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Promoting socioemotional competence in primary school classrooms: Intervention effects of the EMOscope

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ABSTRACT

The aim of the study was to determine the effectiveness of a brief, teacher-led intervention (EMOscope) developed to promote children's socioemotional competence. Our sample consisted of 339 Polish pupils and their 16 teachers from 16 third grade classrooms. Teachers in the experimental condition (8 teachers) were trained to deliver the EMOscope intervention. Data were collected at pre-test and post-test. Performance tests were administered to measure children's social understanding and emotional awareness. Furthermore, peer ratings were used to measure children's cooperative behaviour and teachers' reported on children's prosocial behaviour, hyperactivity, emotional problems, conduct problems, and peer problems. Multilevel regression analysis revealed that children in the experimental condition improved significantly on emotional self- and other-awareness and on social understanding. Moreover, they decreased in teacher-rated hyperactivity, conduct problems, and total difficulties. No effects were found, however, on teacher-rated prosocial behaviour, emotional problems, peer problems, and peer-rated cooperative behaviour.

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KEYWORDS Socioemotional competence; social understanding; emotional awareness; intervention; primary school

There has been a growing interest in socioemotional competence in theory, educational practice, and policy of the European Union. In the EU, eight key competencies were defined that are 'considered necessary for personal fulfilment and development, active citizenship, social inclusion, and employment' including social competence (EUR-Lex, 2006, p. 13). Many studies have proven that mastery of socioemotional competence is associated with better school performance and well-being (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011)

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and that it forms a foundation for a person's success later in life as a member of the community, as a productive worker or as a parent (CASEL briefs, 2007). Therefore, the role of the school should not only be to foster children's cognitive development but also to promote their social and emotional development (Durlak et al., 2011).

Theoretical background

Socioemotional competence: The importance of self and other-awareness

The EMOscope was developed to promote socioemotional competence by enhancing children's self and other-awareness. The intervention is based on theories that highlight the interdependency of skills related to social and emotional competences (e.g., Denham, 2007; Halberstadt, Denham, & Dunsmore, 2001; Parke, 1994; Saarni, 1999). Based on the social information processing model (Crick & Dodge, 1994) and on the revised model of emotion processes in social information processing (Lemerise & Arsenio, 2000), we assume that emotions are an integral part of every step in social interactions. Socioemotional competence can be defined as the ability to successfully interact with others. This ability requires the capacity to 'reconstruct' feelings, perceptions, and cognitions of oneself and of others (Laevers, 1998) referring to self-awareness and other-awareness. Self-awareness is defined as 'knowing one's internal states, preferences, resources, and intuitions' (Goleman, 1998, p. 26), whereas other-awareness is the awareness of the internal states, preferences, resources and intuitions in others. Other-awareness is necessary for social understanding, which refers to the capacity to make sense of other people's interactive behaviours from their emotions, thoughts, intentions, and points of view (Laevers & Free State Department of Education, 2007; Porath, 2003) while taking into account people's personal characteristic (e.g., age) as well as the social context (Crick & Dodge, 1994; Laevers & Free State Department of Education, 2007).

Research indicates that emotional self and other-awareness and social understanding are linked to prosocial behaviour (Denham, 1998; Roberts & Strayer, 1996), emotion regulation (Southam-Gerow & Kendall, 2002), and positive interpersonal relationships (Eisenberg & Miller, 1987). Conversely, difficulties in identifying emotions in self and others and a lack of social understanding are related to emotional problems (Ciarrochi, Scott, Deane, & Heaven, 2002), hyperactivity (Kats-Gold & Priel, 2009), conduct disorders (Emond, Ormel, Rene, & Oldehinkel, 2007), and social rejection (Dodge et al., 2003; Slaughter, Dennis, & Pritchard, 2002). Thus, although the primary aim of the EMOscope is to foster children's emotional self and other-awareness and social understanding, indirect effects on children's behaviour regulation, prosocial behaviour, and interactions with peers can be expected.

The EMOscope offers a range of activities to help children become aware of emotions of themselves and others and to increase their social understanding. The development of the activities was guided by constructivism theory (Flavell, 1963; Piaget, 1960) and social constructivism theory (Vygotsky, 1978). Constructivism posits that children are the active constructors of their own understanding and knowledge about the world. Therefore, the EMOscope consists of age-appropriate, 'hands-on' activities that unable children to actively discover knowledge about the social world. In addition, in line with social constructivism, the activities were designed as small group and whole-class activities to create a zone of proximal development through meaningful interactions with peers.

The EMOscope versus other interventions targeting socioemotional competence

There is considerable diversity of school-based programs aimed at promoting social and emotional skills in children. The Social and Emotional Learning approach (CASEL briefs, 2007) recommends focusing socioemotional training on five core competencies: self-awareness, self-management of emotions and behaviours, social awareness, relationship skills, and responsible decision-making. Accordingly, existing interventions target a broad range of socioemotional skills related to these core competencies. The 4Rs (Reading, Writing, Respect and Resolution) program uses literature to foster children's skills such as handling anger, listening, assertiveness and cooperation (Jones, Brown, Hoglund, & Aber, 2010). The PATHS Curriculum supports emotion regulation, responsible decision-making, solving conflicts and empathy (Greenberg, Kusché, Cook, & Quamma, 1995). Similarly, the Open Circle program, aiming to develop safe school learning communities, focuses on emotion regulation, recognizing and managing emotions, problem solving, positive relationships and empathy (Hennessey, 2007). The Resolving Conflict Creatively Program is also intended to promote caring school communities through supporting building relationships, understanding feelings, developing empathy, managing emotions, and developing social responsibility (Aber, Jones, Brown, Chaudry, & Samples, 1998). The Positive Action Program, in turn, offers a detailed curriculum that gives the possibility to promote a healthy self-concept, positive actions for one's minds and body and several skills such as for example responsible self-management and achieving goals (Flay, Allred, & Carol, 2003). Research supports the effectiveness of these interventions (Aber et al., 1998; Durlak et al., 2011; Flay et al., 2003; Greenberg et al., 1995; Hennessey, 2007; Jones et al., 2010; Sklad, Diekstra, de Ritter, Ben, & Gravelstein, 2012).

However, intensive, long-term interventions with a broad focus may not be easily adopted and sustained by school practice (e.g., Flay et al., 2003; Greenberg et al., 1995). Since many stakeholders do not give much priority to teaching

social and emotional skills in comparison to teaching academic content (World Economic Forum, 2016), schools and teachers may not be willing to adopt extensive programs aimed at improving social and emotional skills because these programs may take too much time away from teaching academic content (Leffert, Brady, & Siperstein, 2009). Another problem with extensive, long-term programs is that many of these interventions require extensive teacher training and individual coaching during the implementation of the intervention, which may also limit the willingness of schools and teachers to adopt those programs. Moreover, it has been found that longer programs are not necessarily more effective than shorter programs (Gottfredson & Wilson, 2003). The EMOscope is a focused intervention that is relatively brief, can be easily used by teachers without extensive training and targets the basic building blocks of socioemotional competence: emotional self-awareness, emotional other-awareness, and social understanding. Therefore, it may be considered as a basis to foster other socioemotional competencies.

Present study

The aim of this study was to provide a first evaluation of the effectiveness of the EMOscope using a quasi-experimental pretest-posttest design. Information about different skills related to socioemotional competence (e.g., emotional awareness, social understanding, and prosocial behaviour) was collected from different informants (teachers, peers, and children) using different methods (performance based tests, peer nominations, and questionnaires). We expected that children in the experimental condition would improve in emotional self and other-awareness and social understanding, thereby decreasing emotional problems and behavioural problems (primary outcomes). Moreover, we assume that increases in emotional self and other-awareness and social understanding, as core building blocks of socioemotional competence, would translate into improvements in cooperative and prosocial behaviour and peer interactions (secondary outcomes).

Method

Sample

The sample consisted of 339 third-graders (49.9% boys) recruited from six Polish primary schools from Lodz and its vicinity. All children obtained parental consent to participate in the research. There were 180 pupils from 8 classes in the experimental group (49.9% boys) and 159 pupils from 8 classes in the control condition (50.3% boys). Children ranged in age from 8 to 10 years (M_{age} = 9.30 years, SD = .44). There were no significant age differences between conditions (t (337) = −1.03, p = .303). All children were Polish having the same cultural background. The experimental condition included two big city and one

small city schools, whereas the control condition included one big city and two small city schools. The small cities were located within 20 km area from the big city. The level of employment (divided into agriculture, industry and services) of inhabitants of these cities is comparable (Statistical Office in Lodz, 2014).

There were also 16 teachers (all female) involved in the study. Teachers differed in experience. The intervention condition consisted of two teachers with professional experience less than 10 years, three teachers with professional experience between 10 and 25 years, and three teachers working more than 25 years. The control group comprised one teacher with experience less than 10 years, five teachers with experience between 10 and 25 years, and two teachers with more than 25 years of professional experience. Teachers from both the experimental and the control group were not involved in other intervention programs addressing similar aims as the EMOscope.

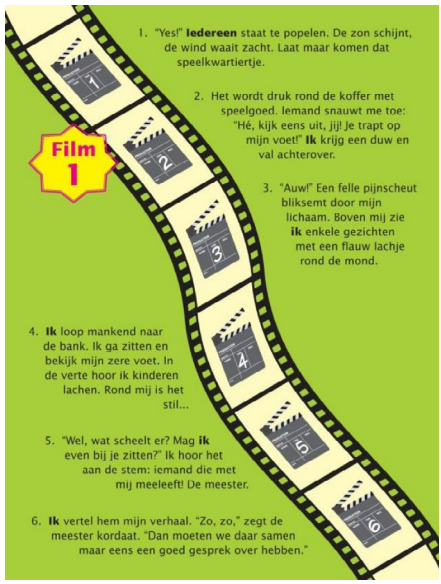
A volunteer sampling method was used to assign teachers to conditions. The experimental group included classes of teachers who expressed interest in the EMOscope after participating in a three-hour workshop for using the EMOscope. The control group consisted of the classes of teachers ($n = 2$) who participated in the workshop but were not interested in using the EMOscope in their classroom and of the classes of teachers ($n = 6$) who were not able to participate in the workshop but had agreed to participate in the research.

Intervention

The aim of the EMOscope is to develop socioemotional competence in children by increasing self-awareness, other-awareness, and social understanding (Laevers, 2012). It offers a range of group activities that can be used in a flexible manner during the entire school year. For this research, we limited its use to five weekly sessions of 1.5 h. Each session consisted of nine activities built around three main components: experiencing emotions, recognizing of emotions in self and others, and reflecting on the causes and consequences of emotions. During each session, five new emotions were introduced (six emotions in the last session). To familiarize teachers with the content of the EMOscope and the detailed descriptions of each session, a three-hour training was given. The training enabled teachers to learn how to use each part of the EMOscope by offering them the possibility to practice the activities. Below, the three components of the intervention are described in more detail.

Experiencing emotions

Through two activities of this component, children are invited to describe the emotions they experience in order to promote their self-awareness. Activity with music is a whole group activity, during which children listen to music excerpts that are selected because they are emotionally charged. Children move individually while listening to it and after each piece, there is a short moment of



1. "Yippee!" The children can't wait. The sun is shining, there's a soft breeze. It's playtime!

2. Children are gathering around the trunk with toys. Someone snaps at me: "Hey, watch out! You're standing on my foot!" I get shoved and fall over.

3. "Ouch!" A sharp pain shoots through my body. A few children bend over me with a faint smile on their face.

4. I stumble to the nearest bench. I sit down and look at my foot. It hurts. I can hear children laughing. There's no one around to help me.

5. "Oh, what happened? Can I sit next to you?" I can tell from the voice: someone who sympathises with me! It's the teacher.

6. I tell the teacher what happened. "I see", the teacher replies firmly. "We will have a good talk about this."

Figure 1. An example of a scenario card.

reflection during which children name the emotions that were triggered by the music. During another activity, children prepare and act out a scene from the film scenario of the EMO-poly game (see Figure 1). Afterwards, the scene is discussed with the whole group.

Recognition of emotions

This component of the intervention consisted of two games that teach children to recognize emotions from verbal and nonverbal expressions and signals. The EMO-poly game is a board game. During the game children deduce from a context of dialogue how people are feeling. For this game, the scenario card comprising dialogs of children experiencing different emotions is needed, see Figure 1. The EMO-bingo game helps children to recognize emotions from facial and bodily expressions. Both games last about 15 min.

Reflecting on the causes and consequences of emotions

This component of the EMOscope exists of five activities that are aimed at teaching children that behaviour and emotions are the result of precedent behaviour and emotions, and that emotions have an impact on behaviour. The first of these activities is interpretation of the situation pictures, which is a group activity during which children discuss pictures guided by the questions on an instruction card. See Figure 2 for an example of a situation picture. A second activity is the plenary discussion of emotions that consists of discussing selected emotions one by one. There are also two individual activities within this component:

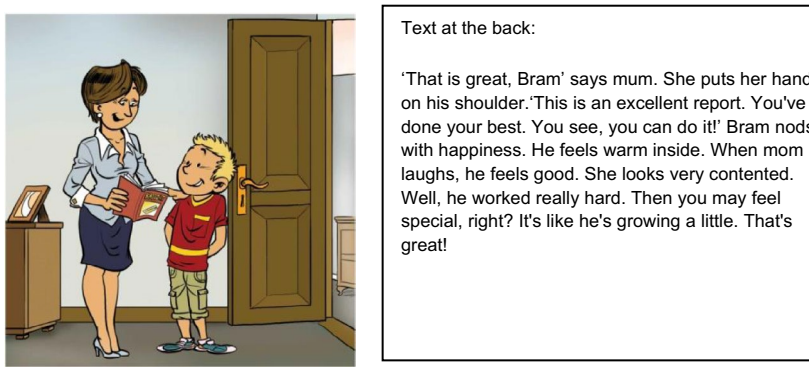


Figure 2. An example of a situation picture.

describing an alternative story line for situational pictures and inventing the dialogs of the characters presented in the pictures. Moreover, as homework, children receive a card with faces representing emotions. During the whole week children are asked to write where and when they experience these emotions.

Implementation

The intervention was conducted as planned. All teachers from the intervention condition completed the three-hour training. Regarding implementation fidelity, all teachers conducted the five sessions. To measure teachers' satisfaction with the intervention, two scales of the Teacher Attitudes towards Social and Emotional Learning (TASEL; Schultz et al., 2010) were administered: program effectiveness and teachers' perceived self-competence in program delivery. Each of two scales consists of four items rated on 6-point Likert scales ranging from (1) strongly disagree to (6) strongly agree. The results revealed that teachers perceived the intervention as effective (M = 5.56, SD = .35) and felt efficacious in delivering the intervention (M = 5.06, SD = .26).

Procedure and design

The research was an intervention study with a pre-test-post-test quasi-experimental design. In November, after parents' written informed consent was obtained, the pre-test data was collected. There was a strict protocol for the administration of the tests to keep them as comparable across conditions as possible. In February and March, the intervention was delivered by teachers in the experimental condition. In April, post-test data was collected. Teacher reports were collected for only twelve randomly-selected children from their classrooms (to decrease workload). When the study was finished, the schools received the EMOscope materials as a reward for their participation and teachers

in the control schools who had not attended the workshop now also received the three-hour training.

Outcome measures

The Levels of Emotional Awareness Scale for Children (LEAS-C; Bajgar, Ciarrochi, Lane, & Deane, 2005; Veirman, Brouwers, & Fontaine, 2011)

The test assesses emotional awareness in children from the age of 8 years (emotional self-awareness and awareness of other people's emotions). The administration of the test takes about 35 min. It consists of twelve real-life scenarios, for instance, 'You and your mom are coming home at night. As you turn onto your block you see fire trucks parked near your home'. Participants are asked to answer two questions: 'How would you feel?' (emotional self-awareness) and 'How would the other person feel?' (emotional other-awareness). Each answer was rated on a 4-point scale: 0 for no answer and cognition, 1 for bodily sensations, 2 for actions and general emotional states, 3 for unidimentional emotions, and 4 for blends of emotions. Mean scores were calculated for self-awareness and other-awareness.

This measure has proved to be valid. That is, emotional self-awareness was correlated with expression and emotion comprehension tasks, vocabulary and verbal productivity scores, whereas emotional other-awareness correlated with emotion expression and emotion comprehension tasks (Bajgar et al., 2005). In this study, we used the Polish version of the LEAS-C (Tomczuk, Smet, Boruc, & Cieciuch, 2013). The internal consistency (Cronbach's α) of emotional self-awareness was .73 and that of emotional other-awareness was .83 on the pre-test.

The answers of a subsample 57 children were scored by three independent, blinded raters and double-coded by a fourth rater to assess inter-rater agreement. Inter-rater reliability of both emotional self- and other-awareness was .98 (ICC).

The Socioemotional Competence Domino Test (SoCoDoT; Papieska, Spilt, & Laevers, 2016)

The measure is aimed at assessing children's ability to understand human behaviour in an interactive context, taking others' emotions into account. It is designed for children aged 8–12. The collective administration (to the whole class) lasts around 30 min. Children are asked to create two story lines from two sets of pictures and to fill in the answer sheet. The first story is about a girl who takes a math test; the main character in the second story is a boy who spills paint over his friend's work. The test consists of two items: social understanding and emotional understanding. Item 1 measures if a child is able to describe the storyline taking into account relationships between characters of the story, their emotions, and the context of the situation. To assess this item, the relevant sentences in the child's description are counted, each relevant sentence gets

one point. The relevant sentences prove that a child understood the situation correctly. The list of relevant sentences is available in the scoring manual. Item 2 assesses emotional understanding of other people. Children are asked to name the emotion of the main characters in three selected pictures in each story. To recognize these emotions, children must take into account not only the facial and bodily expressions of the character but also the context of the situation. Each emotion named by a child is scored as 0, 1, 2 or 3. A score of 0 is given for a wrong or irrelevant emotion, 1 is given for an emotion that might be deduced only from the facial or bodily expression but not from the context of the story, 2 is given for an emotion that partly covers the relevant criteria in relation to the story; and 3 for an emotion that match all of the criteria linking emotions to the context of the story. The SoCoDoT score is a mean score of social understanding and emotional understanding items. The test is described in more details in Papieska et al. (2016).

The pre-test responses of 83 children were scored by four independent blinded raters and double coded by a fifth rater. Inter-rater reliability was .95 (ICC). The internal consistency of the pre-test scores was .60 (Cronbach's α). The test correlated significantly with the Levels of Emotional Awareness Scale for Children self-awareness score and other-awareness score (Papieska et al., 2016). Moreover, it explained unique variance in teacher-rated pro-social behaviour, hyperactivity, emotional problems, conduct problems, and peer problems as well as parent-rated hyperactivity and peer problems (Papieska et al., 2016).

The Strengths and Difficulties Questionnaire (Goodman, 2001)

The aim of the SDQ is to measure pro-social behaviour and problem behaviour in children from 3 to 16 years old. It consists of five subscales (five items per subscale): emotional problems (e.g., 'Often complains of headaches'), conduct problems (e.g., 'Often fights with other children'), hyperactivity-inattention (e.g., 'Easily distracted, concentration wanders'), peer relationships problems (e.g., 'Rather solitary, tends to play alone') and pro-social behaviour (e.g., 'Helpful if someone is hurt'). Moreover, a total difficulties score is generated by summing up scores from all subscales except the prosocial subscale.

In this study, we used the SDQ version for teachers. The reliability coefficients (in Cronbach's α) on the pre-test were .89 for pro-social behaviour, .85 for hyperactivity, .83 for emotional problems, .62 for peer problems, and .77 for conduct problems and .88 for total difficulties.

Peer nominations of cooperative behaviour

Children were asked to name up to three classmates (present or absent that day) who best fit the description of a cooperative person: 'Here is someone who is really good to have as part of your group because this person is agreeable and cooperates – pitches in, shares, and gives everyone a turn' (Coie & Dodge, 1983, p. 266). The administration followed a widely used procedure (Coie & Dodge,

1983). Children were asked not to share their responses with peers after the task was performed. The mean scores for each child were calculated by dividing the total number of nominations obtained by each child by the number of participating children minus one.

Data analysis

The effects of the intervention EMOscope were examined using multilevel regression analysis (because children were nested in classrooms). Outcomes were examined in separate models. The deviance test was used to decide whether it was necessary to allow the intercept to vary across classes (because of significant between-classroom variance in the outcome variable; see Table 2). The regression equation with an invariant intercept (b_0) was:

$$\text{Posttest} = b_0 + b_1 \text{Pretest}_i + \varepsilon_i$$

The regression equation with a variant intercept (b_{0j}) was:

$$\text{Posttest} = b_{0j} + b_1 \text{Pretest}_{ij} + \varepsilon_{ij}$$

Results

Descriptive statistics and correlations between the variables are presented in Table 1. All correlations were in expected directions. *T*-tests were performed to check for pretest differences between the control and experimental condition. For most outcomes, no significant differences between conditions were found ($p > .05$). Only on emotional other-awareness a significant difference between the intervention and control condition was found (t (299) = −2.59, $p = .011$). The experimental condition scored higher than the control condition (Table 1).

Table 2 presents the intervention effects. We found significant positive intervention effects on emotional self and other-awareness and on social understanding. Furthermore, children in the experimental condition decreased in hyperactivity, conduct problems, and total difficulties. No intervention effects were found, however, on prosocial behaviour, emotional problems, peer problems, and peer-rated cooperative behaviour.

Discussion

The present multi-method study aimed to contribute to empirical research evaluating interventions designed to support socioemotional competence in primary school classrooms. It was the first evaluation of the effects of a brief, easy-to-deliver, and focused intervention called EMOscope.

The intervention aimed to foster children's ability to recognize and name emotions in oneself and in other people. In line with the expectations, children from the experimental condition significantly improved their ability to recognize

Table 1. Means (SD) and correlations at Wave 1 and Wave 2; and the effect size between experimental and control conditions at Wave 2 (post-test).

	Wave 1 *M* (SD)		Wave 2 *M* (SD)											
	e	*c*	*e*	*c*	Cohen's *d*	1	2	3	4	5	6	7	8	9	10
Performance based measures															
1. Social understanding	1.76 (.51)	1.75 (.55)	2.33 (.48)	2.14 (.44)	.41	–	.23**	.22**	.21**	.15*	−.31**	−.17*	−.23**	−.30**	−.37**
2. Emotional self-awareness	2.36 (.53)	2.25 (.51)	2.74 (.38)	2.35 (.51)	.87	.21**	–	.76**	.18**	.29**	−.22**	−.21**	−.25**	−22**	−.31**
3. Emotional other-awareness	2.06 (.59)	1.87 (.70)	2.60 (.43)	2.11 (.65)	.89	.24**	.65**	–	.14*	.26**	−.32**	−.23**	−.26**	−.21**	−.36**
Peer nominations															
4. Cooperative behaviour	.13 (.11)	.13 (.14)	.14 (.14)	.15 (.15)	.07	.12*	.05	.03	–	.20**	−.37**	−.08	−.26**	−.21**	−.34**
Teacher reports															
5. Prosocial behaviour	1.61 (.42)	1.45 (.48)	1.63 (.43)	1.40 (.48)	.50	.17**	.07	.15*	.27**	–	−.46**	−.02	−.56**	−.38**	−.49**
6. Hyperactivity	.62 (.55)	.72 (.52)	.39 (.49)	.72 (.49)	.67	−.29**	−.06	−.08	−.28**	−.44**	–	.18*	.69**	.37**	.82**
7. Emotional problems	.39 (.50)	.41 (.42)	.23 (.42)	.37 (.37)	.35	−.16**	−.08	−.05	−.14*	−.13*	.26**	–	.04	.37**	.56**
8. Conduct problems	.26 (.38)	.28 (.34)	.14 (.24)	.30 (.38)	.50	−.32**	−.05	−.13*	−.23**	−.60**	.71**	.24**	–	.43**	.74**
9. Peer problems	.34 (.35)	.37 (.34)	.28 (.34)	.37 (.34)	.26	−.20**	−.05	−.08	−.15**	−.43**	.32**	.48**	.48**	–	.72**
10. Total difficulties	.40 (.34)	.44 (.29)	.26 (.29)	.44 (.25)	.66	−.32**	−.09	−.12*	−.27**	−.52**	.80**	.81**	.81**	.70**	–

Notes: Correlations at Wave 1 are below the diagonal, correlations at Wave 2 are above the diagonal. *e* = experimental condition, *c* = control condition.
*$p < .05$; **$p < .01$, two-tailed.

Table 2. Intervention effects on children's outcomes at Wave 2 (post-test).

	Performance-based tests			Peer nominations		Teacher reports				
	Emotional self-awareness	Emotional other-awareness	Social understanding	Cooperative behaviour	Prosocial behaviour	Hyperactivity/inattention	Emotional problems	Conduct problems	Peer problems	Total difficulties
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
Predictors										
Intercept	1.38 (.11)**	1.60 (.10)**	1.34 (.09)**	.07 (.01) **	.37 (.09)**	.22 (.04)**	.16 (.06)*	.15 (.03)**	.14 (.05)**	.16 (.03)**
Pretest	.43 (.05)**	.27 (.05)**	.45 (.04)**	.64 (.05)**	.72 (.05)**	.71 (.04)**	.55 (.05)**	.59 (.05)**	.62 (.05)**	.65 (.04)**
Intervention	.35 (.06)**	.46 (.06)**	.19 (.05)**	−.01 (.01)	.08 (.08)	−.23 (.04)**	−.13 (.08)	−.15 (.03)**	−.07 (.06)	−.15 (.04)**
χ^2 change (df change)	4.2 (1)*	1.44 (1)	.12 (1)	0 (1)	11.94 (1)**	1.29 (1)	25.68 (1)**	.35 (1)	18.52 (1)**	17.26 (1)**

*$p < .05$; **$p < .01$, two-tailed.

what they may feel and what other people may feel in a certain context. In addition, the study revealed that children from the experimental condition increased in social understanding. This result suggests that EMOscope fosters children's ability to capture the complexity of social interactions taking into account contextual cues and to name emotions evoked by the social context.

Furthermore, we investigated whether the intervention led to positive changes in children's emotion and behaviour regulation because the research literature indicates that low self and other-awareness and social understanding are linked to emotional and behaviour problems (Dodge, Laird, Lochman, & Zelli, 2002; Dodge et al., 2003; Greene et al., 1996). In line with expectations, the results showed that there was a significant decrease in teacher-rated problem behaviour, that is, conduct problems and inattention/hyperactivity problems. However, no intervention effects were found on teacher-rated emotional problems. It may confirm the findings of previous studies that teachers usually underreport internalizing problems in comparison to parents and children (Youngstrom, Loeber, & Stouthamer-Loeber, 2000). In future research, child self-reports and parent reports of emotional problems could be used. Overall, we found medium to large effects on the primary outcomes, which supports the efficacy of the intervention.

We also examined intervention effects on cooperative behaviour, prosocial behaviour, and peer problems because we hypothesized that emotional self and other-awareness and social understanding, as core building blocks of socioemotional competence, would translate into improvements in children's prosocial behaviour and peer interactions (secondary outcomes). However, no effects were found. Perhaps, the intervention was too short to produce changes in children's prosocial behaviour. Such changes may require longer exposure of children to the materials and games as advocated in the manual of the EMOscope. Alternatively, a sleeper effect is possible. The changes in emotional awareness and social understanding may need more time to translate in prosocial behaviour and improved peer interactions. In addition, even when social behaviour improves, it may not have been noticed by children's peers because peer reputation tends to be rather stable (La Greca & Santogrossi, 1980). Follow-up research is needed to test these suggestions.

Limitations and future research

One of the main limitations of this study is the use of a volunteer sampling method. Future studies are needed to examine whether the results can be replicated in a randomized-controlled design. Furthermore, the sample consisted of schools from one Polish city and its vicinity, therefore the results may not be representative for the whole population. Finally, no follow-up waves were included to measure long term outcomes. Future research should investigate if the positive effects of the intervention sustain over time.

In conclusion, this research provided first evidence of the effectiveness of the EMOscope. This brief intervention supported children's socioemotional competence. More specific, it fostered children's emotional self and other-awareness, social understanding, and decreased children's problem behaviour in the classroom.

Disclosure statement

In accordance with Taylor & Francis policy and our ethical obligation as researchers, we are reporting that the publication of the article may raise the public interest in the educational set 'EMOscope' which is published by CEGO Publishers, in which Prof Laevers, one of the three co-authors, has a financial interest. No other potential conflict of interest was reported by the author.

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