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The impact of social pretend play on preschoolers' social development: Results of an experimental study

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ABSTRACT

This controlled intervention study with a pre-test, post-test, and follow-up design investigated whether promoting children's social pretend play quality fosters their social development. Twenty-seven Swiss playgroups (N = 211 children, age: M = 43.3 months, SD= 6.5, with a median of 7 children per group) were randomly assigned to one of three experimental conditions: Play tutoring, provision of role play material, or control. Standardized tests and educator questionnaires were used to assess children's social pretend play competence and social-cognitive, emotional and social skills as well as their peer relationship quality. Latent change models indicated that children's social pretend play competence, behavioral skills, and positive peer relationships as reported by their educators increased most strongly for children in the play tutoring condition. No significant intervention effects emerged regarding children's social-cognitive or emotional skills. The results show that actively promoting children's social pretend play quality also fosters their social behavior and peer relationships.

1. Introduction

1.1. The impact of social pretend play on preschoolers' social development

Children's social competence, such as understanding of emotions, perceiving others' mental states, and understanding social situations or prosocial behavior are significant for positive development (Barr, 2008). These skills build the foundations for positive peer relations and psychological well-being (Perren, Von Wyl, Stadelmann, Burgin & von Klitzing, 2006; Perren, Forrester-Knauss & Alsaker, 2012; Perren & Alsaker, 2006; Perren & Diebold, 2017). Deficits in children's social competence are associated with a higher risk of behavioral and mental problems (Hukkelberg, Keles, Ogden & Hammerstrøm, 2019; Perren & Alsaker, 2009; Perren, Stadelmann, von Wyl & von Klitzing, 2007). It is therefore desirable to promote children's social competence from early on to pave the way for positive development.

Social competence emerges during preschool years and gradually develops across childhood (Malti & Perren, 2015; Pons, Harris & de Rosnay, 2004; Wellman, Cross & Watson, 2001), which also coincides with the emergence of pretend play. Pretend play can be broadly defined as a child's action of playing "as if" (Fein, 1981) and is considered a natural and joyful opportunity to promote children's positive social development. During pretend play, children can take on different roles and experiment with their and others' behavior (Fein, 1987). According to Vygotsky (1978), "play creates a zone of proximal development of the child" (p. 102), in which children can train and perform activities that they are unable or unwilling to perform in real-life situations. It might help children learn to understand social situations and to regulate their behavior. Moreover, Singer and Singer (1990) called the years between ages 3 and 5 the "high season of imaginative play" (p. 64), suggesting why children of this age range in particular might benefit from social pretend play. However, although pretend play has been intensively investigated since the 1970s, there is still no consensus on whether children's pretend play is causally linked to their social development (Bergen, 2013; Lillard et al., 2013a; Lillard et al., 2013a).

Lillard et al. (2013a) conducted a review of the empirical evidence regarding the potential function of children's pretend play in their development and stated that most of the research done in this field has methodological weaknesses, which could explain the many inconsistent findings their review found. Based on the reviewed studies, the authors conclude that pretend play might be *equifinally* linked to children's social competence, and therefore be one of many paths to fostering children's

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social development. Thus, the overall aim of the present study was to investigate whether social pretend play is an opportunity to foster children's social development.

In line with the social competence model of Malti and Perren (2015), we consider different facets of social competence as relevant outcomes. This conceptual model differentiates between three levels of social competence: Underlying mental processes, skills on the behavioral level, and children's psychosocial adjustment. Underlying mental processes are motivational aspects and social-cognitive and emotional skills such as emotion understanding, perspective-taking, or empathy. Social skills on the behavioral level can be differentiated into self- and other-oriented social skills and encompass behavioral skills like setting limits (self-oriented) or prosocial behavior (other-oriented). The third level encompasses psychosocial consequences of social competence like psychological well-being and social relationships. Findings on the role of pretend play for (1) social-cognitive and emotional skills (level one – mental processes), (2) behavioral skills (level two – behavioral skills), and (3) peer relationship quality (level three – psychosocial adjustment) are reviewed in the following.

1.2. Associations between pretend play and children's social-cognitive and emotional skills

It has been stated that pretend play may have a leading role in children's development of social-cognitive and emotional skills because it challenges their (meta)representational competencies during playing "as if" (Friedman & Leslie, 2007; Harris, 1992). During pretense, for example, children produce metarepresentations of objects (substitutions), suppress behavioral impulses that are against the play script (regulation), or negotiate their roles (metacommunication), which may train children's ability to handle mental representations and thus foster social-cognitive and emotional skills like perspective-taking or emotion regulation (Leslie, 1987; Vygotsky, 1978; Whitebread & O'Sullivan, 2012). Other scholars suggested that the socialization context of pretend play in particular may promote children's social-cognitive and emotional skills because children have the opportunity to enact different social scenarios and thus gain social experience with their bodies (Bretherton, 1989; Howes & Matheson, 1992). Various studies confirm a positive association between children's social pretend play and social-cognitive and emotional skills such as emotion understanding or understanding of others' mental states and social situations (e.g., Brown, Thibodeau, Pierucci & Gilpin, 2017; Galyer & Evans, 2001; Hoffmann & Russ, 2012; Howe, Petrakos & Rinaldi, 1998; Hughes & Dunn, 1997; Lillard et al., 2013a; Lillard, Pinkham & Smith, 2011; Lindsey & Colwell, 2003, 2013; Seja & Russ, 1999; Slot, Mulder, Verhagen & Leseman, 2017; Weisberg, 2015; Youngblade & Dunn, 1995).

There are only a few intervention studies focusing on the effect of pretend play interventions on children's social-cognitive and emotional outcomes, and they have had mixed results: Moore and Russ (2008) showed that five individual 30-minutes pretend play interventions over a period of 3 to 5 weeks improved 6- to 8-year-olds' emotional expressiveness during pretense, compared to control group. Thus, the study provides a first hint that pretend play might help children to explore emotions as theorized by Bretherton (1989). However, the authors did not find effects on emotion understanding or regulation outside play. Goldstein and Winner (2012) conducted two non-randomized studies and compared the outcomes of acting training versus arts training among elementary and high school students. Acting training increased empathy (both age groups) and Theory of Mind (ToM; high school only). Qu, Shen, Chee and Chen (2015) investigated the effect of group training in sociodramatic play consisting of four 45 min sessions over a period of four weeks in comparison to a control group that did free play without pretend play focus. They report that the training led to increases in kindergarten-aged children's ToM, indicating that the pretense aspect seems to make the difference. Goldstein and Lerner (2018) showed that, for 4-year-old children with low socioeconomic status, children who received a 30-minute dramatic pretend play intervention three times a week for eight consecutive weeks improved more in their emotional self-control than children in the control groups. However, no differences were found for children's ToM, which the authors explain by an insufficient overall developed underlying skill of emotional control in the sample. Hermann (2017) was able to show that a pretend play intervention in which children enacted different scripted scenarios improved 4- to 6-year-olds' understanding of social situations. Again, no effects were found for children's ToM.

In sum, there is evidence that pretend play is linked to and might be a driver of the development of social-cognitive and emotional skills. However, only a few longitudinal studies investigating causality exist, and these intervention studies differ greatly in their methods and show mixed results.

1.3. Associations between pretend play and children's social behavior and peer relationship quality

In addition to providing an opportunity for children to experiment with their behavior (Bretherton, 1989; Doyle & Connolly, 1989; Howes & Matheson, 1992), as stated above, pretend play may have a positive impact on children's social behavior and peer relationships because it is a chance for children to experience positive peer interactions like sharing, waiting, or asserting (Ashiabi, 2007). Children thereby have to negotiate the play action and roles with each other, which requires and challenges cooperative skills as well as assertiveness. Previous studies have shown that children show more socially competent behavior in social pretend play situations than in other social play situations: Pretense interactions lasted longer and involved larger peer groups, and children showed more affect, as well as more reciprocity (Connolly, Doyle & Reznick, 1988). Social pretend play was also found to be positively associated with social skills like cooperation and assertiveness, affective perspective-taking, and social activity (Connolly & Doyle, 1984; Li, Hestenes & Wang, 2016; Uren & Stagnitti, 2009), but not with parent-reported social skills (Swindells & Stagnitti, 2006). However, as these were not training studies, the direction of effects remains unclear.

In a training study by Fung and Cheng (2015), 5-year-old girls who participated in pretend play training showed higher decreases in disruptiveness than girls in non-pretend play activities, whereas boys similarly benefited from pretend and non-pretend play activities. Schellenberg (2004) investigated the effect of music lessons on 6-year-old children's IQ and unexpectedly found that drama lessons, which were intended to be the control condition, enhanced children's parent-reported adaptive social behavior (i.e., adaptability, social skills, and leadership). In contrast, the study by Goldstein and Lerner (2018) on 4-year-old children with a low SES background showed that the dramatic pretend play intervention did not improve children's social skills (i.e., comforting, altruism, or helping behavior). In a study with 53 4- to 6-year-olds, Hermann (2017) showed that a pretend play intervention improved children's social behavior. However, Hermann (2017) was unable to replicate this finding in a second, methodologically more sound study. Taken together, these results suggest that pretend play may be beneficial for the development of social behavior, even though only a few studies have investigated the causality of the association.

1.4. Prompting social pretend play quality

Pretend play is often used as an umbrella term for various activities including symbolic play, having imaginative companions, role play, or sociodramatic play. The common definition of pretend play as playing "as if" gives a wide scope for its operationalization (Jaggy, Perren & Sticca, 2020). This might be another reason for the inconsistency of previous research findings. Taking a closer look at what exactly might promote children's social development, studies have indicated that pretend play in interaction with others, i.e., social pretend play, seems to be especially beneficial for children's social development (e.g., Li et al.,

2016; Schwebel, Rosen & Singer, 1999). Furthermore, it seems that it is the quality in particular, not the quantity, of children's pretend play that makes the difference (Bodrova, Germeroth & Leong, 2013; Elias & Berk, 2002; Slot et al., 2017). High-quality social pretend play can be defined as play containing developmentally advanced features of pretend play (Jaggy et al., 2020). It is characterized by other-directed play actions (*decentration*), a high symbolic level (*decontextualization*), extensive roleplay (*role-taking*), and planned scenarios (*planning and sequencing*) (Bodrova et al., 2013; Smilansky, 1968). The present study thus focuses on the promotive effect of social pretend play quality. To investigate whether the promotion of preschoolers' social pretend play quality (during play) is an opportunity to foster their social development, an experimental study that effectively manipulates children's social pretend play quality is needed.

Smilansky (1968) was one of the first to develop pretend play tutoring as a training approach and showed that it affected the quality of socially disadvantaged children's pretend play. Smilansky's approach, using a mix of outside intervention (i.e., adults assume an outsider position and comment on children's play) and inside intervention (adult is playing along), has also been combined in other play interventions (e.g., Gmitrova, 2013; Perren, Sticca, Weiss-Hanselmann & Burkhardt Bossi, 2019). Perren et al. (2019) showed that the more active the play support from play tutors was, the more play quality was found during the intervention in 3- to 4-year-olds. Moreover, Hermann (2017) and Moore and Russ (2008) were able to show that play tutoring effectively promotes children's pretend play competence, which was assessed after the intervention. Children's pretend play competence can be defined as the *competence* to play in interaction with one or more play partners containing developmentally advanced features of pretend play (Jaggy et al., 2020). Active pretend play tutoring, therefore, seems to be promotive of children's pretend play quality during play, and to promote children's (later) social pretend play competence.

Besides play tutoring, another possible way of stimulating children's pretend play quality is through their physical environment. Trawick-Smith, Wolff, Koschel and Vallarelli (2015) suggest that providing role play material might promote children's pretend play because it serves as a stimulus and also focuses the attention of a group of children. Thus, providing role play material might stimulate children to engage in pretend play, or if they are already playing, it might enrich their play (Pellegrini & Bjorklund, 2004). Providing play material per se might therefore be another approach to promoting children's pretend play quality. Kalkusch et al. (2020) showed that both, the provision of play material and play tutoring can promote children's pretend play quality during play, although the effect of play tutoring was much stronger than the provision of play material only.

1.5. Present study

To sum up, promoting children's pretend play might be an opportunity to foster children's social competence, but empirical results are mixed. As noted, many of the previous studies have been correlative, or have had several methodological flaws (such as unmasked experimenters or small sample sizes) that might explain the many inconsistent findings (Lillard, Hopkins, Dore, Palmquist, Lerner & Smith, 2013a).

Furthermore, only the study by Goldstein and Lerner (2018) focused on 3- to 4-year-olds. As this period is important for the development of social pretend play and certain social-cognitive skills (e.g., ToM; Singer & Singer, 1990; Wellman, 2011; Whitebread & O'Sullivan, 2012), more evidence for the developmental significance of pretend play in this age period is needed. In addition, most of the reported studies did not investigate follow-up effects. Dansky (1999) postulated that the effects of pretend play interventions may manifest in long-term outcomes and be even more significant, as children may be motivated to engage more in pretend play after the intervention.

The study aimed to investigate whether promoting preschoolers' social pretend play quality is an opportunity to foster their social development. We address the reported limitations of former research by conducting a randomized controlled intervention study with pre-test, post-test, and follow-up design. We differentiate two outcome levels: (a) proximal effects that are manipulated directly through our intervention, i.e., children's social pretend play competence; and (b) distal effects that are conceptionally – but not directly – manipulated by the intervention, i.e., their social competence (social-cognitive, emotional and behavioral skills as well as peer relationship quality). Researchers who assessed the outcome measures were blinded toward the intervention conditions.

We implemented three experimental conditions in a natural preschool setting that have been shown to promote children's social pretend play quality to different degrees (Kalkusch et al., 2020): A play tutoring condition (provision of specific role play material *and* active external play support), a material condition (provision of specific role play material), and a control condition (standard play environment). As the study took place in a natural educational setting, children from the material and control condition also received some kind of adult support from their playgroup educators.

The following hypotheses were formulated based on the assumption that all children would develop linearly due to natural developmental processes during the study period. We hypothesized that children in the intervention conditions would show a more positive change in their pretend play competence than those in the control condition (*Hypothesis 1*). We also hypothesized that children in the intervention conditions would show a more positive change in their social competence than those in the control condition (*Hypothesis 2*). As Kalkusch et al. (2020) have shown that the provision of play material together with play tutoring can improve pretend play quality more strongly than only the provision of play material, we hypothesized that children in the play tutoring condition would benefit more during the intervention and therefore show a more positive change in social pretend play competence and social competence than children in the material only condition (*Hypothesis 3)*.

2. Method

2.1. Participants

The present IRB-approved study was conducted in two waves (2017/2018 and 2018/2019) in Swiss playgroups. Playgroups are educational institutions open to children aged three to five. The aim is to give children the opportunity to play with peers under the supervision of a trained playgroup educator. Playgroup sessions take place regularly, once or twice a week, and one session lasts between two and three hours. Participation is mainly funded by the parents.

In the first recruitment step, 171 playgroup educators from a mostly rural region in the northeast of Switzerland with a predominantly middle-class population were asked to participate in the study. Of these, 29 playgroups confirmed their participation. Two playgroups were excluded after the pre-test for very low participation rates (total $n = 6$).

In the 27 playgroups, parents of 215 children gave written permission to include their child in the study. For three children, permission was only given for the collection of intervention material, and they were therefore excluded from the present analysis. One child refused to be tested and was therefore excluded from the analysis.

Taken together, 211 children (47.4% girls) from 27 playgroups participated in the present study, with a median of 7 (range 4–12) children per group. Children were aged between 27 and 61 months ($M = 43.3$, $SD = 6.5$) and visited the playgroups for 32 weeks on average. Forty-seven percent of the children were bilingual, i.e., a second, not further described language was spoken at home. For $n = 9$ children the playgroup educators reported that they had great difficulty understanding German at baseline, so we refrained from testing them, however, they did participate in the play sessions. Further information on parent-reported demographics can be found in Table 1.

Table 1
Demographics at baseline assessment: Comparison of the experimental groups.

	Control	Material	Play tutoring
n	64	70	77
Variable	%/*M (SD)*	%/*M (SD)*	%/*M (SD)*
Girls [a] (=1)	47%	47%	49%
Age in months	43.3 (6.5)	44.5 (6.4)	41.6 (6.9)
Bilingual [b] (=1)	50%	43.5%	51.3
Siblings [c] (=1)	89.6%	88.5%	83.3
Number of siblings	1.49	1.35	1.40
Higher education degree mother [c] (=1)	41.0	35.7	49.0
Higher education degree father [c] (=1)	54.1	43.9	58.0

Note. A high percentage of parent reports were missing values (24.2%).
[a] Dichotomous variable with "0 = male and 1 = female".
[b] Dichotomous variable with "0 = not bilingual and 1 = bilingual".
[c] Dichotomous variables with "0 = non-existent and 1 = existent".

2.2. Procedure

Data collection started in November and data were collected at three measurement points: Pre-test (i.e., baseline), post-test, and follow-up intervention (approx. 15 weeks apart from each other due to holidays in between). The post-test took place one to two weeks after the intervention and the follow-up took place 16 to 17 weeks after the intervention. At each measurement point, children's social pretend play competence, ToM, and emotion understanding were tested individually by eight trained graduate students pursuing a degree in early childhood education or psychology in total. Experimenters were blind to the intervention condition of playgroups. Playgroup educators completed a questionnaire on children's empathy, social behavior, and peer relationship quality each time.

After the first measurement point, playgroups were randomly allocated to one of three experimental conditions: Nine playgroups were allocated to the control condition (n = 64 children), eight to the material condition (n = 70 children), and ten to the play tutoring condition (n = 77 children). The weekly interventions lasted 30 min each and were carried out during six consecutive weeks between pre- and post-tests. Independent play tutors (play tutoring condition) and research associates (material condition) implemented the interventions.

2.3. Instruments

2.3.1. Assessment of social pretend play competence

2.3.1.1. Tools of the play scale. The Tools of the Play Scale (ToPS, Seeger & Holodynski, 2016) is a validated role play assessment for 3- to 7-year-old children, comprising a highly standardized role play (toy shop scenario with a burglary) with an unknown examiner (Seeger, Jaggy, Perren & Holodynski, 2022). The videotaped test assesses children's social pretend play competence by assessing the quality of the use of different "tools of the play" (Jaggy et al., 2020), which the authors describe as specific abilities to engage in role play. These tools are *substitution of objects and role-taking, substitution of play actions, substitution of role-speech,* and *substitution of emotions*. During the role play, the examiner sets one main prompt for each item and if necessary further prompts to evoke children's use of these tools (e.g., children are asked what plastic chips could be used for in a toy shop, prompting the substitution to coins/money).

Children's use of the tools was videotaped and evaluated with a standardized manual. Children's pretend play competence was rated on a 4-point Likert scale for each item (0 = *no reaction despite all prompts*, 1 = *immature reactions with the aid of all prompts*, 2 = *immature reactions without the aid of all prompts or mature reactions with the aid of all prompts*, 3 = *mature reactions without the aid of further prompts*), according to the manual. Mature reactions are defined as age-appropriate use of the "tools of the play", e.g., the substitution of plastic chips as coins without getting help from the examiner. The more help the children got from the examiner and the less pronounced the reaction was, the less mature the reaction was rated if it was shown.

Due to the young age of the children and in consultation with the ToPS authors, we did not play the burglary part of the play scenario, which is more difficult as it requires dramatizing prototypical expression signs of emotions volitionally (Holodynski & Friedlmeier, 2005), thus leaving out the *substitution of emotion* scale and some other items. In total, ten items were rated. Two items had to be excluded as children showed high memory effects for these items between measurement points (e.g., children were told to use golden plastic chips as coins when they did not solve the item by themselves, because it was needed for further items and some children stated that they remembered it from the first testing at the second measurement point). The remaining eight items pertained to the *substitution of objects and role-taking, substitution of play actions,* and *substitution of role-speech* tools. An overview of the items and respective the play actions that were prompted can be found in the supplementary Table S1. All items loaded on the same factor, therefore representing children's ability to take on roles and act them out. However, we used an item-to-construct balance parceling approach as proposed by Little, Cunningham, Shahar and Widaman (2002) to build a three-factor solution for the subsequent latent ToPS model. The assignment of the items to the three indicators can be found in the supplementary file (Table S1). The overall internal consistency was good ($\omega_{t1/t2/t3}$ = 0.81/0.80/0.82). The interrater reliability of the rating scales was assessed by double coding 20% of the video data. Intra-class correlations for the overall scale were 0.95 (t1), 0.91 (t2), and 0.94 (t3).

2.3.1.2. Playgroup educator-reported social pretend play competence. Playgroup educators completed a short questionnaire on children's social pretend play competence (Perren & Sticca, 2019). An earlier version of the questionnaire has already been validated and showed good convergent validity (Jaggy et al., 2020). The reported social pretend play competence (RPPC) scale encompasses three items on the *overall quantity* ("how often does the child show pretend play?"), the *social quantity* ("if the child shows pretend play behavior, how often does he or she show it with other children?), and the *level* of children's pretend play ("if the child shows pretend play behavior, what is the level?", $\omega_{t1/t2/t3}$ = 0.90/0.86/0.87). These three items were selected to cover a broad spectrum of social pretend play competence including the social aspect, the quality but also the quantity as a high pretend play quality might enfold its positive effects on children's social development only if children engage in pretend play regularly. To ensure that all playgroup educators knew what social pretend play competence was, the questionnaire provided a detailed description of the theoretical definition of pretend play as well as examples of low and high social pretend play competence. The three items were rated on a 5-point Likert-type scale (i.e., 0 = *never*, 1= *seldom*, 2 = *sometimes*, 3 = *often*, 4 = *always*) and used to indicate children's social pretend play competence in the subsequent latent RPPC model.

Table 2
Overview of scales and items of the playgroup educators report.

Scale	Items used	Item example	Internal consistency (McDonald's ω)		
			t1	t2	t3
Empathy	3[a]	Other people's feelings matter to him/her	.89	.89	.93
Behavioral regulation	7[b]	Can express his/her anger appropriately without physically attacking others	.80	.81	.76
Prosocial behavior	5	Is kind to younger children	.85	.82	.85
Cooperative behavior	3	Accepts the ideas of peers in group activities	.75	.74	.76
Sociability	4	Converses with peers easily	.87	.82	.83
Leadership	3	Takes the lead in group situations	.86	.85	.89
Setting limits	3	Is able to defend his/herself	.65	.74	.71
Positive peer relationships	5	Has many friends	.83	.87	.88

Note.
[a] Two items from the original scale were excluded as they were too difficult for 3- to 4-year-olds (e.g., "I feel sorry for people who don't have the things that I have").
[b] One item was found to have a small loading on the overall scale and was therefore removed from the model.

2.3.2. Test of children's social-cognitive and emotional skills

2.3.2.1. Theory of mind. ToM skills were tested using the German version of the Extended Theory-of-Mind Scale (EToM; Henning, Hofer & Aschersleben, 2012). The EToM is a well-validated test that consists of multiple tasks of increasing difficulty, tapping into different developmental stages of ToM. For the study with 3- and 4-year-old children, only the first four tasks, which are developmentally appropriate and not too difficult for this age range (Wellman & Liu, 2004), were selected: *Diverse desire, diverse beliefs, knowledge access,* and *contents false belief* (i.e., "smarties test"). As children might recall the tasks, we developed two parallel versions of the test. For each task passed during the test, the children received 1 point. We used the mean (i.e., percentage) of correct responses as manifest ToM-scores for the analyses.

2.3.2.2. Emotion understanding. The subtest social-emotional competence of the Intelligence and Developmental Scales – Preschool was used to assess children's emotion understanding (IDS-P; Grob, Reimann, Gut & Frischknecht, 2013). The subtest is divided into two parts: *Recognition of emotions* and *understanding of social situations*. The recognition of emotions part measures the ability to correctly recognize emotions (i.e., joy, anger, fear, and sadness) using four items. The understanding of social emotions part measures the ability to understand emotions and other social cues in social contexts. It encompasses two vignettes, each a picture of a complex social situation (e.g., teasing in the schoolyard). Per vignette, children are asked to describe what is going on in the picture and to describe the emotions of the people involved (6 items; e.g., Item 5 "Recognize that the girl is sad and sorry for what happens to the other girl"; control question: "Can you show me the sad person?"). For each item passed the children received 1 point in the recognition test and 0–2 points depending on their performance during the vignettes. The mean score of the recognition test as well as the two vignettes were used as indicators for the latent emotion understanding score ($\omega_{t1/t2/t3}$ = 0.78/0.76/0.66).

2.3.3. Playgroup educator reports on children's social behavior, empathy, and peer relationship quality

Children's playgroup educators completed a questionnaire on children's empathy, social behavior, and peer relationship quality. For the current study, we used an adapted version of the *empathy* subscale from the HSA (Holistic Student Assessment; Malti & Noam, 2016), the subscale *behavioral regulation* from the BIKO (Seeger, Holodynski & Souvignier, 2014), and all scales of the SOCOMP (Self- and Other-oriented social COMPetences; Perren, 2007). All items were rated on a 5-point Likert scale (0 = *not at all true* to 4 = *definitely true*) and each construct was modeled as a latent variable in the subsequent analyses. At t2 and t3, one playgroup educator did not provide the questionnaires for personal reasons (n = 12). With some minor adjustments, the models were found to fit the data well and the scales showed good internal consistencies (see Table 2).

2.4. Experimental conditions

2.4.1. Material condition

Children in the material condition received a standardized set of roleplay materials with a firefighter theme (e.g., safety vests, red and orange silk scarfs). The material included structured (e.g., firefighters' helmets) and unstructured roleplay material (e.g., wooden blocks). Each but the last play session included new material, according to the schedule of the social pretend play tutoring (e.g., crown and medical kit). The roleplay material was briefly introduced by a research assistant, who opened the case, told the children "you may use all of these materials", and from session two onward added the general information that new material was included in the case.

Playgroup educators were instructed to act according to their normal schedule and routine and did not receive any instructions or restrictions regarding the use of the roleplay material or their behavior during free play time. The playgroup educators were therefore unrestricted in its usage.

2.4.2. Play tutoring

Children in the play tutoring condition received social pretend play tutoring (external adult interaction) *and* the same standardized set of roleplay material that was handed to children in the material condition. The play tutoring was based on the work of Perren and colleagues and was similar to the intervention described by Perren et al. (2019). It follows a child-centered approach of active play support (specific play supportive strategies, e.g., prompting, modeling) with a given thematic focus ("Let's play firefighters"). Each play session followed the same structure: Planning, play, and reflection phases. First, the play tutor planned with the children how, where and what the group would be playing (within the thematic focus) for approximately 5 min. Second, in the play phase of about 30 min the play tutor took over an active role (e.g. firefighter). Within the play phase, the tutor used the specific play tutoring strategies identified by Perren et al. (2019) as being promotive: Modeling (playing along and demonstrating play actions and interactions), prompting (using verbal or nonverbal prompts to initiate interactions or pretend use of objects), following child's interest (following children's play ideas), and verbalization (use of questioning and language modeling techniques). The sessions ended with a short interactive reflection (e.g. "What did the firefighters do today?").

Two play tutors were trained to conduct the intervention following a standardized approach that was described in a detailed script (available upon request from the authors). Nevertheless, the play tutors had the flexibility to take children's ideas and needs into account. The training included prior practical training in playgroups that did not partic-

ipate in the study and feedback was provided. The implementation of the intervention during the study phase was monitored and examined regarding standardization and quality by an early childhood educator who co-developed the intervention. In the play tutoring condition, children received the same play materials as the children in the material condition but were introduced to the materials and supported in their play by the tutor. Playgroup educators were instructed to take care of the children that were not allowed to participate in the study. However, they were still able to observe the play tutoring.

2.4.3. Control condition

Children in the control condition attended the normal playgroup routine, which mainly consisted of free play or handicraft activities. The playgroup educators did not receive any specific instructions.

2.5. Fidelity of implementation and manipulation check

To be able to ensure the fidelity of the implementation of our intervention as well as to check for our experimental manipulation, the first wave of the study (2017/2018) also included observations and ratings on playgroup educators' behavior. Specifically active pretend play support and children's pretend play behavior during the play sessions, i.e., their social pretend play quality, were observed and analyzed. The analyses showed that the level of active pretend play support (e.g., prompting or modeling of play behavior) was significantly higher in the play tutoring group than in the material group, but also higher in the material group compared to the control group (i.e., play tutoring > material > control). The same pattern was found for children's social pretend play quality, thus the fidelity of the intervention as well as the manipulation of children's social pretend play quality was confirmed (Kalkusch et al., 2020).

2.6. Statistical analyses

The power for the proximal and distal intervention effects (two groups) was examined a priori based on a repeated measures ANOVA with a within factors specification (three measurements) using G*Power 3 (Faul, Erdfelder, Lang & Buchner, 2007). A correlation among repeated measures of 0.50 (conservative), a nonsphericity correction of 0.75 (conservative), a type I error probability of 0.05, and a power of 0.80 were used. With this set of specifications, a sample of 201 children would be needed to detect small effects. Thus, these analyses show that we have the power to detect small intervention effects on the individual level.

Statistical analyses were performed using R (Version 3.5.1) with the *lavaan* package (Rosseel, 2012). First, the different outcome measures were each modeled individually as a latent variable. We used the full information maximum likelihood approach to account for missing values and robust standard errors to account for non-normality. The effect coding method was used to identify all latent variables (Little, 2013). We also modeled autoregressive error covariances between t1, t2, and t3 scores of the same variables.

For each outcome measure, we tested for measurement invariance across the three measurement points as a prerequisite for comparing mean scores across measurement points (Putnick & Bornstein, 2016). To achieve at least partial scalar invariance, modification indices were used to examine which item loading or intercept equality constraint had to be released to achieve a satisfactory model fit (Yoon & Kim, 2014).

Bivariate correlations were then examined between the study variables at t1. In the next step, we calculated two different latent change models for each outcome variable to analyze children's intraindividual change over time and to examine intervention effects. For each outcome variable we calculated a latent neighbor change model to analyze children's latent change from t1 to t2 and from t2 to t3, as well as a standard latent change model to analyze children's overall change from t1 to t3 (Geiser, 2011). In both models, we controlled for children's baseline scores and therefore for potential differences between experimental conditions despite the randomization.

The experimental conditions were added to the models as dummy variables (with first the control group and then the material group as reference category), and the latent change variables were regressed onto them. We calculated separate models for each dependent variable. Effect sizes are reported as standardized regression coefficients.

2.7. Model fit indices, measurement invariance and model specifications

For all of the study variables, the analyses yielded at least partial strong measurement invariance with good model fit indices higher than 0.94 for comparative fit index (CFI) and lower than 0.07 for root mean square error of approximation (RMSEA). An overview of the model specifications, model fit indices, and model comparisons can be found in the supplementary material (Table S2).

3. Results

3.1. Descriptive statistics and bivariate correlations

Latent means and standard deviation for all variables can be found in Table 3. Fig. 1 displays children's latent mean scores of study variables by treatment groups over the three measurement points.

Bivariate correlations between study variables at t1 are shown in Table 4. The latent bivariate correlations revealed positive associations between children's social pretend play competence and all study variables except for ToPS and gender. Moreover, a positive association between social-cognitive and emotional skills can be found with most social behavioral skills and positive peer relationships. Age correlated positively with all the study variables except for behavioral regulation and positive peer relationships. Gender showed weak positive associations with children's social pretend play competence measured by the ToPS and with ToM.

3.2. Intervention effects on changes over time

Fig. 2 illustrates the results of the latent neighbor change model as well as the standard latent change model regarding the difference in children's pretend play competence course reported by playgroup educators between experimental conditions.

Differences between experimental conditions regarding changes in children's social pretend play and social competence are shown in Table 5.

Compared to children in the control condition, children from the play tutoring condition had a significantly more positive change in social pretend play competence as reported by the playgroup educator (from t2 to t3 and overall from t1 to t3). They also showed more positive changes in behavioral regulation (t1 to t3), cooperative behavior (t1 to t3), sociability (t2 to t3), setting limits (t1 to t2, t1 to t3), and positive peer relationships (t1 to t3). No differences were found for changes in social pretend play competence measured by the ToPS, social-cognitive and emotional skills, and prosocial behavior and leadership.

Compared to children in the control condition, children from the material condition had a significantly more positive change in pretend play competence (playgroup educator report, from t1 to t3) and showed more positive changes in prosocial behavior (t2 to t3). No differences between material condition and control group were found for changes in social pretend play competence measured by the ToPS, social-cognitive and emotional skills, social behavior (except for prosocial behavior), and positive peer relationships.

Lastly, we also compared the play tutoring with the material condition: Children from the play tutoring condition showed a more positive change in behavioral regulation (t1 to t2 and t1 to t3) and a more positive change in empathy from t1 to t2, but a more negative change from t2 to t3, suggesting a non-linear change pattern. Children from the play

Table 3
(Latent) means and standard deviation of outcome variables.

	Baseline measure		Post-Test measure		Follow-up measure	
	M	*SD*	*M*	*SD*	*M*	*SD*
Outcome variables						
ToPS	0.97	0.58	1.19	0.58	1.47	0.61
RPPC	2.17	0.98	2.51	0.83	2.63	0.83
ToM	0.44	0.26	0.49	0.27	0.57	0.29
Emotion understanding	0.58	0.25	0.69	0.23	0.79	0.20
Empathy	2.64	0.83	2.76	0.81	2.95	0.81
Behavior regulation	2.83	0.64	2.88	0.65	2.96	0.60
Prosocial behavior	2.76	0.74	2.84	0.68	3.01	0.68
Cooperative behavior	2.56	0.67	2.72	0.65	2.88	0.63
Sociability	2.80	0.89	2.98	0.81	2.99	0.81
Leadership	1.79	1.07	2.02	1.10	2.17	1.08
Setting Limits	2.43	0.69	2.66	0.73	2.69	0.72
Positive Peer Relationships	2.85	0.77	3.03	0.78	3.11	0.74

Note. ToPS = Tools of the Play Scale, RPPC = Reported pretend play competence.

Table 4
Bivariate correlations of study variables (baseline).

Variable		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	ToPS	**1**													
2	RPPC	.54***	**1**												
3	ToM	.38***	.24**	**1**											
4	Emotion understanding	.68***	.40***	.47***	**1**										
5	Empathy	.22**	.39***	.26**	.20†	**1**									
6	Behavioral regulation	.17†	.22*	.31*	.04	.70***	**1**								
7	Prosocial behavior	.32***	.46***	.34**	.13	.93***	.84***	**1**							
8	Cooperative behavior	.33***	.28**	.34**	.21†	.73***	1.00***	.93***	**1**						
9	Sociability	.50***	.71***	.26**	.32**	.44***	.30**	.50***	.38***	**1**					
10	Leadership	.54***	.74***	.27**	.40***	.30***	.11	.33***	.16	.94***	**1**				
11	Setting limits	.43***	.58***	.27**	.32**	.17	.00	.19	.07	.79***	.83***	**1**			
12	Positive peer relationships	.33***	.58***	.21*	.19†	.61***	.56***	.75***	.67***	.81***	.67***	.50***	**1**		
13	Age	.46***	.35***	.36***	.42***	.17*	.12	.20*	.16†	.26**	.37***	.32***	.12	**1**	
14	Female	.08	.15†	.15†	.06	.12	−0.05	.12	.00	.11	.10	.13	.02	.06	**1**

Note. ToPS = Tools of the Play Scale, RPPC = Reported pretend play competence. Female = gender with “0 = male” and “1 = female”.
† $p<.10$;.
* $p<.05$;.
** $p<.01$;.
*** $p<.001$.

tutoring condition showed a more positive change in prosocial behavior (t1 to t2) and positive peer relationships (t1 to t3) than those in the material condition. No differences between the play tutoring condition and material condition were found for changes in social pretend play competence, emotion understanding and ToM, cooperation, sociability, leadership, and setting limits.

4. Discussion

It has been suggested that high-quality social pretend play is an opportunity for young children to train and develop their social competence, although the empirical support for this assumption is scarce. The present study investigated whether the promotion of social pretend play quality has a positive impact on preschoolers’ social pretend play competence (proximal effects) and their social competence (distal effects), encompassing social-cognitive, emotional and behavioral skills, and peer relationship quality. One of the study’s major findings was that children’s social pretend play competence and certain social behavioral skills as well as positive peer relationships, all reported by playgroup educators, increased particularly for those children receiving the play tutoring intervention that combined the provision of play material with external play tutoring. Children in the material condition received the play material but not the external play tutoring and nonetheless showed more a positive change in reported social pretend play competence and prosocial behavior as compared to children in the control group. No differences were found between intervention and control groups for children’s pretend play competence measured by a standardized test (ToPS), or for their social-cognitive and emotional skills.

4.1. Changes in social pretend play competence

Children’s social pretend play competence benefited to a similar degree from both our interventions – the play tutoring and the material only condition – which is in line with our first but not with our third hypothesis. This finding was unexpected, as Smilansky (1968) had already postulated that play material may stimulate children’s pretend play but only to a certain level. Moreover, Kalkusch et al. (2020) showed that the effect of play tutoring on children’s social pretend play quality during play is much stronger than the effect of providing play material only. The findings of the present study indicate that above a certain level of play support, more quality during play does not necessarily mean that children also develop linearly in their social pretend play competence: Providing pretend play material without active social pretend play support seems to be sufficient to promote children’s social pretend play competence.

Interestingly, the advantage of children in the intervention groups only became significant when incorporating the follow-up assessment. Our interventions, therefore, seem to induce long-term effects on children’s pretend play competence. This might be a result of the present intervention being integrated into the children’s usual playgroup setting, and therefore being very close to their everyday behavior. This might have motivated children to continue their engagement in social

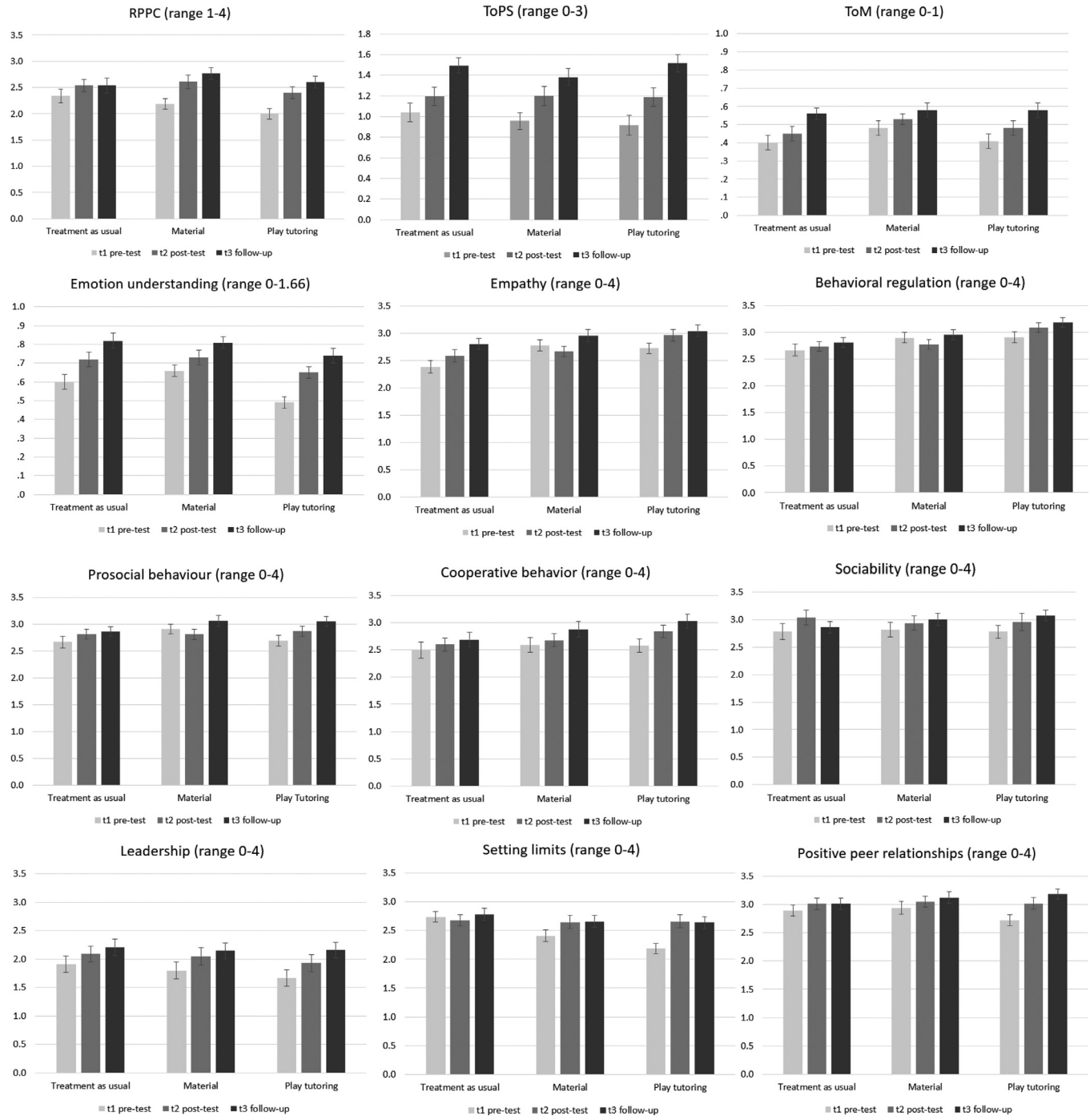

Fig. 1. Assessed (latent) mean scores by treatment groups over the three measurement points. RPPC = Reported pretend play competence, ToPS = Tools of the Play Scale.

pretend play and might have caused these sleeper effects, which is in line with Dansky's (1999) suggestion that promoting pretend play results in increases in children's spontaneous pretend play in their everyday life, thereby evolving its effect. Moreover, since the playgroup educator of the intervention groups observed the play tutor interact with the children, the intervention could have also functioned as a collateral intervention for playgroup educators' behavior. Playgroup educators who had observed the play tutoring might have continued to support children's social pretend play quality after the intervention was implemented, thus reinforcing the intervention effects. Further studies should track playgroup educator behavior before, during, and after an intervention to have more insights into whether the intervention also impacts their professional behavior.

The differences in pretend play competence were not reflected in the development of children's social pretend play competence as assessed with the ToPS. Considering the strong positive association between the RPPC and ToPS (Table 4), one would expect to see parallel developmental trends. The different results between tested and reported social pretend play competence could be due to various method effects that may have manifested after the baseline measures. Playgroup educators in the intervention groups, for example, may have observed more pretend play than usual during the intervention period and may therefore

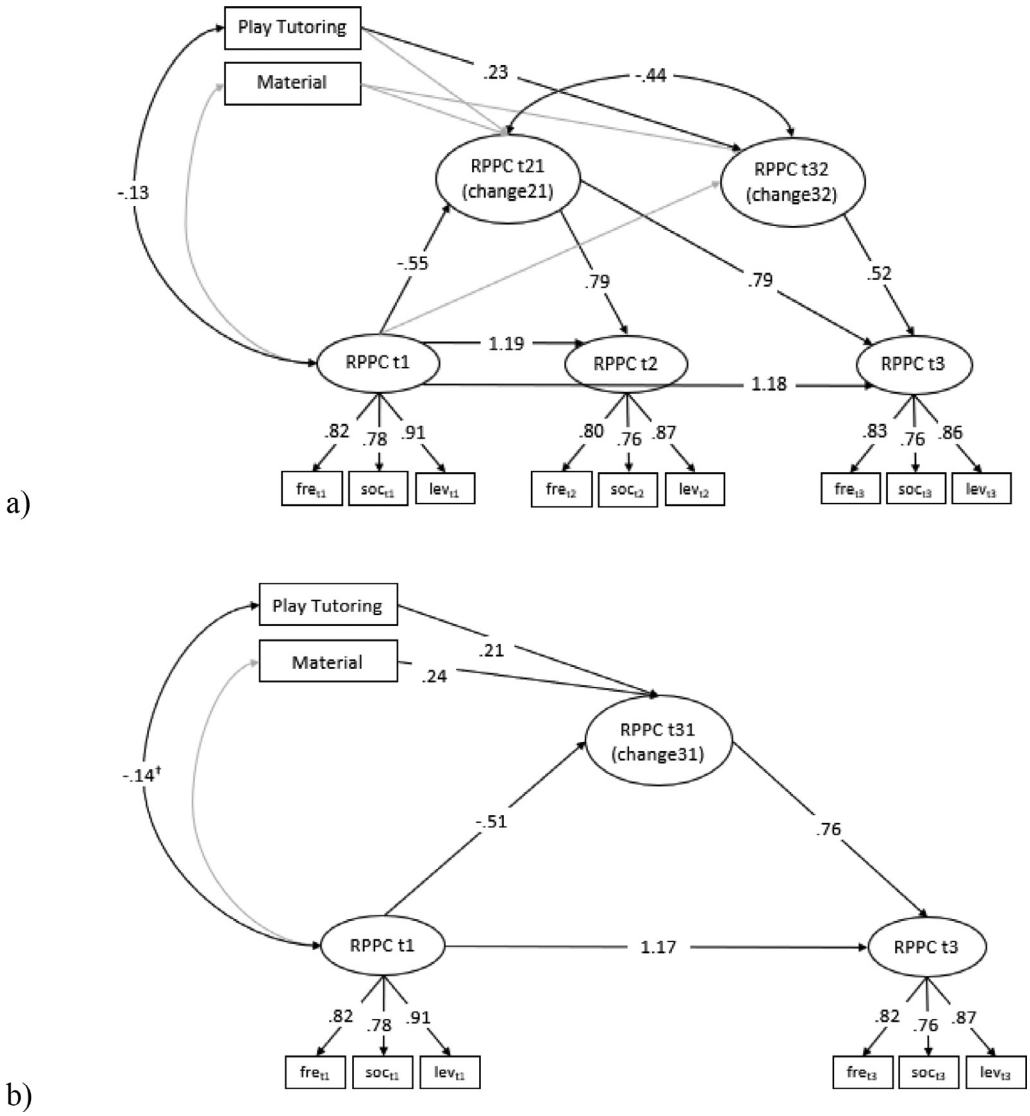

Fig. 2. Latent neighbor change model (a) and overall latent change model (b) of children's social pretend play competence reported by playgroup educators including intervention effects. Only statistically significant coefficients are displayed ($^{\dagger}p<.10$, $p<.05$). Error covariances are not displayed. RPPC = Reported pretend play competence.

have rated children's competence higher. The difference could also be due to the fact that the ToPS is prone to memory effects, and children from the control group therefore may also have scored higher in post-test and follow-up (Jaggy et al., 2020). Another point may be that children improved according to the intervention setting in their everyday play with their peers, but that the intervention effect did not generalize on children's overall performance tested in another setting, as found in the ToPS. Moreover, the ToPS focuses more on the social-cognitive features of pretend play than on the social features (Jaggy et al., 2020), which might be an indicator that our interventions did not increase the social-cognitive features of pretend play more than the usual playgroup setting did.

4.2. Changes in social-cognitive and emotional skills

For children's social-cognitive and emotional skills, our hypothesis was not confirmed. Differences found between the play tutoring and the material condition regarding children's empathy can be explained through the unsteady change pattern of the material group (see Fig. 1). This finding contradicts the hypothesis that social pretend play fosters children's metarepresentational skills and thereby their emotion understanding and perspective-taking (Friedman & Leslie, 2007; Harris, 1992). It also contradicts the findings of Goldstein and Winner (2012), Hermann (2017), and Qu et al. (2015), who found effects of play tutoring on children's emotional skills and ToM. However, the children in these studies were on average at least one year older than the children in the present sample. However, our findings are in line with those of Moore and Russ (2008), who investigated 6- to 8-year-olds as well as with Goldstein and Lerner (2018), who investigated 4-year-olds. Accordingly, for children aged 3 to 4, promoting social pretend play quality through brief interventions might not lead to improvements in their ToM, emotion understanding, or empathy. Together with the non-significant differences between conditions in their tested social pretend play competence, this finding also strengthens the conclusion that the intervention did not particularly improve children's social-cognitive features of pretend play and therefore no effects were found for the ToPS or social-cognitive outcomes. A future adaption of the intervention to better foster children's social-cognitive features of pretend play could be to talk more about the underlying mental states of pretending. Moreover, as the current intervention as well as the intervention in the other

Table 5
Standardized regression coefficients for intervention effects on latent neighbor change (change 21 and 32) and overall latent change (31).

Outcome Variable		Material vs. control		Play tutoring vs. control		Play tutoring vs. material	
		β	*SE*	*β*	*SE*	*β*	*SE*
ToPS	change 21	.20	.21	.29	.22	.09	.22
	change 32	−0.17	.14	.03	.14	.21	.13
	change 31	−.06	.15	.21	.14	.27	.15
RPPC	change 21	.12	.09	.05	.08	−0.06	.09
	change 32	.18	.12	.23*	.10	.05	.12
	change 31	.24**	.08	.21*	.09	−0.03	.09
Emotion understanding	change 21	−0.12	.13	.04	.13	.16	.14
	change 32	−0.06	.15	.00	.16	.06	.15
	change 31	−0.33	.26	.15	.24	.49	.32
Theory of Mind	change 21	.07	.08	.05	.08	−0.03	.08
	change 32	−0.11	.09	−0.02	.10	.10	.09
	change 31	−0.09	.10	.01	.10	.11	.10
Empathy	change 21	−0.10	.09	.12	.08	.22**	.08
	change 32	.07	.11	−0.13	.10	−0.21*	.10
	change 31	−0.06	.08	.03	.08	.09	.08
Behavioral regulation	change 21	−0.23	.12	.20	.13	.43**	.10
	change 32	.23	.12	.13	.12	−0.11	.10
	change 31	.00	.11	.21*	.09	.22*	.09
Prosocial behavior	change 21	−0.17	.09	.03	.10	.20*	.10
	change 32	.33*	.14	.22	.12	−0.12	.11
	change 31	.03	.10	.16	.10	.13	.09
Cooperation	change 21	.00	.13	.24	.14	.23	.14
	change 32	.20	.15	.17	.16	−0.03	.12
	change 31	.12	.10	.28**	.10	.16	.09
Sociability	change 21	−0.11	.10	−0.07	.09	.05	.10
	change 32	.24	.15	.30**	.10	.05	.12
	change 31	.07	.11	.18	.10	.11	.10
Leadership	change 21	.04	.11	.03	.10	−0.01	.10
	change 32	−0.02	.13	.11	.12	.12	.10
	change 31	.02	.10	.10	.11	.08	.09
Setting limits	change 21	.21	.11	.38**	.12	.17	.11
	change 32	−0.09	.12	−0.12	.12	−0.03	.12
	change 31	.13	.11	.31*	.14	.18	.12
Pos. peer relationships	change 21	.00	.11	.15	.10	.14	.10
	change 32	.08	.11	.19	.11	.11	.10
	change 31	.04	.09	.28**	.10	.24**	.08

Note. Change 21 = pre- to post-test, Change 32 = post-test to follow-up, Change 31 = pre-test to follow-up. ToPS = Tools of the Play Scale, RPPC = Reported pretend play competence.
* $p<.05$,.
** $p<.01$.

studies was rather brief, it might also be the case that to foster underlying social-cognitive or emotional skills, the intervention needs to be implemented more intensively over a longer period.

Thus, our findings indicate that fostering children's *social pretend play quality* via a brief intervention and without a special focus on social-cognitive or emotional skills seems not to be a mechanism of change for children's social-cognitive and emotional skills (Lillard et al., 2013a). Further studies should investigate the effect of pretend play interventions on social-cognitive and emotional features of pretend play in more detail to gain more insights into the association between pretend play and social-cognitive and emotional development.

4.3. Changes in social behavior and peer relationship quality

In line with our second hypothesis children in the play tutoring condition showed a more positive change in their behavioral regulation, cooperative behavior, sociability, and setting limit skills than children in the control group. Changes in setting limit skills manifested directly after the intervention and were then sustained. Bearing in mind that children in the play tutoring condition benefited from the intervention especially from post-test to follow-up, these findings indicate that children's setting limit skills benefited more from the group pretend play setting than from the improvement in social pretend play competence. For children's other social behavior, this finding again confirms the statements by Dansky (1999), who postulated that pretend play intervention might show improvements in play and other outcome measures especially in the long term because the new play behavior must first manifest itself in everyday behavior.

Our findings are in line with Hermann (2017), and partly in line with Goldstein and Lerner (2018), who found effects only on children's behavioral regulation but not on their other social skills. The only social competence outcomes we were unable to promote were children's prosocial behavior and leadership skills. Schellenberg's study (2004) found effects of pretend play training on 6-year-olds' leadership skills; our study did not support this for 3- to 4-year-olds.

For children's positive peer relationships, children receiving the play tutoring showed a more positive change than those in the material or control groups. This finding indicates that the opportunity to experience positive peer interactions during high-quality social pretense might foster children's peer relationship quality (Ashiabi, 2007). High-quality social pretend play, therefore, seems to constitute an important opportunity for children to develop their peer relationships. Moreover, play tutoring seems to have stronger long-term effects on children, as it affects the proximal *and* distal outcomes. This finding could be related to the findings of Kalkusch et al. (2020), that play tutoring as a strategy to promote children's social pretend play quality is more efficient than providing only role play material. There might be a threshold effect in that the beneficial effect of social pretend play on children's social

development only enfolds above a certain level of social pretend play quality respectively in high-quality social pretend play (Bodrova et al., 2013; Smilansky, 1968), which might have only been reached in the play tutoring group (Kalkusch et al., 2020).

Taken together, our findings support the hypothesis that promoting social pretend play might foster children's social development through the opportunity to experiment with social behavior and to experience positive peer interactions during high-quality social pretend play (Bretherton, 1989; Doyle & Connolly, 1989; Howes & Matheson, 1992). Accordingly, for children's social development, especially the *social* part of children's pretend play seems to be important (Lillard et al., 2013b). However, further research is needed to clarify the role of adults as well as to rule out method effects.

4.4. Strengths and limitations

The major strength of the present randomized controlled intervention study with pre-test, post-test, and follow-up design is its methodologically sound foundation, which ensures a high significance of the results. The latent modeling of the study variables, the check for measurement invariance, and the latent change analyses taking baseline scores into account are statistically cutting-edge for investigating intervention effects and are therefore a second strength. Differences found in change scores between experimental conditions can therefore be traced back to the intervention. Another strength is that researchers were blind to the experimental condition.

However, some limitations need to be considered. First of all, we made some adaptions to the ToPS and the ToM scale due to the young age of our sample and the longitudinal design of our study, which might have led to losses in their validity and changes in the assessed construct. However, these adaptations were necessary due to the young age of our sample and the complexity of our analysis. Moreover, the scales still confirmed good reliability and factorial structure. Additionally, the internal consistency of the emotion understanding scale has one of the lower results, which might arise from the fact, that the second part of the test is more difficult for children to solve as it asks for higher emotional understanding than the first part.

Furthermore, one objection could be that our results are due to a method effect since the intervention effects we found were only for playgroup educator-reported outcomes. Playgroup educators were not blind toward the intervention conditions and could have been biased in their reporting. A huge limitation for the interpretation of the study results as found now is that the different theoretical constructs are assessed with different methods and the pattern of our results cannot be interpreted without considering these differences (e.g., different difficulty or informant).

Another limitation is that we did not investigate differential effects (Elias & Berk, 2002). For example, Perren et al. (2019) showed that children with a higher level of sociability benefit more from play tutoring than socially withdrawn children do. Future studies should investigate whether the positive effects we found in our study apply to all children equally.

Another important note is that we run a lot of analyses, which increases the experiment-wise error rate. Thus, we cannot rule out the possibility of more Type 1 errors in the results than if fewer analyses had been performed. Nonetheless, the results show a clear pattern with consistently small effect sizes >.20.

We did not control for adult interaction in our study either. The role of adult interaction in the relation between social pretend play quality and children's social development, therefore, remains unclear (Lillard et al., 2013a). Future studies should investigate the role of adults here. Furthermore, we cannot rule out the potential effect of our intervention as a collateral intervention on playgroup educators' behavior. This collateral intervention might also be an explanation for the effects found only at follow-up. If playgroup educators changed their behavior in whatever direction after they saw the intervention, this might have affected changes between post-test and follow-up. However, this is a desirable side effect and in practice, playgroup educators would be trained from the beginning to implement active social pretend play support themselves. Still, the exact mechanisms of change remain unclear and future studies should concentrate on these mechanisms.

5. Conclusion

The present study sheds light on the relationship between children's social pretend play quality and their social development. The results showed that providing pretend play material in combination with play tutoring can be an effective strategy to promote children's social pretend play competence, social behavior, and positive peer relationships, but not their social-cognitive and emotional skills. These findings contradict the metarepresentational perspective (Friedman & Leslie, 2007; Harris, 1992), and support the behavioral perspective that pretend play may promote children's social development because it is an opportunity to experiment with social behavior and peer interactions during pretense (Ashiabi, 2007; Bretherton, 1989). Thus, it seems to be especially the social features of pretend play, that are important for children's social development. High-quality social pretend play therefore seems to constitute a perfect training ground, i.e., "the zone of proximal development" (Vygotsky, 1978, p. 102) for children to practice and develop their *social behavior* during social interactions.

Social pretend play activities thus might be a joyful alternative to conventional social skills training for fostering children's social competence and integrating them into their peer group, also in settings where children meet only once or twice a week for a limited number of hours. As an activity for which it is easy to stimulate children's enthusiasm, the best practice should be to implement social pretend play tutoring in an early educational setting as an intervention for children's social behavior. As part of professional development, educators should be trained on how to implement active social pretend play support. Additionally, especially in times of debate about the academization of children's preschool years (Suggate & Reese, 2012), the educational value of play should be prominent, and early childhood educators should become more sensitized – if they are not already – to the developmental potential of social pretend play.

Data availability statement

The data that support the findings of this study are openly available through the Open Science Framework (OSF) at https://osf.io/27kz4.

Conflict of Interest

The authors declare no competing interests.

CRediT authorship contribution statement

Ann-Kathrin Jaggy: Investigation, Software, Formal analysis, Data curation, Writing – original draft, Visualization. **Isabelle Kalkusch:** Investigation, Formal analysis, Writing – review & editing. **Carine Burkhardt Bossi:** Project administration, Writing – review & editing. **Barbara Weiss:** Project administration, Writing – review & editing. **Fabio Sticca:** Conceptualization, Writing – review & editing, Funding acquisition. **Sonja Perren:** Conceptualization, Project administration, Writing – review & editing, Supervision, Funding acquisition.

Data availability

Data will be made available on request.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.ecresq.2023.01.012.

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