Evaluation of a manual-based programme for the promotion of social and emotional skills in elementary school children: results from a 4-year study in Portugal

PAULO MOREIRA1*, LORENA CRUSELLAS2, ISABEL SÁ3, PAULO GOMES1 and CARLA MATIAS4

1Universidade Lusíada do Porto, Portugal, 2Prevenir, ONG, Lisboa, Portugal, 3Universidade de Lisboa, Portugal and 4Brunel University, London, UK
*Corresponding author. E-mail: paulomoreira@por.ulusiada.pt or paul_moreira@hotmail.com

SUMMARY

The promotion of socio-emotional skills in educational contexts is highly beneficial to individuals' global adjustment and development. Evaluation research suggests that interventions for the promotion of socio-emotional skills are effective. However, most of this work has been carried out in the USA and there is now a pressing need to evaluate interventions at the cross-cultural level. This 4-year study evaluated the effectiveness of a teacher manual-based intervention for the promotion of social and emotional skills in Portuguese elementary school children. Using a quasi-experimental design, teachers taught manual-based strategies to children in the experimental group, focusing on specific social and emotional skills. These strategies were integrated as part of the curricular activities. Results showed statistically significant differences between the experimental group and the control group on the evaluated outcomes (self-control, emotional differentiation, emotional regulation, social skills, and self-esteem). For each of the dimensions studied, effect sizes were large (above 0.80). Findings are similar to those reported by international research evaluating the effectiveness of programmes for the promotion of social and emotional skills in school-age children. This study is an important contribution in the establishment of evidence-based socio-emotional skills programmes at the cross-cultural level.

Key words: social and emotional skills; programme evaluation; school-based intervention; social and emotional learning

INTRODUCTION

Research has shown that the promotion of socio-emotional skills in educational contexts is highly beneficial to individuals’ global adjustment and development (Ciarrochi et al., 2008). However, a prevalent feature in applied settings is the tendency for school curriculums to emphasize physical dimensions of health, while other health indicators receive less attention (Hawks et al., 2008).

Social and emotional skills are crucial for child development and well-being (Guerra and Bradshaw, 2008). They act as protective factors against behavioural problems and mental health disorders (Dennis et al., 2007), psychological symptoms such as aggression, depression and anxiety (Greenberg et al., 2003), and risk-taking behaviour in children and adolescents (Payton et al., 2000). Inherent to social and emotional skills is the promotion of purposeful, goal-directed activities, positive attributions and prosocial behaviour (Frey et al., 2005). Dimensions positively affecting social and emotional functioning include self-control, assertiveness, self-concept, self-esteem, capacity to recognize and manage
emotions, problem-solving skills and interpersonal skills (World Health Organization, 2002).

Numerous school-based programmes have shown to be effective in enhancing children’s social and emotional skills [e.g. (Frey et al., 2005)]. Recent meta-analytic studies attest to the efficacy of such programmes, thus establishing their evidence base (Diekstra et al., 2008).

The need to evaluate the efficacy of programmes for the promotion of social and emotional skills in different cultures has also been highlighted, as most of the research in this area has been carried out in the USA. A more recent example of implementation of school interventions in non-English speaking countries is the evaluation of the Growing Up Playing (GUP) school-based programme in Portugal. The GUP programme focuses on the promotion of social and emotional skills, and has been developed and implemented in Portugal since 2002. The programme’s conception, development and implementation are based on the commitment of several governmental and community entities (such as the Ministry of Education, Ministry of Health, several city councils and schools). The GUP programme is delivered by school teachers to children of elementary school age.

The objective of this study was to evaluate the extent to which teachers can promote these key social and emotional skills in elementary school-aged children using manual-based strategies with the same intentionality, systematization and efficacy applied when promoting curricular competencies. The main hypothesis was that, in the course of 4 years, the application of the manual-based programme by teachers would have a significant positive impact on their pupils’ socio-emotional skills.

METHOD

Participants

Participants were elementary school children, enrolled in Portuguese ‘public’ (state-funded) schools. The sample selection process consisted of: (1) identifying councils to which funding was granted by the Portuguese Ministry of Health in order to implement school prevention programmes, and therefore able to meet the costs associated with programme development and implementation in local schools; (2) identification of elementary schools located in the geographical areas of the eligible councils and (3) contacting school teachers to discuss participation in the study. The groups (control and experimental) were sampled from a total of 12 Portuguese councils (Amares, Braga, Cascais, Fafe, Guimarães, Lisboa, Monção, Oeiras, Póvoa de Lanhoso, Vila Nova de Famalicão, São João da Madeira and Valpaços).

In the first year of the programme (2002/2003), a total of 1050 children (843 in the experimental group and 207 in the control group) were assessed. These children were attending their first year of elementary school (aged between 6 and 7 years old). In the second year of the programme (2003/2004), the sample included a total of 1806 children (1446 in the experimental group and 360 in the control group). These were children that were offered the programme in the first year and had now progressed from the first to the second year of elementary school (aged between 7 and 8 years old). During the programme’s third year (2004/2005), the sample included a total of 1511 children (1077 in the experimental group and 434 in the control group) attending the third year of elementary school (aged between 8 and 9 years old). In the fourth year (2005/2006), the sample consisted of 778 children (560 in the experimental group and 218 in the control group) who were attending the fourth year of elementary school (aged between 9 and 10 years old).

As illustrated in Table 1, the sample size refers to the total of completed questionnaires in each school year. In the first year, it was not possible to collect pre-test questionnaires from all eligible children in the experimental group, due to delays in starting the school year. Another issue arising in the first year of the intervention was that some of the councils (5/12) were not able to make the manuals available to children in the time anticipated. Consequently, the duration of the intervention was shorter for these pupils, than for those pupils who received the manuals on time. Because of this, researchers opted to exclude those pupils who received the manuals with a delay of 1 month from the evaluation of the first year results. This explains the variation in the total number of participants at the different stages of the study. However, children for whom pre-test assessments were not considered in the first year were still targeted by the intervention. At the beginning of the second year,
because all children received the manuals at the same time, children who were not included in the evaluation of the first year were now included in the second year evaluation. This explains the rise in total number of participants at this stage. As for the reduction in total number of participants in subsequent years, this was a result of having half of the participating councils (6/12) opting out from the study in later stages of the programme as they could no longer secure funding to proceed with the project.

Assessments

Children’s Self-Control Scale (CSCS)
The Children’s Self-Control Scale (CSCS) (Kendall and Wilcox, 1979) is a 33-item informant-report measure for teachers, which assesses self-control and impulsivity in children. Behaviour descriptors are rated by teachers using a Likert-type scale with ratings ranging from 1-always to 7-never. In the present population, the CSCS presents good internal consistency ($\alpha = 0.98$) and good test–retest reliability ($r = 0.84$).

Self-Perception Profile for Children (SPPC) teacher report form
The Self-Perception Profile for Children (SPPC) teacher report form (Harter, 1985) is a 15-item informant-report measure that assesses the teachers’ evaluation of children’s self-perceptions. This questionnaire assesses five specific subscales (academic skills, social acceptance, physical skills, physical appearance and real behaviour). Psychometric properties of the SPPC are well established (Harter, 1985). In the Portuguese population, the SPPC presents good internal consistency ($\alpha = 0.92$) and good test–retest reliability ($r = 0.70$).

Emotional Identification Inventory (EII)
The Emotional Identification Inventory (EII) (Moreira et al., 2005a) is a 22-item self-report questionnaire that assesses children’s ability to identify and differentiate emotions in concrete situations. Emotion identification and differentiation is assessed by examining children’s ability to identify and name a given emotion in concrete situations. The EII has two subscales (positive emotions and negative emotions) and has good internal consistency ($\alpha = 0.86$).

Children’s Assertive Behaviour Scale (CABS)
The Children’s Assertive Behaviour Scale (CABS) (Michelson and Wood, 1982) is a 27-item self-report questionnaire that assesses children’s social skills by examining their assertive content in a variety of social situations. Communication styles are assessed by the children’s answers to questions about the way they would act in several situations. The CABS has five subscales (very aggressive and aggressive style, assertive style, passive and very passive style). In the present population, the CABS presents acceptable internal consistency ($\alpha = 0.73$).

Emotional Regulation and Coping Strategies Inventory (ERCSI)
The Emotional Regulation and Coping Strategies Inventory (ERCSI) (Moreira et al., 2005b) is a 21-item self-report questionnaire that assesses children’s strategies to cope with unpleasant/difficult/negative emotions. Responses are given using a 4-point Likert-type scale. The ERCSI presents acceptable internal consistency ($\alpha = 0.75$).

Intervention instruments
In the first year, the programme focused on the promotion of self-control and self-regulation as
well as self-concept and self-esteem. In the second year, the focus was the promotion of self-concept and self-esteem as well as behavioural, cognitive and emotional differentiation. In the third year, the focus was the promotion of social skills and positive emotions and experiences. In the fourth year, the focus was the promotion of emotional regulation, problem-solving and decision-making.

Self-control and self-regulation (first year)
The information on these outcomes was based on the manual ‘Stop! Discipline and Self-Control’ (Moreira, 2002a). This manual was designed to promote self-control and self-regulation in children. It includes activities to promote the understanding of adequate behaviours in different contexts. Furthermore, it contains information to promote awareness of the functional and social consequences of different types of behaviours. Other areas covered include concentration; dysfunctional behaviour identification; discrimination of contextual and corporal signs associated with dysfunctional behaviours; and development of self-control strategies for impulsive and dysfunctional behaviours.

Self-concept and self-esteem (first and second years)
The information on these outcomes was based on the manuals ‘I Am Special and Unique!’ (Moreira, 2003a) and ‘Because I Am Worthy!’ (Moreira, 2002b). To work on the self-concept dimension, the intervention used behaviour strategies (reinforcement), systemic strategies (importance of family and other social groups) and cognitive strategies (content relativity, and reinterpretation of the relational factors that threaten personal value).

Behaviour, cognitive and emotional differentiation (second year)
The information concerning these dimensions was elaborated following specific concepts such as: (a) the concept of emotion, identification of specific signs associated with different emotional states, discrimination between different relational states; (b) the concept of thought, identification of different types of thinking, the relationship between emotions and thoughts; and (c) the concept of behaviour and understanding the association between emotions, thoughts and behaviour. These are strategies included in the manual ‘The Adventure of Feelings and Thoughts’ (Moreira, 2003b).

Social skills and assertiveness (third year)
Promotion of social skills included strategies such as: stimulation skills like greeting, asking and thanking someone, understanding the existence of different communicational styles, identifying assertiveness and identifying assertiveness components and assertive training. These are strategies included in the manual ‘Hello! Thank you!’ (Moreira, 2004a).

Promoting positive emotions and experiences (third year)
This information refers to the understanding of well-being and pleasure concepts, i.e. individuals have different ways of expressing their feelings, understanding positive emotions and their importance for the individual’s development, and the notion that people can play an active role in experiencing positive emotions and training in experiencing positive emotions. These are strategies included in the manual ‘Emotions Are Our Friends!’ (Moreira, 2004b).

Emotional regulation and management (fourth year)
The promotion of these outcomes included: awareness of emotional states, understanding the extent to which these are dependent on various contingencies and identifying possible ways to control specific emotional states. Also used was the identification of contingencies associated with the development of different emotional states, management and regulation strategies for different emotional states, and emotional regulation and management training. These are strategies included in the manual ‘I Control My Emotions!’ (Moreira, 2005a).

Problem-solving and decision-making (fourth year)
Strategies and activities used to promote these outcomes included: understanding the concept of ‘decision’, awareness of the skills involved in the decision-making process and the acquisition of decision-making skills and problem-solving strategies. This information is included in the manual ‘I can Decide!’ (Moreira, 2005b).

The strategies used in each manual are adapted to the children’s age and developmental
level. Presented in the form of short stories, games and activities, these are strategies that combine efficiency with an element of entertainment and fun. These strategies are also theoretically and technically eclectic, and refer to the key constructs identified by research as crucial for the promotion of social and emotional skills in school-age children (Zins et al., 2004).

Teachers used the teacher’s manuals which are complementary to the children’s manuals, as they help the former to understand and practically implement the strategies suggested for promotion of child outcomes (Moreira, 2002c, 2003c, 2004b, 2005c).

**Procedures**

**Intervention procedures**

The teachers who participated in the project enrolled on a 10-h course covering the study objectives and procedures. At the beginning of the school year (academic year 2002–2003), a group of researchers ‘blind’ to the intervention and control conditions assessed the children from both groups pre-test. Then, based on the manuals used to promote each socio-emotional outcome, teachers implemented strategies to promote these skills throughout the academic year. Teachers applied the programme in the classrooms while each child had his/her own manual as a working base.

Every 20 days, the project specialists gave teachers technical supervision and training (guidance and clarification, answering queries etc). Similar to the process used for the promotion of curricular dimensions, these specialized manuals presented a suggested structure for the promotion of each of the key dimensions studied as well as identifying the materials needed to complete this process. However, promotion of social and emotional competencies is not limited to the use of these manuals only, instead the school teachers are encouraged to generalize the learning of new skills and apply the newly acquired competencies to other day-to-day activities and situations.

Thus, the outcomes of the intervention can be viewed as resulting from the combined effect of following the content of the programme’s manuals as well as the extent to which the school teachers were successful in generalizing the learning of new skills. Other researchers have supported this view [e.g. (Martin, 2007)].

In this study, teachers formally implemented the GUP programme once or twice a week, and they promoted the generalization of socio-emotional skills to different situations (in classroom or in playtime). The programme was implemented via integration with the learning of curricular content. In particular, exploration of socio-emotional concepts was combined with the learning of curricular subjects such as civic education, Portuguese language, environment studies and mathematics.

**Programme evaluation procedures**

The programme’s evaluation was made at two time points in each of the 4 years of implementation (2002, 2003, 2004 and 2005): (1) pre-test between October and December and (2) post-test in May/June. In each year, the same pre-test and post-test assessment tools were used with teachers and children.

**Data analysis**

Mean differences and analysis of variance (ANOVA) were used in the statistical analysis of all questionnaire data. Calculation of effect sizes was based on eta-squared coefficients. Cohen’s definitions of effect size were employed (Cohen, 1988). All statistical analyses were conducted using the Statistical Package for Social Sciences (SPSS) software for Windows (version 14.0).

**RESULTS**

There were significant differences between the experimental and control groups in terms of children’s real behaviour and social acceptance, emotional differentiation skills and learning capacity of emotional-related concepts (emotional identification and differentiation skills), assertiveness, emotional regulation and coping strategies. Effect sizes for each variable studied were large (above 0.80). Results are presented (Table 2) per each academic year, during the 4 years of the study.

**First year (2002/2003)**

There were statistically significant differences in levels of self-control with an interaction between two factors: time point (pre-test vs. post-test) × group (experimental vs. control)
The effect size was large (0.831). Also, statistically significant differences were found between both groups (experimental × control) and for the two-factor interaction term (group × time point) in two dimensions—real behaviour ($p = 0.03$) and social acceptance ($p = 0.01$). Large effect sizes were found for real behaviour (0.909) and peer acceptance (0.942) dimensions.

**Second year (2003/2004)**

There were statistically significant differences between groups in terms of emotional identification and emotional differentiation skills outcomes ($p = 0.001$), as well as between pre-test and post-test ($p = 0.001$), and for the interaction between the two factors—time point (pre-test vs. post-test) × group (experimental vs. control) ($p = 0.001$). The effect size obtained was large (0.889).

**Third year (2004/2005)**

The assertiveness total score was the main result, with scores closer to zero (0) indicating higher level of assertiveness in children. ANOVA identified a statistically significant difference for the two-factor interaction term: time point × group ($p = 0.001$), between time points (pre-test and post-test) ($p = 0.001$), and between experimental and control groups ($p = 0.001$). The effect size was large (0.876).

**Fourth year (2005/2006)**

The emotional regulation and coping strategies dimensions were assessed with the ERCSI. For these outcomes, there were statistically significant differences found between the experimental and control groups ($p = 0.001$), between time points ($p = 0.001$) and for the two-factor interaction term group × time point ($p = 0.003$). The effect size was large (0.992).

**DISCUSSION**

The evaluation of this 4-year intervention which involved teachers’ promotion of socio-emotional outcomes in children via manual-based strategies indicate that there were more positive outcomes for the children that received the intervention compared to those that were not offered the
programme. Differences between both groups referred to all dimensions targeted for change by the intervention. Effect sizes obtained in this study were large (i.e. above 0.80). This finding is not only congruent with other research [e.g. (Merrell et al., 2008)], but is also encouraging given the relative scarcity of studies conducted in non-English speaking countries, and therefore accentuating the need to establish a clear research agenda at the cross-cultural level. More recently, research in this area has also been carried out in other European countries, such as the Swedish study by Kimber et al. (Kimber et al., 2008). Findings from the latter study are similar to those found in the current investigation in terms of the overall effectiveness of the intervention and the effect sizes obtained. However, a note of caution is warranted when making such comparisons as the cultural specificities of a Northern European country like Sweden do not necessarily equate to those found in Southern European societies like the Portuguese. Furthermore, Hawthorne effect(s) may also impact on the generalizability of these research findings to routine school practices (McCarney et al., 2007).

In spite of our encouraging results, this study has some key limitations. First, there is a potential bias introduced by teachers’ responses to the questionnaires (i.e. reliance on self-report measures to assess change). In this particular study, reliance on teachers’ reports could, for example, mean that children in the experimental group were rated more favourably compared with children in the control group, not as a result of an ‘objective’ improvement in their social skills as targeted by the programme, but as a result of teacher’s personal preferences. Secondly, teachers’ competence skills were assumed to be equivalent in both groups. Future studies should control for teachers’ competence skills as a possible mediator of outcomes. Thirdly, there was no statistical control of socio-economic and individual child effects. Both the experimental and control groups included children from very similar geographical, educational and socio-economic backgrounds. Thus, in our analyses, statistical control of potential contextual mediators of change was not planned. However, this is a key issue that warrants further investigation. Fourth, there was possible bias in the allocation of councils to the experimental and control groups. The allocation of the experimental and control groups was based on the availability of funding by the councils. Using this as the criterion of inclusion in the study does not necessarily ensure that the councils selected were in fact similar in terms of socio-economic and demographic profiles.

In spite of these limitations, this study also presents key strengths. First, this is a timely investigation at the national level. Secondly, this study also emphasizes the importance of using interventions at the preventative level targeting early school-age children. Early school prevention programmes have shown to be more cost-effective than interventions targeting children at later stages of development (Luthar and Cicchetti, 2000). As shown by this study, if teachers are equipped with the necessary know-how and appropriate resources, they are capable of promoting socio-emotional outcomes in children in a systematic and effective way. Thus, concrete measures should be taken in order to give teachers adequate training in socio-emotional dimensions that have not been traditionally valued in the school setting.

Research has also indicated that the most successful programmes for the promotion of social and emotional skills are multi-component based (covering several domains) and of medium to long-term duration. The GUP intervention fits the profile of such programmes. Although this study attests to the effectiveness of this intervention, it now requires outcomes to be assessed on a follow-up basis, with a view to testing the hypothesis that comprehensive and multi-component programmes are more likely to foster enduring benefits (Greenberg et al., 2003).

Future evaluations of this programme should focus on later stages of development and establish whether outcomes are maintained through time. Such studies should also include more robust methodologies, controlling for variables which were not controlled for in this study (children’s socio-economic status), using a variety of assessment methods and sources and evaluating the programme’s effectiveness in relation to outcomes other than those that were directly targeted for change.

Note. This study results from a partnership between the Portuguese Ministry of Education, the Portuguese Ministry of Health, and Prevenir (Non Governmental Organization).
We thank Porto Editora for its remarkable commitment and support in the development of the materials used on this study.

Conflict of interest. The first author of this article is the author of the programme and of the manuals evaluated. Furthermore, the first author receives royalties of the manuals sales.

FUNDING

The development of this study was supported by funding from the Instituto da Droga e da Toxicodependência (IDT), and from several counties including Amares, Braga, Cascais, Monção, Póvoa do Lanhoso, São João da Madeira, Vila Nova de Famalicão and Vila Verde.

REFERENCES


Moreira, P. (2002c) Ser Professor: Competências básicas... 1—Consciência corporal, comunicação, auto-controlo e auto-estima. Porto Editora, Porto.


