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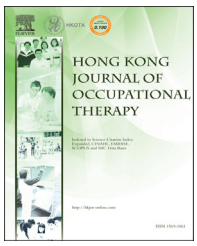
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ORIGINAL ARTICLE

Effect of a Social Emotional Learning Programme for Primary School Students

Agnes S.K. Wong, Cecilia W.P. Li-Tsang*, Andrew M.H. Siu

Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong SAR, China

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KEYWORDS
primary school students;
problem behaviours;
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social skills

Summary *Objective/Background:* This study evaluates the effect of a social emotional learning (SEL) programme for primary school students who have difficulties in social and emotional management, as reported by their teachers or parents.
Methods: Twenty-seven primary school students were recruited and randomly assigned to the treatment group ($n = 14$) and the control group ($n = 13$). The elementary school version of the Social Skills Rating System was used to assess the social skills and problem behaviours of the participants prior to and after the programme. The treatment group joined a six-session SEL programme, which was modified and localized based on the Strong Kids Programme. The programme aimed to improve participants' social emotional skills, such as dealing with anxiety and understanding and identifying the emotions of self and others. Each session lasted for about 1 hour and was run in small groups.
Results: Problem behaviours were significantly less frequent in the treatment group after the programme ($p = .008$), but not in the control group. However, no significant changes were found in the measures of social skills.
Conclusion: The results of this pilot study show that the SEL can effectively reduce the problem behaviours of primary school students. Implications and future research directions are discussed.
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Introduction

Over the past decade, there have been growing concerns about the increase in mental health problems among children and adolescents. Recent studies have consistently reported an alarming increase in mental health problems and suicide rates among children and adolescents in Hong Kong and worldwide (Choi & Hung, 2011; Collishaw, Maughan, Goodman, & Pickles, 2004; van Heeringen, 2001; Yip, Liu, Lam, Sunita, & Chen, 2003). Parents and students in Hong Kong and many Chinese populations often see the pursuit of academic success as a top priority.

Conflicts of interest: All contributing authors declare no conflicts of interest.

* Corresponding author. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong SAR, China.
E-mail address: Cecilia.li@polyu.edu.hk (C.W.P. Li-Tsang).

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Children and young people often spend endless hours and great effort in pursuing academic achievements, as an academic achievement is often seen as the best indicator of school adjustment. Development of intellectual and academic skills is encouraged over holistic development, and there appears to be a lack of attention to the social and emotional well-being of children and adolescents in the school curriculum (Shek & Chan, 1999). However, to adapt well in modern societies, it is important to learn to become compassionate and responsible individuals who are able to manage emotions effectively, to be resilient, to communicate effectively, and to build friendship with others. There is a great need to re-establish social and emotional development as one of the key objectives of the elementary school curriculum around the world (Elias & Arnold, 2006).

Social emotional development plays an important role in children's ability to function in the school setting and achieve academic success (Aviles, Anderson, & Davila, 2006; Denham, 2006; Klein, 2002). Good social emotional competence is related to many positive outcomes of development, including prolonged attention span, better memory, and self-regulation, which are all crucial for academic success (Fredrickson & Branigan, 2005; Isen, 2003; Ray & Smith, 2010). Children with poor social emotional development are at risk of a wide range of negative outcomes, such as psychopathology, substance abuse, and academic failure (Aviles et al., 2006; Denham, 2006; Denham, Wyatt, Bassett, Echeverria, & Knox, 2009). Many strategies have been proposed to promote social emotional well-being in children, such as promoting early attachments, building emotional and social competence, or providing a secure environment that promotes wellness, encouraging empowerment about the future, and learning of coping skills. Social emotional learning (SEL) is an emerging focus in education, which tends to use strategies to promote well-being. Many SEL programmes use a prevention-oriented approach by teaching students skills to regulate their emotions and to interact appropriately with others. It is generally believed that preventing social emotional problems is more effective in younger than in older children, when behaviours are more malleable (Fisak, Richard, & Mann, 2011; Lock & Barrett, 2003). There is increasing evidence that SEL programmes could make a positive and long-lasting impact on the well-being of individuals (Reynolds, Temple, Robertson, & Mann, 2001; Saarni, 1999), including children's school adjustment and academic achievement (Greenberg et al., 2003; Merrell, Juskelis, Tran, & Buchanan, 2008).

SEL programmes, such as the Strong Kids in the United States, incorporate a range of methods to promote resilience; facilitate the development of social and emotional competence; teach social, emotional, and life skills; and prevent negative life outcomes (Greenberg et al., 2003; Merrell et al., 2008). SEL is based on prevention science and is designed for the 70% of students who do not have substantial mental health risks or problems (Merrell et al.). In this study, we developed an SEL programme for junior primary school students based on the curriculum framework of Strong Kids (Merrell et al.). The Strong Kids was selected as our framework because it is prevention oriented (Cowen, 1994), concise and well written, evidence based, and feasible for implementation in educational and health care settings without the need to be certified (Merrell et al.). Based on the Strong Kids programme, our programme attempts to provide a systematic guide to the teaching of social and emotional competence, including the skills of self-awareness, self-management, social awareness, relationship skills, and responsible decision making (Merrell, 2010; Merrell et al.). The programme is expected to enhance social emotional outcomes of children without mental health risks, as well as promote universal mental health (Caldarella, Christensen, Kramer, & Kronmiller, 2009; Merrell, 2010). Although there are a number of evaluation studies of SEL programmes in the United States, very few studies have been published on the effectiveness of SEL programmes in Chinese populations.

The SEL programme developed in this study was based on the Strong Start curriculum for Grades K-2 and Strong Kids for Grades 3—5. Strong Start for Grades K-2 focuses on the following: (a) Facilitating the understanding of the six universal emotions (i.e., happy, sad, angry, afraid, surprised, and disgusted); (b) Learning how to manage anxiety and worry; (c) Using basic thinking skills, like clear thinking; (d) Conflict resolution; and (e) Stress reduction and relaxation. The Strong Start programmes are about 35 minutes in length/lesson, whereas the Strong Kids lessons are about 50 minutes in length/lesson (Merrell, 2010).

Because the Strong Kids programmes have been found to be effective in reducing participants' problem behaviours (Caldarella et al., 2009; Marchant, Brown, Caldarella, & Young, 2010; Merrell et al., 2008), with strong treatment fidelity and social validity (Merrell, 2010), and have great potential to be adapted for the learning needs of culturally and linguistically diverse students (Castro-Olivo, 2007), this study develops a culturally adapted version of an SEL programme for Chinese children in Hong Kong and evaluates whether it is feasible and beneficial to elementary school students in the local context. If the programme can be implemented effectively, teachers may be trained to run such programmes in the long run (Barrett & Turner, 2001). In the long run, the SEL programmes could become a part of the school curriculum, instead of being interest classes conducted outside of formal classes. This study could provide preliminary evidence on the effectiveness of SEL programmes for young children, so that schools could consider incorporating it as part of the formal curriculum. This study translates and adapts the curriculum for primary school students and then evaluates the effects of the programme on social and emotional outcomes in the Chinese culture. It was hypothesized that participants' social skills would be significantly improved, while the frequency of problem behaviours would significantly decrease after the intervention compared with that prior to the intervention. It was also hypothesized that participants in the control group would not show any significant changes in either measure.

Methods

Participants

The participants ($N = 27$; 18 males) were recruited from a church and two mainstream primary schools located in districts with lower incomes in Hong Kong using convenience

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Table 1 Topics and Key Objectives of Each Session.

Session	Topic	Objectives
1	Introduction	Overview of the programme: purpose, rules, and expectations; understanding and identifying emotions of both self and others
2	Awareness and expression of emotions	Increasing awareness of emotions and ways of expressing emotions; learning to express anger in appropriate rather than maladaptive ways
3	Emotions, thinking, and actions	Increasing awareness of different emotions and whether they are linked to comfort or discomfort feelings; understanding links between situations, emotions, and behaviours
4	Managing stress and anxiety	Dealing with anxiety; relaxation training
5	Clear thinking	Identifying common thinking errors and maladaptive beliefs
6	Power of positive thinking	Revision

sampling. The students were from Grade 1 to Grade 3, and were reported to have social and emotional management difficulties by their parents or teachers. The lessons were conducted in the church and a mainstream primary school. A total of 14 students were randomly assigned to the intervention group, and the remaining students ($n = 13$) were assigned to the control group. Among the 27 students, four were diagnosed with specific learning difficulties (SpLDs), and three were diagnosed with attention deficit hyperactivity disorder (ADHD). None of the remaining students had any diagnoses. The details of the participants are presented in Table 2.

Procedure

We obtained parents' consent to allow their children to join the SEL programme. Participants were randomly assigned to either the intervention group or the control group. Fig. 1 illustrates the participant flow chart. The intervention group joined the programme first, and the control group joined the programme after the intervention group had completed the programme (i.e., delayed intervention). Data were collected at three different time points: (a) prior to the programme; (b) after the intervention group had completed the programme, but before the control group had; and (c) after the control group had completed the programme.

Outcome measures

The elementary school version of the Social Skills Rating System (SSRS; Gresham & Elliott, 1990) was used to assess the social emotional behaviours of the participants, which were the key outcomes of the intervention programme. The SRSS is a norm-referenced, standardized instrument designed to evaluate the social skills and problem behaviours of students from Grade K to Grade 12. Based on the comparisons with the standardization sample, the SSRS classifies an individual's social skill or problem behaviour using the levels of "fewer", "average", or "more" than the norm group (Gresham & Elliott, 1990). The SSRS includes parent-rated and teacher-rated scales, but this study used

Table 2 Descriptive Statistics on Participants' Age, Sex, Grade, and Diagnosis.

		Intervention group	Control group	All
Number of participants		14	13	27
Mean age (SD)		7.73 (0.75)	7.75 (0.64)	7.74 (0.69)
Sex	Male	8	10	18
	Female	6	3	9
Grade	1	4	5	9
	2	6	6	12
	3	4	2	6
Diagnosis	None	10	10	20
	SpLDs	1	3	4
	ADHD	3	0	3
First assessment: social skills[a]	Average	5	8	13
	Fewer	9	5	14
First assessment: problem behaviours[a]	Average	5	8	13
	More	9	5	14

Note. ADHD = participants diagnosed with attention deficit hyperactivity disorder; SD = standard deviation; SpLDs = participants diagnosed with specific learning difficulties.

[a] Based on the comparisons with the standardization sample, the Social Skills Rating System allows for the classification of the individual's *level* according to the score. An individual can be classified as usually demonstrating *fewer*, an *average* number, or *more* of a particular social skill or problem behaviour (Gresham & Elliott, 1990).

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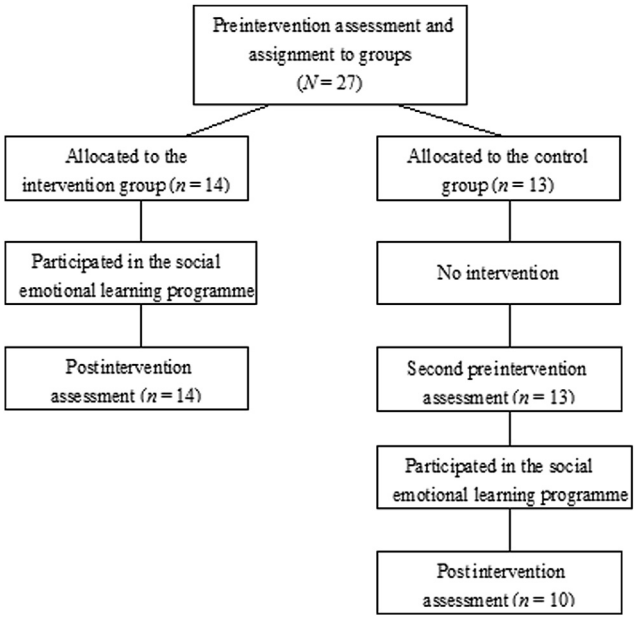


Figure 1 Participant flow chart.

only the parent-rated scale because some of the participants attended the programme during the summer holidays when it was not feasible to obtain ratings from the schoolteachers.

The parent version of the SSRS includes 55 items asking parents about their child's social skills and problem behaviours. Item responses are on a 3-point scale, with anchors of "never", "sometimes", and "very often". The parent version of the social skills section contains 38 items and has the four subscales of "cooperation", "assertion", "responsibility", and "self-control". The problem behaviours section contains 17 items and has the three subscales of "externalizing", "internalizing", and "hyperactivity" (Gresham & Elliott, 1990).

The SSRS was normed on over 4,000 students from preschool through high school and demonstrated excellent psychometric properties (Gresham & Elliott, 1990). It has been reported to have robust validity and reliability (Diperna & Volpe, 2005) and very good to excellent internal consistency across all forms and educational levels, with $\alpha = .90$ for the social skills scale and .84 for the problem behaviours scale (Gresham & Elliott, 1990).

The intervention programme

Because most of the schools reported that an SEL programme with 10—12 sessions would be too long to fit into the packed school schedule, a six-session programme called *Spooks of Emotions* was developed. We anticipated that very few parents and schools in Hong Kong would be willing to commit to a group package beyond six sessions. We intended to add an additional "advanced" class if the parents find the intervention useful and are willing to join after attending the basic six-session group package. We have been in contact with the original authors of the Strong Kids programme, but we did not formally get permission to use the brand name Strong Kids as we greatly reduced the number of group sessions from 10 to six.

Because the participants were primary school students from Grade 1 to Grade 3, we built our own programme based on the objectives and content of the manuals for K-2 and Grades 3—5 (Merrell, Carrizales, Feuerborn, Gueldner, & Tran, 2007a; Merrell, Parisi, & Whitcomb, 2007b). The topics and key objectives of each session are listed in Table 1.

The programme was run in small groups (about 5 kids/group) by a researcher who has a master's degree in child psychology and experience in running child intervention programmes. Two sessions were conducted each week, as recommended by Guelder and colleagues (2006, as cited in Marchant et al., 2010), and attested to by the positive outcomes in Marchant et al. (2010). This format also helps the programme fit into the packed schedule of mainstream primary schools in Hong Kong. Each session lasted for about 1 hour. During each session, there were warm-up activities, play activities, short instructional talks, storytelling, role plays, case studies, brainstorming and discussion, and skills practice (e.g., relaxation, self-instruction, and use of positive thinking). The play activities, storytelling, role plays, and case studies were modified using examples commonly known among primary school students in Hong Kong.

Results

A total of 27 participants completed the study. All were studying primary Grades 1—3. They all had $>$ 80% attendance in the programme. Because the participants were reported to have social and emotional management difficulties by their parents or teachers, their level of social skills and problem behaviours (based on the classification in the SSRS) from the first assessment was examined; 62.96% of the participants were found to have "fewer" social skills and "more" problem behaviours, or were found to have either one of these deficits. The remaining participants showed an average level of social skills and problem behaviours (Fig. 2), although these students were reported to have social and emotional management difficulties by their parents or teachers. Table 2 presents the descriptive statistics.

The intervention group had improvement in social skills after the programme, although the changes did not reach significance ($t = -1.67$, $p = .119$). As expected, the frequency of social skills in the control group did not show significant changes in the second assessment ($t = -0.70$, $p = .496$; Table 3).

With regard to the frequency of problem behaviours, the intervention group showed a significant decrease after the programme ($t = 3.11$, $p = .008$). As expected, the control group did not show significant changes at the second assessment ($t = 1.15$, $p = .273$; Table 3).

The second assessment for the control group was considered a preintervention assessment, as the participants then received the intervention. There were changes in the number of participants in the control group at postintervention assessment (i.e., the 3rd assessment) because three parents did not complete the SSRS questionnaire. One-way analysis of variance (ANOVA) was performed to compare all the assessment measures (preintervention and postintervention assessments of social

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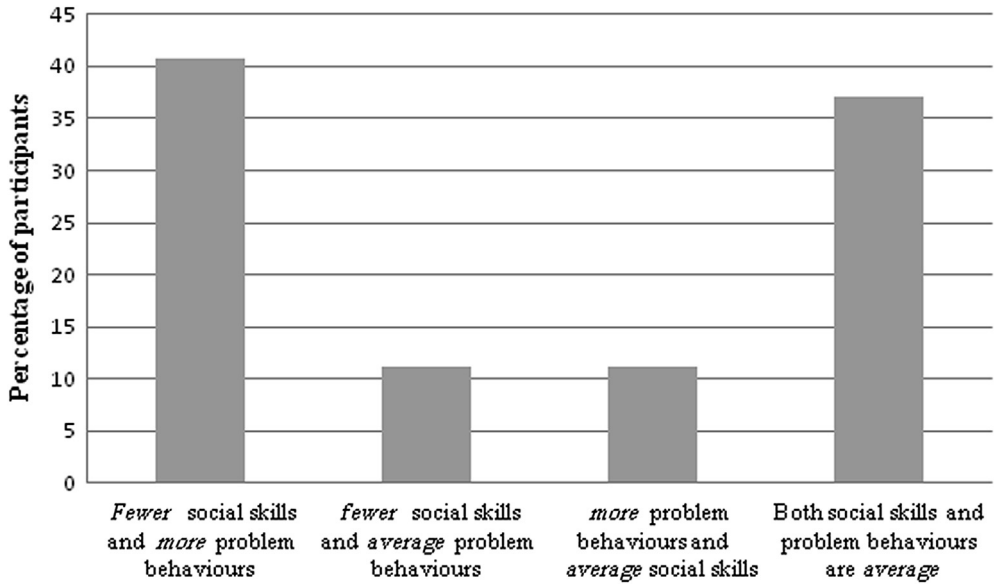


Figure 2 Percentage of participants with different levels of social skills and problem behaviours in the first assessment according to Social Skills Rating System (SSRS) classification.

skills and problem behaviours) for participants of different sex, diagnosis, and group. None of the results from ANOVA was statistically significant, except for the preintervention problem behaviour ratings between the intervention group and the control group. Although participants were randomly assigned into the groups, the intervention group was found to have significantly more problem behaviours (as reported by their parents) than the control group, $t = 2.62$, $p = .015$. All other comparisons were not significant ($p > .05$).

Among the 27 participants, seven were diagnosed with either SpLDs or ADHD, whereas the remaining 20 participants had no diagnoses. Interestingly, the social skills and problem behaviours ratings obtained from participants with and without diagnosis at different time points were found to have no significant differences ($p > .05$). We also compared the social skills and problem behaviours ratings obtained from participants with and without ADHD. Similarly, no significant differences were found ($p > .05$).

The preintervention and postintervention ratings of all participants were entered for statistical analysis (Table 4). Because three parents in the control group did not complete the postintervention assessment, only data from 24 participants were included. In the analysis including all participants, there was a significant reduction in problem behaviours ($t = 2.96$, $p = .007$). In-depth analyses were conducted on the scores of the problem behaviour subscales. There were significant reductions in the internalizing subscale ($p = .038$) and the hyperactivity subscale ($p = .001$), but no significant change in the externalizing subscale ($p = .197$). By contrast, there was a trend of improved social skills, but it did not reach significance ($t = -1.42$, $p = .168$). No significant change was observed in any of the social skills subscales (all $p > .05$). Only the cooperation subscale showed marginally significant improvement ($t = -1.88$, $p = .073$).

Discussion

This study examined the effects of a SEL programme (which was developed based on the Strong Kids

Table 3 Descriptive Statistics of Social Emotional Scales Ratings of the Two Groups in the First and Second Assessments (Postintervention Assessment for the Intervention Group).

	First assessment		Second assessment		*t*	Significance
	M	SD	M	SD		
Social skills [a]						
Intervention group ($N = 14$)	39.71	8.75	43.50	8.78	−1.67	.119
Control group ($N = 13$)	45.00	12.32	46.23	9.01	−0.70	.496
Problem behaviours [a]						
Intervention group ($N = 14$)	21.21	6.31	17.57	7.19	3.11	.008**
Control group ($N = 13$)	16.23	6.10	15.08	5.81	1.15	.273

Note. M = mean; SD = standard deviation.
* $p < .05$; ** $p < .01$.
[a] The social skills section in the parent version of Social Skills Rating System (SSRS) contains 38 items. The problem behaviour section in the parent version of SSRS contains 17 items (Gresham & Elliott, 1990).

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Table 4 Descriptive Statistics of Social Emotional Scales Ratings of all Participants in the Preintervention and Postintervention Assessments ($N = 24$).

	Preintervention		Postintervention			
	M	SD	M	SD	$t(23)$	Significance
Social skills [a]	42.46	9.72	44.88	7.88	−1.42	.168
Cooperation	9.58	2.92	10.67	3.13	−1.88	.073
Assertion	11.42	3.43	11.67	2.70	−0.44	.666
Responsibility	12.08	2.62	12.46	2.08	−0.78	.443
Self-control	9.38	3.84	10.08	2.45	−1.18	.250
Problem behaviours [a]	19.25	6.41	16.71	6.78	2.96	.007**
Externalizing	6.17	2.53	5.67	2.48	1.33	.197
Internalizing	6.00	2.27	5.04	2.37	2.20	.038**
Hyperactivity	7.08	2.86	6.00	3.13	3.76	.001**

Note. M = mean; SD = standard deviation.
* $p < .05$; ** $p < .01$.
[a] The social skills section contains 38 items and can be further divided into the following four subscales: cooperation, assertion, responsibility, and self-control. The problem behaviour section contains 17 items and can be further divided into the following three subscales: externalizing, internalizing, and hyperactivity (Gresham & Elliott, 1990).

programme) on social and emotional outcomes. The results revealed that participants' problem behaviours reduced significantly after the intervention, whereas the control group did not show significant changes. There was no significant difference between the two groups when the postintervention scores were compared. However, when all participants (after both groups have completed the programme) were included in the analysis, a significant decrease in problem behaviours after the intervention was found. These findings indicated that the programme was effective in reducing children's problem behaviours and supported our hypothesis. It is worth noting that only the scores of the internalizing and hyperactivity subscales of problem behaviours showed significant improvement; no change was found on the externalizing subscale. This is consistent with past research findings showing that the Strong Kids programme can lead to meaningful reductions in problem behaviours, especially in internalizing problem symptoms (Caldarella et al., 2009; Merrell, 2010; Merrell et al., 2008). This finding is also reasonable due to the fact that Strong Kids was not designed to be a comprehensive programme for all problem behaviours (Caldarella et al., 2009).

Our findings are promising for mainstream primary schools in Hong Kong and other regions with a similar educational system. The programme can be implemented in an educational setting with minimal professional training and resources (Merrell, 2010), while positive outcomes can be observed within a short period as demonstrated in this study. Teachers working at mainstream primary schools may be trained to run such programmes over the long run to ensure that the programme is sustainable (Barrett & Turner, 2001). Schools can also support teachers or assistants to attend trainings because disseminating programmes through the classroom is definitely a cost-effective and time-saving method.

Participants' social skills were found to have increased, although it did not reach significance. One possible reason is that, because the programme was shortened and condensed to cater to the local context, some of the social skill learning content of the original Strong Kids programme was not included. In view of this, the content of the sessions may need to be fine-tuned in the future. Another possible reason is that, as mentioned, the programme was not designed to address all problems. It is very likely that the Strong Kids programme is most suitable for children at risk of internalizing problems. Furthermore, although the Strong Kids programme included a social skills training component, the SSRS may not be sensitive enough to capture changes because it is a 3-point scale. In line with the practice of some researchers (Caldarella et al., 2009; Harlacher & Merrell, 2010), future studies may adopt other scales, such as the 5-point School Social Behavior Skills scale (Merrell, 2002) or the newly developed 4-point Social-Emotional Assets and Resiliency Scales (Merrell, 2008).

One study evaluated the psychometric properties of the SSRS and showed that children with ADHD were consistently rated as having more social skills deficits than normal controls, demonstrating the discriminative ability of the SSRS (Van der Oord et al., 2005). However, we did not find significant differences between the ratings of participants with and without diagnosis or between participants with and without ADHD. One potential explanation is that we had very few participants with ADHD or SpLDs. Besides, participants with diagnoses might be taking medication to control their conditions. Future studies should include more participants with ADHD or other diagnoses and consider whether the participants are taking medication.

Limitations

There are several limitations to this study. First, participants' social emotional competence ratings were only based on parent reports. It would be more objective to include other measures, such as classroom observation, teacher reports, and children's self-reports in the future. One reason is that parents tend to underestimate children's worry and anxiety and overestimate their optimism

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compared with children's self-report (Lagattuta, Sayfan, & Bamford, 2012).

Second, we only sampled participants from two mainstream primary schools and one church in Hong Kong. It is anticipated that expanding the sample size would improve the external validity. Third, future studies can provide a more complete picture by including follow-up assessments to determine the extent of beneficial effects over time. In addition, we evaluated the programme only based on the social skills and problem behaviours of the participants prior to and after the programme. It would be beneficial if future studies measure participants' academic performance as well. Because the Chinese culture places great importance on academic performance, the public will place more importance on the benefits of SEL if studies can show that SEL can enhance social emotional competence and academic performance in the Chinese context.

Conclusion

This study translated and adapted a shortened SEL programme for primary school students in Hong Kong and evaluated the effects of the programme on social and emotional outcomes. Despite the small sample size in this trial implementation, the results appeared promising: The six-session SEL programme significantly reduced problem behaviours of the participants.

Incorporating an SEL programme into whole-class instruction can yield many advantages. For example, it would be cost effective and efficient in terms of time, and it would provide all students with an equal opportunity to learn both academic and nonacademic skills. Social skills play a critical role in academic and behavioural success (Sansosti, Power-Smith, & Cowan, 2010). The Strong Kids programme can be implemented in the Chinese context, and it appeared to be effective in reducing the problem behaviours of Chinese primary school students. More efforts should be made to ensure the programme is culturally and contextually appropriate for children in Hong Kong in the future.

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