RESEARCH PAPER

"Building Hope for the Future": A Program to Foster Strengths in Middle-School Students

Susana C. Marques · Shane J. Lopez · J. L. Pais-Ribeiro

Abstract The authors investigated the effectiveness of a 5-week hope-based intervention designed to enhance hope, life satisfaction, self-worth, mental health and academic achievement in middle school students. The study includes a sample of 31 students from a community school, a matched comparison group of 31 students, and 2 secondary groups—guardians and teachers of the students' intervention group. Students completed a questionnaire packet that included demographic information, the Portuguese versions of the Children's Hope Scale, Students' Life Satisfaction Scale, Mental Health and Self-Worth Scales. Academic achievement was obtained from school records. At baseline, groups are statistically similar on the variables of interest. At post-test the intervention group had enhanced hope, life satisfaction and self-worth. In the intervention group, benefits in hope, life satisfaction and self-worth were maintained at the 18-month follow up. Results suggest that a brief hope intervention can increase psychological strengths, and participants continue to benefit up to 1-year and 6-months later.

Keywords Academic achievement · Intervention · Mental-health · Middle-schoolers · Positive thinking variables

1 Introduction

In Snyder's hope theory, hope has gone beyond wishful thinking to an understanding of how intentional thought leads to adaptive action. Snyder et al. (1991) characterized hope as a human strength manifested in capacities to: (a) clearly conceptualize goals (goals thinking), (b) develop the specific strategies to reach those goals (pathways thinking), and (c) initiate and sustain the motivation for using those strategies (agency thinking).

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Goals-thinking is ubiquitous in youth, but often unrefined. Pathways and agency thinking are both necessary, but neither by itself is sufficient to sustain successful goal pursuit. As such, pathways and agency thoughts are additive, reciprocal, and positively related, but they are not synonymous (Snyder et al. 1991). Both components are necessary for hopeful thinking. Hope reflects relative enduring, cross-situational subjective appraisals of goal-related capabilities (Snyder 2000).

People with high hope tend to be successful in their goal pursuits and, as a result, tend to experience more positive emotions. People with low hope tend to have more difficulty in overcoming the barriers to goal attainment and, therefore, tend to experience more negative emotions (Lopez et al. 2003; Snyder 2002). Hope predicts many important outcomes, from physical and mental health to academic and athletic success (see Snyder 2002 for a summary review). Research has shown that a child's hopeful thinking is positively associated with perceived competence and self-esteem or self-worth (Marques et al. 2009a), and negatively associated with symptoms of depression (Snyder et al. 1997). Children and adolescents who report higher levels of hope also view themselves in a favorable light and have slightly positive self-referential illusions. Accumulating evidence suggests that hope is related to life satisfaction and well-being (e.g., Gilman et al. 2006). In a related study, Marques et al. (2009a) found that hope is significantly and positively correlated with global life satisfaction and mental health in a sample of 367 Portuguese middle-school students. Higher levels of hope are also related to greater reported scholastic and social competence (Onwuegbuzie 1999), and positively correlated with greater academic achievements (e.g., Lopez et al. 2000a; Marques et al. 2009b, c; Snyder et al. 1997). Recent research has shown that hope reports of adolescents moderate the relationship between their global life satisfaction and their later internalizing behaviors (Valle et al. 2006) providing preliminary evidence that hope, as a strengths, can buffer against the effects of acute negative life events.

Hope theory and research with students can be aggregated into three categories—goals, pathways, and agency. Goals, whether short-term or long-term, provide the targets of mental action sequences and vary in the degree to which they are specified, but all goals must be of sufficient value to warrant sustained conscious thought about them (Snyder 2002). High-hope people appear to infuse a certain amount of uncertainty into their goal-pursuits and set goals with moderate levels of difficulty that appear to maximize the pathways and agency components of hope more enthusiastically than easier goals. Pathways thinking refer to a person's perceived ability to generate workable routes to desired goals (Snyder et al. 2002b). The production of several pathways is important when encountering impediments and is more likely to be present in high-hope individuals. It is characterized by affirming internal messages, such as 'I'll find a way to get this done!' Agency thinking is the motivational component in hope theory that reflects a person's cognitions about his or her ability to begin and sustain goal-directed behavior (Snyder et al. 2003). Agency thinking is especially important when people encounter impediments (Snyder 2002). Self-referential thoughts can be seen in internal speech, such as 'I can do this' and 'I am not going to be stopped' (Snyder et al. 1998). See Lopez et al. (2009), McDermott and Snyder (1999, 2000) or Snyder et al. (2002a, b) for detailed information on imparting goal setting, pathways and agency thinking to students.

Recent studies have provided preliminary evidence for the efficacy of fostering hope in different samples. In a sample of adults that previously had completed some form of psychological treatment, a protocol designed to increase hopeful thinking and enhance goal-pursuit activities produced increases in hope, purpose in life and self-esteem and decreases in depressive and anxiety symptoms (Cheavens et al. 2006). In a sample of adults

from the community, an intervention focused on developing goal setting and planning skills, showed significant increases in subjective well-being (MacLeod et al. 2007). In another study, a college class aimed at teaching hopeful thinking (Curry et al. 1999), students experienced increases in levels of hope, academic performances and self-esteem. Klausner et al. (1998, 2000) conducted a hope-based intervention for older adults diagnosed with depression or residual depressive symptoms. The hope-based group resulted in significant improvements on all measured outcomes (e.g., hope, anxiety, family interactions). Finally, Lopez et al. (2000a) designed an intervention to enhance hope in children and adolescents and the results showed that all students (low, medium and high hope) raised their levels of hope after participating in the program.

The goal of the current study is to evaluate the effectiveness of a 5-week hope-based intervention with regard to hope, life satisfaction, self-worth, mental-health and academic achievement in middle school students up to 18 months following the intervention. We hypothesized that, compared to the comparison group, the intervention group would have significant increases in hopeful thinking, life satisfaction, self-worth, academic achievement and better mental-health at post- and follow-up assessments. Compared to other studies seeking to improve goal-directed thinking (Cheavens et al. 2006; Curry et al. 1999; Klausner et al. 1998, 2000; Lopez et al. 2000a; MacLeod et al. 2007), this study includes a broad-scale hope intervention through the collaboration of key stakeholders (Huebner 2004) such as parents, teachers and school peers. Parents and teachers were included because past research indicates (or it is theorized that) children develop hope through learning to trust in the predictability of cause and effect interactions with parents and caregivers, as does building hope through learning to trust in the ordered predictability and consistency of their interactions with their teachers (Lopez et al. 2009). Moreover, multiple factors are involved in the positive thinking of children and adolescents, and research clearly demonstrates the importance of ecological factors (Huebner 2004) embedded in an interpersonal, social-familial, and institutional context (Gordon and Crabtree 2006; Sarason 1997). Such findings are inconsistent with programs that focus exclusively on changing individuals rather than environments. Thus, comprehensive efforts at modifying children's hope and related behavior should not only include direct work with students, but also include efforts to modify environments.

2 Methods

2.1 Participants

A total of 62 participants took part in the study, 31 in the intervention group and 31 in the matched comparison group. All participants were Caucasian, in year 6 at school, the majority were female (71%) and the mean age was 10.96 years (range 10–12 years; SD = .31). Our study represents a quasi-experimental design with a matched comparison group, selected from a student body of 336 students. We sought to match the two groups as closely as possible, with no differences in variables of interest between the two groups (age, gender, school year, ethnicity, hope, mental-health, life satisfaction, self-worth and academic achievement).

To evaluate the post-intervention outcomes and durability of change over time participants completed assessments at pre-, post-, 6-, and 18-month follow-up. There was no sample attrition at post-assessment. At 6-month follow-up the intervention group included 28 students (attrition rate = 9.68%), and the comparison group included 26

students (attrition rate = 16.13%). At the 18-month follow-up the intervention group consisted of 27 students attrition rate = 12.91%) and the comparison group consisted of 24 students (attrition rate = 22.59%). Of the 12.91% of eligible students from the intervention group who did not participate at Time 4, 100% had moved/withdrawn from the school district. Of the 22.59% of eligible students from the comparison group who did not participate at Time 4, school officials reported that 95.84% had moved/withdrawn from the school district; the remaining 4.16% of students were absent on data collection dates during Time 4.

T-tests were conducted to test the potential effects of sample attrition. Comparisons of mean scores on the variables of hope, life satisfaction, self-worth, mental-health and academic achievement between students who completed all assessment (Time 1–4) and those students lost to attrition indicated no significant differences between the two groups.

There are two secondary groups, 29 student parents/guardians of the intervention group (68.4% females, 89.47% married or in a long-term committed relationship, and 10.53% divorced) and 8 teachers of the intervention group (8 teachers, 62.5% females, 100% married or in a long-term committed relationship).

2.2 Measures

This study employed translated and validated measures of the target constructs (hope, satisfaction with life, self-worth, and mental-health) linked to child well-being (Huebner 2004; Riesen and Porath 2004; Snyder et al. 2000). Moreover, these positive thinking variables are generally regarded as key protective factors in early-adolescent psychological development (e.g., Snyder et al. 2000; Suldo and Huebner 2004; Valle et al. 2006). For example, life satisfaction has been linked with several adaptive outcomes and is associated with positive development (Huebner 2004). Self-worth is regarded as an important aspect of one's social and cognitive development and it has consistently been found to be related to positive behavioral, academic, and psychological outcomes (e.g., Harter 1999). Mental health represents salient dimensions of individual adjustment and level of functioning and positive indicators of mental health has been associated with psychological well-being (Ware et al. 1993).

2.3 Children Hope Scale

The Children Hope Scale (CHS) is a dispositional scale developed by Snyder et al. (1997) to measure hopeful thinking in children and adolescents aged 8–16. The measure contains six items (each item is presented as an affirmation) responded to on a 6-point scale ranging from 1 = none of the time, to 6 = all of the time. This self-report measure contains three questions to evaluate pathways thinking (e.g., I can think of many ways to get the things in life that are most important to me) and three questions to examine agentic thinking (e.g., I am doing just as well as other kids of my age). Possible scores range from 6 to 36, with higher scores denoting higher levels of hope. In this study, the CHS is called "Questions About Your Goals" and respondents are asked to answer the questions based upon how they are in most situations. Previous studies with the CHS revealed adequate psychometric properties, including internal consistencies ranging between .72 and .86 for the total score (see Snyder et al. 2003 for a review).The CHS has been validated for Portuguese children (Marques et al. 2009a) with a Cronbach's alpha of .81 for the total score.

2.4 Students' Life Satisfaction Scale

The Students' Life Satisfaction Scale (SLSS) (Huebner 1991) is a self-report measure to evaluate the satisfaction with life as a whole (e.g., My *life* is better than most kids' vs. My *family life* is better than most kids') in individuals ranging in age from 8 to 18 years. Respondents are asked to answer the questions based on the thoughts that had in the last few weeks. For each of the seven items of the scale, presented as an affirmation, there are six response choices ranging from 1 = strongly disagree to 6 = strongly agree. Items are summed to produce a global index of life satisfaction. The scale scores range from 7 to 42, with higher scores denoting higher levels of global satisfaction with life. The internal consistency of the SLSS has been reported as .82 (Huebner 1991) and .86 in a subsequent exploratory study (Dew and Huebner 1994).The SLSS has been validated for Portuguese children (Marques et al. 2007) with a Cronbach's alpha of .89.

2.5 Global Self-Worth Sub-Scale

The Self-Worth Sub-Scale (SWS) is one of the six sub-scales of the Self Perception Profile for Children (Harter 1985), which is a self-report measure focused on children's (aged 8–16 years) domain-specific judgments of their competence, as well as a global perception of self-worth. The SWSS taps the extent to which the child likes self as a person, and constitutes a global judgment of personal worth. The sub-scale can be administered in groups as well as individually, and children respond based on a specific question format. As the authors considered the tendency for socially desirable responses as a major problem in self-concept scales, they applied a new format where the child is first asked to decide from two sentences which kind of child is most like him- or herself. Once the child has decided which of the two sentences describes his or her self-perception better, they are asked whether the sentence chosen is sort of true or really true. The general procedures are to score each item (e.g., "some kids like the person they are but other kids often wish they were someone else") on a 4-point scale, with a score of 4 reflecting high self-worth and a score of 1 designating low self-worth. Earlier data from Harter (1985) show acceptable internal consistency ranging from .78 to .84 for this sub-scale. The Self Perception Profile for Children with it six sub-scales has been validated for Portuguese children (Alves-Martins et al. 1995) with a reported Cronbach's alpha of .62.

2.6 Mental Health Inventory—5

MHI-5 is a short version of the Mental Health Inventory with 38 items developed in 1975 for the "Rand Health Insurance Experiment" and it is included in both versions of the Medical Outcome Study (MOS) questionnaires: MOS Short Form 20 (SF-20; Stewart et al. 1988) and MOS Short Form 36 (SF-36; Ware and Sherbourne 1992). MHI-5 is one of the eight dimensions (designated as "mental-health") of the SF-36 (Short Form-36 Health Survey) questionnaire (Ware et al. 1993), a valuable generic tool to describe the perceived health state and life quality of respondents (McHorney et al. 1994). The MHI-5 was developed for use in the general population and designed to improve upon other instruments by including items that assessed psychological well-being (Veit and Ware 1983). This inventory comprises five questions (e.g., How much of the time, during the last month, have you been a happy person?) about mood over the past month, measuring the experience of psychological well-being and the absence of psychological distress. Each of the items requires a response on a 6-point rating scale (*all of the time* to *none of the time*),

with possible scores range from 6 to 30, and the instrument is scored such that higher scores indicate better mental health. Internal consistency reliability coefficients range from .67 to .95 from the five items on the SF-36 scale (Ware et al. 1993). The MHI-5 has been validated for Portuguese children (Marques et al. 2009d) with a reported Cronbach's alpha of .82.

2.7 Academic Achievement

Students' academic achievement (AA) reports were obtained from students school records; grades were calculated by summing the numerical values of each subjects scores (i.e., Portuguese and English languages, Mathematic, Natural Sciences, History and Geography, and Musical, Physical, Visual and Technological Education) and dividing by the total number of subjects, resulting in an average score for each student. Students' academic achievement reflects their school records over the current grade with possible range of scores between 1 and 5, with 1 reporting the lowest achievement and 5 reporting the highest achievement.

2.8 Procedure

Approval to collect data was secured through the administrator from each school ($N = 7$), students and their parents. A letter describing the project and requesting permission for student participation was sent home to parents of potential participants. A total of 367 children and their parents consented to participate in the project. Each student who obtained parental consent and gave assent to participate in the study was administered each of the measures described above in groups of 15–30 students. The size of the group was dependent upon the space available within each school, as well as the amount of adult assistance present to promote the full understanding of instructions and the confidential completion of all measures. The measures completed by all participants were presented in a counterbalanced order. The students were first asked to complete the demographic survey and then the psychological scales. They were then thanked for their participation and dismissed. Research assistants were available during all administration sessions to answer questions and ensure confidentiality. At times 2, 3, and 4 students consent was re-obtained and survey administration procedures were the same as for time 1. Students' academic achievement records were provided by school with the permission of students, parents and schools administration.

Intervention groups met after school once each week for a total of five 60-min sessions.

Teachers and guardians of the students of the intervention group participated in a session of 1 h during the first week of the students' intervention. There was no communication between guardians and teachers of the intervention and comparison groups during intervention and follow-up.

2.9 Building Hope for the Future

The program was designed for a group format delivered over 5 weekly sessions, to help students to (1) conceptualize clear goals; (2) produce numerous range of pathways to attainment; (3) summon the mental energy to maintain the goal pursuit; and (4) reframe seemingly insurmountable obstacles as challenges to be overcome (Lopez et al. 2000b). The intervention is conducted in a group setting because it has been theorized that

hopeful thinking reflects a transactional process (Snyder et al. 1997). The first session "Learning about Hope" was dedicated to the introduction of the hope theory and its relevance to the change process and to positive outcomes (e.g., learn the vocabulary used in the model though acting out the hope picture). In the second session "Structuring Hope", participants were encouraged to learn how to recognize goals, pathways and agency components of hope; obstacles; and to identify personal goals (salient and attainable) they could work with for the next 4 weeks (e.g., learn to identify goals, obstacles, pathways and agency from stories or examples). The third session "Creating Positive and Specific Goals" was dedicated to practice the model, talking about hope and goals, refine personal workable goals in order to be more specific, positive and clearer and by creating multiple pathways and identifying agency thoughts for each goal (e.g., reorganize goals in a "goal enhancer worksheet" by making it more specific and positive). The fourth session "Practice Makes Perfect" was spent learning to identify and create an "hopeful talk"; the hope model was reinforced and; personal workable goals were reviewed and introduced in a personal hope story (e.g., follow the progress of the goals through a "Hope Buddy Journal"). In the fifth session "Review and Apply for the Future", participants were encouraged to review and share personal hope stories and to plan future steps (e.g., evaluate the process and discuss next steps with the hope buddy and share with the group).

Each session started with a 10 min segment dedicated to modeling and developing enthusiasm for the program and to reinforcing ideas learned in the previous session. Examples of personal goals that participants selected were increased performance in school subjects, improving interpersonal relationships, and involvement in extra curricula activities.

The program is based on the theoretical work (Snyder 1994) and applied work (e.g., Lopez et al. 2000a, b; Snyder et al. 2002a; McDermott and Snyder 1999). This program integrates solution-focused, narrative and cognitive-behavioral techniques. It offers psycho-educational, skills training and group process components, and includes structured activities, roleplaying, and guided discussion. Building Hope for the Future (BHF) was designed to control for adult attention, group cohesion, social support, the discussion of hope components, sharing thoughts and feelings with peers, and engagement in session's activities.

In the intervention condition, participants attended five 1-h sessions. Groups had between 8 and 12 participants and two leaders. The group leaders were doctoral students in psychology. Standardization among trainers was ensured through the use of a detailed and structured manual for trainers, used in combination with 10 h of didactic training carried out over a 2-days period. At the first and fifth sessions, intervention condition participants were administered the assessment measures. The assessment measures were administered to the comparison group at the beginning and at the end of the 5 weeks but without any kind of intervention.

The manual for parents and the manual for teachers were designed to: (1) increase parents and teachers awareness of the principles of hope and enhance their goal-setting behavior; and (2) promote goal-setting behavior in their children/students. In a 1-h session, 2 psychologists explained the three segments of the manuals to the parent/guardians (8–10 per group) of the intervention group: The first segment was dedicated to learning about hope (e.g., hope concept, research on hope, how hope can be cultivated, reflection questions). In the second segment, "Instilling Hope", participants were taught "Hope Finding" (e.g., self-evaluation with the Hope Scale from Snyder 1991) and "Hope Bonding" (how to build hopeful relationships). The third segment, "Increasing Hope", was dedicated to "Hope Enhancing" (basic steps associated with hope enhancement) and "Hope

Table 1 Means and standard deviations on dependent variables by group and time

Measure	Group	Time 1		Time 2		Time 3		Time 4	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
CHS	Intervention	21.83	5.07	26.21	4.35	26.00	4.18	25.62	4.17
	Comparison	22.94	3.55	24.06	3.85	23.44	4.47	23.43	4.45
SLSS	Intervention	29.12	4.95	32.21	4.65	32.04	4.15	31.75	4.14
	Comparison	29.28	6.16	29.28	5.25	28.83	5.28	29.33	5.97
SWS	Intervention	17.03	3.00	19.79	2.94	18.95	2.07	18.90	2.05
	Comparison	18.06	2.07	18.06	1.98	18.22	2.55	18.16	2.35
MHI-5	Intervention	22.21	3.92	23.84	3.50	23.79	3.76	23.58	3.06
	Comparison	23.83	3.52	21.61	3.55	22.16	3.14	22.05	2.83
AA	Intervention	3.92	.65	4.28	.71	4.09	.66	4.10	.78
	Comparison	4.28	.71	4.11	.54	3.97	.61	3.94	.45

CHS Children Hope Scale; *SLSS* Students' Life Satisfaction Scale; *SWS* Self-Worth Sub-Scale; *MHI-5* mental health inventory; *AA* academic achievement

Reminding" (strategies and practical exercises to improve their own hope and in their children/students).

3 Results

Statistical analyses were conducted using SPSS version 16. The distribution of the variables was examined. Because the data were normally distributed and were without significant outliers, no transformations were made for the remaining analyses. Additionally, there were no significant differences between groups on any of the variables of interest at time 1, suggesting that the matching procedure was effective. Means and standard deviations on dependent variables by group and time are presented in Table 1. Correlation analyses reveal that at Time 1, hope had significant correlations with life satisfaction $r(62) = .55$, $p < .01$, self-worth $r(62) = .51$, $p < .01$, mental health $r(62) = .47$, $p < .01$ and academic achievement $r(62) = .33$, $p < .01$.[1]

Repeated measures ANOVAs was conducted to test for any group differences on participants' hope, life satisfaction, self-worth, mental-health and academic achievement, over time, with treatment condition as the between-subject factor and assessment point as the within-subjects dependent variable. In order to investigate differences between conditions at each occasion of measurement, independent sample *t*-tests were computed. For post-test, 6- and 18-month follow-up, differences in change from baseline between each of the two conditions were tested using paired sample *t*-tests (Figs. 1, 2, 3). Type I error rate was set at .05.

3.1 CHS

A repeated measures ANOVA showed a significant interaction between group and time on the CHS, Wilks' Lambda = .79, $F(3,120) = 3.00$, $p = .03$, partial eta squared = .07,

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[1] Correlations among the variables at pre-test, post-test, 6-month and 18-month follow-up are available upon request. Requests should be made to the first author.
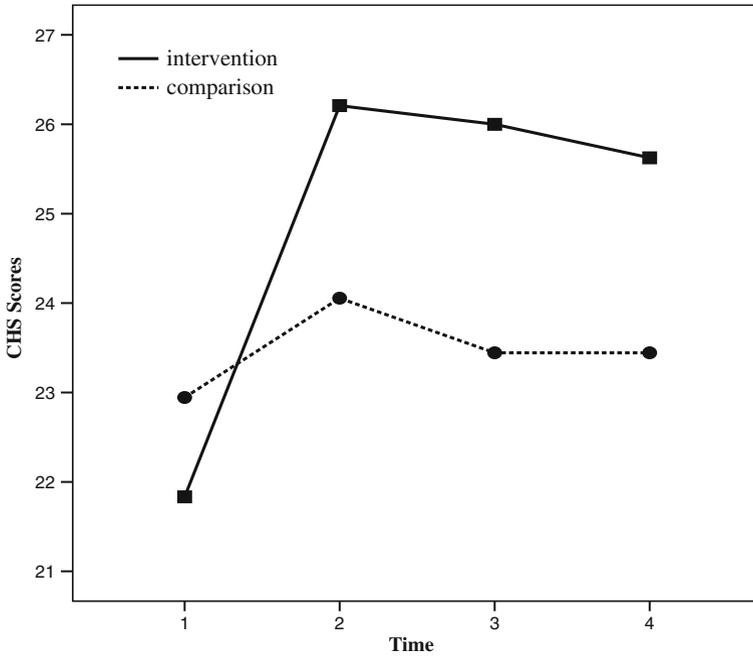
Fig. 1 CHS means by group at time 1 (pre), time 2 (post) time 3 (6-month follow-up) and time 4 (18-month follow-up)
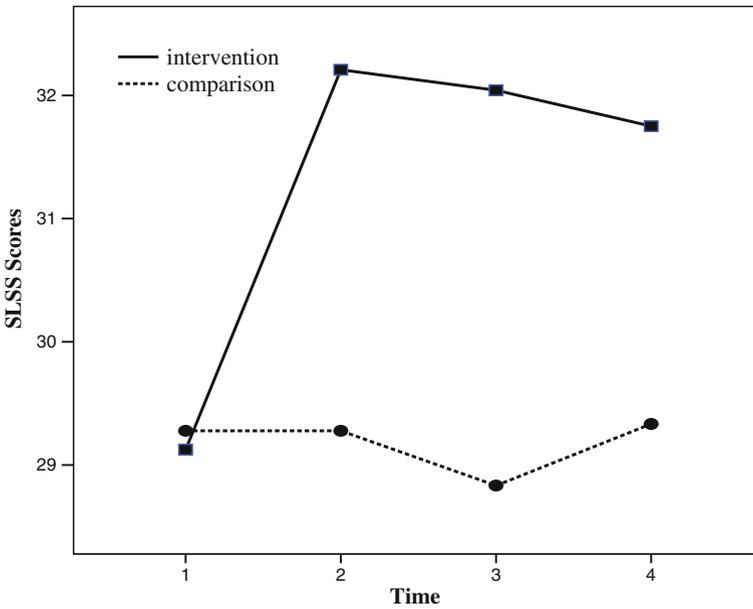

Fig. 2 SLSS means by group at time 1 (pre), time 2 (post) time 3 (6-month follow-up) and time 4 (18-month follow-up)
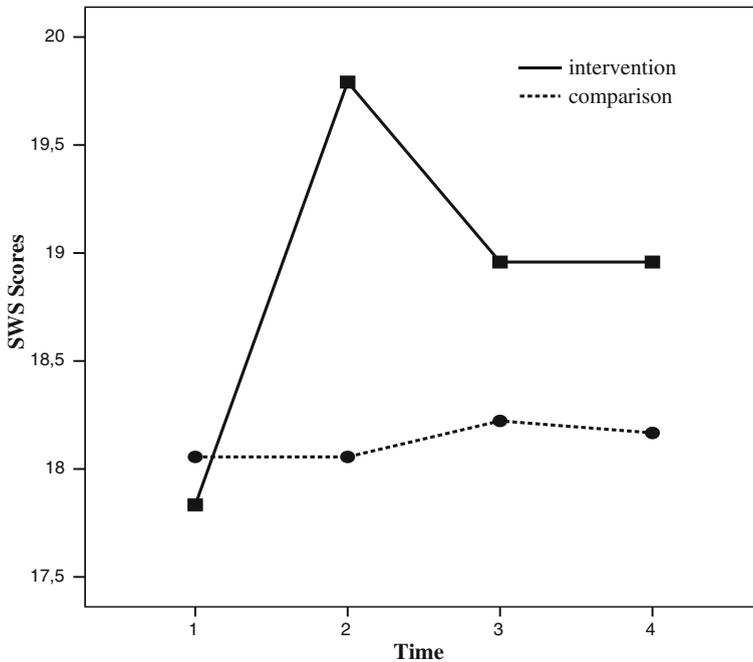
Fig. 3 SWS means by group at time 1 (pre), time 2 (post) time 3 (6-month follow-up) and time 4 (18-month follow-up)

indicating different patterns of change of the intervention and comparison groups over time. Statistically significant difference was found between the intervention and comparison groups on post-test ($p < .05$), 6-month ($p < .04$), and 18-month follow-up ($p < .05$). The intervention group showed a significant increase in hope from pre- to post-assessment $t(60) = -4.29$, $p < .001$ (two-tailed) and to 6-month $t(52) = -4.03$, $p = .001$ (two-tailed) and 18-month follow-up $t(49) = -3.38$, $p = .003$ (two-tailed). The comparison group showed no significant change over time. These results are summarized in Fig. 1.

3.2 SLSS

A repeated measures ANOVA showed a significant interaction between group and time on the SLSS, Wilks' Lambda $= .77$, $F(3, 120) = 2.66$, $p = .05$, partial eta squared $= .06$, indicating different patterns of change of the intervention and comparison groups over time. Statistically significant difference was found between the intervention and comparison groups on post-test ($p < .05$), 6-month ($p < .05$), and 18-month follow-up ($p < .05$). The intervention group showed a significant increase in life satisfaction from pre- to post-assessment $t(60) = -4.49$, $p < .001$ (two-tailed) and to 6-month $t(52) = -3.83$, $p = .001$ (two-tailed) and 18-month follow-up $t(49) = -3.81$, $p < .001$ (two-tailed). The comparison group showed no significant change over time. These results are summarized in Fig. 2.

3.3 SWS

A repeated measures ANOVA showed a significant interaction between group and time on the SWS, Wilks' Lambda = .77, $F(3,120) = 2.57$, $p = .05$, partial eta squared = .06, indicating different patterns of change of the intervention and comparison groups over time. Statistically significant difference was found between the intervention and comparison groups on post-assessment ($p < .01$). The intervention group showed a significant increase in self-worth from pre- to post-assessment $t(60) = -5.27$, $p < .001$ (two-tailed) and to 6-month $t(52) = -2.42$, $p = .02$ (two-tailed) and 18-month follow-up $t(49) = -2.42$, $p = .02$ (two-tailed).. The comparison group showed no significant change over time. These results are summarized in Fig. 3.

3.4 MHI-5

A repeated measures ANOVA showed no significant interaction between group and time on the MHI, Wilks' Lambda = .77, $F(3,120) = 1.51$, $p = .21$, partial eta squared = .03. The main effect for time was not significant, Wilks' Lambda = .94, $F(1,40) = .55$, $p = .98$, partial eta squared = .01. The main effect for group was not significant, $F(1,40) = 2.30$, $p = .13$, partial eta squared = .05.

3.5 AA

A repeated measures ANOVA showed no significant interaction between group and time on the AA, Wilks' Lambda = .05, $F(3,120) = .87$, $p = .45$, partial eta squared = .02. The main effect for time was significant, Wilks' Lambda = .45, $F(1, 40) = 6.54$, $p = .00$, partial eta squared = .13. The main effect for group was not significant, $F(1,40) = .35$, $p = .55$, partial eta squared = .00.

4 Discussion

The significant changes in Children Hope Scale, Students′ Life Satisfaction Scale, and Self Worth Sub-Scale scores suggest that interventions designed to increase students' strengths (in this case, hope), influence other psychological constructs. The increase in hope was expected and is consistent with other studies that seek to foster goal-directed thinking (Cheavens et al. 2006; Curry et al. 1999; Klausner et al 1998, 2000; Lopez et al. 2000a; MacLeod et al. 2007). This intervention is a strengths-oriented approach to help students realize goals for a more satisfactory life (Lopez et al. 2000a) and it is plausible that an increase in life satisfaction is a by-product of the increase in goal-directed thinking. These results are consistent with the study of MacLeod et al. (2007). The intervention also intended to increase student confidence in their ability to achieve desired goals which in turn helps to develop a positive attitude toward the self (Lopez et al. 2000a) which may explain the increase in self-worth. These results are consistent with the study of Curry et al. (1999). As hypothesized, the comparison group demonstrated no change in hope, life satisfaction and self-worth from baseline to post- or follow-up assessment (in that developmental time window).

The MHI-5 was included in this study for exploratory purposes as there is no known longitudinal intervention data for this measure; mental-health indicators has previously been used as an outcome variable (Cheavens et al. 2006) and as a mediator (Shorey et al.

2003) between parenting styles and mental health outcomes in youth. It was hypothesized that mental-health would increase for the strengths intervention group only, however while there was a trend in the predicted direction, the result was not significant. We suggest further research include mental health measures to inspect this relationships.

It was also hypothesised that academic achievement would increase for the intervention group compared to the control group, however, while there was a trend in the predicted direction, the result was not significant. Academic achievement is very stable over time (Marques et al. 2009c), and as a result may be less amenable to change. However, these results are not consistent with the findings reported by Curry et al. (1999) with college students, but consistent with the relationships between hope and academic achievement (e.g., Marques et al. 2009c; Snyder et al. 1997). Hope predict academic achievement at a single time point (Marques et al. 2009b; Snyder et al. 1997) but does not contribute significantly to the prediction of students' academic achievement 1- and 2-years later when initial academic achievement was controlled for (Marques et al. 2009c). Alternatively, these results may be because it takes longer to see a shift in academic achievement. Nevertheless future studies are needed to further examine this issue. In the present study the result is statistically significant by time but unlikely to be a meaningful finding.

5 Conclusions and Implications

Results suggest that an intervention designed to foster hope in middle schoolers can produce psychological benefits, by increasing hope, life satisfaction and self-worth. These results do not support there being significant changes in mental-health or academic achievement as a result of the intervention. These findings are consistent with previous interventions to enhance goal-directed thinking and strongly support the application of group-based approaches for raising the hopeful thinking of all students (e.g., the curriculum and school environment for students could be arranged and improved in the direction of supporting hopeful thinking). Moreover, this intervention has the potential to address issues of efficacy, accessibility (students, teachers, and parents) and sustainability (low cost to deliver in a group-setting and with 5 weeks only).

There are no studies, of which we are aware, promoting hope in students with the collaboration of key stakeholders (parents and teachers); therefore, we hope that this research can be a first step to stimulate further research with an holistic approach in order to provide a positive development and better educational contexts for students. Further, it would be interesting for future studies to have feedback on what the benefits of using this holistic approach (e.g., increased hope for parents and teachers).

One limitation of this study is that it was not possible to use a randomized control trial design; given the study's 18-month duration a wait-list control group was also not feasible and the study had neither a placebo group nor a competing treatment group. In this connection, it would have been interesting to observe an additional group in which only children (and not their guardians and teachers) receive the intervention. This important limitation may cloud the interpretation of the findings. This study is also limited by its reliance on a small, exclusively white, disproportionately female sample, and future research on larger and more diverse samples is important for determining the generalizability of the findings. Nonetheless, the results have important scientific and social implications. They contribute to researchers' emerging scientific understanding of the basic nature and longitudinal development of children' hope and other positive thinking

variables though deliberation action, and they provide critically important information for educators and clinicians attempting to understand and develop psychological strengths.

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