p \leq .001$), dysphoria ($p \leq .001$), negative self-esteem ($p \leq .001$), anxiety ($p = .009$), panic/significant somatic symptoms ($p = .002$), separation anxiety ($p \leq .001$), social anxiety ($p = .02$), school anxiety ($p \leq .001$) 12-months after the intervention (Table 4). Only reductions in generalized anxiety symptoms were not significant ($p = .61$) at the 12-month post-intervention.

Secondary outcomes

Compared to the pre-test, children reported significantly lower scores for measures of interference of anxiety with children's life ($p \leq .001$; both inside home and outside home interference, $p \leq .001$ in each case), total difficulties ($p \leq .001$), emotional symptoms ($p = .001$), conduct problems ($p = .001$), and peer relationship problems ($p \leq .001$) at the 12-month post-intervention (Table 5). The only

Table 5. Generalized linear models for repeated measures and effect size estimates for the intervention's impact on secondary outcomes in the posttest and 12-month follow-up (compared to the baseline) in general and by gender.

Outcomes	Sample	Post-intervention		12-month follow-up	
		AOR (95% CI)	*P* value	AOR (95% CI)	*P* value
Anxiety Life Interference (CALIS-C total score)	Girls	.07 (.007, .74)	.02	.01 (.001 .12)	≤.001
	Boys	.16 (.01, 2.53)	.19	.01 (.002, .12)	≤.001
	Total	.11 (.01 .88)	.03	.01 (.001, .06)	≤.001
Outside home	Girls	.17 (.03, .76)	.02	.07 (.01, .37)	.002
	Boys	.48 (.09, 2.39)	.37	.12 (.03, .46)	.002
	Total	.86 (.07, .86)	.02	.08 (.01, .24)	≤.001
Inside home	Girls	.44 (.17, 1.14)	.09	.12 (.03, .49)	.003
	Boys	.37 (.11, 1.23)	.10	.13 (.05, .35)	≤.001
	Total	.41 (.17, .97)	.04	.13 (.06, .31)	≤.001
Total difficulties (SDQ total score)	Girls	.10 (.01, .47)	.004	.03 (.007, .18)	≤.001
	Boys	.73 (.22, 2.38)	.60	.05 (.01, .18)	≤.001
	Total	.33 (.12, .87)	.02	.05 (.01, .13)	≤.001
Emotional symptoms	Girls	.34 (.17, .68)	.002	.23 (.10, .54)	.001
	Boys	.59 (.33, 1.05)	.07	.30 (.17, .53)	≤.001
	Total	.59 (.38, .93)	.02	.35 (.21, .56)	.001
Conduct problems	Girls	.66 (.33, 1.30)	.23	.63 (.36, 1.12)	.11
	Boys	1.47 (.88, 2.44)	.13	.67 (.42, 1.07)	.09
	Total	.83 (.54, 1.27)	.39	.52 (.36, .76)	.001
Hyperactivity/Inattention	Girls	.51 (.26, .99)	.04	.88 (.50, 1.54)	.66
	Boys	.98 (.59, 1.61)	.94	.58 (.31, 1.09)	.09
	Total	.75 (.50, .1.12)	.16	.70 (.44, 1.10)	.13
Peer relationship problems	Girls	.78 (.41, 1.48)	.25	.27 (.16, .47)	≤.001
	Boys	.84 (.52, 1.36)	.48	.41 (.25, .65)	≤.001
	Total	.89 (.60, 1.30)	.25	.38 (.26, .53)	≤.001
Prosocial behavior	Girls	1.01 (.59, 1.72)	.96	1.45 (.84, 2.50)	.17
	Boys	.79 (.51, 1.22)	.29	1.09 (.65, 1.81)	.73
	Total	.89 (.63, 1.26)	.56	1.25 (.84, 1.85)	.26

Note: AOR = Adjusted Odds Ratio. CI = Confidence Interval. CALIS-C = Child Anxiety Life Interference Scale. SDQ = Strengths and Difficulties Questionnaire. Each analysis was adjusted for the baseline measure, gender, age and school-level.

secondary outcomes that did not show significant improvement in the 12-month evaluation were hyperactivity/inattention ($p = .13$) and prosocial behavior ($p = .26$).

Reduction of clinically significant symptoms of anxiety and depression

At baseline, more than half of the participants presented clinically significant symptoms of anxiety and/or depression ($n = 77$; 65.3%). The percentage of children who presented clinically significant symptoms decreased at post-test ($n = 53$; 47.3%) and at 12-month follow-up ($n = 45$; 40.9%).

Gender-based assessment

A third goal of the study was to analyze the impact of SSL by gender. GEE analyses were run comparing the changes after the intervention (post-test and 12-month post-intervention) in the outcomes between boys and girls. At the post-test, boys showed higher scores than girls for total difficulties [AOR (95% CI) = 9.34 (1.32, 65.77); $p = .01$], separation anxiety [AOR (95% CI) = .26 (.07, .88); $p = .03$], and emotional symptoms [AOR (95% CI) = 2.59 (1.08, 6.25); $p = .03$]. At 12-month follow-up, no gender differences were found in the analyzed outcomes.

Changes in primary and secondary outcomes were also analyzed separately for girls and boys; the results are presented in Tables 4 and 5. For girls, the intervention affected 10 and 13 of the 18 analyzed outcomes at the post-test and 12-month follow-up, respectively. For boys, the intervention affected 3 and 13 of the 18 analyzed outcomes at post-test and 12-month follow-up, respectively. Regarding primary outcomes at post-test, girls showed lower scores than at baseline for depression ($p = .002$), dysphoria ($p = .001$), negative self-esteem ($p = .03$), generalized anxiety ($p = .02$), and

school anxiety ($p = .02$). Boys only presented lower post-test scores than at baseline for depression ($p = .02$), dysphoria ($p \leq .001$), and separation anxiety ($p = .01$) (Table 4). Regarding secondary outcomes at post-test, boys did not present significant improvements in any analyzed outcome (all $ps > .05$), while girls showed lower scores than at baseline for interference of anxiety with children's life ($p = .02$), including outside the home ($p = .02$); total difficulties ($p = .004$), emotional symptoms ($p = .002$), and hyperactivity/inattention symptoms ($p = .04$) (Table 5).

Regarding primary outcomes at 12-month follow-up, there were significant decreases in most of the outcomes (i.e., depression, dysphoria, negative self-esteem, anxiety, separation and school anxiety) for both girls and boys, except for symptoms of generalized anxiety (Table 4). Reductions of social anxiety scores were significant for girls ($p = .02$) but not for boys ($p = .18$), and reductions of panic scores were significant for boys ($p = .01$) but not for girls ($p = .10$) (Table 4). With regard to secondary outcomes at 12-month follow-up, there were significant improvements in most secondary variables for both girls and boys (i.e., interference of anxiety with children's life, both inside and outside the home; total difficulties, emotional symptoms, and peer problems), except for conduct problems, hyperactivity/inattention, and prosocial behavior (Table 5).

Discussion

The primary goal of the current quasi-experimental design with one group, pre- and posttest, and 1-year follow-up was to examine the effectiveness of the Spanish version of the Super Skills for Life program (SSL; Essau & Ollendick, 2013) in reducing anxiety and depressive symptoms (i.e., primary outcomes) in Spanish-speaking children aged 8–12 years. The effectiveness of SSL was also analyzed for other secondary outcomes and by gender. Post-test and 12-month follow-up assessments were used to examine changes from pre- to post-intervention and from pre-intervention to 12-month post-intervention.

Changes in the post-intervention and at the 12-month follow-up

Regarding short-term changes, results indicated statistically significant differences for over half of all targeted problems (10 out of 18 outcomes). Particularly, compared to the pre-test, results revealed significant immediate reductions in symptoms of several primary outcomes (i.e., generalized and separation anxiety, depression, negative self-esteem, dysphoria) and secondary outcomes (i.e., interference of anxiety with children's life, including both inside and outside the home; emotional symptoms and total difficulties as measured by the SDQ). In contrast, results suggested that children did not show significant immediate improvements in overall anxiety, panic, school and social anxiety, hyperactivity/inattention, peer and conduct problems, and prosocial behavior. Overall, these results suggest that SSL may have an immediate positive impact on a range of problems; however, this finding should be interpreted with caution since there was not a control group in this study.

In our study, most short-term positive changes were maintained at 12-month follow-up, except for those regarding generalized anxiety, and the intervention demonstrated significant long-term impact on most problems assessed (15 out of 18 outcomes). That is, one year after the pretest, children demonstrated significant decreases in symptoms of depression (i.e., overall depression, negative self-esteem, and dysphoria) and most anxiety symptoms (i.e., overall anxiety, panic, separation anxiety, social and school anxiety). It remains unclear why the positive changes in generalized anxiety disorder symptoms were not maintained. Since this condition is characterized by excessive worry and anxiety in a wide range of situations (Andrews et al., 2010), it is possible that the children did not generalize learning during the program to the diverse anxiety-provoking events that may have arisen during the one-year period. To address this potential issue, they would potentially require additional long-term training (e.g., adding booster sessions). Additionally, factors that were not addressed by SSL may have been present (e.g., environmental transmission of generalized

anxiety from parent to child via several pathways, such as modeling, verbal information, or parenting behaviors; Aktar, Nikolić, & Bögels, 2017). It would be interesting to further examine this outcome in future studies with a control group. Further, during the follow-up period, children experienced significant improvement versus baseline in most secondary outcomes (i.e., anxiety-related interference, including both inside and outside the home; emotional symptoms, peer and conduct problems, and total difficulties).

The percentage of children with clinically significant symptoms of anxiety and depression tended to decrease across post-test and follow-up assessments. The lowest percentage of children in the clinical range occurred twelve months after the intervention, which suggests the presence of a positive short-term impact but a greater long-term impact of SSL.

Consistent with the original SSL study and other CBT-based prevention programs targeting children's anxiety and depression symptoms (Essau, Conradt, Sasagawa, & Ollendick, 2012; Kösters, Chinapaw, Zwaanswijk, van der Wal, & Koot, 2015), long-term impact of the Spanish SSL appeared to be greater than the short-term impact. Following Essau et al. (2014), these findings could be explained by the availability of more time to practice and internalize learned skills. Although the positive long-term changes obtained in the current study should be interpreted carefully given that there was no control condition and thus no indication that the gains from the intervention were not simply due to the passing of time, they appear to suggest the importance of conducting follow-up assessments and analyzing long-term effects in future studies of SSL, to accurately assess its effectiveness. Our research also supports the finding in the original study of reductions at follow-up in problems for which the program was not specifically designed (e.g., peer and conduct problems). As suggested by Essau et al. (2014), a plausible explanation is that SSL improves skills (e.g., social skills) or other problems (e.g., low self-esteem) that are related to these non-targeted problems. In this regard, prosocial behavior and hyperactivity/inattention did not show significant improvements. Overall, future studies with a control group are required to confirm the significant and non-significant results revealed in the current study.

Changes in the post-intervention and at the 12-month follow-up by gender

Post-intervention and 12-month post-intervention changes were also analyzed separately for girls and boys. Although girls demonstrated greater immediate improvements, both genders received greater and similar long-term benefit from the program. Moreover, consistent with the original study (Essau et al., 2014), few significant gender differences were found. At post-test, boys showed higher emotional symptoms and total difficulties as measured by the SDQ, and separation anxiety. We do not have a clear explanation of these results in the short-term. Other authors suggested that possible differences between boys and girls in variables such as the participants' responsiveness to the program could be influential (Kösters et al., 2015). Future studies might analyze this aspect using several indicators (e.g., homework completion, attendance, satisfaction, use and perceived usefulness of the skills delivered). Nevertheless, these differences disappeared at follow-up, when no changes by gender were found. This suggests that SSL has a similar positive impact on boys and girls over time.

Limitations

The present study has some limitations that must be considered when interpreting its results. First, in the absence of a control group, we cannot conclude that the symptom reductions that occurred at the posttest and 1-year after treatment are attributable to the intervention. Future studies with randomized controlled trial designs should be conducted to verify if the results of the experimental group outperform those of a control group. Second, the effectiveness of this program was examined using only self-report measures. Type I error could have increased due to the multiple comparisons. Following previous similar studies (e.g., Ehrenreich-May & Bilek, 2011; Essau et al., 2014; Martinsen et al., 2019), we maintained the Type-I error rate at the specified threshold (alpha = .05). Given the value of multi-informant assessments (e.g., Kerr, Lunkenheimer, & Olson, 2007), it would be interesting to test the SSL using

measures obtained from primary caregivers, preferably both mothers and fathers (Jansen, Bodden, Muris, van Doorn, & Granic, 2017). Third, although the sample of this study was slightly larger than that used in the original study (Essau et al., 2014), future investigations should use larger sample sizes and different regions of Spain to generalize the results to all Spanish children.

Conclusions

This is the first study to adapt the SSL and examine its effectiveness in Spanish-speaking children. In summary, although it is not possible to conclude that the current intervention is effective, given the lack of a control condition, the results of the present study suggest that SSL may be useful in reducing symptoms of anxiety and depression, and a broad range of other issues (i.e., interference of anxiety with children's life, peer and conduct problems), in Spanish children.

Disclosure statement

No potential conflict of interest was reported by the authors.

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