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Promoting Social Pretend Play in Preschool Age: Is Providing Roleplay Material Enough?

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ABSTRACT

This study investigated whether two educational strategies, providing material and active adult support during play, promote pretend play quality in a group of preschoolers. The sample consisted of 101 preschoolers (50% females; mean age at t1= 43.02 months, SD= 5.94) from 14 Swiss educational play groups. These were randomly allocated to the experimental conditions: *material* (*n*=4 groups, *n*=35 children), *play tutoring* (*n*=5 groups, *n*=32 children), and *treatment as usual* (control; *n*=5 groups, *n*=34 children). Children's and adults' behavior during six play sessions, each lasting 30 minutes, was videotaped. Children's play activities, social pretend play quality (SPPQ) and adults' level of active pretend play support, were assessed using standardized observation tools. *Research Findings*: Material and play tutoring groups showed significantly higher frequency of pretend play than the control group. Regarding SPPQ, the material group scored significantly lower than the play tutoring group, but significantly higher than the control group. Additional analyses showed that differences in SPPQ between the control and material condition can be fully explained by adults' active play support. *Practice or Policy*: The results suggest that providing roleplay material stimulates children to engage in social pretend play, but adults' play support increases the quality of social pretend play.

Social pretend play is discussed as a highly important activity for children's positive development in theory and empirical studies alike (Smith, 2010). Promoting it is therefore a desirable educational aim. Importantly, the quality of social pretend play, as opposed to its mere quantity, is seen as the crucial factor that is linked to a desirable impact on children's development (Bodrova et al., 2013; Vygotsky, 1978). In the discussion of educational pathways to promote children's social pretend play and – to go even further – their positive development, the focus should be on the question of *what* effectively promotes the *quality* of social pretend play. One potential educational strategy is to provide roleplay material as a stimulus in children's play environment for social pretend play. It is argued that the construction and arrangement of children's proximate physical environment affects their play type. This may differ according to the current activity setting and the play materials available (Brown & Briggs, 1989; Morgante, 2013; Petrakos & Howe, 1996). Trawick-Smith et al. (2015) define two functions of play material: (1) to be a stimulus for play and (2) to focus the attention of a group of children. This may suggest that providing thematically structured roleplay material could encourage a group of children to engage jointly in social pretend play (frequency and quality). Findings from some previous studies cautiously support the hypothesis that providing specific roleplay material (e.g., theme-related items) may promote the frequency of pretend play during play sessions (e.g., McLoyd,

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1983; Morgante, 2013; Trawick-Smith, 1990; Woodard, 1984). However, some authors (e.g., Smilansky & Shefatya, 1990) argue that providing roleplay material only promotes pretend play if it is accompanied by active play support from adults. Empirical findings (e.g., Perren et al., 2019) show that adults' active play support is an effective strategy to foster social pretend play quality.

This study aims to investigate educational strategies to promote preschoolers' social pretend play quality; especially, whether providing roleplay materials is helpful. We will compare this strategy to play tutoring and standard educational practice (i.e., treatment as usual).

Social Pretend Play Quality

Pretend play is a main activity for children of preschool age. There is a wide debate, both theoretically and empirically, about its role in their positive development. One of the main characteristics of pretend play is the element of make-believe, using symbols to represent subjects, objects, and actions. Pretend play actions require children to transform objects and to vary their meaning on a symbolic level (Gmitrova, 2013). It gives children the opportunity to take on various roles and to play out different scenarios. Pretend play starts at the age of 15 months (Smith, 2010), when children begin simple forms of pretend play (e.g., using an object as if it were something else). Their play develops into more complex forms: from object-oriented to person-oriented play, where their play is extended and sustained by social interactions with a play partner (Elkonin, 2005). Development of children's social pretend play occurs at symbolic and social levels. Social pretend play is characterized by developing a play theme with play partners and interactions between the participants in their play actions.

Different elements of social pretend play can be identified throughout normative development (Hauser, 2013; Smilansky, 1968; Smith, 2010; Thompson & Goldstein, 2019): (1) *Decentration* describes how children's orientation develops from themselves to others; (2) *decontextualization* is the use of an object as a substitute for another which develops to imaginary transformation; (3) *role taking* stands for the elaborateness of engagement in roles; (4) *planning* of pretend play sequences (including metacommunication); and (5) *sequencing*, which means that pretend play initially consists of single sequences and develops into play that follows a logical script.

In preschool settings children engage in social pretend play with their peers in various settings and show individual different levels of quality in their play. In Table 1 an overview is given of examples of lower and higher quality for each element.

A higher level in one of these elements contributes to higher quality of social pretend play. By distinguishing different levels within these five elements the children's skills can be developing in parallel – a child could be at a different level within each feature.

The Role of Play Material for Children's Social Pretend Play Quality

Different educational strategies can promote the quality of children's social pretend play. The design of physical educational settings is one possibility for teachers to highlight learning goals and to stimulate

Table 1. Social pretend play quality.

	Lower quality level	Higher quality level
Decentration	Child plays eating with a spoon.	Child applies a bandage to another child.
Decontextualization	Child uses a telephone to call the firefighters.	Child is holding an invisible phone to call the firefighters.
Role taking	Child is wearing a crown but is not acting as a queen.	Child is acting continuously in his/her role as an emergency doctor.
Planning	Child is pretending in its play, but does not communicate its play actions.	Child communicates to co-players what they will play next: "Now we have dinner and afterward there is a fire starting and we ring the fire alarm.
Sequencing	Child is playing single sequences, like eating a soup.	Child first goes to the shop to buy groceries, then cooks, then it is preparing the table and is finally sit-ting down to eat.

children's play. The strategic presentation of materials and manipulation of their availability could increase the complexity and duration of social play (Kemple, 2004). The arrangement of the room and the play resources available to children are seen as contributing to their social interactions in play. Providing material is part of designing an educational setting, and includes selecting a set of materials and making it available.

There are some theoretical and empirical hints that the availability of particular roleplay materials may increase the occurrence of social pretend play. Trawick-Smith et al. (2015) attribute two potential functions to play material. Play material incorporates a certain stimulus character per se: it might stimulate children to engage in a particular type of play, and integrate new themes into their play, and thus maintain and enrich it (Pellegrini & Bjorklund, 2004). The second function of play material has a social component: focusing peers' attention and their engagement into a joint play theme and thereby promoting social play (Mundy & Newell, 2007).

There is only limited research about play material and its impact on children's play. Some studies have investigated associations between play material and social play, as well as particular play types. Vandenberg (1981) examined the social behavior of preschoolers in two rooms each with very different designs: a *big muscle room* and a *fine motor room*. More social play was observed in the big muscle room, but only associative and not cooperative play. He concluded this was due to the lack of material for cooperative play. This indicates that appropriate play material is needed for cooperative play to emerge. Quilitch and Risley (1973) also found that children provided with social play material mostly engaged in social play, while with isolated play material they tended to engage in solitary play. Blocks and pretend play material have been discussed as being supportive of social play, in terms of increasing its frequency and cooperative level (Hendrickson et al., 1981; Ivory & McCollum, 1999; Rettig et al., 1993; Rubin, 1977). However, O'Gorman Hughes and Carter (2002) were unable to replicate these results. Importantly, most of these studies investigated a sample of children with special educational needs, which limits the generalizability of the results.

Smilansky (1968) as well as Smilansky and Shefatya (1990) describe a development in children's use of play material and objects: from simple manipulation to using replicas in order to imitate adults' activities, then to objects as an instrument for role enactment and the use of unstructured materials to sustain a role, and finally to playing without objects or gestures. Following this reasoning, we could conclude that the availability of more complex roleplay material (realistic vs. unstructured) challenges children's play behavior due to the ambiguous function of unstructured material, which then leads to increased play complexity. We distinguish between highly structured/realistic material (e.g., fire-fighter's helmet) and unstructured/nonrealistic material (e.g., wooden stick). Dodge and Frost (1986) investigated different compositions of play material and the play types with which children engaged with these materials. The sample consisted of 12 children aged between 55 and 67 months. In same-sex pairs, the children were provided with four different sets of play material and play settings: (1) unstructured material (e.g., wooden blocks, telephone cable spools); (2) unstructured and realistic (e.g., chair, car, person, fish); (3) thematically structured area with realistic material; and (4) thematically open area with realistic material. The authors observed more pretend play and more complex play in settings that included at least some realistic pretend play material, especially when the setting was thematically structured. The availability of realistic material seems to be especially relevant to younger children, while slightly older preschoolers showed recurrent symbolic play activities when realistic play material was accessible at the same time as nonrealistic material (McLoyd, 1983; Trawick-Smith, 1990; Woodard, 1984). McLoyd (1983) investigated triads of two age groups (3.5-year-olds and 5-year-olds) and found that the structure of the play material was not associated with cooperative pretend play. Furthermore, children substituted unstructured material more frequently, and children of both age groups engaged more often in pretend play. In a sample of 3- and 4-year-olds, Trawick-Smith et al. (2015) investigated specific play materials and their impact on play quality. The researchers found that children engaged in relatively high-quality play that often includes symbolic actions with nonrealistic material like blocks (Duplo bricks) and pretend play material (simple human figures). But the frequency of engagement was low.

However, unstructured material seems to require children's level of social pretend play quality to be higher already at the beginning of play interaction. It is more challenging for children to express their play ideas using unstructured material, as its function and symbolic meaning first has to be defined and communicated (Umek & Musek, 2001). This suggests that unstructured roleplay material may potentially promote social pretend play quality, as indicated by Morgante (2013): its complexity may require the support of a play partner to give it symbolic meaning, and will necessitate communication (verbal or non-verbal) to negotiate this meaning.

In summary, providing roleplay material might foster the quality of social pretend play in a group of children. The roleplay material provided might focus the attention of the whole group and could therefore stimulate children to engage in social pretend play. Playing together is also a feature of higher quality in social pretend play. It is a requirement for negotiating aspects with others such as roles and other-oriented play and the duration of play might be sustained through peers' new play ideas. The combination of material with various complexity levels could also be a stimulus for more complex pretend play (e.g., object substitution).

To conclude, there are few theoretical approaches or empirical studies that discuss whether roleplay material can promote pretend play. Providing roleplay material might focus the attention of a group of children on a particular theme (e.g., firefighters), and encourage them to engage together in social pretend play. The frequency of pretend play in a group of children should increase if roleplay material is provided. Hence, roleplay material may encourage children to engage in social pretend play and could even give new stimulus to and enrich their play. There is so far no clear empirical evidence on the effect of providing roleplay material on improving the quality of children's pretend play.

Providing roleplay material is a standard educational strategy in most preschool settings, including educational playgroups in Switzerland, where this study took place. In all playgroups, roleplay material is part of children's everyday play environment. Though the same material or play setting is present in each group, some settings have elaborated and structured roleplay areas (e.g., play kitchen area with table) while in others the material is presented in a less organized way. A play group's regular everyday educational setting therefore includes roleplay material (structured and unstructured) in an unstructured setting. This might already function as a stimulus for individual children to engage in pretend play.

Providing roleplay material in this study is used as an educational strategy, which aims to focus the attention of the whole group by providing a thematically structured set of roleplay materials. Based on the results of previous studies (e.g., Dodge & Frost, 1986) we decided to combine structured and unstructured roleplay material into a thematically structured setting. This provides both – play material and transports a thematic message. Including some new material in each session maintains a certain level of novelty. Thus, the group of children was given an ongoing stimulus to explore the material, and the structured setting provided a play context that might encourage engagement in play. Including flexible and challenging material meant children were still able to expand their play ideas. This approach combines both functions of roleplay material: a stimulus for each child, and a focus for a group of children to engage in a shared pretend play theme.

The Role of Adult Support for Children's Pretend Play Quality

Providing roleplay material might not be the only or most efficient way to promote children's social pretend play quality. As Smilansky (1968) has argued, the use of play material as a promoter of social pretend play quality may be limited. She considered play material appropriate for evoking imitative actions, but also probably limited in its potential for promoting more elaborated role behavior. It is only able to encourage activities and behaviors related to the material, and might therefore limit children's play. In contrast, adult support that follows children's ideas is flexible in shaping the play to their needs, and could simultaneously enrich the elaborateness of the play by providing scaffolding (Weisberg et al., 2013). Most of the studies on pretend play, which used play tutoring as a training method (Berk et al., 2006; Christie, 1983; Craig-Unkefer & Kaiser, 2003; Gmitrova, 2013) are based on the work of Smilansky (1968) and

Smilansky and Shefatya (1990). Some approaches are more teacher-directed, while others have a more child-centered approach. This study understands play tutoring as the latter, characterized by taking children's needs into account while providing active play support from an adult (Gmitrová & Gmitrov, 2003; Lang et al., 2009). Johnson et al. (1987) describe specific play supportive strategies: active engagement in roles, as well as encouraging play actions through material or verbal encouragement, modeling play actions, and recognizing and including children's ideas in the play. To choose an appropriate strategy, children's actual pretend play quality should be taken into account.

The findings of Perren et al. (2019) provide further empirical support for the promotional potential of active play support for the quality of children's social pretend play. The study used a within-person design to investigate whether two play support strategies (active play support vs. play management) are associated with children's social pretend play quality. Their results indicate that active play support had a positive within-person effect on children's social pretend play quality, whereas play management was not associated with any change in children's social pretend play quality. Further evidence regarding the between-person effect of active play support is needed.

The Current Study and Research Questions

The current study investigates whether the provision of roleplay materials can promote social pretend play quality in a group of preschoolers in their normal preschool setting. To test our research question, an intervention design with three different conditions was implemented: material condition (provision of specific roleplay material, no external support); play tutoring (provision of specific roleplay material plus highly active play support by an external play tutor); and treatment as usual condition (standard play environment and no external support).

As outlined above, we expect that the provision of roleplay material will increase the frequency of a group's pretend play and also the quality of its social pretend play (McLoyd, 1983; Morgante, 2013; Trawick-Smith, 1990; Woodard, 1984). In line with Smilansky (1968) we suspect that the potential promotional effect of this strategy on social pretend play quality is dependent on adult supportive behavior. To evaluate the promotional potential of providing roleplay material it is necessary to take adult behavior into account. Perren et al. (2019) have shown that play tutoring – providing roleplay material and a high level of active play support – is an effective strategy for promoting children's social pretend play quality (within-person design). Accordingly, we hypothesized that children in the material condition would show higher levels of social pretend play quality than in the control condition, but lower levels than children in the play tutoring condition.

Our study was conducted in children's normal preschool settings. Since their educators were present, we were unable to rule out children receiving active play support from their play educators. We thus also evaluated the level of adult active pretend play support in all three treatment conditions, which enabled us to investigate differences between the experimental conditions as well as the role of adults' behavior. In the play tutoring condition, an external person provided a standardized and high level of play support. Thus, we hypothesized that children in the material condition received a lower level of active play support than children in the play tutoring condition. We also expected play educators' behavior to be heterogeneous in terms of their level of active play support. Thus, we specifically investigated the role of active adult support in the natural setting (material and control condition only) for a group's frequency of pretend play and the quality of social pretend play. As we know from other studies that active play support promotes children's social pretend play quality, we expected the between-person effect of active play support to be positive, and tested whether the differences between the conditions still remained when we controlled for adult play support. For this latter question, we specifically focused on the comparison between material and treatment as usual condition.

Method

Participants

In study wave one, 119 preschool children participated from 16 Swiss playgroups (cantons Thurgau, Zurich, and St. Gallen). After, the pretest, two playgroups (total $n = 6$ children) had to be excluded from the study due to very low participation rates. Additional conditions for inclusion of the children's data in the study's sample were their presence in at least one play session during the intervention phase and their parents' consent for assessing their individual behavior on the video material. This resulted in a sample size of $n = 101$ preschool children (50% female; age $M = 43.02$ months, $SD = 5.94$) from 14 playgroups and 14 female educators (age $M = 44.08$ years, $SD = 9.51$). All playgroup educators were trained: 57.1% of the educators had a completed vocational training in a pedagogical field, and 64.3% had a further training as a playgroup educator (for two persons background information was missing). At the beginning of the study, children had been in their playgroup for an average of 28.25 ($SD = 31.24$) weeks. 70% of parents indicated that German was their family language. On average, children participated in 4.64 play sessions (for play tutoring 4.25, material 5.38, and control 4.26 times) out of a total of six.

Table 2 gives descriptive statistics of the sample by condition groups for children's baseline characteristics (sex and age). There were no statistically significant differences between the condition groups despite a mean difference in age for children within the play tutoring compared to the material group ($\Delta M = -2.96$; $T(95) = -2.05$, $p < .05$). Further the baseline characteristics of educators were examined by condition regarding age, years of experience and educational background.

The randomization process, which was proceeded at the group level, was therefore largely successful also for the child level. Regarding the differences in age, its correlation with the outcome variable was examined before the data analytic process to decide whether age needed to be included as a control variable in the subsequent statistical analyses.

Study Design

Data were collected as part of the randomized-controlled intervention study aiming to examine the impact of social pretend play on preschool children's social development. We used a pre-posttest design with follow-up (two waves from 2017 to 2019). For the current study, we used data from the first wave and intervention phase. The playgroup educators recruited were randomly allocated to one of three treatment groups: *material* ($n = 4$ groups, $n = 35$ children); *play tutoring* ($n = 5$ groups, $n = 32$ children); and *control* ($n = 5$ groups, $n = 34$ children). Between pre- and posttest the intervention phase took place, with six consecutive play sessions of 30 minutes each. These play sessions were video recorded in each condition group. A detailed description of the experimental condition groups is given below. The ratings of children's and adults' behavior were based on the video material and were conducted by two separate rater groups, blind to the hypotheses.

Recruitment Procedure

In study wave one, 16 playgroups were recruited for participation. In Switzerland, playgroups are educational institutions open to children aged 2.5 to 5 years. Their organizational form varies from

Table 2. Means, Standard Deviations and Correlations of SPPQ with Age and Sex.

Variable	N	M	SD	1	2	3
1. SPPQ	98	2.14	0.63	1		
2. Age	98	43.02	5.94	−.06	1	
3. Female	98	1.50	0.50	.03	−.03	1

Note. N, M and *SD* are used to represent sample size, mean and standard deviation, respectively. Results are based on unstandardized values.
* $p < .05$. ** $p < .01$. *** $p < .001$.

being sponsored by associations (emerged from private initiatives) to self-employed educators. A majority of those children who do not attend institutional daycare attend a playgroup instead. Most children attend a playgroup 1 year before they start mandatory kindergarten, and stay in the same group for 1 year. One playgroup is visited by 8–12 children in a mostly constant composition. Playgroup sessions take place on a regular basis, once or twice a week, and one session lasts between two and maximally half a day. The aim is to give children the opportunity to play with peers under the supervision of a trained playgroup educator.

The recruitment procedure followed several steps: First of all, the playgroup educators were asked to participate in the study. Subsequently, parents were informed about the study in writing, and asked for written consent for their child's participation. Information was provided for parents of nonparticipating children about the possibility that their children might still appear on the video material if they were present in the playgroup during intervention phase, even though individual data would not be collected. If parents did not agree to this condition, the parents and the playgroup educators together found individual solutions. Appropriate financial compensation was given to play group educators, and children received a present after each measurement point.

The randomization process was therefore largely successful. The correlation of differences in age with the outcome variable was examined before the data analytic process to decide whether age needed to be included as a control variable in the subsequent statistical analyses.

Assessment of Children's Play Activities

A standardized manual was used for the assessment of the frequency of children's play activities during play sessions, based on the five types of play described by Whitebread et al. (2012). Children's active engagement in the following categories was coded with 0 = no and 1 = yes: *rough-and-tumble, building play, reading books, games with rules*, or *pretend play*. Children's engagement in a *guided activity* was also rated. An activity was rated as pretend plays as soon as the child was actively engaged in make-believe play (e.g., child is pretending to cook in the play kitchen or is playing with figures and making them speak or move).

Individuals' activities were rated for four 5-min cycles. These cycles were chosen randomly from a possible six per play session. Up to 24 cycles per child (i.e., 6 sessions of 4 cycles each) were therefore rated. On average, 3.5 cycles per child and play sessions were rated. Some cycles could not be assessed as children were not visible on the recorded videos for long enough to generate a reliable rating code. An extensive training procedure was conducted to ensure the raters (six master students) achieve sufficient agreement in their ratings. Furthermore, the reliability of the rating scales was assessed using double coding of a randomly selected 20% of all videos. The intra-class correlations between the six raters for the separate categories lay between $ICC = .56$ and $ICC = .97$, and hence the inter-rater reliability ranged from moderate to excellent.

Based on the individual cycle scores, means per child were calculated for each category and each play session. The resulting scores represent the frequency of children's play activities during a single play session. The mean scores ranged from 0 to 1; higher scores indicated more frequent engagement by the child in the activity.

Assessment of Children's Social Pretend Play Quality

To assess children's social pretend play quality (SPPQ), we used a standardized manual (work by the authors). This is based on characteristic features and steps of the normative development of pretend play (Thompson & Goldstein, 2019).

The following categories and response options were used in the manual: *Decentration* (0 = no decentration, 1 = self-related, 2 = object-related, 3 = other-related play); *Decontextualization* (0 = no decontextualization, 1 = imitation, 2 = object substitution, 3 = fantasy transformation); *Role-taking* (0 = no role-taking, 1 = role-taking without role-conforming behavior, 2 = role-taking with some role-conforming behavior,

3 = sustained role-taking and role-conformity); and *Sequencing* (0 = no sequencing, 1 = limited script elements, 2 = several actions without a script, 3 = flexible application of a script).

To collect behavior samples within the playgroup, individual child behavior was rated for four 5-min cycles that were randomly chosen from the six cycles per play session. These were the same cycles as for the assessment of children's activities during play sessions. Hence, an average of 3.5 cycles were rated for each play session of each child. The highest observed level was rated for each category. The ratings were conducted by six master students, who were trained based on a standardized manual until a sufficient agreement between the raters was achieved. Furthermore, the reliability of the rating scales was assessed by double coding of a randomly selected 20% of all videos. The inter-rater reliability between the six raters was mainly good: intra-class correlations for three categories were above $ICC = .75$; for the category sequencing, the intra-class correlation was only moderate, at $ICC = .58$. For the overall scale SPPQ, the intra-class correlation was good, at $ICC = .82$.

The individual scores were calculated using all rated cycles. Based on these individual mean scores the group means of each category were aggregated for each playgroup to each play session (14 groups x 6 sessions). Based on these data ($N = 84$), the scale group's SPPQ was built. The internal consistency of the scale was α = .94. The theoretical assumed structure of the construct was examined by a confirmatory factor analysis (CFA) with the four indicators (i.e., decentration, decontextualization, role-taking, and sequencing). Common cutoff values for comparative fit index (CFI) lie close to .95 and close to .06 for root-mean-square error approximation (RMSEA) according to Hu and Bentler (1999). The model's degrees of freedom are very low, which indicates that the model is just identified and might reduce the reliability of the interpretation of the RMSEA (Little, 2013). Therefore, the CFA model's accuracy was evaluated relying on the χ^2-value and the CFI, which indicate that the results can be interpreted. The model fit indices ($\chi^2 = 3.04$; $df = 1$; $p = .08$; CFI = 0.99; RMSEA = 0.16) showed a mainly good fit of the model to the observed data.

Assessment of Adults' Active Pretend Play Support

The coding manual was developed and adapted by our research group (work by the authors) on the basis of behavioral strategies suggested by several studies of children's social pretend play (Bodrova et al., 2013; Gmitrova, 2013; Smith, 2010).

The frequency and intensity of observed behaviors were rated on a 5-point Likert scale (1 = none of the indicators was observed, 2 = one indicator was observed a few times, 3 = half or more of the indicators were observed several times, 4 = most indicators were observed several times, 5 = all indicators were present and frequently observed). Categories from the manual were: *Prompting* (using verbal or nonverbal prompts to initiate interactions or pretend use of objects); *verbalization* (use of questioning and language modeling techniques); *modeling* (playing along and demonstrating play actions and interactions) and *following child interests* (following children's suggestions and play ideas); and *emotion expression* (demonstrating emotions).

Adults' behavior during play sessions was rated for 5-min cycles over the whole play session (i.e., 6 cycles per play session). The ratings were conducted by two research assistants, who were intensively trained until sufficient agreement was achieved between them. Furthermore, the reliability of the rating scales was assessed by double coding of a randomly selected 20% of all videos. Inter-rater reliability between the two raters was found to be good to high: the intra-class correlation for the overall scale active support was $ICC = .94$.

For each category and adult, a mean score of the six observation cycles was calculated per play session. The internal consistency of the scale was α = .94. The assumed factorial structure of the construct with four indicators (prompting, following child interests, modeling, and emotion expression) was evaluated by a CFA. The categories *Object-related Prompting* and *Interaction-related Prompting* were parceled to one indicator *Prompting*. For scaling of the latent variable, the effect coding method (Little, 2013) was used. The model fit indices ($\chi^2 = 7.97$; df =2; $p = .02$; CFI = 0.99;

RMSEA = 0.13) mainly showed a good fit of the data to the model. This model is just identified and therefore the value of RMSEA could be artificially high.

Experimental Conditions

The material group and the play tutoring group were both considered as intervention groups. A standardized set of roleplay material was provided to the material group and no external adult interaction other than the standard interaction with their playgroup educator. The play tutoring group received the same set of roleplay material, as well as social pretend play tutoring by a trained external play tutor (two research assistants). The control group received no additional roleplay material along with their standard adult interaction with their playgroup educator. Table 3 gives an overview of the treatment characteristics.

Set of Roleplay Material

The standardized set of roleplay material consisted mainly of material with which to play firefighters (e.g., helmet, vest, garden hoses, yellow, red, and orange silk scarves, and wooden blocks). In each play session except the last, new material was included according to the social pretend play tutoring schedule. The set of roleplay material was especially enhanced in its thematic focus from session four: princess/ prince and doctor play materials were provided (e.g., crown, cloak, and medical kit). In all play sessions, the set included structured roleplay material like firefighters' helmets, as well as unstructured roleplay material such as wooden blocks. The whole set of roleplay material was stowed in a neutral case.

Social Pretend Play Tutoring

Our social pretend play tutoring is based on the work of Craig-Unkefer and Kaiser (2003). Play tutoring was conducted by two trained play tutors and its implementation was monitored by the trainers. The play tutoring followed a child-centered approach of active play support with a particular thematic focus ("Let's play firefighters"). It was supplemented by the described standardized set of roleplay material. In the play tutoring group, the introduction of the material was accompanied by the play tutors during the *planning phase*: at the beginning of each session, they presented each new item once, asked the children what it could be, named it, and briefly modeled a play action using the material.

In the *play phase* the tutors used specific play supportive strategies (e.g., Prompting, Modeling), the promotional effect of which is supported by the results of Perren et al. (2019). The tutoring followed a standardized schedule. Nevertheless, the play tutors had the flexibility to take children's ideas and needs into account. In each session but the last, the content of the play was extended: the starting point was a simple scenario ("fight a fire"), which was expanded in its content and complexity through different additional scenarios (e.g., life in the fire station, rescue of the princess/prince from the burning tower) within the play theme "Let's play firefighters," and complemented by additional roles (e.g., princess/prince or doctor).

Standard Adult Interaction

In the material and control groups, the playgroup educators were told to act according to their normal schedule and behavior during free playtime. The playgroup educators of the material group received

Table 3. Treatment characteristics.

	Standardized Set of Role Play Material	Adult Interaction
Play Tutoring	Yes	Social pretend play tutoring (research assistant)
Material	Yes	Standard (play group educator)
Control	No	Standard (play group educator)

no instructions on how to use the roleplay material and were therefore unrestricted in its usage. 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.

Data Analysis Steps

In a first step, mean differences were evaluated between the experimental conditions for a group's play activities, e.g., pretend play frequency (PPF), and furthermore regarding as well as social pretend play quality (SPPQ) and adults' play support (APPS) during play sessions. The main hypotheses were tested at the group level. These were analyzed using linear regression models using dummy coding for the three-stage categorical variable *experimental conditions*, with the material group as a reference category. The next step examined whether mean differences between the three experimental conditions for PPF and SPPQ remained when we included APPS as an additional independent variable. A linear regression model (model 2a and 2b) was used with SPPQ as a criterion and additionally to the dummy variables representing the experimental conditions, APPS as a control variable. As we were especially interested in the differences in the natural setting (material vs. control), the same linear regression model (model 3a and 3b) was estimated based on a data subset consisting of the condition groups with no external support (material and control).

To check for other potentially necessary control variables, baseline differences between experimental conditions were tested for age and sex at the child level. Statistically significant differences occurred only for age (Table 2). Correlation of age with the outcome variable SPPQ was examined ($r = -.06$; $p = .55$) and showed no statistical significance. Therefore, no further control variables were included in the model.

In order to analyze the data at the group level, individual scores of children's SPPQ were aggregated to a group mean score for each playgroup to each time point (i.e., 14 playgroups x 6 play sessions). This resulted in a sample size of $N = 80$ (four missing values) for the statistical analyses of model 1 and a sample size of $N = 50$ for the statistical analyses of model 2. The software program R (R Core Team, 2019) was used.

To take the dependency of clustered data (time points in playgroups) into account and reduce the resulting bias of model-based standard errors that might affect the statistical inference, a correction method for standard errors is required (Cheong et al., 2001). Clustered sandwich estimators adjust for correlations between residuals within a cluster. This approach was therefore considered the most appropriate correction method for clustered data structure. The cluster-robust standard errors were calculated post the model estimation process using the R package *sandwich* (Berger et al., 2017) and *lmtest* (Zeileis & Hothorn, 2002).

Results

Differences in Play Activities

The mean differences for play activities are shown in Figure 1. The play tutoring group ($M = .92$) was engaged significantly more often in guided activities than the other two condition groups. The activity means for role play and guided play were significantly higher in the control group than in either intervention group. Children in the control group engaged in more diverse play activities, while in both other conditions children were mostly engaged in the same type of activity.

Results from model 1a (Table 4) show no statistical difference in the pretend play frequency (PPF) between the material group ($M = 0.81$) and the play tutoring group ($M = 0.82$), but the PPF was lower in the control group compared to both the material group ($M = 0.51$; $T(75) = -4.00$; $p < .001$; $d = -1.13$) and the play tutoring group ($T(75) = 5.66$; $p < .001$; $d = -1.55$).

In the next regression analysis predicting PPF, we included the level of APPS as an additional independent variable. This analysis (model 2a) showed that the negative difference between the material
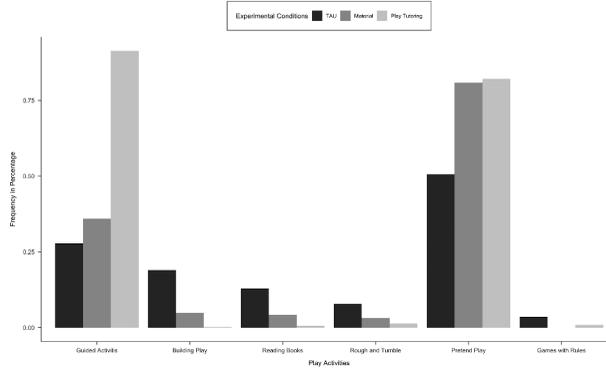
Figure 1. Frequency of play activity by condition groups.

Table 4. Unstandardized regression results with PPF as criterion.

Variable	Model 1a[a]			Model 2a[a]			Model 3a[b]		
	B	SE	d	B	SE	d	B	SE	d
Intercept	0.81***	.06		0.66***	.09		0.61	.09	
Control[c]	−0.30***	.08	−1.13	−0.25***	.07	−1.02	−.23**	.07	−0.98
Play Tutoring[c]	0.01	.07	0.05	−0.06	.04	−0.43			
APPS				0.09*	.04	0.48	0.11**	.04	0.83
R^2_{adj}	.29			.31			.28		

Note. [a]Sample size N = 78. [b]Sample size N = 50. SE calculated with cluster-robust correction method.
[c]Reference group: Material.
[†]p < .10. * p < .05. ** p < .01. *** p < .001.

group (M = 0.66) and the control group for PPF (M = 0.41; T(74) = −3.62; p < .001; d = −1.02) remained significant. APPS was significantly positively associated with PPF (B = 0.09, p < .05, d = 0.48).

Finally, the same regression analysis was conducted using a subset of material and control group (n = 50) and produced similar effects. The results from model 3a (Table 4) show a significant negative difference between the material group (M = 0.61) and the control group for PPF (M = 0.38; T(47) = −3.46; p < .01; d = −0.98), and in this subset APPS was also significantly positively associated with PPF (B = 0.11, p < .01, d = 0.83).

Differences in Social Pretend Play Quality

First, a regression analysis was computed to establish main differences between the experimental conditions (model 1b). In comparison with the material group (M = 2.17), the play tutoring group (M = 2.65; T(77) = 2.18; p < .05; d = 0.60) showed a statistically significant higher level of SPPQ. The control group (M = 1.82; T(77) = −1.88; p =.06; d = −0.53) showed a marginally significant lower level of SPPQ than the material group.

The level of APPS was significantly higher in the play tutoring group (M = 2.60; T(77) = 2.26; p < .05; d = 0.62) than in the material group (M = 1.72), but it was only marginally higher than in the control group (M = 1.09; T(77) = −1.66; p =.10; d = −.47). Results of both analyses are illustrated in Figure 2 using z-standardized scores.

Next, the regression analysis predicting SPPQ was performed by including the level of APPS as an additional independent variable. The results from model 2b (Table 5) showed no significant differences for the level of SPPQ between the condition groups while controlling by APPS. Nevertheless, in comparison to the material group (M = 1.80) the play tutoring group (M = 2.10; T(76) = 1.82; p < .07; d
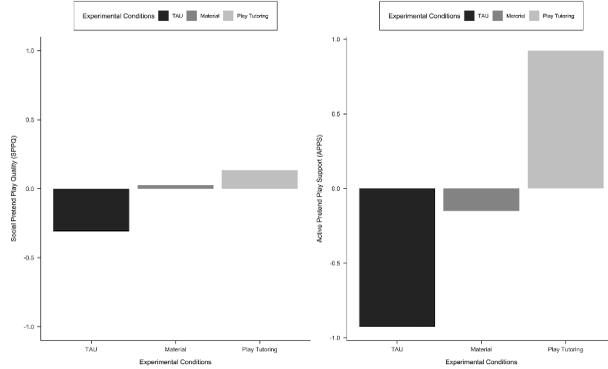
Figure 2. Means of social pretend play quality and active pretend play support by condition groups. Mean scores were z-standardized.

Table 5. Unstandardized regression results with SPPQ as criterion.

Variable	Model 1b[a]			Model 2b[a]			Model 3b[b]		
	B	SE	d	B	SE	d	B	SE	d
Intercept	2.17***	.16		1.80***	.21		1.64***	.17	
Control[c]	−0.35[†]	.19	−0.53	−0.21	.15	−0.40	−0.15	.14	−0.31
Play Tutoring[c]	0.48*	.22	0.60	0.29[†]	.16	0.50			
APPS				0.22*	.09	0.25	0.31**	.06	0.58
R^2_{adj}	.32			.35			.21		

Note. [a]Sample size N = 80. [b]Sample size n = 50. *SE* calculated with cluster-robust correction method.
[c]Reference group: Material.
[†] indicates $p < .10$ *$p < .05$. ** $p < .01$. *** $p < .001$.

= 0.24) showed a marginally higher level of SPPQ. The control variable APPS was significantly and positively associated with SPPQ ($B = 0.22$, $p < .05$, $d = 0.25$).

In the final step, the regression analysis was repeated with the subset of material and control group ($n = 50$). This analysis showed no statistically significant difference between material group and control group for SPPQ, when controlling for APPS. However, the level of active play support (APPS) was significantly and positively associated with the criterion SPPQ ($B = 0.31$, $p < .01$, $d = .58$). In sum, differences between the material and control conditions in children's social pretend play quality can be explained by different levels of active adult support.

Discussion

This study investigated potential promotional educational strategies for the social pretend play quality in groups of preschool children. The children's and adults' behavior was observed and compared in three randomly assigned experimental conditions. The provision of roleplay material was compared to play tutoring and standard educational practice (control group) in terms of the impact on the quality of social pretend play in a group of children. As well as their play activities and active pretend play support were considered. Results suggested that as far as the *frequency* of social pretend play is concerned, the material group did not differ from the play tutoring group, while both the material and the play tutoring group had significantly higher scores than the control group (i.e., material = play tutoring > control). Results pertaining to the *quality* of social pretend play showed a slightly different pattern: the material group scored significantly lower than the play tutoring group but significantly higher than the control group (i.e., play tutoring > material > control). After controlling for adults' active pretend play support, the difference in social pretend play quality between the material and control group was not found to be significant. For pretend play frequency, the control group scored

significantly lower than the material group even after controlling for adult support. These findings indicate that providing roleplay material increases the frequency of pretend play in preschoolers, while adult play support is more important in fostering social pretend play quality.

Play Activities and Frequency of Pretend Play

The results examining the differences in the play activities between the condition groups give an impression of the play activities in which the playgroups were mostly engaged. In the material group and the play tutoring group, the predominantly observed activity was pretend play. Children in the control group also engaged frequently in pretend play but to a lower degree, engaging more frequently in a broader variety of play activities. Independently of adult behavior, the frequency of pretend play was higher in the material group than in the control group; this difference persisted when the natural setting was analyzed as well. Nevertheless, an adult's active play support was positively related to pretend play frequency in both settings. This indicates that providing both roleplay material and play tutoring focuses the attention of the group on a certain type of play, such as pretend play. While roleplay material is part of children's everyday play environment in all the participating playgroups, children in both intervention conditions were provided with an additional set of thematically structured roleplay material. In the material group, these materials were not introduced thematically but at the beginning all children were gathered together around them, so that all were aware of the material available. We can therefore conclude that the roleplay material functioned as a stimulus for the whole group to engage in pretend play by focusing the group's attention. These results are in line with findings from earlier studies (McLoyd, 1983; Trawick-Smith, 1990; Woodard, 1984), especially those of Dodge and Frost (1986) on the higher frequency of pretend play in a thematically structured setting. Furthermore, the results support the functions of play material proposed by Trawick-Smith et al. (2015).

While only some children engaged in pretend play in the control group, in both intervention conditions the majority of children engaged in this activity. Part of the effect of the educational strategy (providing roleplay material) on the frequency of pretend play might be explained by the novelty of the material, which was renewed each week by adding new play materials. Children were provided with novel material that per se might trigger their need to explore it and thus awaken their interest in playing with it. Accordingly, these findings indicate that the educators highlighted and encouraged the frequency of this activity in a group of preschoolers through the educational strategy of providing roleplay material.

Quality of Social Pretend Play

The study indicated that children in the material group showed a higher quality of social pretend play than those in the control condition. This result supports our hypothesis that providing material is a potentially educational strategy for promoting the group's social pretend play quality. However, we also found that the level of social pretend play quality in the material group was lower than in the play tutoring group. This indicates that providing roleplay material could foster the quality of social pretend play in a group of preschoolers, but only to a certain degree, suggesting that providing roleplay material is less efficient than a combination of a play tutoring strategy and play material.

We also expected adult play support to promote pretend play quality. The results showed that play tutors engaged in active pretend play support in both the play tutoring condition and the material group. Educators in the material and control groups were instructed to behave as they normally do. Nevertheless, we found this significant difference. The importance of adult's play support is demonstrated through the finding that differences between the material and control conditions for social pretend play quality completely disappeared after controlling for adults' active pretend play support. However, the difference between material and play tutoring group remained marginally significant after taking active play support into account.

These results are in line with Smilansky's hypothesis (1968) that an adult is needed in an active role to foster social pretend play quality. Providing roleplay material had an unexpected effect on playgroup educators' educational behavior in the material group: some engaged actively in children's play and provided them with a certain degree of active play support. The material, therefore, functioned as a stimulus to both the children's and the adult's engagement. The reaction of the playgroup educators may be explained by the way the material was provided: since the purpose was to test the effect of roleplay material on social pretend play quality, there was no framing of the material. In its absence, playgroup educators may have been inspired to give the children some kind of instructional frame. This observed behavioral change is in line with the child-centered educational approach strongly endorsed in Swiss early education settings (Perren et al., 2017). Adults take children's needs and interests into account, and react accordingly. In the material group, the material-motivated children to engage in pretend play, which in turn motivated childhood educators to engage in active play support. From a methodological point of view, this impact on educators' behavior means that the pure material group no longer exists, which limits the power of the study to confirm the promotional character of providing roleplay material. The variation in the adults' behavior within the intervention conditions (material vs. play tutoring) now ranges from a lower to a higher level of active play support instead of two contrasting conditions. At the same time, this unexpected effect provides us with interesting results for active play support.

One additional important result of the current study was the replication of the findings of Perren et al. (2019) on positive within-person effects of active play support on the quality of social pretend play for between-person effects as well. Accordingly, active play support is associated not only with variations within children, but also with variations between groups of children for the quality of social pretend play. This highlights that active play support is an efficient strategy for promoting the quality of social pretend play in a group of preschoolers.

Strengths and Limitations

One of the strengths of this study is its design as a randomized-controlled intervention study with standardized procedure of the interventions. This enables us to investigate the causal effects of different educational strategies on social pretend play quality with a between-person design. The randomization at group level reduces the risk of selection bias, so the distribution of confounders is more likely to be random, which strengthens the conclusion that differences in outcome are due to the intervention. Baseline differences in key characteristics were reviewed. Furthermore, an elaborated measurement of social pretend play quality taking different features into consideration, in line with suggestions by Thompson and Goldstein (2019), ensures a valid and comprehensive assessment of the construct. Nevertheless, limitations arise from the relatively small sample size and the small number of groups ($N = 14$). Modeling the group level is thus restricted, as multilevel methods require a minimum of 30 units at each analyzed level, or at least an increase in the sample size at one of the two levels to estimate accurate effects (Clarke & Wheaton, 2007; Maas & Hox, 2005). The approach to analyzing effects at group level in this study uses data at different measurement points for a cross-sectional investigation. The clustered structure of data was taken into account by using clustered standard errors. Observers rated the behavior of children and adults during the intervention phase, and could not, therefore, be blinded to the group's condition membership. This might be a weakness, as it could introduce measurement bias and thus overestimate the effects. Another consequence of analyzing the group level is that we did not address the individual level and were therefore unable to consider the individual dosage of the children. This might be meaningful, as individual children receive different amounts of the intervention in a group intervention as well. For some groups, the group's score of play activities and social pretend play quality could only be calculated from the data of a very few children. Finally, within the play activities, we assessed the frequency of pretend play, but not specifically of social pretend play.

Implications for Practice and Future Research

The study's results allow us to propose some interesting suggestions for educational practice. Providing pretend play material might be an effective educational practice to highlight pretend play as an activity in a group of children. But to promote the quality of social pretend play, active play support by adults is also needed. To have an effect, active play support does not necessarily have to be at the same artificially high level as provided by the external play tutors. The play material provided seemed to function as a promoter for the playgroup educators' supportive behavior: they were encouraged to engage in the children's play and were able to promote the quality of the group's social pretend play. The study's findings showed that it is feasible for practitioners to make use of this educational practice in an efficient way, and that active play support is a key factor in promoting children's pretend play quality. Adults' active involvement in and attention to children's play supports their engagement in pretend play at a higher quality level, which might be important for their positive development and enrich their future play with peers.

There has only been limited research so far on how roleplay material promotes the quality of social pretend play. While the finding that the material provided encouraged playgroup educators to support their groups actively in pretend play is interesting, this feature also limits our study's explanatory power. Without a plain material group, we cannot completely disentangle its effect from the effect of adults' play support, and this limits our conclusions about the promotional character of pretend play material.

To generate robust knowledge about the potential of roleplay material in fostering social pretend play quality, future intervention studies are needed. This study investigated a simple way of providing roleplay material, consisting of making a thematically structured set of materials available to a group of children. Providing educators with changing thematically structured boxes (including structured and unstructured material, and an option for re-introducing novelty) might also be an interesting approach, highlighting social pretend play in educational practice.

It is likely that it is not just the *kind* of material that affects children's play and its potential to focus and maintain the attention of a group, but also how the material is *presented*. It would enrich both theoretical and practical knowledge to investigate more ways of providing roleplay material and the effect of this on the quality of subsequent pretend play. Previous research has made other suggestions, such as providing material in a whole thematically structured pretend play area (e.g., Dodge & Frost, 1986; Petrakos & Howe, 1996). In educational practice, this is a common arrangement and it could be interesting to investigate how a group's social pretend play quality could benefit from such a setting. Another aspect that should be considered is the effect of novelty: to control for this, a material common to a preschool group's children could be taken and rearranged to preclude effects due to new material.

Conclusion

The study's findings allow important conclusions to be drawn about *what* promotes the quality of pretend play in a group of children. Providing roleplay material seems to be an appropriate educational strategy for increasing the frequency of pretend play. However, adult involvement is crucial in promoting the quality of social pretend play effectively, as active play support is highly predictive for a group's social pretend play quality. These results highlight the important role of adults in children's play. In line with a child-centered educational approach (Perren et al., 2017), the main task for educators is to provide time and space for children's play with peers and (from time to time) to enrich children's play ideas through the provision of material, prompting and modeling (e.g., through playing along). It is important to keep the balance between self-initiated, self-motivated, and joyful play and giving children active play support.

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