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Effects of philosophical ethics in early childhood on preschool children's social–emotional competence and theory of mind

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Abstract

Although social–emotional learning (SEL) and ethics education are important, it remains a challenging issue to effectively implement these practices. In this study, a Philosophical Ethics in Early Childhood approach is proposed for developing children's social–emotional competence and Theory of Mind. To evaluate the effectiveness of this expanded intervention, an experiment was conducted by assigning 73 children aged 3–5 to an experimental group ($N = 37$) and a comparative group ($N = 36$). Parents and teachers completed Head Start Competence Scales, the Theory of Mind Inventory and parent and teacher questionnaires. Teacher and Child Interviews were conducted. According to the teachers' reports, the experimental group children demonstrated significantly increased social–emotional competence skills and increased understanding of their own and others' emotions compared to the comparative group children. This program includes games, extension activities, and dialogue to support children in deeply thinking about social and emotional dilemmas, sharing their ideas, and creating solutions.

Keywords: Early childhood, Social, Emotional learning, Moral development, Ethics education, Theory of mind

Introduction

In recent years, diversity and inclusion initiatives have increased in classrooms (Andal, 2020; Schwarzenenthal et al., 2019). Teachers utilize their knowledge and learn about innovative methods to understand their students' different skills, cultures, and needs. Teachers also motivate their students to engage in learning, behave positively, and perform academically. Curriculum and programs should connect to issues in children's lives, such as how to be a good friend, fairness, and honesty. When children work cooperatively, care for each other, and understand their feelings, they feel better about themselves and their classmates and enjoy learning. Social and emotional learning (SEL) programs and critical reflections provide a safe and positive learning atmosphere and enhance students' ability to succeed in their daily lives and in making academic progress.

Social–emotional learning (SEL) is described as 'the process through which we learn to recognize and manage emotions, care about others, make good decisions, behave

ethically and responsibly, develop positive relationships, and avoid negative behaviors' (Zins et al., 2004, p. 32). Research shows that children learn and retain social and emotional skills most successfully in early childhood (Denham & Weissberg, 2004). Schools aim to educate children to comprehend subject areas, such as math, writing, life skills, dispositions, and knowledge of social and emotional competence skills (Greenberg et al., 2015). Developing these skill sets in early childhood—ranging from emotion recognition and emotion management to relationship building and responsible decision making (see www.casel.org)—informs later academic, ethical, professional, and interpersonal success. For example, SEL can lead to children's improved focus in school that, in turn, leads to better academic performance and school readiness (Denham, 2018; Slot et al., 2020). Furthermore, social and emotional skill development can give young people more confidence in social situations, which helps them to form successful peer relationships (McCabe & Altamura, 2011). For these reasons and more, SEL is an essential component of education for young children.

Many social and emotional learning (SEL) programs and perspectives focus on a particular facet of social and/or emotional functioning, such as problem-solving, cooperative learning, and peer relationships for educators. These programs aim to enhance children's motivation to put social skills and understanding into practice. Moreover, children need to learn about the ethical dimensions of their lives for navigating relationships with others, being self-aware, and acquiring a better understanding of their own and others' emotions. Even if socially and emotionally literate children can 'decode' others in social settings, their social and emotional education alone does not prepare them to make ethical decisions (Burroughs & Arda Tuncdemir, 2017).

The SEL and ethics programs include ethical and social–emotional development include a set of skills: awareness of self and others' feelings; emotional self-regulation; communication; self-motivation; problem-solving and decision making; collaboration; and the formation of a more realistic, positive sense of self. In turn, critical ethical reflection and social–emotional development are closely related in early childhood and can be mutually reinforcing in classroom practice. For example, *emotion recognition* (a key SEL skill set) in childhood is an important building block for ethical development (Smetana et al., 2014). As children learn to recognize and understand the emotions of others, to empathize and perspective-take with their peers, they can better understand when their actions (or the actions of a peer) harm a friend. Developing the ability to recognize and understand emotions (SEL skill sets) is an essential first step, then, in developing concern for others and, in turn, responding with responsible decisions (ethical skills sets). Leading figures in SEL and ethics education recognize this interconnection. For example, Larry Nucci (2009), argues that early childhood ethics education benefits from a focus on emotion recognition (a skill set that is traditionally emphasized in SEL curricula). Likewise, Elias and other leading SEL researchers (2014, p. 250) note the 'long-overdue convergence' of ethics education and SEL to educate for all dimensions of ethical life. Taken together, we can see the mutual and reinforcing importance of SEL and ethics education in early childhood classrooms. Besides, increased funding and teaching support in these areas—including coaching and supplemental curriculums—are becoming available to practitioners (Bierman & Motamedi, 2015; Denham & Weissberg, 2004; Nucci, 2009). These curricula show us that skills in critical thinking, perspective-taking,

collaborative dialogue, and cooperation with others have implications for both SEL and ethical development.

If both SEL and ethics education are important elements of child development and, further, can be mutually reinforcing in our classrooms, how do we best implement these practices? In this article, we hope to contribute an answer to this ongoing discussion and field of research. *Philosophical Ethics in Early Childhood* (PEECh) is a combined SEL and ethics education curriculum, developed in collaboration between ethics education and SEL researchers and early childhood educators. PEECh explores the effectiveness of dialogical discussion of ethical dilemmas and extension activities for fostering ethical development and social competence in children 3–5 years-of-age. The PEECh program includes games, extension activities, and dialogue to support children in thinking about social and emotional dilemmas, sharing their ideas, and creating solutions.

This PEECh program's pedagogical approach is rooted in the Philosophy for Children movement (P4C) founded in 1974 by Matthew Lipman. This movement includes preschool to high school-aged children from many countries. P4C education encourages children to ask philosophical questions and answer thought-provoking questions under adult guidance. Children discuss philosophical concepts, such as happiness, right-wrong, rights, justice, equality, and freedom through daily life experiences or stories related to their lives (Worley, 2018). During this period, teachers introduce children to alternative options through questions and support them to justify their explanations by reasons in dialogue.

Moreover, P4C enhances children's development of critical thinking, reasoning, decision-making communication, and discussion and language skills (Bhurekeni, 2021; Karadag & Yildiz-Demirtas, 2018; Wu, 2021), self-esteem, and the ability to identify one's emotions and thoughts (Giménez-Dasí et al., 2013), and self-expression (Zappala & Smyth, 2021). P4C also provides a safe space in which children are empowered to think for and by themselves to promote better mental health (Malboeuf-Hurtubise et al., 2021).

In a previous study of the PEECh program and intervention (Burroughs & Arda Tuncdemir, 2016, 2017) positive results were demonstrated for a PEECh preschool experimental group in the areas of increased verbalization (i.e., an increased ability to respond to ethics-focused questions); increased use of justification terms in support of responses to ethics-focused questions (i.e., use of terms, such as 'because' and additional supporting reasons for answers); increased emotion recognition (i.e., increased use of emotion markers in response to relevant questions calling for emotion recognition, empathy, and perspective-taking); and increased perspective-taking and inclusion of peers as seen in child interviews and as reported in participating teacher interview responses.

On the basis of these findings, PEECh researchers developed a second, significantly expanded PEECh intervention relating to issues of social and emotional competence in early childhood. In this paper, we examine the effects of this expanded intervention on change in children's social-emotional competence and Theory of Mind from pre- to post-intervention. In this paper, we use the more current and broader definition of Theory of Mind [ToM] (Tager-Flusburg, 2001; Wellman et al., 2001), which goes beyond understanding that others can have different beliefs and includes understanding of others' emotional experiences and expressions. A recent meta-analysis finds

that SEL training can increase ToM in young children (Hofmann et al., 2016) and that training to increase ToM has been found to increase social competence (Ding et al., 2015). Understanding that others can be hurt or feel distress is the foundation of empathy and has fundamental importance for social competence. Therefore, assessing whether the PEECh intervention increased children's ToM was a novel contribution of this study. In normative development, ToM increases significantly between ages 3–5, the ages of children studied in the current paper, making this an ideal age to assess associations between ToM and social competence (Alduncin, 2014; Barreto et al., 2018; Shivalingaiah et al., 2019; Stewart et al., 2019).

For this study, research questions are:

- 1) What impact, if any, does this expanded PEECh intervention have on (these) preschool children's social and emotional competence?
- 2) What impact, if any, does this expanded PEECh intervention have on (these) preschool children's ToM?

Method

Context and participants

This study was conducted in a childcare center in central Pennsylvania, USA. The center is situated in a small, rural town and serves children primarily from low-income families, aged 6 weeks to 12 years. There are 3 infant–toddler classrooms (for 0–3-year-old children), 3 Pre-K Counts classrooms and 2 Head Start classrooms (both for 3–5-year-old children). The center is also recognized by the state of Pennsylvania through the *STARS Evaluation System*³.

Of 90 children aged 3–5 attending the preschool, a sample of 73 participated in this study; 17 were excluded due to lack of parental consent. The first language of all participating children was English. The teachers were assigned to experimental or comparative groups by the school director. Of the 3–5-year-old children participating in the study, 37 children (13 girls and 24 boys) from three different classrooms comprised the experimental group, and 36 children (22 girls and 14 boys) from two different classrooms comprised the comparative group. There was no significant age difference between the experimental and comparative groups. The mean age in months for the experimental group was 48.49 ($SD = 7.20$), and children ranged in age from 36 to 60 months. The mean age in months for the comparative group was 49.78 ($SD = 5.16$), and children ranged in age from 36 to 59 months.

The participating preschool teachers employed at the school had less than 5 years of teaching experience. In addition, these teachers had either a 4-year undergraduate or 2-year early childhood degree. Of note, all preschool teachers at the center already implemented various programs for social–emotional learning, including the *Second Step Program*¹, *Color Me Healthy*², and *Gold Teaching Strategies*³. Both experimental and comparative group teachers read storybooks to their students daily. The pedagogical approach used in their storybook sessions was primarily based on the comprehension of the book and its plot, major themes, and related activities to teach reading

skills and letter recognition. After reading books to their students, they asked questions related to the reading.

Procedure and educational intervention

Before the study, the center director and participating teachers in the experimental and comparative groups were asked to participate in the study. They signed consent forms to ensure their understanding of the purpose of the study. In compliance with IRB approval and conditions, the completion of research-related forms was voluntary. Information on the study was distributed to all parents with handouts and signed parental consent forms for all participating children were collected prior to the start of the study. Children's verbal consent was gained, and all children were informed that they did not have to participate and, during the study, that they could stop participating at any time. If a child indicated s/he did not want to participate, the child interview did not commence.

Pre-interviews were conducted at the beginning of the study and post-interviews were conducted after the implementation with participating children and their teachers. Teachers' pre- and post-interviews took 30–45 min, and children's pre- and post-interviews took 10–20 min. Parents and teachers also filled out questionnaires before and after the implementation (discussed below). Two questionnaires, the *Theory of Mind Inventory* (ToMI) (Hutchins et al., 2012) and *Head Start Competence Scale* (HSCS) (b; Domitrovich et al., 2007a), were completed by parents and teachers. Following the educational intervention component of the study, post-interviews with children and teachers were audio-recorded and completed. Post-teacher and parent questionnaires, and post-ToMI and HSCS measures were completed by teachers and parents.

Prior to implementing the PEECh program in their classrooms, teachers in the experimental condition attended a 1-day training workshop given by PEECh researchers, on ethics education, dialogical teaching strategies, and, specifically, the PEECh Program. The teachers learned how to facilitate the PEECh weekly lessons, activities, and discussions (contained in a PEECh Instructor Manual [Burroughs & Arda Tuncdemir, 2016], distributed in advance to participating teachers), and also learned about PEECh research instruments. At the end of the workshop, teachers practiced facilitating one of the PEECh lessons with the group and received feedback from workshop participants.

The PEECh curriculum and intervention consisted of 9 lessons based on seven stories written by PEECh researchers and two already-published works of children's literature: *Rainbow Fish to the Rescue!* (Pfister & James, 1995) and *Hey, Little Ant* (Hoose et al., 1998). PEECh lessons include warm-up activities, guiding questions, and extension activities, and focus on four primary ethical and social-emotional themes: fairness, perspective-taking/empathy, personal welfare and the welfare of others (primarily pertaining to issues of harm to oneself or harm to others), and inclusion and exclusion of peers. The curriculum takes a dialogue- and activity-based approach to considering these concepts with children in early childhood classrooms. This approach is informed by two educational traditions: *constructivism* and *philosophy for children*. Constructivist education (DeVries & Zan, 1994) focuses on engaging children as active participants in the educational process through developing lessons in relation to children's interests and encouraging collaborative learning in the classroom. Constructivism views learning and the production of knowledge as an outgrowth of authentic problem solving between

children. Philosophy for children is a constructivist-informed approach to education that encourages the use of dialogue as a central tool for creating an authentic and engaging learning environment for children (Burroughs & Tollefsen, 2016; Wartenberg, 2014). This is a learning environment that is participatory and collaborative, one in which the teacher uses various prompts to engage children in dialogue on topics of mutual interest and importance.

PEECh lessons were implemented by the experimental teachers once-per-week for 30–45 min. Each lesson started with a warm-up activity, followed by a short story (read by the teacher and acted out by teacher-animated puppets). After the story, teachers led a discussion on the story themes and questions. Following this facilitated discussion, children participated in an extension activity related to the theme of the story in small groups (until all children had the opportunity to participate).

PEECh stories were read on the same day in both experimental and comparative classrooms. However, during and after reading the stories, comparative group teachers followed their normal procedure: reading the books, and asking questions related to book content. They did not have access to PEECh lessons, questions, activities, or training in PEECh discussion facilitation.

Research design

This study utilized a quasi-experimental research design involving the pre-test intervention–post-test model assessing both experimental and comparative groups at each time. Pre-test data were collected in September 2016. The intervention was conducted for children in the experimental group from September until December, and then post-test data were gathered between December 2016 and January 2017.

Measures

We used multiple methods of data collection (see below) to examine the effect of the PEECh interventions on children's social and emotional competence, and ToM. All instruments discussed below were delivered to both experimental and comparative groups in pre- and post-intervention. Teacher and Parent Questionnaires and Children and Teacher Semi-Structured Interviews were developed by the research team and were used in the pilot PEECh research (Burroughs & Arda Tuncdemir, 2017).

Teacher Questionnaire (pre-intervention)

To gain information about teachers' background and prior ethics education and SEL experiences for participating children, the experimental and comparative group teachers were asked to fill out a questionnaire that detailed their teaching experience, level of education, curricula and education programs used in their classrooms, ethics, and SEL related storybooks used in their classrooms, and their classroom rules.

Parent Questionnaire (pre- and post-intervention)

Both experimental and comparative group parents were asked to complete background information on their children, including primary language and extracurricular education activities (e.g., Sunday school, camps, daycare, etc.). In addition to the background information, parents were asked to give examples of previous discussions with their children

about ethical themes, their rules at home pertaining to their children's play, their children's response to and behaviors during the conflict, and their children's emotional understanding and self-regulation skills (e.g., "*When your child/children has a conflict with others (sisters/brothers/peers), how does she/he typically resolve these conflicts?*").

Child semi-structured interview (pre- and post-intervention)

In addition to parent and teacher reports, PEECh researchers created and conducted 10–15-min pre-intervention and post-intervention semi-structured interviews with children in both experimental and comparative group classrooms. All interview questions were accompanied by illustrations that showed situations with ethical themes (i.e., open-ended conflicts or dilemmas that called for an ethical statement or decision from the children) and that were designed to determine children's ability to understand and respond to ethical questions, as well as their ability to identify emotion markers and potential solutions to ethical problems (e.g., *Mark and Katie are playing with a ball on the playground. Mark pushes Katie down so he can get to the ball first. How do you think Mark might be feeling? How do you think Katie might be feeling? How do you think Katie feels after she gets pushed down? Why? How do you think Mark feels when he pushes Katie down? Why? What should Mark do after pushing Katie down? Why?*).

Teacher semi-structured interviews (pre- and post-intervention)

The researchers carried out pre-intervention and post-intervention semi-structured interviews with teachers in both experimental and comparative group classrooms about their students' ethical development, emotion marker identification, self-regulation, and ethical and social-emotional problem-solving skills (e.g., "How well does (student's name) recognize and understand his/her emotions? Tell me about a time when she/he shows understanding and recognizing emotions:").

Head Start Competence Scale—Teacher Version (pre- and post-intervention)

The Head Start Competence Scale (HSCS)—Teacher Version (Domitrovich et al., 2001b) is a 12-item scale of children's social and emotional skills that reflect interpersonal relationships and emotion regulation (e.g., "*resolves peer problems on his/her own*," "*can wait in line patiently when necessary*"). Items are rated on a 4-point Likert scale ranging from 1 (not at all well) to 4 (very well). A total score was created by averaging all of the items on the scale. The internal consistency of the scale was $\alpha = 0.74$.

Head Start Competence Scale (HSCS)—Parent Version (pre- and post-intervention)

The Head Start Competence Scale (HSCS)—Parent Version (Domitrovich et al., 2001a) examines children's social and emotional skills that reflect emotion regulation and understanding in 16-items (e.g., "*understands others feelings*," "*stops and calms down when he/she is upset*"). The scale shows a sufficient internal consistency scale (Cronbach's $\alpha = 0.74$). Parents were asked to evaluate how well each item describes each student using a 4-point Likert scale ranging from (1) not at all well to (4) very well. A total score was created by averaging all of the items on the scale.

Theory of Mind Inventory (pre- and post-intervention)

The Theory of Mind Inventory (ToMI; (Hutchins et al., 2012)) was designed to assess children's ability to recognize and distinguish the beliefs, desires, and intentions of others from their own. It consists of 42 items and each item takes the form of a statement (e.g., *"My child understands whether someone hurts another on purpose or by accident," "My child understands that people can lie to purposely mislead others"*) accompanied by a response continuum of 20 metric units anchored by 'definitely not' and 'definitely' with a center point of 'undecided'. Parents and teachers were asked to indicate their degree of confidence by placing a hash mark at the appropriate point along the continuum. Responses for each question are scored by a ruler (possible range = 0–20). Internal consistency is evaluated using Cronbach's alpha, and it has a very high estimate of consistency of content ($\alpha = 0.98$) (Hutchins et al., 2012).

Data analytic plan

A primary aim of the study was to test whether children in the experimental condition showed a greater increase than children in the comparative condition in social-emotional competence, assessed using teacher and parent reports on the HSCS, and in ToM, assessed using teacher and parent reports on the ToMI. To this end, we conducted four separate repeated measures General Linear Models (GLMs) using SPSS Version 24.0 for teacher and parent reports scores on the HSCS and the ToMI. Teacher and parent reports were examined separately, because there is typically low to modest agreement between ratings of children's behavior in different contexts, such as school and home (e.g., Winsler & Wallace, 2002). Pre- and post-intervention scores on the HSCS and the ToMI were the repeated measures and condition (experimental/comparative) was the between-subjects factor. Child sex was added as a between-subjects factor and age in months was added to models as a covariate to control for potential sex and age differences in these measures.

Our main hypothesis was that children in the experimental group would show a greater increase than children in the comparative group in both social competence and ToM, which would be indicated by significant assessment by condition interaction effects. If significant interactions were found, planned paired samples *t* tests were used to examine the interactions.

To complement the quantitative analyses, qualitative findings from teachers' and parents' interviews are summarized and provided following the results of statistical analyses (Table 1).

Results

Correlations between ToM and Child Sex

Descriptive statistics for study variables are reported by condition (Experimental/Comparative) in Table 2. Experimental and control conditions did not differ in mean ages. There were no sex differences in reports of children's social competence or ToM with one exception, $\chi^2(1) = 6.03$, $p < 0.05$, parents rated male children ($n = 38$) as

Table 1 Sample PEECh Lesson

LESSON 7 – ‘Let’s Play Together’

a. Goals:

1. To introduce a discussion on the themes of/have children consider *empathy, perspective-taking, sharing, and inclusion versus exclusion of peers*
2. To develop children’s prosocial and ethical skills in interactions with peers
3. To introduce additional PEECh puppets
4. To create a positive atmosphere in which children can discuss these themes together

b. Materials:

1. PEECh puppets (‘Angel’ and ‘Patrick’)
2. Markers, crayons, or finger paints

c. Conducting the Lesson:

Warm-Up – ‘My Favorite Game’ [for whole class]

- i. Have the whole class sit in a circle. Ask the group about their favorite game (or toy) to play *with other children*. Ask the group why they like to play this game with others
- ii. Children can take turns – one-by-one – thinking and answering these questions. Encourage children to listen while other children answer
- iii. Introduce ‘Angel’ and ‘Patrick’ to the class. As usual, feel free to have the puppets ask questions of the class (about their day, their school, some of their favorite things, etc.) and/or the class can ask them questions

Story and Dialogue – ‘Let’s Play Together’ [for whole class]

- i. While the class is still sitting in a circle, read the following story:

Angel likes to play with a toy truck and to pretend that she is driving it all over town. Angel likes to play with friends. But Angel also likes to play alone, especially when she only has one toy truck

Patrick also likes to play with toy trucks but he doesn’t have one with him today. He sees Angel playing with her truck and asks her if he can play with the truck too

Angel isn’t sure what to do because she only has one truck. She has been having fun playing with the truck by herself

- ii. Discuss the story. Potential questions include:

1. How does Angel feel? Why does she feel that way?
2. How does Patrick feel? Why does he feel that way?
3. What should Angel do after Patrick asks to play with the truck? Why?
4. If you were playing with Angel and Patrick, what would you suggest that they do? Why?

Extension Activity [for half/whole class] – ‘The Solution Wall’

- i. This activity can be conducted with the whole class, or with half of the class followed by the next half
- ii. Revisit the ‘Let’s Play Together’ story with the group. Discuss the basic issue in the story, namely, that Angel has only one truck but Patrick wants to play with the truck too
- iii. Next, ask the children what they think Angel and Patrick should do to resolve this issue. Discuss their potential solutions
- iv. Ask children to draw what they think should happen to end this story/what Angel and Patrick should do in this situation (i.e., the fact that there is one truck but they both want to play with it)
- v. Ask each child to share their drawing, telling the class what they draw and why. Once all children have had a chance to share, hang the drawings on a wall (creating a ‘Solution Wall’)

Table 2 Descriptive statistics for study variables

| | Experimental (N = 37) M (SD) | Control (N = 36) M (SD) |
|--------------------------|---------------------------------|----------------------------|
| Parent HSCS Pre-test | 40.69 (7.23) | 36.06 (8.33) |
| Parent HSCS Post-test | 41.92 (7.57) | 38.29 (8.97) |
| Teacher HSCS Pre-test | 29.73 (9.16) | 33.47 (9.05) |
| Teacher HSCS Post-test | 33.86 (7.37) | 33.97 (8.42) |
| Parent ToMI Pre-test | 572.94 (99.45) | 587.65 (113.76) |
| Parent ToMI Post-test | 615.91 (96.11) | 591.06 (118.09) |
| Teacher ToMI Pre-test | 573.84 (91.07) | 518.08 (103.82) |
| Teacher ToMI Post-test * | 627.97 (78.42) | 502.77 (88.38) |
| Child Age (months) | 48.49 (7.20) | 49.78 (5.15) |

Table 3 Correlations among parent reports and among teacher reports

| | Child Age (Months) | HSCS Pre-test | HSCS Post-test | ToMI Pre-test | ToMI Post-test |
|--------------------|--------------------|---------------|----------------|---------------|----------------|
| Child Age (Months) | – | .46** | .43** | .32** | .15 |
| HSCS Pre-test | .14 | – | .75** | .53** | .27* |
| HSCS Post-test | -.00 | .77** | – | .57** | .49** |
| ToMI Pre-test | .19 | .42** | .39** | – | .78** |
| ToMI Post-test | .14 | .64** | .74** | .59** | – |

Note. Correlations among parent report measures below the diagonal. Correlations among teacher report measures above the diagonal

** Correlation is significant at the 0.01 level (2-tailed)

Table 4 Correlations between parent and teacher reports

| | Teacher HSCS Pre-test | Teacher HSCS Post-test | Teacher ToMI Pre-test | Teacher ToMI Post-test |
|-----------------------|-----------------------|------------------------|-----------------------|------------------------|
| Parent HSCS Pre-test | .20 | .29* | .38** | .46** |
| Parent HSCS Post-test | .18 | .27* | .24 | .32** |
| Parent ToMI Pre-test | .27* | .25* | .21 | .16 |
| Parent ToMI Post-test | .20 | .15 | .32** | .30* |

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

The *Second Step Social–Emotional Learning Program* is a curriculum that focuses on the development of social–emotional and academic skills in early childhood

Color Me Healthy is a program developed for 4–5-year-old children that reinforces physical and nutritional health and related practices

The *Gold Teaching Strategies Program* is an observation-based assessment system that that helps teachers and administrators like you focus on what matters most for children's success

having significantly lower levels of ToM than female children ($n = 35$) at pre-test, $F(1, 68) = 8.70$, $p < 0.05$. Therefore, child sex was added to the main analyses.

Correlations among study variables are reported in Tables 3 and 4. As shown in Table 3, parents' reports on the HSCS and the ToMI were uncorrelated with child age, but teachers rated older children higher on the HSCS and the ToMI. Therefore, child age was added to the main analyses as a covariate. Measures were correlated across pre- and post-assessments for parents' and teachers' reports, indicating expected stability in children's social competence and ToM over time. As shown in Table 4, parents' and teachers' reports on the HSCS and the ToMI showed low to moderate correlation, consistent with broader research on agreement between parents' and teachers' reports of children's social behaviors (e.g., Winsler & Wallace, 2002).

PEECh intervention on the preschool children's social and emotional competence

Children's Social Competence based on Parents' Reports

For parents' reports of children's social competence based on HSCS scores, contrary to our main hypotheses, there was not a significant assessment by condition interaction, indicating parents did not report differential change in children's social competence between pre- and post-intervention assessments in either the experimental or control condition. In fact, there was not a significant main effect for assessment, indicating

parents did not report a significant change in children's social competence over time in either the experimental or control condition.

According to the parents' reports of children's ToM based on the ToMI scores, contrary to main hypotheses, there was not a significant assessment by condition interaction, indicating parents did not report a differential change in children's ToM between pre- and post-intervention assessments in either the experimental or control condition. There was a significant interaction between assessment and child sex, $F(1, 61) = 4.37$, $p < 0.05$, $\eta^2 = 0.07$. Follow-up paired t tests revealed that parents reported that boys increased significantly in ToM between assessments, $t(34) = -3.86$, $p < 0.01$, whereas girls did not, $t(30) = 0.51$, *ns*, although girls had higher ratings on the ToMI at both pre- and post-assessments: M for Girls_{pre} = 617.94 (109.73), M for Girls_{post} = 607.61 (127.00); M for Boys_{pre} = 548.49 (95.76), M for Boys_{post} = 596.54 (88.30).

Looking across pre- and post-parent questionnaire responses showed that experimental group children were more attentive to others' needs after the PEECh intervention. The experimental group parents expressed this change in numerous areas. For example, whereas in the pre-parent questionnaire Child 9 was listed as 'Hitting, yelling, crying,' in the post-questionnaire, he/she was described as being more responsive to others in conflict situations: 'She does well when she resolves it on her own like if her brother is playing with her toy, she will grab one of his and give it to him and taken hers away. She compromises.'

Children's Social Competence based on Teachers' Reports

Teachers' HSCS reports are consistent with our main hypotheses. There was a significant interaction between assessment and condition, $F(1, 67) = 6.15$, $p < 0.05$, $\eta^2 = 0.08$. Planned follow-up paired t tests revealed that children in the experimental condition increased significantly in social-emotional competence between assessments, $t(35) = -4.12$, $p < 0.001$, whereas children in the control condition did not, $t(35) = -0.52$, *ns*.

Moreover, teachers' reports on the ToMI were consistent with main hypotheses, there was a significant interaction between assessment and condition, $F(1, 67) = 18.78$, $p < 0.001$, $\eta^2 = 0.22$. Follow-up paired t tests revealed that children in the experimental condition increased significantly in ToM between assessments, $t(36) = -5.59$, $p < 0.001$, whereas children in the control condition did not, $t(34) = 1.48$, *ns*.

The teacher interviews support the quantitative data. Teachers in the experimental group noticed that their children showed an increased understanding of their own emotions and others' emotions. Parents of experimental group children also noted that conflict behaviors were reduced. For instance, in response to the question 'When your child/children has a conflict with others (sisters/brothers/peers), how does she/he typically resolve these conflicts?', an experimental group parent, in the post-questionnaire, described her child's conflict resolution strategies by stating that the child generally tells 'a parent or other adult; occasionally he will just give up/in.' On the pre-test questionnaire, the parent explained her child's conflict resolution strategies as 'crying, trying to take a toy and hitting' during conflicts. Additional questionnaire excerpts are listed below:

'She's hit her brother before when playing and when confronted looked like she was mad/upset (Child 13- Experimental – Pre-test)'

'He feels upset because he doesn't want to follow the rules...crying, disrupting the game... I will have him wait his turn or he cannot play (Child 36 – Experimental – Pre-test)'

'She'll cry because she feels bad and knows that it wasn't nice and was wrong thing to do/she'll apologize and keep playing (Child 7 – Experimental – Posttest)'

'He will come tell an adult what happened (Child 35 – Experimental – Posttest)'

In teacher interviews, as an example of student change in empathy and perspective-taking, an experimental group teacher noted developments in Child 2's emotion regulation and understanding: 'if somebody, like if they are in line, if somebody pushes her or something, she will say [to] them like 'don't push me that's making me mad' or 'that's making me upset.' Referring again to Child 2, the experimental teacher stated: 'She will give them a hug, she will say like 'oh, you are sad and you need a hug' or like she like can almost see there she is pretty good at seeing their point of view you know like just understanding why they are upset and she will come and tell me like if that kid in the corner is upset, she will come over and say 'Oh, Child 3 was [upset].' These responses show progress as compared to this teacher's descriptions of Child 2's emotion regulation and understanding during the pre-teacher interviews.

In comparing pre- and post-teacher interviews, both experimental and comparative group teachers reported that children's attention to conflict, personal welfare, and the welfare of others increased. This was evidenced by teachers' responses to the following question: 'When (student's name) has a conflict with others (sisters/brothers/peers), how does she/he typically resolve these conflicts? Can you give me an example?'

In addition, across experimental and comparative groups, teachers reported advances in children's conflict resolution and perspective-taking skills. Experimental and comparative group children were also reported as decreasing in causing conflict as well. Discussing conflict resolution strategies for Child 28 (a child in the experimental class), the teacher noted in her post-interview: 'He tries to talk it out with them. But if he can't, he'll come to a teacher. But he does try to talk to them himself first.' Discussing Child 28 in her pre-interview, the teacher noted 'He tends to shout and get confrontational with others. Today someone tried to move his hand and that's when he hit them. He gets set off kind of easily.' A comparative group teacher, referencing Child 57, notes: 'She is able to handle that [conflict] and tell her friends what the problem is.'

Taken together, children in both the experimental and comparative groups were more attentive to their friends' needs in the post-test than in the pre-test. There are several examples of this from the teacher post-interviews. For example, for Child 35 in the comparative group: 'If he does get in an argument with someone, he listens to their point of view, he'll give his for sure, but he doesn't push or anything violent like that.' Similar to this comparative group teacher, the experimental group teacher stated for another child (Child 8): 'She is good about listening. You know waiting her turn, and trying to understand like where they are coming from, putting herself in their shoes.'

Children's Social Competence based on Children Interviews

In comparing pre- and post-child interview results across all questions, both experimental and comparative group children offered more solutions to the defined situations and supplied supporting reasons in post-interviews. As one example, Child 4 in the experimental group developed additional solutions in response to dilemmas involving sharing a cookie with peers and evaluating the artwork of a friend: 'if someone says I don't like picture, we say sorry' and 'They can share [the] other cookie. They have to share if they want to eat.' During the pre-interview, this child simply noted 'I don't know' in response to both dilemmas. In response to the same dilemmas, Child 40 in the comparative group stated: 'Share. Because we have to' and 'Say sorry, because it is not nice,' whereas during the pre-interview, this child did not respond to the questions in detail. Experimental group children suggested more taking turns, helping sharing, and praising solutions responded to the dilemmas in the post-tests.

Discussion

A primary aim of our study was to determine whether the expanded version of the PEECh intervention would increase children's social-emotional competence and ToM by testing whether children in the experimental condition who received the PEECh intervention showed greater increases than children in the control condition. Our quantitative analyses found that teachers, but not parents, reported a statistically significant increase in both social competence and ToM skills for children in the PEECh intervention group.

According to teachers, the experimental group children demonstrated significantly increased social-emotional competence skills compared to the comparative group children. Furthermore, one of the most significant results of the study was in the area of Theory of Mind. We expected that all children might show normative developmental increases in ToM over time, and, indeed, age was related to higher scores on the measure of ToM. However, children in the experimental condition increased significantly more in ToM between assessments than did children in the comparative group, according to teachers. Yan et al. (2018) meta-analysis of research on the cognitive outcomes of the P4C study supported these findings. They found that 10 studies published between 2002 and 2016 found that P4C showed an overall moderate positive effect on students' cognitive learning outcomes and a significant positive effect on their reasoning skills.

The experimental group teachers also expressed that children demonstrated significantly increased social competence skills, particularly in their children's increased understanding of emotions (both their own and those of others). Similarly, in a pilot PEECh study, it was found that participating children's emotion recognition (i.e., increased use of emotion markers in response to relevant questions calling for emotion recognition, empathy, and perspective-taking) was improved as well as their inclusion of peers and perspective-taking in the classroom (Burroughs & Arda Tuncdemir, 2017). Moreover, Giménez-Dasí et al. (2013) noted that 4- and 5-year-old children's emotional comprehension including happiness, sadness, fear, anger, pride and jealousy and social competence were increased after engagement with philosophical dialogue on emotions. According to the social domain theory, children develop social concepts from their early and continuing experiences with social interactions, customs and norms, and moral

concepts from their early and continuing experiences of harm and fairness (Smetana et al., 2014). The PEECh program supported children's social competence skills by providing social interactions and moral concepts within a new learning environment.

Qualitative analyses provided a complement to the statistical analyses and offered a more nuanced description of parents' and teachers' perceptions of children's social-emotional skills. Parents of children who received the PEECh intervention reported that their children's conflict behaviors were reduced and perspective-taking and attentiveness to others' needs were increased. Young children's abilities to negotiate interpersonal exchanges and regulate their emotions develop throughout the life span and show situational and much inter-individual variability. These abilities are related to emotional knowledge and prosocial behavior. Children's ability to explain emotions is related to their ease of initiating social contact and having others initiate contact with them (Denham et al., 2012). Therefore, when children can explain, understand, and better manage emotions, it can help to reduce conflict behaviors. In this study, parents' reports of reduced conflict behaviors in experimental group children could also have a bearing on these children's increased social competence. Glina's (2015) study also supported these results, in which students were exposed to the Philosophy for Children curriculum addressing issues of empathy, caring, trust, respect, and friendship. It was found that this philosophy and dialogue-based program positively impacted students' attitudes and beliefs about the sense of reducing their aggressive behavior.

Similarly, research with older children (11 and 12 years) shows that weekly participation in a collaborative inquiry over 7 months can lead to significant gains in academic self-esteem and self-confidence, and reductions in anxiety (Trickey & Topping, 2006). In addition, implementing dialogue-based educational intervention by classroom teachers helped children achieve significant gains in self-esteem (Sasseville, 1994). In Siddiqui et al. (2019)'s longitudinal study, children who received P4C implementation showed increased social and communication skills, resilience, and empathy.

These findings are consistent with evidence that story-based programs designed to increase children's social-emotional competence have beneficial effects. For example, Salmon and colleagues (2013) found similar findings with 3–4-year-old children using stories and labeling the characters' emotions and explaining the causes of emotions. Moreover, it was found that preschoolers' emotional understanding and false belief understanding, which is an index of ToM, were improved through storybook interaction training using emotion games (Gavazzi & Ornaghi, 2011; Ornaghi et al., 2011).

Although the findings for PEECh are similar to those found in other programs, it is important to note that teachers in the control condition provided different SEL educational activities. This could have minimized the ability to find significant differences in change in social competence and ToM between the experimental and control condition children. In fact, in many areas, both experimental and comparative group teachers reported advancements. These gains could have been due to normal developmental change and experience in group settings with other children or to the fact that both experimental and comparative group children received some SEL education. However, this makes the significant effect of the PEECh intervention on the experimental group children's ToM and social competence even more noteworthy. It suggests that the PEECh intervention facilitated gains in these areas above and beyond those offered by

other SEL programs, and these gains may be due to the unique element of ethics (such as emotion recognition, empathy, perspective-taking, and developing concern for others) education that is emphasized. These elements are unique in PEECh in that they combine an SEL awareness of emotions and peer relationships with a focus on facilitated discussion and dialogue of ethical concepts and problems with peers (pedagogical approaches influenced by both P4C and ethics education components of the PEECh project). These dialogues prompt students to not only consider ethical dilemmas, but also, to present their own perspectives on these issues and begin to actively understand the perspectives of others. As these ethical discussions prompt children to gain a better understanding of their peers experiences and perspectives they also help buttress the development of ToM.

In addition to showing incremental effects beyond other SEL programs, participating teachers, during an informal meeting, articulated that they enjoyed and benefitted from the PEECh program and participation in the study. The teachers wanted to gain additional experience in SEL and ethics education and to implement the PEECh program throughout the week. We found that, following the study, they were willing to create their own activities, games, and story puppets related to the themes of the study. For further studies, we recommend, where possible, providing additional teacher training and activities, including additional time for teachers to create their own extension lessons and activities for feedback and successful implementation in classrooms. If teachers who implement ethics programs are trained to act as facilitators rather than teaching or imparting to students their own personal morals and values, they may become more reflective, curious and experimental (Zappala & Smyth, 2020).

Finally, of note, statistical analyses showing effects of the PEECh intervention were evident in teachers' reports, but parents' reports did not differ statistically between comparative group and experimental groups either in children's social-emotional competence or ToM measures. This may be because teachers had more opportunities to observe the children in social interactions with several other children, and therefore, their ratings may better reflect the constructs measured in this study. Researchers have found that some disagreement across informants about child behavior, such as parents and teachers, is typical (Achenbach, 2011; Kanne et al., 2009; Steiner & Remsing, 2007). Furthermore, Rettew and his colleagues (2011) differentiated home-specific problems and school-specific problems and assumed that children could behave differently in each of these settings.

Children's social and emotional health affects their overall development and learning. The mentally healthy children tend to be happier, show greater motivation to learn, have a more positive attitude toward school, more eagerly participate in class-activities, and demonstrate higher academic performance. Moreover, social-emotional health helps children make decisions that are personally and socially responsible. This ethical decision-making and responsibility process includes having curiosity, making reasoned judgments, analyzing data, recognizing one's responsibility to behave ethically, identifying solutions for personal and social problems, and anticipating and evaluating the consequences of one's action (Zins et al., 2004).

Philosophical Ethics in Early Childhood (PEECh) is a combined SEL and ethics education curriculum that provides children's games, extension activities, and dialogue to

support children in thinking about social and emotional dilemmas deeply, sharing their ideas, and creating solutions. SEL and ethics education combined early education programs have the potential to eliminate problems and provide positive influences on these children's lives (Raver, 2002).

This study also showed the SEL and ethics education practices could be implemented in the classroom. The teachers and children enjoyed these activities and are willing to create more activities and practices. Using this PEECh curriculum, the gap between the adoption of SEL and conception of ethical competence (Burroughs & Arda Tuncdemir, 2017) may be closed. Children also some ethical and social emotional competence, such as emotion recognition, empathy, perspective-taking, and developing concern for others. For the future research, the program books and activities will be sent to the homes, and parents can benefit these materials and start dialogues with their children at homes.

It is also important to investigate the long-term impact of the PEECh program on children's future success, career paths and well-being in adult life. This would be possible by tracking the children over time to secondary school and comparing them with the rest of their cohort.

Limitations

The most significant limitation of this study is that teacher reports provided the most significant evidence of changes between comparative group and experimental group children. While valuable evidence, teachers were not blind to the intervention condition and, thus, there is a possibility that they were biased in rating children higher, because they believed that the intervention worked. Furthermore, the school director assigned the experimental and comparative groups. Her prior knowledge of the teachers and students in each class may have biased her toward putting some of the classes in the experimental and/or comparative groups. However, teachers in the control condition also implemented SEL educational activities (as noted above), different from PEECh. Therefore, they may have shown a similar bias in their evaluations of children in their classrooms.

Another limitation is that the sample size was relatively small, and the study used behavior ratings rather than direct observations of child behavior to determine program effects. Since data were collected from teachers who also delivered the intervention and parents were aware of the program, their reports may have been affected by this knowledge. Future research should employ larger samples and focus on researcher observations, interviews, and student reports.

Conclusion and recommendation

In summary, Philosophical Ethics in Early Childhood (PEECh) is a combined SEL and ethics education curriculum, developed in collaboration between ethics education and SEL researchers and early childhood educators. The PEECh program includes games, extension activities, and dialogue to support children in thinking about social and emotional dilemmas deeply, sharing their ideas, and creating solutions. SEL and ethics education combined with early education programs have the potential to eliminate problems and provide positive influences on these children's lives (Raver, 2002).

The PEECh program can be a valuable intervention. Teachers need SEL and ethics training in their teacher education or as a part of their Continuous Professional Development. Teachers also should be supported by constant feedback. To achieve these goals, there is a need to review and revise the current state and professional training policies and include these elements. Even if policymakers' reluctance to raise qualifications is primarily due to cost, the higher education authorities should cooperate, develop, and maintain a comprehensive professional development system with stable funding and measures for quality assurance.

Based on the evidence overall, PEECh is found to increase children's social-emotional competence and understanding of their own and others' emotions. This impact may be retained if children receive additional training after the initial intervention. Policymakers, parents, and early childhood leaders can assist teachers in implementing social, emotional, and ethics interventions or infusing these interventions into existing programming by advocating for increased funding and materials for these efforts.

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Author contributions

TBAT and MB created the program, implemented the study, and collected the data. TBAT analyzed and interpreted the children, parents, and teachers' data interviews' data. GM analyzed the scales and inventory data on the SPSS system, and TBAT and GM interpreted the data together. TBAT performed the PEECh program's background regarding ethics, Philosophy of children, social-emotional theories and practices, and was a major contributor in writing the manuscript. All authors read and approved the final manuscript.

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Availability of data and materials

The data sets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

Written informed consent was obtained from the teachers in the study for their interviews, completing the scales and inventory, and the classroom pictures. Written informed consent was obtained from the parents in the study for completing the scales and inventory, their children's interviews, and the classroom pictures of their children. Moreover, verbal informed child consent was obtained prior to the interviews.

Consent for publication

The teachers and parents signed informed consent regarding publishing their data and photographs.

Competing interests

The authors declare that they have no competing interests.

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