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PLAYING-2-GETHER: can brief in-service training influence preschool teachers' awareness of play-based strategies for improving relationships?

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ABSTRACT

This study explores how brief in-service training influences preschool teacherś awareness of competences relevant for building high-quality teacher–child relationships. A pre- and post-test design was used, with a 5-h training session in-between. Thirty-four in-service preschool teachers completed a video-based task before and after training. Qualitative and quantitative analyses were conducted. After the session, the number of teachers identifying the key principles of building relationships with children was significantly higher for one out of the five situations analysed; the number of teachers identifying competencies for building positive relationships was significantly higher for three out of the five situations. Strategies such as observing children were easily identified (before and after training) and strategies such as taking into account the child relational needs were hardly ever identified (before and after training). Discussion highlights potential differential effects of brief in-service training according to the complexity of the training content.

Introduction

Playing is considered a pivotal activity in preschool education, with positive teacher–child relationships considered central to ensure the quality of children's play experiences (e.g. Jantan et al. 2015), the quality of child inclusion (e.g. Coelho et al. 2019; Division for Early Childhood 2014), and to support the development of childreńs cognitive, social and emotional skills (e.g. Hall-Kenyon and Rosborough 2017).

Regarding the use of a play-based approach in early education settings, i.e. using play situations to build good relationships with children and interact with them in a sensitive and responsive manner, teachers often consider this is useful for fostering learning and development in preschool (e.g. Jantan et al. 2015; National Association for the Education

of Young Children [NAEYC] 2009; Pyle et al. 2020). However, while playing with children, teachers can face several challenges including, for instance, deciding on how much involvement they put into the interaction, who leads the interaction, when and how to intervene to support peer relationships, and how to elaborate on childreńs play while promoting the development of learning/academic goals (Hall-Kenyon and Rosborough 2017; Pyle et al. 2020; Stanton-Chapman and Brown 2015). Therefore, for using a play-based approach, teachers must be aware of a set of play-based strategies (Hall-Kenyon and Rosborough 2017) that include both classroom and materials arrangement and organisation, and interaction skills such as paying attention to childreńs clues and interests and following childreńs lead during play situations (e.g. Pyle et al. 2020; Sabol and Pianta 2012).

More specifically, using a play-based approach means that play is the major facilitator of learning and interactions, building on the idea that young children learn naturally through play (e.g. Sharifah, and Ali 2013; International Play Association 2009). Research showed that children enrolled in the play-based preschool programs develop a stronger basis for learning (e.g. Walsh and Gardner 2006; Sharifah and Ali 2013). Although the benefits of different types of play for developing different competencies are often underlined, particularly child-centred play may provide an optimal context for building good teacher–child relationships. For that, it is important that teachers take time and develop proficiency in skills such as observing children, share the play-setting with the child, establishing positive communication, both verbally or non-verbally, and using descriptive commentaries to maintain and support play (e.g. Pyle et al. 2020).

Despite the recognition that teachers need to engage in and develop positive relationships aiming to promote childreńs wellbeing, agency, inclusion and significant learning, some studies have shown that preschools are inconsistent in promoting high-quality teacher–child interactions (e.g. Aguiar, Moiteiro, and Pimentel 2010; Cadima et al. 2018; Coelho et al. 2019). Thus, considering that teacherś education, experience, and training have been associated with teacher–child relationships in Early Childhood Education (ECE; Barros et al. 2017; Bowman, Donovan, and Burns 2000), in-service training can constitute fundamental opportunities for teachers to develop their relationships and play skills.

Teacher–child relationships during play in preschool classrooms

Teacher–child relationships are considered crucial for young children's current and later academic, cognitive, behavioural and socio-emotional development (e.g. Hamre, Pianta, and Jamil 2014; Spilt et al. 2012). More specifically, studies have identified that good teacher–child relationships can have compensatory effects in the development of children at risk or with disabilities (e.g. Burchinal, NathanVandergrift, and Mashburn 2010; Sabol and Pianta 2012). Recent studies on the quality of ECE underline that classroom emotional support, including teacher sensitivity, are pivotal characteristics of process quality in preschool (Mashburn et al. 2008). Regardless, promoting such sensitive interactions between children and teachers is a challenge, particularly in inclusive settings or when children present challenging behaviours (e.g. Driscoll and Pianta 2010; Pelatti et al. 2016; Sabol and Pianta 2012; Vancraeyveldt et al. 2013).

Early childhood professionals can play a significant role in intentionally supporting the participation and engagement of all children in ECE settings, by using a variety of relationship-based strategies. Relationships are powerful and have been described in theoretical models of child development as the driven forces of development and learning. Therefore, the need for children to experience positive, continuous, and frequent interactions with teachers, peers and other elements in their environments is unquestionable (Bronfenbrenner and Morris 2006).

Another important characteristic of teacher–child interactions, particularly during play, is related to the interaction leader; usually, preschool activities can be described as teacher-lead or child-lead. Particularly for children with challenging behaviour, the ability of teachers to follow the child lead, can be important to develop good relationships (Sabol and Pianta 2012). This is especially relevant and needs further discussion in teacher training programs as some studies show that preschool teachers tend to be directive and restrain childreńs options and behaviours, particularly with children with disabilities and/or with challenging behaviour or poor self-regulation skills (e.g. Grande and Pinto 2009).

Despite the wide evidence on the relevance of teacher–child interactions and relationships for child development, both national and international research suggests that the quality of teacher–child interactions tend to be mediocre in ECE (e.g. Aguiar, Moiteiro, and Pimentel 2010; Coelho et al. 2019; Hamre et al. 2012; Mashburn et al. 2008), and the need for professional development (PD) programs focusing on improving such relationships has been underlined (e.g. Hamre et al. 2012; Lindo et al. 2019).

In-service training for preschool teachers

In-service training has been described as an effective way of supporting ECE professionals in the development of high-quality relationships with children in their preschool classrooms. Studies show that in-service training can increase teachers' professional learning, is frequently valued and recognised by teachers as useful for daily professional practices and contributes to promote childreńs competences (e.g. Araújo 2015; Early et al. 2017; LoCasale-Crouch et al. 2011; Pianta et al. 2014).

However, Koles, O'Connor, and Mccartney (2009) underline that most PD programs are focused on academic content rather than on building positive relationships, despite the latter being recognised as having a potential high benefit both for teachers and children. In a recent study, teachers' increased awareness of their target child needs and experienced improved teacher–child relationships, after attending a PD program designed to strengthen the teacher–child relationship (Lindo et al. 2019). Authors also noted that using play-based language and skills to build relationships with children can help teachers to improve classroom management and support all children in the classroom. However, the in-service training described by Lindo et al. (2019) is an individual training that took place across several weeks, thus implying several human (certified trainers) and/or economic resources, as well as teacheŕs availability to engage in long in-service training programs. Time and funding are often pointed as barriers to the attendance of PD due to school/centre budgets as well as teacher schedules.

PD programs can include specialised in-service training, coaching, mentoring and learning communities (Sheridan et al. 2009). Specialised PD can take many forms,

such as workshops or conferences, and usually aims to increase professionals' knowledge in specific areas. It can also vary in length and teaching strategies. Results on the efficacy of PD in teacheŕs effective practices are inconsistent, maybe due to the variability of the programs. PD that includes coaching and mentoring have proven to be most efficient in improving teacher knowledge and practices (Egert, Fukkink, and Eckhardt 2018; Markussen-Brown et al. 2017; Mitchell and Cubey 2003; Werner et al. 2016). Regardless, both advantages and disadvantages have been highlighted by teachers when using, for instance, coaching and video feedback. Coaching, analysis and feedback cycles, and the use of video exemplars has been shown to increase effective teacher behaviours for teachers from preschool to high school (Pianta et al. 2014; Pianta et al. 2008). Regardless, teacheŕs often mention they and the children can feel exposed when video-filming classes and the process can be very time-consuming (e.g. Aguiar, Moiteiro, and Pimentel 2019; Mitchell and Cubey 2003).

Empirical research is beginning to make a strong case that the ability to notice effective teaching is foundational to the ability to conduct effective teaching, with studies finding that teachers attending PD focused on teacher–child relationships show greater knowledge of and skills in identifying effective interactions; besides demonstrating more effective emotional and instructional interactions in their daily activities with children (Hamre et al. 2012). Moreover, Wiens et al. (2013) noted that pre-service teachers' ability to notice effective teaching is very uneven, supporting the need of in-service training to approach and develop such skills.

Despite evidence on the positive impact of extensive PD formats in enhancing teacher ability to notice effective interactions and use key interaction skills, a recent meta-analysis found that there wasńt a linear relation between effects of PD initiatives and training length (Egert, Dederer, and Fukkink 2020). Thus, it is important to understand the minimal required conditions for in-service training to impact teacher knowledge and skills. Using less time-consuming formats of PD such as brief workshops that include active learning strategies have the potential to involve a higher number of teachers. Regardless, studies are still needed to examine if brief in-service training can influence teacher knowledge about specific competences, particularly regarding teacher–child relationships.

The Playing-2-gether project: teacher sensitivity as a basis for inclusion in preschool

Focusing on teacher–child interactions during play with pre-schoolers, the Playing-2-gether project was designed to foster teacher sensitivity to intervene with children with challenging behaviour, through the improvement of the teacher–child relationship. Later, the model was extended to improve dyadic relationships between teachers and all children in the classroom, within a prevention approach, for ensuring high-quality preschool environments. The project model can be used both for preservice and in-service teachers training. Based on the tenets of attachment theory (Pianta et al. 2003) and building on the idea that high-quality teacher–child relationships are a very important basis for creating an inclusive preschool environment, the Playing-2-gether project defined two key principles: teacher sensitivity and following the child's lead.

Teacher sensitivity is a pivotal aspect of the quality of teacher child-interactions and refers to teachers' ability to be aware of each child signals and respond adequately. As abovementioned, teacher sensitivity in preschool classrooms showed to be fundamental for several positive child outcomes, including the child's ability to regulate their behaviours (e.g. Driscoll and Pianta 2010; Vancraeyveldt et al. 2013). Another key principle is following the child's lead. Following the child's lead refers to the teachers' ability to create opportunities for the child to make choices and take decisions during play. As mentioned, child lead activities are fundamental for building good teacher–child relationships, contributing to foster child´s autonomy and sense of competence and improving the relationship between teachers and children with challenging behaviour (Vancraeyveldt et al. 2013). A set of skills can be used to improve teachers' sensitivity and ability to follow the child's lead, such as: observing the child, verbally describing the child's behaviour/play, imitating the child, labelling the child's feeling (https://www.p2g.ukf.sk/pt/inicial/).

Training programs in the Playing-2-gether project were designed for introducing teachers to main relationship skills and instigate them to implement those skills in the classroom. Such training programs can take up to 12 weeks (https://www.p2g.ukf.sk/pt/inicial/) and, in its original proposal, training requires both theoretical-practical sessions, with coaching sessions for monitoring teachers in context use of the relational skills. Video records of teachers' implementation of skills are used as a basis for providing feedback and discussing with the teacher. Overall, five main skills are targeted during teacher training, namely: labelling the child´s feelings, observing the child, mirroring the child, taking the child's relational needs into account and verbally describing. These skills are included as they have the potential to change teacher–child interactions, making them more child-centred and sensitive (Driscoll and Pianta 2010).

The present study

Previous experiences showed that longer training programs in the Playing-2-gether model have positive effects in improving teacher–child relationships and reducing child externalising behaviours (e.g. Vancraeyveldt et al. 2013; Vancraeyveldt et al. 2022). Regardless, although longer training programs with frequent sessions and video feedback discussions have found to be effective, not all preschool centres/teachers have the necessary conditions to be involved in such longer trainings. Previous studies that have shown positive effects of briefer in-service training sessions in improving teachers' specific abilities and competences (e.g. Castro et al. 2018) lead to the question: can brief in-service training sessions influence preschool teachers´ awareness of play-based strategies for improving teacher–child relationships? This study builds on the Playing-2-gether project aiming to understand if a brief in-service training session can influence preschool teachers' awareness of play skills that contribute to build good teacher–child relationships.

Method

Participants

Overall, 37 preschool teachers from the north of Portugal attended the in-service training course; of those, 34 accepted to participate in the study and completed both pre- and

post-test assignments. Participants were all female, aged between 33 and 57 years old (*M* = 44.28, *SD* = 5.96). Regarding academic degrees, 2.7% had a 3-year bachelor's degree in preschool education, 86.5% had a 4-year bachelor's degree in preschool education, and 8.1% had a master's degree in preschool education.

Ethical standards were followed while conducting the study. All participants were informed about the study goals, procedures, and mechanisms for ensuring the anonymisation of data, in accordance with the General Data Protection Regulation. Participation was volunteer; all completed a written informed consent.

Playing-2-gether: brief in-service training

The training session was 5-hr long and its main goals were to disseminate the Playing-2-gether project, present relationship-building strategies, and contribute to teachers' awareness of the potential of using play strategies with all children, and particularly with children with challenging behaviours. The content of the session included an introductory/theory part that explored the guiding principles of Playing-2-gether project. Then, five relationship skills were explored. Brief videos were used to illustrate the different skills and a case study was discussed. Opportunities for the participants to share opinions, experiences, pose questions, and analyse information were given, with lead trainer using strategies to actively engage participants.

The lead trainer has a PhD degree in Child Studies, Methodology and Supervision in ECE, and is a teacher in a higher education institution that graduates ECE teachers for over 16 years. The trainer was also highly experienced in the supervision of undergraduate students during their practices for professionalisation (pre-service training) and was also part of the Playing-2-gether project, being one of the main responsible for its implementation in Portugal. The trainer is also co-author of the present paper.

Measures and procedures

The study follows a pre and post-test design, with an intervention consisting of a 5-h training session. At the training, teachers were asked to participate in the study. Those who consented completed a brief socio-demographic questionnaire, and an individual video-based task.

The individual video-based task, conducted before and after the session, took approximately 15 min. The task consisted of watching 5 brief videos and describing the teacher's behaviours. Each video depicted one situation showing a good practice portraying one specific relationship skill. The following skills were illustrated: labelling feelings (video-situation 1); mirroring child behaviour/language (video-situation 2); taking into account the child relational needs during play (video-situation 3); verbally describing child actions/play/behaviour (video-situation 4); and observing the child (video-situation 5). The videos were produced in the scope of the Playing-2-gether project, being considered by experts as portraying good practices for the mentioned skills. Besides the specific skill, each video was also appealing to one or two key principles (teacher sensitivity and following the child lead).

Data analyses

Both qualitative data analyses and quantitative data analyses procedures were used. First, a qualitative analysis was conducted using content analyses. Content analysis allowed the researcher an effective appropriation of data (Bardin 2011; Elo and Kyngäs 2008), to achieve the study goals regarding the comparison of pre- and post-training discourses.

Overall, content analysis in the scope of this study included:(1) definition of categories based on theory (deductive approach); (2) iterative reading of all the material; (3) pre-analyses to identify emerging categories (inductive approach); (4) conciliation of the deductive and inductive categories, within a dialectical approach; (5) final categories decision; (6) systematic coding of all data (Bardin 2011; Cropley 2019).

Five final categories of analyses were considered. Categories 1 and 2, based on the Playing-2-gether project model, were: (1) Mobilisation of key principles (i.e. teacher's sensitivity and following the child's lead), when at least one of the two principles was mentioned; (2) Identification of specific teacher–child interaction skills. Categories 3, 4 and 5 emerged from the data and were labelled: (3) Use of relationship-related language (e.g. participants use language such as: interacting, relating, involved, in their descriptions); (4) Attention to both verbal and non-verbal relationship building aspects (e.g. noticing child verbal interactions and also non-verbal signs such as posture, smiles and facial expressions); and (5) Attention to play-based strategies, when participants showed awareness of the play situation or play strategies being used, besides the ones related to the key principles and specific skills (e.g. participants noticed the teacher is seated near the child, sharing materials, or actively playing with the child, without any other specification; if the play-based strategy was one of the strategies taught in the session, that information was coded in category 2; category 4 wouldńt be coded unless additional information about play was mentioned).

Each meaning unit was coded dichotomously (0 = absence; 1 = presence) for all categories. There was no overlap between the categories. For instance, if a participant mentioned that the teacher was observing the child: researchers coded the category Identification of specific teacher–child interaction skills as 'presence', and the Mobilisation of key principles as 'absence'.

A total of 335 units of analysis were screened (165 for pre-test;170 for post-test). Twenty-five percent of the units of analysis were double-coded for inter-coder agreement. For pre-test data, exact agreement was 84% for Mobilisation of key principles; 96% for Identification of specific teacher–child interaction skills; 72% for Use of relationship-related language; 64% for Attention to both verbal and non-verbal relationship-building aspects; and 70% for Attention to play-based strategies. Similar results regarding inter-rater reliability were obtained for the post-test data codification, with values ranging from 54% for Use of relationship-related language, to 88% for Mobilisation of key principles. Exact agreement was 88% for Identification of specific teacher–child interaction skills, 74% for Attention to play-based; and 58% for Attention to both verbal and non-verbal aspects of relationships. Disagreements were discussed among coders until consensus.

Quantitative analyses were then performed to examine differences in the five categories of analyses before and after training. Parametric statistic was used, with Student's t-test being performed using SPPS 26.

Results

Initial perceptions on teacher–child interaction skills during play

Labelling child feelings

Before the brief in-service training session, two teachers didńt provide any description for video-situation 1. Of the remaining 32 teachers, three mentioned at least one key principle (Table 1), namely the one related to teacher sensitivity. Teachers mentioned indicators of teachers' sensitivity such as 'the teachers show to be available' (participant 34), or 'the teacher was patient' (participant 29). Five teachers were able to identify the skill in the video-situation – labelling feelings; 13 teachers used additional relationship-related language and focus on both verbal and non-verbal aspects of interactions; attention to play-based strategies were present in the discourses of five teachers.

Mirroring

Before training, 32 teachers didńt identify any key principle when watching the video, with 8 teachers interpreting the video-situation as if the teacher was leading the situation and providing an example for the child to imitate. For instance, one teacher mentioned that '(the teacher in the video) serves as a model for children' and another stated that 'initially the teacher started to play, and the child imitates the teacher'. Two teachers mentioned following the child lead; for instance, participant 10 stated the teacher 'allows the child to guide'. Additionally, 29 teachers (Table 1) didn't identify the skill that the teacher (in the video) was using to establish a relationship with the child (mirroring). The interaction in the video was primarily non-verbal – teacher was imitating child actions – and 10 participants mentioned verbal and/or non-verbal aspects; the same number (10) used relationship-related language, while three teachers considered there was no teacher–child interaction or communication in the video. Nearly half of the teachers ($n = 20$) underlined it was a play situation.

Table 1. Number of teachers mentioning each category in pre and post-test data for each video situation.

		1. Labelling feelings		2. Mirroring		3. Relational needs		4. Verbally describing		5. Observing	
		Pre-test[1]	Post-test	Pre-test	Post-test	Pre-test[2]	Post-test	Pre-test[3]	Post-test	Pre-test	Post-test
Mobilisation of key	Yes	3	4	2	6	1	8	1	4	0	0
principles	No	28	32	32	28	30	26	32	29	34	34
Identification of specific	Yes	5	13	5	27	0	2	3	27	31	34
skills	No	27	21	29	7	31	32	30	7	3	0
Use of relationship-	Yes	13	12	10	11	18	9	7	2	5	3
related language	No	19	22	24	23	13	25	26	32	29	30
Attention to both	Yes	8	22	10	13	5	7	7	2	2	5
verbal and non-verbal	No	24	21	24	21	26	27	26	32	32	28
Attention to play-based	Yes	5	13	20	10	16	15	8	3	4	1
strategies	No	27	5	14	24	15	19	25	31	30	33

[1]Two missing answers on pre-test for situation 1: Labelling feelings.
[2]Two missing answers on pre-test for situation 3: Relational needs.
[3]One missing answer on pre-test for situation 4: Verbally describing.

Child relational needs

Before the training session, two teachers weren't able to provide any answer regarding this video-situation; of the remaining, one mentioned the key principle related to following the child lead, and none was able to identify the specific skill portrayed (Table 1). Eighteen teachers used language related to teacher–child relationships, 5 showed attention to both verbal and non-verbal aspects of interactions, and 16 noted the play situation and/or any play-related strategy.

Verbally describing

One teacher didn't provide any description. Of the remaining 33, 1 mentioned the key principle related to following the child lead (e.g. 'the teacher participates in the child play and lets the child lead the spontaneous play') and 3 were able to identify that the teacher was verbally describing the child's actions (Table 1). Seven used teacher–child relationship-related language and paid attention to both verbal and non-verbal behaviours. Eight mentioned play or any play-related strategy.

Observing the child

Key principles weren't identified by participants. Thirty-one out of the 34 teachers identified the specific skill in the video-situation (Table 1). Few references were found regarding the use of relationship-related language ($n = 5$), attention to both verbal and non-verbal behaviours ($n = 2$), and attention to play-based strategies ($n = 4$). Seven participants mentioned that the teacher wasn't communicating, interacting, or engaged with the child and that this could lead to 'less learning' (participant 34).

Teachers' perceptions after attending the brief in-service training

When comparing teachers' answers before and after attending the brief in-service training (Table 2), results show that concerning teachers ability to mobilise into their discourses at least one key relationship principle, significant differences were found in one situation (situation 3), with significantly more teachers mentioning at least one principle after the training session $t(31) = 2.52$, $p = .02$. The ability to identify the specific skill being used by the teachers in each video-situation was significantly improved in three out of the five video-situations, after training. Video-situations 3 and 5 – relational needs and observing, respectively – were the exception, presenting no significant differences in the

Table 2. Mean differences between pre and post-test data regarding the presence or absence of information regarding each category of analyses in teachers' answers.

	1. Labelling feelings		2. Mirroring		3. Relational needs		4. Verbally describing		5. Observing	
	t	p	t	p	t	p	t	p	t	p
Mobilisation of key principles	0.37	.71	- 1.44	.16	−2.52	.02	−1.36	.18		
Identification of specific skills	−2.52	.02	−6.94	< .001	−1.00	.33	−8.58	< .001	−1.79	.08
Use of relationship-related language	0.30	.77	−0.23	.82	2.55	.02	1.97	.06[a]	1.00	.33
Attention to both verbal and non-verbal	−2.68	.01	−0.83	.41	−2.97	.77	1.97	.06 [a]	−1.36	.18
Attention to play-based strategies	0.0	1	2.73	.01	0.53	.60	1.54	.13	1.79	.08

[a]Marginally significant.

number of teachers identifying the skill before and after training, $t(31) = 1.00$, $p = .33$ and $t(33) = -1.79$, $p = .08$, respectively.

In three out of the five video-situations no differences were found in the presence of relationship-related language in teachers' answers after attending the training. A significant or marginally significant decrease in the use of such language after attending the session was found in video-situations 3 (relational needs) and 4 (verbally describing). Although the descriptive data shows a higher number of teachers that included both verbal and nonverbal aspects in their answers after training in all video-situations, only significant or marginally significant differences were found in video-situations 1 (labelling feelings) and 4 (verbally describing). Awareness of play-based strategies in each video was scarce, with a significant decrease of references to such strategies in video-situation 2 (mirroring) after the training (Table 2).

Discussion

This study aimed to examine if brief in-service training change teachers' knowledge about specific skills for improving teacher–child relationships. A pre–post design was used, allowing to document change in teachers' ability to identify specific teacher–child relationship skills after a brief in-service training session.

Overall, our results showed some changes in teachers' awareness of play strategies aiming to improve teacher–child relationships. First, we highlight that not all teachers were able to produce any discourse in some of the pre-test tasks, contrary to post-test, which may indicate a higher awareness regarding relevant aspects of teacher–child interactions during play after attending the in-service training session. Additionally, before training, some teachers interpreted the video-situations as if the teacher was leading and providing the examples for children or focused their descriptions solely on the learning objectives related to academic areas (and not on relationships). Overall, after training, the majority of teachers were able to organise their discourses around relationships and interaction, pointing to the effectiveness of the session on improving awareness about the relevance of teacher–child relationships.

Three patterns of relationships skills identification seemed to be present: (1) skills that were identified by teachers both before and after the training (e.g. observing child); (2) skills that weren't identified by teachers before training but were identified by most teachers after training (e.g. verbally describing, mirroring); (3) skills that were not easily identified before or after the training (e.g. taking the child's relational needs into consideration). Thus, results point to different effectiveness of the session considering the skill/strategy being analysed. One hypothesis for explaining such differences in the effectiveness of the training session may be related to the level of complexity of each skill as well as with the visibility of each skill. For instance, and particularly for the skill taking the child's relational needs into consideration (seldom identified both before and after training), this can be related to the fact that this may be a 'less visible' strategy and, for that, imply that participants needed some additional training and context about the child and the teacher (in the video situation), before being able to identify this skill. Less observable skills such as this one, may require in-depth training with the use of coaching and video-feedback.

On the opposite hand, more noticeable skills, such as observing the child, are more easily identified and thus, training sessions such as the one developed in the present study may contribute to support teachers' development of or continuous awareness of such relationship-building skill. Teachers' previous training experiences could also constitute a possible explanation for these results. Indeed, observation competences are highly emphasised on Portuguese legal frameworks that, in turn, influence initial teacher education (ITE) programmes, namely the specific professional profile of early childhood teachers and the curriculum guidelines for preschool education. Further studies are needed to shed light on the influence of previous ITE experiences on teachers' differential awareness of strategies that are critical for quality relationships.

After training participants were able to provide a positive description of the play situation where teachers were observing the child verbal and non-verbal behaviours, showing understanding that this skill can be foundational to follow child's lead during play. Such answers showed an increase in participants' ability to better understand the relevance of such skill, articulating both the skill, the intervention principles and relationship language in their discourses.

Generally, after attending the training, the number of teachers identifying the principles following the child lead and teacher sensitivity was only significantly higher in one out of the five situations analysed. These principles are considered pivotal for ensuring quality experiences in preschool, establishing good relationships with children, and promoting childreńs development (e.g. Driscoll and Pianta 2010; Pelatti et al. 2016; Sabol and Pianta 2012; Vancraeyveldt et al. 2013), being also highlighted in the Portuguese pedagogical principles for preschool (Silva et al. 2016). Thus we underline the need for more PD focused on building positive relationships in preschools. As mentioned in the literature, most PD is focused on academic content (e.g. Koles, O'Connor, and Mccartney 2009; Lindo et al. 2019), which may explain the fact that some teachers in the present study focus mainly on academic areas in their discourses, rather than relationship-related aspects and the intersections between these aspects. Similarly, few and inconsistent changes were found in the amount of relationship-related language (both increase and decrease), teacheŕs attention to both verbal and non-verbal aspects of interactions (increase), and to play-based strategies (decrease) in participants' discourses. This can indicate that the training, somewhat, supported teachers in focusing on specific teacher–child relationships skills but didńt narrow their ability to keep a broader perspective and ability for being aware to other signs and aspects of preschool classrooms and interactions besides the specific strategies approached in the training.

Thus, our results stress the relevance of providing preschool teachers with more in-service opportunities to foster their awareness of the pivotal role of relationships and play for childreńs learning and development in preschools, as well as to support them in developing relationships and play skills. Previous research indicated that preschools in Portugal were inconsistent in promoting high quality teacher–child interactions (e.g. Cadima et al. 2017); and teachers need to be aware of a set of strategies for being able to adequately use play for engaging children and promoting their learning and development (Hall-Kenyon and Rosborough 2017; Jantan et al. 2015). Also, results from a practice-based study across three countries using the Playing-2-gether project model (Vancraeyveldt et al. 2022) show that the discussion and reflection around values that

teachers hold (e.g. their beliefs about children) are paramount in changing their interactions and play practices with preschoolers.

Additionally, a recent meta-analysis on the effectiveness of PD focused on improving teacher–child interactions found that the most efficient PD models are the one combining a course format with an individual component and feedback (Egert, Dederer, and Fukkink 2020). Note that the Playing-2-gether project originally used a PD model that included both a course format with an individual component and feedback in four European countries. The option for designing a study to assess the effectiveness of a different model relied on the fact that such PD model was very time-consuming both for trainers and trainees, and more expensive, limiting the number of professionals with access to the model. Therefore, we believe that our study provides informative results for planning actions in the scope of preschool teachers training. The truth is that regardless the fact that the training session included in the present study was short, isolated in time, and didńt consider individual component feedback, results point to positive effects, to some extent. This is in line with previous studies that highlight that an initial PD workshop can contribute to make teachers more attuned to the theme of the program, preparing them to engage in other components of the training programs (Egert, Dederer, and Fukkink 2020).

We propose that similar training sessions as the ones used in this study can constitute a first step in disseminating the Playing-2-gether project model, as well as on developing teacheŕs awareness about the importance of establishing good relationships, particularly with children with challenging behaviours. However, for teachers being able to implement the Playing-2-gether model, besides attending such brief training sessions as the one presented in this study, it would be important for them to complete additional training.

Some limitations should be acknowledged and considered when interpreting the data from this study. First, the number of participants was reduced, and information regarding professionals' previous experience or training in the scope of teacher–child relationships wasn't gathered. Second, the video-tasks and coding system weren't previously tested. Thus, more research is needed, as well as the combination of other tasks and techniques for assessing teachers' knowledge should be explored to allow in-depth considerations on the extent to which the training session can contribute to changes in teacheŕs knowledge. Long-term effects of the training session wereńt documented, so we suggest that studies using a follow-up design could be conducted to provide further insight on the extent to which the results we found are maintained through time. Additionally, although it wasńt this study goal to analyse the impact of the training on teacheŕs practices and childreńs outcomes, future studies should focus on these, providing evidence on minimal requirements regarding PD initiatives that contribute for changing practices and, consequently, contribute to positive child outcomes (Egert, Fukkink, and Eckhardt 2018).

As suggested by literature, improving teacheŕs ability to identify effective skills to build good relationships may contribute to change practices (e.g. Hamre, Pianta, and Jamil 2013). Despite, we note that our study did not allow to capture effects of the brief in-service training on teachers' everyday professional activities with children, due to the fact that only data regarding teacheŕs perceptions about other teachers in video situations were collected. Thus, and regardless, the recognition of the importance of in-service

programs to provide teachers with the opportunity to experimenting with skills being taught in their own practice during training as a strategy for enhancing both the recognition of the skills as well as to increase the probability of their continued use, we believe that future studies are needed to understanding if brief in-service training contributes for changing practices related to relationship building in preschool, i.e. if it contributes to supporting teachers in mobilising the knowledge on playing together strategies to daily interactions in preschools.

Conclusion

Although there are several studies about PD programs, there is still much to know and understand about the conditions that enhance the effectiveness of PD experiences (Egert, Dederer, and Fukkink 2020; Sheridan et al. 2009). Besides the characteristics and strategies used in the PD programs, variables related both to trainers and trainees, as well as contextual and systematic variables must be further studied to understand the changing processes in teacherś knowledge and practices when attending PD initiatives. In this scope, considering the demands that preschool teachers and centres face regarding working schedules, bureaucratic tasks, and budget management, our study constitutes a piece of evidence showing that less expensive and less time-consuming initiatives can promote some changes in teacherś awareness of play strategies for improving teacher–child relationships.

Disclosure statement

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