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Evaluation of the Effects of a Childhood Depression Prevention Program

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ABSTRACT

The study aimed to design and evaluate a program for the prevention of childhood depression (“Pozik-Bizi” [in English, “Live-Happily”]), comparing its effects with a socio-emotional intervention program based on cooperative play. The sample comprised 420 students aged 7 to 10 years from the Basque Country, 51.9% were randomly assigned to the experimental condition (“Pozik-Bizi”) program and 48.1% to the control group (“Play program”). Using a pretest-posttest repeated measures experimental design, 7 evaluation instruments were administered. When comparing the two interventions, it was confirmed that those who participated in the “Pozik-Bizi” program significantly decreased their level of clinical maladjustment, school maladjustment, emotional, and behavioral problems, and they increased positive behaviors that inhibit depression. However, the cooperative play program improved self-concept and social skills significantly more than the “Pozik-Bizi” program. The effect size in all the variables was small. The discussion analyzes the effectiveness of specific programs of prevention of childhood depression versus global programs of social-emotional development. This work provides a program to prevent childhood depression that has been shown to be effective in the reduction of clinical variables. In addition, this study confirms the positive potential of programs of cooperative play, to increase self-concept and social skills.

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cooperation; prevention;
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Depression affects all ages and social conditions. It is estimated that more than 300 million people suffer from depression, an increase of more than 18% in 10 years (2005–2015). Depression is a public health problem and the leading worldwide cause of disability. One important consequence of depression is the risk of suicide, which, according to the World Health Organization (World Health Organization [WHO], 2017), is the second most common cause of death among young people between ages 15 and 29. The prevention and treatment of depression therefore emerges as a goal of the mental health action plan of the WHO (2017). In this context, the goal of the study was to design and evaluate the effects of a childhood depression prevention program “Pozik-Bizi” (in English, “Live-Happily”), comparing its effectiveness with a comprehensive program of

socio-emotional development, the “Play program” (Garaigordobil, 2003), based on cooperative play.

When attempting to specify exactly what is meant by childhood and adolescent depression, we must take into account that in the Diagnostic and Statistical Manual of Mental Disorders (DSM5; American Psychiatric Association [APA], 2013), depression is considered as an adult disorder, with a brief allusion to childhood depression, in which irritation may replace sadness. In view of the complexity of defining childhood/adolescent depression, Del Barrio (2015) proposed a definition that considers depression as a persistent change in behavior, consisting of a decreased ability to enjoy events, communicate with others, and perform academically, with the presence of bodily function alterations and frequently accompanied by diverse oppositional actions.

Children’s emotional problems are a concern and a challenge for families, educators, and health professionals, holding a prominent place in research on psychopathological disorders in children. In fact, along with anxiety, depression is one of the most common mental health disorders in children and adolescents (Rooney, Hassan, Kane, Roberts, & Nesa, 2013).

Many studies warn about the high prevalence of depression at early ages. Research with school children using self-reports to assess severe depression indicate prevalence rates of 4% in Spain or Turkey, 6% in Finland, 8% in Greece, 10% in Australia, or 25% in Colombia (for a review, see Jaureguizar, Bernaras, & Garaigordobil, 2017). The likelihood of the onset of depressive disorders increases markedly at puberty but it may occur at any age. Previous studies indicate that the onset of major depressive disorders usually occurs between 11 and 12 years of age, although the onset of depressive symptoms is observed by age 7-8 (Whalen et al., 2016).

Childhood emotional disorders may significantly influence children’s integral development, as they affect all areas of human functioning (cognitive, emotional, somatic, and behavioral). In addition, when they occur in childhood/adolescence, they are usually associated with negative consequences (poor academic performance, problematic family and social relationships, health problems, attempted or consummated suicide...). The risk of suicide involved in depression cannot be ignored (APA, 2013). Studies indicate that suicidal ideation varies with age, finding percentages of up to 16% in students aged 6-12 years (Kovess-Masfety et al., 2015).

Both the prevalence data of childhood depression and its serious consequences reveal the need for prevention at early stages in order to curb initial depressive symptoms that can subsequently become severe depressive disorders. We need to identify depressive symptoms and implement preventive programs for emotional disorders at early ages. Among other things, these programs could teach children/adolescents adaptive ways to deal with problems and distress and to avoid irreversible behaviors (suicide).

To better understand childhood depressive disorders, some studies have identified risk and protective factors. A recent research (Garaigordobil, Bernarás, Jaureguizar, & Machimbarrena, 2017) found four predictors of childhood depression: high clinical maladjustment, low global self-concept, high level of stress, and few social skills. In the same direction, Katz, Conway, Hammen, Brennan, and Najman (2011) found a connection between social isolation in childhood and symptoms and subsequent depressive

disorders. These data are useful for the design of childhood depression prevention programs.

The WHO (2017) has stated that depression has increased in recent years and it recommends carrying out preventive policies to reduce its prevalence rates. It also states that school programs to improve children and adolescents' cognitive, social, and problem-solving skills are one of the effective community strategies to prevent depression.

"Universal" programs of childhood depression prevention are carried out at school with all the students, and are aimed at strengthening their mental health and developing resilience. Although the scientific literature points out that programs "targeting" children/adolescents with moderate or high levels of depressive symptomatology obtain better results than universal programs (Werner-Seidler, Perry, Calear, Newby, & Christensen, 2017), the advantages of universal programs are also relevant, as they reach a greater number of students and they benefit children/adolescents with emotional problems without suffering the social stigma of being selected. However, the review by Corrieri et al. (2014) found no significant differences between universal and targeted programs.

Reviews and meta-analyses performed on universal prevention programs for depression in childhood and adolescence (Calear & Christensen, 2010; Corrieri et al., 2014; Werner-Seidler et al., 2017), concluded: (1) Analyzing the pretest-posttest effects of the program, the effect sizes are fairly low, at the short, medium, and long term; (2) The programs developed by professionals who are external to the school staff (psychologists, researchers...) show greater effects than those developed by teachers; (3) No significant differences were found as a function of the type of control group used; and (4) No significant differences were observed as a function of the type of intervention – cognitive-behavioral therapy versus other types of interventions (educational, interpersonal therapy...) –, although recent studies (Morian, Gálvez-Lara, & Corpas, 2017) have found cognitive-behavioral interventions to be more effective. In addition, few studies include a follow-up phase.

One of the most common criticisms of universal prevention programs are their small effect size but, in the field of prevention, a small effect size can be associated with positive impact on the population. In particular, the review of Stockings et al. (2016) concluded that prevention programs are associated with a 53% decrease of the risk of internalizing problems during the 6-9 months following the implementation of the program.

There are few universal childhood depression prevention programs for early ages, as they tend to target mainly the adolescent population. In the review conducted for this study, four programs were identified for students aged 8-12 years: (1) *Penn Resiliency Program (PRP)* (Gillham, Jaycox, Reivich, Seligman & Silver, 1990) which contains: cognitive restructuring, maladaptive coping strategies, attributive styles, assertiveness, negotiation, relaxation, decision-making, social skills; (2) *FRIENDS* (Barrett & Turner, 2001) with the following contents: my own and others' emotions, relaxation, trying to do my best, planning steps, making time to have fun together, skills with friends and relatives, being happy etc.; (3) *Aussie Optimism Program* (Rooney, Pike, & Roberts, 2000) whose main contents are: identify negative beliefs about yourself, about present and future circumstances, identify and regulate emotions, perform pleasurable activities, analyze

situations that cause apprehensiveness or fear and learn to relax; and (4) *FORTIUS* (Méndez, Llavona, Espada, & Orgilés, 2013) with the following contents: Understanding and controlling negative emotions, social skills, detecting and restructuring negative thoughts, problem-solving, decision-making, and positive self-instructions.

The four programs were all cognitive-behaviorally oriented and were carried out in 8 to 15 sessions. Mixed findings were found in terms of reduction in levels of depression and behavioral problems. However, the effects (if any) were frequently not maintained over time or were limited in scope (Barrett & Turner, 2001; Cardemil, Reivich, Beevers, Seligman & James 2007; Chaplin et al., 2006; Gillham, Reivich, Jaycox, & Seligman, 1995; Lock & Barrett, 2003; Lowry-Webster, Barrett, & Dadds, 2001; Orenes, 2015; Rooney et al., 2006).

Depression is the main worldwide cause of illness and disability. Studies charting the prevalence of depression among children and adolescents report high percentages of youngsters with depressive symptoms. Within this context, the goal of the study was to design and evaluate the effects of the childhood depression prevention program, “Pozik-Bizi” (“Live-Happily”) and compare its effectiveness with that of a comprehensive program of socio-emotional development, the “Play program”, based on cooperative play. The activities of the “specific or focal” childhood depression prevention program (“Pozik-Bizi”) emphasize the emotions and clinical symptoms of depression, whereas the “global socio-emotional development program” (“Play Program”), drawing on positive psychology, fosters the development of children’s socio-emotional factors without addressing specific aspects of depression. Specifically, during the “Pozik-Bizi” activities, the children talk directly about depression (feelings, behaviors, symptoms...), and its consequences, whereas the “Play Program” includes games that promote cooperation and emotional intelligence but without any that activity confronts the children with depression. Both programs are implemented with all the students in the school. One of the main reasons to compare the two programs is to determine whether a more direct approach to coping with depressive emotions and symptoms will affect the clinical symptoms more positively than a global socio-emotional development program that also promotes factors (social abilities, self-esteem...) associated with depression.

For this purpose, we proposed that, compared with the cooperative Play Program (Garaigordobil, 2003), the “Pozik-Bizi” program would significantly promote a greater decrease in clinical variables (clinical maladjustment, school maladjustment, emotional symptoms index, depressive symptoms, emotional and behavioral problems, emotional reactivity, and problem behaviors), but both interventions would show a similar level of change in the positive variables (personal adjustment, self-concept, resilience, and social skills). That is to say, the hypothesis states that both groups were expected to show change over time in the positive adaptive variables but, for the clinical variables, only the experimental groups’ scores were expected to decrease.

Method

Participants

The sample comprised 420 participants, aged 7-10 years, 53.3% boys and 46.7% girls, of whom 218 (51.9%) were randomly assigned to the experimental condition (Pozik-Bizi

Table 1. Socio-Demographic Characteristics of the Experimental and Control Sample: Sex, Age, Grade, and Type of School.

	Experimental group (<i>Pozik-Bizi</i>) <i>n</i> = 218 (51.9%)	Control group (<i>Play program</i>) <i>n</i> = 202 (48.1%)
Sex		
Boys	109 (50%)	115 (56.9%)
Girls	109 (50%)	87 (43.1%)
Age		
7-8 years	123 (56.4%)	127 (62.9%)
9-10 years	95 (43.6%)	75 (37.1%)
Grade		
3rd Primary level	107 (49.1%)	114 (56.4%)
4th Primary level	111 (50.9%)	88 (43.6%)
Type of school		
Public	116 (53.2%)	109 (54%)
Private	102 (46.8%)	93 (46%)

Program) and 202 (48.1%) to the control condition (Play Program). Participants are enrolled in schools of the Basque Country (northern Spain), 53.6% public schools and 46.4% private schools, and they study 3rd (52.6%) and 4th grade (47.4%) of Primary Education (see description in Table 1). The sample was intentionally selected from schools of Gipuzkoa (regional area in northern Spain). The criteria used for their selection were: (1) centers that had previous experience of participation in research projects and were open to new practices of educational innovation; (2) centers that would commit to the extensive temporal duration of the project; and (3) public and private schools, so that different socio-economic-cultural levels would be represented.

Design and Procedure

To compare the effect of the Pozik-Bizi program with that of the cooperative Play program, a pretest-posttest repeated measures experimental design was used. First, we sent a letter to the directors of the selected schools, explaining the research and inviting them to collaborate. The project was explained to the headmasters who agreed for their school to participate, and informed consents were delivered to the parents. At the beginning of 2015–2016 school year, the pretest evaluation was conducted. Members of the research team went to the schools to administer the evaluation instruments (see Table 2). The groups were randomly assigned to the experimental condition or control group. The experimental groups carried out 18 sessions of the Pozik-Bizi program, whereas the control groups participated in cooperative play sessions. At the end of the course, at posttest, the same pretest instruments were again administered. In addition, the experimental group completed a follow-up assessment 6 months after finishing the program. The study was rated favorably by the Ethics Commission of the University of the Basque Country (CEISH/266MR/2014).

Assessment Instruments

To measure the target variables (DV)—clinical variables (clinical maladjustment, school maladjustment, emotional symptoms index, depressive symptoms, emotional and behavioral problems, emotional reactivity, and problem behaviors) and positive variables

Table 2. Assessment Instruments and Assessed Variables.

Instruments	Assessed variables
CDS-self-assessment, Child Depression Scale (Lang & Tisher, 1978; Spanish adaptation Seisdedos, 2003)	Symptoms of depression
CDS-T. Children's Depression Scale-Teacher. (Teacher) (Lang & Tisher, 2004; Tisher, 1995).	Total depressive Total positive
BASC-S2. Behavior Assessment System for Children and Adolescents (Reynolds & Kamphaus, 1992; Spanish adapt. González, Fernández, Pérez & Santamaría, 2004)	Clinical maladjustment School maladjustment Personal adaptation Emotional symptoms index
SPECI. Screening for Children's Emotional and Behavioral Problems (Teacher) (Garaigordobil & Maganto, 2012)	Internalizing problems (withdrawal, somatization, anxiety, depression ...) Externalizing problems (attention-hyperactivity, disruptive behavior, academic achievement, violent behavior) Total Problems (EBP): Emotional and behavior problems
CAG. Cuestionario de Autoconcepto [Self-concept Questionnaire] (García, 2001)	Global self-concept
RSCA. The Resiliency Scales for Children and Adolescents (Prince-Embury, 2008)	Resiliency: Sense of competence, Sense of affiliation, Emotional reactivity
SSIS. Social Skills Improvement System (Gresham & Elliot, 2008)	Social skills Problem behaviors

Note: More information about the assessment instruments can be consulted at: <https://www.dropbox.com/s/2zphlduuc9vckmi/Table%202.docx?dl=0>.

(personal adjustment, self-concept, resilience, and social skills)—, we used seven assessment instruments with adequate psychometric guarantees of reliability and validity (see Table 2).

The Pozik-Bizi (Live-Happily) Program

Pozik-Bizi is a program to improve emotions and depressive symptoms in children aged 8-10 years (Bernarás, Jaureguizar, & Garaigordobil, 2015). The program, using a cognitive-behavioral approach, has three goals: (1) To improve intragroup relations and reduce social stress; (2) To identify, understand, and regulate negative emotions and thoughts, strengthening the positive ones; and (3) To improve the students' skills to reduce anxiety and feelings of failure, increasing their self-confidence. The program consisted of administering 18 sessions with the following structure: the goals are outlined, the activity is described, carried out, and then the participants reflect on it. The weekly sessions were led by the teachers. Various techniques were employed: individual and group reflection exercises, theatrical performances, inventing stories, reading stories with a moral, teacher's explanations to identify, reflect on, and deepen certain concepts (negative or positive thoughts and their consequences, emotions, fear or anxiety ...); relaxation exercises ...

For example, in the activity *Emotions*, first, a card is handed out on which various emotions (fear, sadness, anger, disgust, surprise, happiness...) are printed, and the entire group discusses what it's like to feel these emotions, when they feel them, and what their function is. Afterwards, teams are formed, and each team receives an emotion and they must represent a situation in which they have felt that emotion and a response to cope with it. At the end, they reflect about the represented emotions and

how to deal with them positively. For example, the adult proposes: “Being sad once in a while is normal, either because someone we love has died, or because we are going to be separated from our parents, or because a friend has failed us What is not normal is to be sad every day. What can we do to get rid of those negative thoughts and keep them under control?” The teacher writes on the blackboard the responses about “how to control negative emotions: think about something else, talk with our friends, play, think about positive things”

Play Program of Socio-Emotional Intervention

The 8–10-year Play Program is evidence-based (Garaigordobil, 2003). The results of its evaluation showed an increase in prosocial behavior, a decrease in aggressive social behavior, an increase of positive intragroup messages while reducing the negative ones, and improvement of self-concept (Garaigordobil, 2003). The program has two goals: (1) To promote social development by stimulating multidirectional, friendly, positive, and constructive interaction with classmates, group integration, friendly relationships, verbal and non-verbal communication skills; moral development through the social behaviors of helping and cooperation; and to decrease negative social behaviors of aggression, anxiety, shyness, apathy-withdrawal; and (2) To favor emotional development, promoting the identification and expression of emotions (through drama, activities with music-movement, painting, drawing . . .), the understanding of situations that generate positive and negative emotions, coping with/resolving negative emotions, the development of empathy, the improvement of self-concept-self-esteem, happiness . . .

The 18 weekly sessions were led by teachers and the structure of the sessions (opening, development, debate-discussion) was identical to the those of the “Pozik-Bizi” Program. The Play Program contains activities that encourage communication, cohesion, and trust, with the core idea of helping, cooperating, and sharing. The activities are divided into two major types of games: (1) Communication and prosocial behavior games (communication, cohesion, support, help, trust, and cooperative games), and (2) Cooperative creative games (verbal, graphic-figurative, constructive, and dramatic). Various cognitive, behavioral, and emotional techniques are used: playing, drawing, group discussion, brainstorming, dramatization, cognitive restructuring through guided dialogue . . .

For example, in the game *Mysterious messages*, teams of 5 members are formed; each team receives 5 envelopes, 1 for each player. Each envelope contains 5 words that cannot form a sentence. Participants must create 5 sentences with the words that are in the 5 envelopes. Each player must create a sentence, but for that purpose, they must give up words to the other classmates and receive words from them; that is, they must cooperate with the other players to reach a common goal. They can talk with each other, but they cannot ask a classmate for words, they must wait until the classmate realizes that he or she has a word that fits and relinquishes it. When the teams have created the five sentences cooperatively, a discussion is begun about the interactions and emotions produced during the activity, the conflicts that arose, how they solved them . . .

Results

To compare the change in the two conditions (experimental = “Pozik Bizi” and control = Play Program), multiple analyses were conducted using the SPSS 23.0 program. First, we carried out a multivariate analysis of covariance (MANCOVA) with two levels of type of intervention and with all the outcome variables under study considered as one DV set (covarying the pretest scores). When comparing the effect of the “Pozik-Bizi” program for the prevention of depression with that of the cooperative play program, the results of this MANCOVA, Wilks’ Lambda, $\Lambda = 0.898$, $F(15, 390) = 2.43$, $p = .002$, showed statistically significant differences between the experimental and control groups in the pretest-posttest change, with a medium effect size ($\eta^2 = .102$, $r = .32$). Complementarily, we conducted a series of posttest MANCOVAs on each separate scale, using the subscales in each of these measures as different data sets. The results confirm the existence of significant differences between the two conditions in the variables measured with the following instruments: *BASC-S2*. $\Lambda = 0.945$, $F(4, 396) = 5.79$, $p = .001$, $\eta^2 = .055$, $r = .23$; *CDS-T*. $\Lambda = 0.957$, $F(2, 401) = 9.11$, $p = .001$, $\eta^2 = .043$, $r = .20$; *SPECI*. $\Lambda = 0.983$, $F(2, 395) = 3.49$, $p = .031$, $\eta^2 = .017$, $r = .13$; *SSIS*. $\Lambda = 0.977$, $F(2, 404) = 4.75$, $p = .009$, $\eta^2 = .023$, $r = .15$. Only for the set of the variables included in the resilience assessment test (*RSCA*) were there no differences between the experimental and control groups.

To further probe these effects, analyses of covariance (ANCOVAs) were then performed on each of the subscale scores within each of the separate DV scales (covarying out the pretest scores), and effect sizes were calculated (Cohen’s d : < 0.2 , small, $0.5 =$ medium and > 0.8 large). The results obtained contrasting the experimental group (Pozik-Bizi) and the control group (Play Program) are shown in Tables 3 and 4. Table 3 presents the means and standard deviations for all the variables in the pretest, posttest and the pretest-posttest differences, and Table 4 displays results for the ANCOVAs and the effect size for all variables.

Table 3. Pretest and Posttest Means and Standard Deviations of all Variables in the Experimental and Control Groups, and Pretest-Posttest Differences.

	Pretest				Posttest				Pretest-Posttest			
	Experimental		Control		Experimental		Control		Experimental		Control	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
BASC. Clinical Maladjustment	141.60	24.61	146.09	27.42	136.72	23.70	144.00	26.82	-5.25	21.89	-1.83	22.24
BASC. School Maladjustment	97.76	14.49	104.23	18.42	97.10	15.75	104.52	19.30	-0.60	14.43	0.48	14.81
BASC. Personal Adaptation	198.11	27.06	198.06	22.73	201.86	28.74	206.08	24.71	3.84	26.70	7.77	24.94
BASC. Emotional Symptoms	285.59	40.18	289.69	40.12	281.12	38.96	283.94	38.44	-5.08	36.55	-5.19	33.96
CDS-Self. Total Depression	134.77	31.30	142.03	32.77	123.18	32.75	127.22	33.30	-11.79	31.62	-14.53	31.22
CDS-Teacher. Total Depressive	13.14	5.45	13.35	4.89	12.45	4.36	12.93	4.43	-0.66	3.78	-0.44	4.65
CDS-Teacher. Total Positive	11.61	2.23	11.46	2.92	11.82	1.83	11.11	1.95	0.22	2.05	-0.36	2.79
SPECI. Internalizing problems	0.57	1.13	0.63	1.22	0.46	0.76	0.72	1.40	-0.12	1.21	0.07	1.14
SPECI. Externalizing problems	0.45	0.98	0.45	0.96	0.37	0.76	0.48	1.02	-0.09	0.88	0.03	0.86
SPECI. Total Problems	1.02	1.70	1.08	1.95	0.83	1.18	1.20	2.02	-0.21	1.61	0.10	1.48
CAG. Global self-concept	187.37	20.88	186.83	20.17	190.27	19.41	193.34	18.89	2.84	17.61	6.50	19.33
RSCA. Sense of competence	57.89	10.77	56.44	10.86	59.80	9.96	59.68	10.75	1.79	11.07	2.94	11.73
RSCA. Sense of affiliation	75.28	13.20	75.15	13.01	77.93	12.00	78.16	13.16	2.58	12.24	2.68	13.81
RSCA. Emotional reactivity	21.51	15.62	23.71	14.48	20.58	13.67	22.34	14.10	-1.20	15.52	-1.37	13.04
SSIS. Social skills	109.89	15.91	106.82	14.47	107.96	15.24	109.09	15.74	-1.96	15.75	2.24	15.52
SSIS. Problem Behaviors	20.28	11.87	22.07	11.99	16.71	10.39	19.17	12.40	-3.58	12.38	-2.93	11.75

Note. Experimental Group $n = 218$; Control Group $n = 202$.

Table 4. Results of Posttest ANCOVAs and Effect Size in all the Variables in the Experimental and Control Groups.

	Posttest ANCOVA		
	<i>F</i> (1, 418)	<i>p</i>	<i>d</i>
BASC. Clinical Maladjustment	6.03	.014	−0.15
BASC. School Maladjustment	6.55	.011	−0.07
BASC. Personal Adaptation	3.63	.058	−0.15
BASC. Emotional Symptoms	0.01	.927	0.00
CDS-Self. Total Depression	0.01	.917	0.09
CDS-Teacher. Total Depressive	0.97	.324	−0.05
CDS-Teacher. Total Positive	17.11	.000	0.23
SPECI. Internalizing problems	5.60	.018	−0.16
SPECI. Externalizing problems	2.38	.124	−0.14
SPECI. Total Problems	6.91	.009	−0.20
CAG. Global self-concept	4.76	.030	−0.20
RSCA. Sense of competence	0.07	.798	−0.10
RSCA. Sense of affiliation	0.10	.758	−0.01
RSCA. Emotional reactivity	0.42	.519	0.01
SSIS. Social skills	4.05	.045	−0.27
SSIS. Problem Behaviors	1.92	.167	−0.05

Note. Effect size (Cohen's *d*): ≤ 0.2 small, 0.5 medium, ≥ 0.8 large.

As can be seen, the ANCOVAs (see Table 4) confirmed that students who participated in the “Pozik-Bizi” program significantly decreased their *level of clinical maladjustment* (anxiety, atypicality, external locus of control...), *school maladjustment* (negative attitude toward school and teachers), *emotional and behavioral problems* (especially internalizing problems: withdrawal, somatization, anxiety, thought problems, depression, infantile-dependence), and they increased *teacher-rated positive behaviors* (enthusiasm-joy...) that inhibit depression. However, the cooperative Play Program participants improved *self-concept* (physical, social, intellectual, family...) and *social skills* (communication, cooperation, assertiveness, responsibility, empathy, involvement/participation, self-control) significantly more than the “Pozik-Bizi” program participants.

In synthesis, the “Pozik-Bizi” experimental groups decreased the clinical variables (especially internalizing problems: withdrawal, somatization, anxiety, depression...) more than the control groups, and the Play Program control groups improved their social skills and self-concept more than the experimental groups. However, in general, the effect sizes in these variables were small (see Table 4).

Discussion

The study aimed to design and evaluate the effects of a specific program for the prevention of childhood depression, the “Pozik-Bizi”, comparing its effectiveness with that of a global socio-emotional cooperative intervention program, the Play Program. When comparing the effect of the specific depression prevention program, “Pozik-Bizi”, with the cooperative Play Program, the results confirmed that participants in the “Pozik-Bizi” program significantly decreased their level of *clinical maladjustment*, *school maladjustment*, and *emotional and behavioral problems* (especially internalizing problems), and they increased *positive behaviors* (enthusiasm-joy...) that inhibit depression. However, the cooperative Play Program improved the participants' *self-concept* and *social skills* significantly more than the “Pozik-Bizi” program. In conclusion, the “Pozik-Bizi” program

was more effective for clinical variables, and the Play Program improved adaptive variables (self-concept and social skills) significantly more than the “Pozik-Bizi” program. The “Pozik-Bizi” experimental groups significantly decreased the clinical variables (especially internalizing problems) more than the control groups, whereas the control participants (Play Program) significantly improved their social skills and self-concept more than the experimental group.

Therefore these results partially confirm the hypothesis, as participants who participated in the “Pozik-Bizi” program significantly decreased the clinical variables (clinical maladjustment, school maladjustment, and emotional and behavioral problems- especially internalizing problems) and increased the adaptive variables or positive behaviors incompatible with depression observed by teachers (expressing enthusiasm and joy, showing a desire to do many things, expressing enjoyment and pleasure in school activities, achieving many things proposed...). In addition, they point in the same direction as other studies that have evaluated universal programs, finding reduced levels of depression, anxiety, and behavioral problems, and increased well-being and optimism (Barrett & Turner, 2001; Cardemil et al., 2007; Chaplin et al., 2006; Corrieri et al., 2014; Gillham et al., 1995; Lock & Barrett, 2003; Lowry-Webster et al., 2001; Rooney et al., 2006; Stockings et al., 2016).

Although the hypothesis stated that both programs would have a similar effect on the positive variables, the Play Program increased social skills and self-concept more than the “Pozik-Bizi”. Which factors can explain this result? An analysis of the Play Program suggests that its activities involve more action, cooperation, and communication, they explore positive emotions and promote the construction of creative products more than the anti-depression program. This may explain the greater improvement of social skills and self-concept. In contrast, the activities of the “Pozik-Bizi” Program require more reflection and introspection, they explore negative emotions in more depth and directly address the clinical symptoms of depression. The children talk directly about depression and its consequences (feelings, behaviors and symptoms...). Therefore, the results suggest that in order to reduce clinical symptoms (depression, anxiety...), a direct approach to coping with negative emotions and anxious-depressive symptoms is more positive, whereas cooperative play places more emphasis on some socio-emotional factors (self-concept, social skills) that are also associated with depression. Perhaps these factors may partially explain the results.

Taking into account that there are few universal programs for the prevention of depressive symptomatology at early ages (Stockings et al., 2016), this work provides a program to prevent childhood depression that has been proven effective to reduce clinical variables. In addition, this study confirms the positive potential of socio-emotional intervention programs, such as programs of cooperative play, to increase self-concept and social skills (Garaigordobil, 1999, 2003), which are protective factors against depression. Also, the work is relevant because a good prevention and intervention in childhood can promote healthier adults and adolescents.

The work is useful because it provides a new evidence-based tool for preventing child depression whose main effect is the decrease of internalizing symptoms (withdrawal, somatization, anxiety, depression...), so it could be applied in educational and clinical contexts. The pilot program “Pozik-Bizi” has been validated, and this recommends

promoting and generalizing its implementation. In addition, the results of the study are useful because they allow us to emphasize the importance of systematically implementing school-based programs of cooperative play, as of preschool and throughout the entire formal education, because these programs, based on positive psychology, promote the development of social and emotional protective factors against depression. Nevertheless, we suggest interpreting this statement with caution due to the absence of follow-up to appraise the maintenance of the program effects.

As limitations of the study, we include the fact of having used an intentionally selected sample. The selected schools showed a favorable attitude toward the research and the implementation of new practices of educational innovation, but not all the schools expressed this openness; that is, the schools that participated in the study were open to innovation. This could be related to a problem of external validity (e.g., generalizability of results), so we recommend assessments with larger and more representative samples for future research. Another weakness of the study is associated with the low effect size in all the variables evaluated. However, this is a frequent result in studies evaluating school-based universal childhood depression programs. Many effect sizes may be small, in part, because of the score variability often found in the type of samples used in universal programs.

In addition, future studies could analyze which components of the program are the most effective to reduce depressive symptoms. The effect of this intervention could also be evaluated with groups of children who are receiving psychological treatment for childhood depression. Finally, we also suggest that future program assessments include follow-up assessments (at 6 and 12 months) to appraise the maintenance of the program's positive effects over time.

The experimental methodology used in this study allows us to suggest a causal relationship between the intervention and the changes in the dependent variables. However, taking into account the interesting debate on correlation and causation recently raised (Bailey, Duncan, Watts, Clements, & Sarama, 2018), we advise interpreting the results with caution. Effect sizes of the interventions to prevent childhood depression tend to be small, and follow-ups of the maintenance of the improvements stimulated by the programs at the mid-and long-term are seldom carried out.

Finally, we emphasize the need to develop and implement prevention programs for emotional disorders in children and adolescents. In addition, increasingly more authors call for a holistic and socio-cultural approach to universal interventions, which should be a part of the school curriculum.

In short, in this work, we designed and validated a child depression prevention program ("Pozik-Bizi"). The evaluation of the program, comparing its effects with those of a comprehensive socio-emotional development program based on cooperative play (Play Program), has confirmed a significantly higher decrease of internalizing problems (depression, anxiety...) in the participants of the "Pozik-Bizi", which validates the program, whereas the "Play Program" participants showed a greater increase in social skills and self-concept.

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