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What do adults learn through play regarding interactions and communication with children?

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ABSTRACT

It is well established that the amount of time children spend playing reflects on their learning, quality of exploration, and relationships. However, little is known about what the main benefits for adults are. In this study, we explore the association between the adults' daily time spent playing with their children (in minutes) and the adults' quality of interactive behavior and their amount of verbal behavior. Participants are 19 mothers, 17 fathers, 22 female preschool educators, 20 male educators, and 78 children (between 3 and 5 years old). Parents and educators were observed during a joint activity with a child. Results indicate that adults who spend more time playing with their children are more empathic, engaged, reciprocal, and changeling. Moreover, parents were also more positive in their communication with children. This research suggests that play offers individual and dyadic learning to children and adults.

KEYWORDS

Time spent playing; parents and educators; interactive behavior; verbal behavior; joint activities

Introduction

Play is instrumental in the development of young minds. Through play, children begin to engage with others actively, explore the world around them, and create and shape their understanding of it (Ginsburg et al., 2007). As children gain mastery over their environment, they also acquire new competencies that can increase their confidence and resilience to overcome future challenges (Ginsburg et al., 2007).

According to the *United Nations High Commission for Children Rights* (UN 1989), daily play is not just a leisure activity but a fundamental right for every child. Many children are growing up in increasingly indoor contexts and high technology pressure that limits child-initiated play. Children with access to play opportunities develop their

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creativity and imagination and make better use of their physical, cognitive, and emotional strengths (Johnson, Christie, and Wardle 2005).

Allowing children sufficient time for play not only fosters early childhood development, but also provides a valuable opportunity for parents to engage with their children (Schneider, Falkenberg, and Berger 2022). Unfortunately, the busy lifestyles of many families are leading to a reduction in the amount of playtime allocated for young children (McDaniel 2019).

Play benefits children's learning and development

The benefits of infant play are indirect, implicit, and intricate. Children's development in several domains, such as behavioral and emotional regulation, is correlated with the quality and quantity of playtime in preschools (Bodrova and Leong 2008; Martinez-Pons 2002; Miller and Almon 2009). The ability to guide and regulate these behaviors and emotions requires problem-solving strategies and self-regulatory skills, which can be learned in play interactions (Whitebread et al. 2009). Moreover, all these abilities are related to future academic achievement and school readiness (Slot et al. 2017).

Also, play is highly beneficial to children's language skills and provides a supportive context for language learning (Tamis-LeMonda et al. 2004), especially in the case of adult interaction. Guided play, which incorporates elements of adult scaffolding in service of a learning goal, that primarily follows a child's lead and builds on her/his interests, provides a particularly effective language-learning environment. The child-leading role is a key factor in this outcome. Several studies (Whitebread et al. 2009; Spivak and Howes 2011) found that the most profitable learning opportunities rely on adult-child partnership activities, where the child leads and the adult challenges the child on her/his proximal developmental area.

Can playing with children be an insightful learning opportunity for adults?

In the last two decades, thousands of psychological and educational research articles focused on child play, yet less than 100 addressed: play in adults or the elderly (van Leeuwen & Westwood, 2008). From which, most are related to therapeutic research (e.g. play therapy) or about adult gaming, and digital activities. Therefore, little is known about adults' play. Another prolific research line focused on the benefits of parent-child play for children. In this study, we attend to the possible benefits for parents.

Several studies suggest that the time parents spend engaging in daily activities (involvement) with their infants plays a crucial role in attachment relationships (e.g. Ginsburg 2007). It is plausible that parents who dedicate more time to their infants are more aware of their children's unique needs compared to those who spend less time with them. As parent-child involvement increases, the relationship between the parent and child may gradually become more reciprocal and attuned, ultimately fostering a secure attachment.

One study (Fuertes et al. 2018) evaluated parental involvement regarding play, primary care, and healthcare activities. The findings revealed that mothers and fathers who participated more frequently in play activities with their infants at 12 and 18 months had infants who were more likely to exhibit secure attachment strategy at the same ages. The authors speculate that parents who engaged more in play activities

may have been alert to the significance of play in their child's positive developmental outcomes. Another explanation is that parents might have found pleasure in playing with their infants, leading to more frequent engagement in parent-infant play, or they had more available time to actively participate in play. However, empirical evidence supporting these hypotheses is scarce.

Tandem studies

Initially, the Germain Tandem research (Brandes et al. 2015) investigated the impact of educators' gender roles during a joint activity with preschool children. For that purpose, children and adults were observed using several materials and tools to create something of their choice (within 20 min) collaboratively.

The Portuguese Tandem research replicated the study protocol and expanded the group of participants to include mothers, fathers, and children with atypical development (Veiga et al. 2019; Veiga et al. 2020). Findings revealed that parents (both fathers and mothers) used illustration, verbal instructions, and modeling to guide children's behavior during the task. In turn, educators acted as facilitators for children's free exploration, encouraging autonomy and participation. Recent Portuguese studies further elaborated on the original Tandem research by exploring types and profiles of adults' communication with children (Fuertes 2022; Fuertes et al. 2022).

The state of the art informs that adult interactions and communication styles significantly impact on children's involvement in social interactions (Fuertes et al. 2022; Fuertes et al. 2022). For instance, an adult suggestion acknowledges a child's decision and opinion, valuing their participation, whereas an order imposes the adult's viewpoint and decisions, disregarding children's interests (Peisner-Feinberg et al. 2001; Sabol and Pianta 2012). However, hastily offered suggestions (without allowing children time to consider and expand upon the proposal) can turn into imposing behavior. Therefore, researchers must balance factual (verbal) descriptions and interpretative (non-verbal) evaluations to comprehend the relational context established by educators toward young children during collaborative activities.

In Early Childhood Education (ECE), an educator's interactive sensitivity and acceptance of a child's needs, emotions, and active participation correlate with better social and cognitive outcomes (Rosen et al. 2020). Thus, Tandem research (e.g. Brandes et al. 2015) includes five interactive dimensions of adult behavior: *empathy* (i.e. sensitivity and acceptance of children's interests, needs, and desires), *challenging behavior* (i.e. ability to cognitively challenge the child and propose innovative learning experiences), *reciprocity and involvement* (i.e. ability to engage and sustain reciprocal, positive interactions, attentively and patiently), *cooperation* (i.e. degree of partners participation while working collaboratively) and *abstraction* (i.e. ability to stimulate abstract thinking, fantasy/imaginative narratives and share relational attributions).

Tandem studies involving Portuguese samples (Fuertes et al. 2018) suggest that most educators acknowledge children's competency and agency, promoting their autonomy and giving them decision-making opportunities. Moreover, educators use reflexive practices to stimulate children's free thinking and creativity. In the face of educator sensitivity and acceptance, children can be active in their learning, developing their agency and critical thinking.

Fostering children's self-esteem, agency, critical thinking, autonomy, learning motivation, and perseverance largely depend on interactions/relations and learning opportunities (Oliveira-Formosinho and Barros Araújo 2012). Each significant adult in children's lives offers a different relational and learning context. Thus, this line of research contributed to the state of the art about how educators' and parents' verbal and non-verbal behaviors stimulate a child's active participation.

Methods

Aims

The main aim of this study is to explore the association between the daily time spent by parents and educators playing with their children and their verbal and interactive behavior during a joint construction activity with the child. Primarily, we aim to compare the mean daily time spent playing (in minutes) with children by educators and parents (*aim 1*) and to determine whether there are differences based on the sex of the child or the adult and demographic factors as adults age and formal education (*aim 2*). The *third aim* is to investigate the association between the interactive behavior of parents and educators and the daily time they spend playing with their children. Next, we intend to examine the association between the verbal behavior of parents and educators and the daily time they spend playing with their children (*aim 4*). Finally, we aim (*aim 5*) to study the association between time spent playing and the number of components in the product as well as the number of materials and tools used.

Considering past research, we expected that adults who spend more time engaging in play tend to be more capable of interpreting the child's behavior and responding appropriately.

Participants

The study included a total of 156 participants, namely: 36 parents (19 female and 17 male), 42 educators (22 female and 20 male), and 78 children (38 boys, 40 girls). Children were between 3 and 5 years old ($M = 4.08$; $SD = .81$) and attended kindergarten. Parents were between 25 and 45 years old ($M = 36.25$; $SD = 4.97$) and had between 7 and 17 years of education. In turn, educators ($M = 14.78$; $SD = 2.45$) were between 23 and 45 years old ($M = 33.79$; $SD = 3.63$). Although it was not an exclusion criterion, all early childhood educators (i.e. preschool teachers) were Portuguese. In the parents' group, two mothers and two fathers were migrants (1 from Ukraine, 2 from Angola, and 1 from Mozambique). Using the same inclusion criteria of Tandem past research, ECE educators had at least five years of experience and be bachelor's or master's in ECE. Each preschool teacher was the educator of the child whom they interacted with in this study. Thirty preschools (18 private and 12 state schools) in Lisbon District were included in this study and all educators of these preschools were invited to take the study.

Study procedures

The first step of the research was to collect demographic information. For that purpose, educators and parents reported their nationality, sex, age, professional training, and

professional experience/qualifications, as well as children`s sex, age, birth order, developmental disabilities, and nationality, through a brief questionnaire including educators' descriptive variables.

Secondly, according to the original Tandem study protocol (Brandes et al. 2015), each dyad (child-parent-child or child-educator) was videotaped in a free-play collaborative task (without the presence of the investigator).

Following the same guidelines (Brandes et al. 2015), the dyads were instructed to freely use the materials and tools available to produce something of their choice (e.g. object, toy, doll …) for 20 min. For objectivity purposes, the amount of materials and tools, exposition, space, and chair positions were controlled in each observation.

As described in past research (Fuertes et al. 2018; Fuertes 2022; Fuertes et al. 2022), two suitcases were made available to participants, one containing several materials (e.g. wooden boards, colored paper, fishing line, laces, self-adhesive eyes, colored beads, toothpicks, corks, corrugated paper, felt, clean pipes, fine wire, egg boxes, Styrofoam balls, toilet paper straws, wool, metal washers, straws), and the other one containing tools (e.g. hot glue gun, pliers, scissors, liquid glue, markers, hammers, nails). Participants monitored the duration of the activity using a timer. (Figure 1)

Figure 1.

Ethics

In this study, the procedures respected all participants' rights according to the ethical guidelines of the European Early Childhood Education Research Association (Bertram et al. 2014) and were approved by the Portuguese Academia do Conhecimento of the Calouste Gulbenkian Foundation.

To collect data, a researcher assistant elucidated the study's objectives and procedures to potential participants and provided an informative brochure (Brandes et al. 2012; 2015). According to EECERA (Bertram et al. 2014) informed consent guidelines, all participants (or their legal guardians) agreed to participate and be recorded. Children expressed their agreement to participate through drawing.

Instruments and scoring

Quality of the parent's and educator's interactive behavior. Table 1 presents the Tandem scale to assess the quality of educator's interactive behavior (Brandes et al. 2015). This is a five points Likert scale. Coders decided on a score from totally agree to totally disagree (for similar applications see Fuertes 2022; Fuertes et al. 2022).

Table 1. Tandem Scale for the quality of the adult interactive behavior.

Dimensions	Items
Empathy – *sensitivity and acceptance of children interests, needs, and desires*	1.1 The educator/parent reacts to the expressions and emotions of the child appropriately and promptly. 1.3 The educator/parent supports the child appropriately (without unrequested interference or rules). 1.4 The educator/parent gives positive and appreciative feedback.
Challenging behavior – *cognitive challenge and innovative learning experiences*	1.2 The educator/parent encourages the child to explore and analyze new problems. 2.3 The educator/parent asks questions that stimulate reflection/thinking. 2.4 The educator/parent introduces new concepts/terms. 3.5 The child loses interest in the activity and reveals signs of boredom.
Reciprocity and Involvement – *ability to engage and maintain reciprocal, mutual, and positive interactions including attentive, patient, and reciprocal behaviors*	2.1 The educator/parent adopts suggestions and/or initiatives of the child. 2.2 The educator/parent waits patiently for the decisions of the child. 2.8 The educator/parent physically faces the child and seeks eye contact.
Cooperation – *degree of the child, the educator, and both participation while working/or not in co-operation*	3.1 The educator/parent observes the child and only participates verbally. 3.2 The educator/parent acts himself/herself and lets the child observe. 3.3 The educator/parent and the child pursue different sub-projects in parallel activity with only partial cooperation. 3.4 Both, the educator/parent and the child work together in an object, with a continuous conciliation of interests.
Abstraction – degree of abstraction thinking, fantasy/ imaginative narratives or relational attributions adopted by educators or shared by educator and the child	2.5 The adult expresses themselves, mainly, in an objective-concrete, and functional way about the activity or adopts it when these come from the child. 2.6 The adult accompanies the activity with associative fantasies and narratives or adopts them when these come from the child. 2.7 The adult thematizes the relationship or personal aspects (attributes, experiences, feelings) or adopts them when these come from the child

The use of these scales is culturally biased, preventing the results from direct comparison or generalization to other cultures. Therefore, before scoring the scales, the coders (trained by the German team) discussed each item and its meaning. For example, the item 'The educator/parent adopts suggestions and/or initiatives of the child' is included in the reciprocity and involvement category. Our team interpreted this item as the adult's ability to acknowledge the child's ideas, proposals, and initiatives, supporting and incorporating them during the task. Also, the score can be affected by each coder's personal perspective, professional experiences, and training. To reduce the individual bias, we selected a team balance in gender (two females, two males, and one coder to mediate consensus) and professional expertise (including educators, educational psychologists, and developmental psychologists), to code the 78 observations.

Following a video observation, each coder individually scored each item. During the coder's conference, scores were discussed item by item, with coders providing explanations for their assessments. A consensus or majority agreement was then reached to determine the final score for each item.

Parents and educators' verbal behaviors. Descriptive narratives were performed to describe the adult's verbal behavior in types of verbal behavior, timing, and context. Based on our prior studies (Fuertes 2022), each adult verbalization was transcribed and allocated to one of the following categories described in Table 2. Each category is mutually exclusive. The total frequencies for each category and verbal were computed for each adult participant (educator or parent).

Data analysis

Analyses were performed using version 26 of the *Statistical Package for the Social Sciences* (SPSS) software. Descriptive statistics were used to calculate demographic data's means and respective standard deviations. Alpha was set at.05, and the normality of the variables

Table 2. Descriptive of adult verbalizations.

Types of verbalizations	Definition	Example
Content questions	Questions about contents to learn about the child's knowledge on a specific topic.	*'What colors can an apple have?', 'Can you count the number of pencils we have here?'*
Questions about proceedings	Questions about planning, decision making, and choice of materials/tools to be used during the collaborative activity.	*'What do you need to build the house?', 'What color should we use?'*
Suggestions	The adult makes proposals and accepts the child's choices, not imposing his/her will.	*'You want to make the prince bigger because he is the hero, maybe the princess can save the prince and be a hero'*
Directions	The adult guides and/or gives information to help children with their actions.	*'You need to glow on both sides, to become firm.'*
Orders	The adult gives the child order, using verbs in the infinitive (e.g. do, make … .)	*'Hit this button hard!'*
Teaching	The adult explains, informs, or teaches something to the child.	*'The sun is a star on fire, not a planet like the Earth.'*
Positive feedback	The adult makes positive or pleasing interjections, praising, or positive comments to the child's performance and/or behavior.	*'Uah', 'Well Done'*
Negative feedback	The adult makes negative or sarcastic comments or interjections about the child's performance and/or behavior.	*'That won't work, I'll do it!', 'Your giraffe looks more like a dog'*

was tested. For the first and second aims, the t-student test was used to test for differences in the amount of daily time (in minutes) spent playing with their children by the parents and educators and according to children and adults' sex. Regarding the third aim, Pearson correlational statistics were used to test the association between the frequency of parents and educators' interactive scores and educators'/parents' daily time spent playing with their children. For the fourth aim, similar analyses were performed to test the correlation between parents' and educators' verbalizations and the daily time spent by these adults playing with their children. Last, Pearson correlations were used to test the association between time spent playing with their children, the number of elements composing the product, as well as the number of tools and materials used.

Results

Comparing the mean of daily time spent playing with children by parents and educators (aim 1)

Parents and educators show no significant differences in the mean daily time spend playing with their children [$M_{\text{parents}} = 44.0$; $SD_{\text{parents}} = 30.3$; $M_{\text{educators}} = 41.9$; $SD_{\text{educators}} = 28.9$; $t(76) = -.316$; *ns*].

Comparing the mean of daily time spent playing with children by both parents and educators according to children and adults' gender (aim 2)

There are no statistically significant differences in the mean daily time adults spent playing with their daughters compared with their sons [$M_{\text{daughters}} = 41.90$; $SD_{\text{daughters}} = 28.9$; $M_{\text{sons}} = 44.03$; $SD_{\text{sons}} = 30.3$; $t(76) = .102$; *ns*]. However, men (regardless if they are parents or educators) play significantly more time than women [$M_{\text{men}} = 54.9$; $SD_{\text{men}} = 33.9$; $M_{\text{women}} = 32.1$; $SD_{\text{women}} = 19.3$; $t(76) = 3.694$; $p < .001$] with their children.

Also, no significant correlations were found between parents' or educators' time spent playing and adult age, children's age, adults' education, and children's number of siblings.

Associations between parents and educators' interactive behaviors and the amount of time spent daily playing with their children (aim 3)

According to Pearson correlation analyses, educators who spent more time playing with their children were more effective in: reacting to the expressions and emotions of the child appropriately and promptly; encouraging the child to explore and analyze new problems; supporting the child appropriately; giving positive and appreciative feedback; adopting the suggestions and initiatives of the child; waiting patiently for the decisions of the child; introduces new concepts/terms. Parents' time spent playing was positively associated with the ability to thematize or adopt child themes related to relationships or personal attributes. Educators who play more with their children are more able to work together with the child with a continuous conciliation of interests, use fantasies to introduce new concepts, and promote more questions that stimulate reflection/thinking. In turn, children are less bored working with these adults. (Table 3)

Table 3. Correlations between time spent playing with children and interactive behavior during a constructive play situation for parents, educators, and both.

Dimensions	Items	Educators	Parents
Empathy	1.1 The educator/parent reacts to the expressions and emotions of the child appropriately and promptly.	.789**	.576**
	1.3 The educator/parent supports the child appropriately (without unrequested interference or rules).	.629**	.622**
	1.4 The educator/parent gives positive and appreciative feedback.	.725**	.541**
Challenging behavior	1.2 The educator/parent encourages the child to explore and analyze new problems.	.661**	.499*
	2.3 The educator/parent asks questions that stimulate reflection/ thinking.	.433*	.205
	2.4 The educator/parent introduces new concepts/terms.	.536**	.151
	3.5 The child loses interest in the activity and reveals signs of boredom.	−.384*	−.446*
Reciprocity and Involvement	2.1 The educator/parent adopts suggestions and/or initiatives of the child.	.563**	.513**
	2.2 The educator/parent waits patiently for the decisions of the child.	.608**	.563**
	2.8 The educator/parent physically faces the child and seeks eye contact.	.433*	.294
Cooperation	3.1 The educator/parent observes the child and only participates verbally.	.000	.231
	3.2 The educator/parent acts himself/herself and lets the child observe.	.279	.279
	3.3 The educator/parent and the child pursue different sub-projects in parallel activity with only partial cooperation.	−.307*	.215
	3.4 Both, the educator/parent and the child work together in an object, with a continuous conciliation of interests.	.506**	.300
Abstraction	2.5 The adult expresses themselves, mainly, in an objective-concrete, and functional way about the activity or adopts it when these come from the child.	−.061	.196
	2.6 The adult accompanies the activity with associative fantasies and narratives or adopts them when these come from the child.	.441*	.073
	2.7 The adult thematizes the relationship or personal aspects (attributes, experiences, feelings) or adopts them when these come from the child.	.333*	−.370*

*$p < .05$;**$p < .01$

Associations between parents and educators verbal behaviors and the amount of time spent daily playing with their children (aim 4)

According to Table 4, parents who spend more time playing with their children make more suggestions, give more positive feedback and less negative feedback. In the case of educators, the ones who play more time a day with their children are the same that make more content questions during Tandem situation.

Table 4. Pearson correlations between educators and parents verbal behaviors and the amount of time spent daily playing with their children.

Time spent playing with their children		
Verbalizations	Parents	Educators
Content questions	−.092	.387*
Questions about proceedings	−.080	−.057
Suggestions	.290*	−.060
Directions	.026	−.030
Orders	.128	−.133
Teaching	.204	.244
Positive Feedback	.295*	.242
Negative Feedback	−.387*	−.256

The product and the amount of time spent daily playing with their children (aim 5)

According to Person correlations, parents who spent more time playing with children manufactured a product with more elements ($r = .407$; $p = .017$). No significant associations were found for educators. Also, no significant associations were found regarding the number of tools or materials used.

Discussion

In this research, we aimed to study the relation between time spent playing with their children by adults (parents and educators) and their interactive and verbal behaviors. Our hypothesis was that reciprocity, shared pleasure, and cooperation result from adult-child interactive accumulated experience. Therefore, we expected that adults who spend more time engaging in play to be more capable of appropriately and positively interacting and communicating with a child.

Regarding *interactive behavior*, we found that parents who engage more in play tend to be more empathic, sensitive to children's needs and interests, attentive, patient, and positive. However, there are two possible explanations. First, as we expected, the time spent playing may result in adults learning about how to play, challenge, communicate, and cooperate with a child, leading to an improvement in interactive behavior. Secondly, it might be that adults who seek to spend more time playing with their children are, in the first place adults who enjoy spending time playing with their children, generate a positive interactive atmosphere, and provide rewarding experiences for themselves and their children. In other words, our study identifies the association between adults' time spent playing and (i) their verbal behavior, (ii) their interactive behavior, and (iii) the product outcome. However, the causal relations between these factors are unclear. It is important for future studies to focus on understanding these processes. We speculate that the associations found result from transactional processes, and these factors (time spent playing, verbal and non-verbal communication) are mutually affected (Tronick et al. 2020). Thus, it is possible that parents who have a better time playing with their children because they have positive experiences tend to repeat these activities. Through this process, they learn to understand the child, understand themselves as play partners, and understand the play processes.

Nonetheless, the association between time spent playing and interactive quality is more expressive for educators; not only did we find more positive associations between these factors, but these associations were more robust, which is important considering the small size of the samples. It is possible that educators transfer their professional knowledge to play with their own children, and from this experience, they may gain insights into interactions with other children (Hirsh-Pasek et al. 2010; Sandberg and Samuelsson 2003).

Also, it is worthwhile to note that men spend more time playing with their children than women, whether they are mothers or educators. These results may be influenced by the fact that women generally still perform more household and childcare tasks and, therefore, have less time to play (Faria et al. 2014). However, it is important to change parental traditional roles, since previous studies found that mothers who engage more in play and fathers who are more involved in caregiving are more likely to develop secure attachment with their children (Fuertes et al. 2016).

Therefore, it is crucial for Portuguese society to recognize and promote a more equitable distribution of parental responsibilities, both in terms of caregiving and playful interactions (Fuertes et al. 2016). This change benefits children's healthy development and strengthens the emotional and affectionate relationships between parents and children. To achieve this change and to promote a more inclusive society, a set of measures is required, such as public policies that encourage shared parental leave, awareness programs about the significance of gender equality in child-rearing, and support for families to balance family and professional responsibilities more equitably (Fuertes et al. 2019).

In this study, parents who spend more time playing with their children seem to be more committed to collaborative work with the child, able to finish the task on time and enhance the product with various components.

Playing seems to be a privilege (and perhaps even a right) for adults as well as it is for children. Parents who actively participate in play tend to exhibit more effectiveness, involvement, reciprocity, empathy, positivity, and pedagogy. This might be because they willingly engage in play or because they have discovered the best way to do it through playing. Perhaps it is time to allocate parents more time for play, enabling them to enjoy quality moments with their children and become active play partners … especially mothers!

Interestingly, regarding *verbal communication*, we found that parents who spent more time playing with their infants made more suggestions and gave more positive feedback and less negative feedback. This finding supports the interactive results of this study that show that those parents are more empathic, changeling, sensitive, patient, and attentive. Probably, positive interaction and communication led parents and children to be more involved in manufacturing a complex product with more elements (for example, a bicycle with a driver and dog on the basket of the bicycle instead of making just a bicycle). Not so expressive results were found for educator's communication and time spent playing with their children. However, it is crucial to emphasize that in previous studies (Fuertes et al. 2018), educators showed better indicators for interactive and communicative behaviors than parents. Thus, the impact of playing might be greater on parents because their challenges are greater than those of educators.

This study indicates that adults' experience with play is linked to their collaborative behavior which through sensitive interactive behaviors and by a positive, non-directive communication, is likely to result in an adult-child partnership during joint activities. Prior research indicates several significant benefits of play for children's learning, development, and interactions (Bodrova and Leong 2008; Martinez-Pons 2002; Miller and Almon 2009). Our study expands that knowledge by showing that engaging in play with children also yields advantages for adults as social partners (de Moraes et al. 2021).

Contribution for ECE practices

Play is a fundamental child's activity. Educators and Parents allow children to explore, imagine, and decide through play. Our findings suggest that playtime should be encouraged in adults as much as in children. Perhaps it is crucial to educate adults about the significance of their participation as children's play partners and encourage their involvement. To foster this participation, it may be critical to understand the preferences and interests of adults regarding play. Playground spaces, which are currently only designed

for children, should also have dimensions suitable for the adults who will play with them. Additionally, these spaces should be themed according to the interests of children and adults.

Limitations, contribution, and future studies

This study presents limitations and contributions that should be considered when evaluating the results. The first limitation concerns the correlational nature of most analyses, which prevents us from inferring causal associations and increases the likelihood of type 1 error. The second limitation regards the methodology employed. The amount of time participants spent playing with their children was collected through questionnaires. Therefore, our results rely on the participants' perceptions, which can be influenced, among other factors, by a social desirability bias. Finally, it is important to note that the dimension of study groups is small and not representative; therefore, the results cannot be generalized.

However, it is essential to emphasize the originality of the study approach in examining the importance of play from the perspective of its benefits on adult behavior. Since relationships are dyadic, the enhancement in adult verbal and non-verbal behavior can benefit them as a confident interactive which in return benefits children by having better interactions. Last, it is important to underline that this study combines an interpretative and mensurable approach.

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