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Preschoolers' free play - connections with emotional and social functioning

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Play has an important role in various aspects of children's development. However, time for free play has declined substantially over the last decades. To date, few studies have focused on the relationship between opportunities for free play and children's social functioning. The aims of this study are to examine whether children´s free play is related to their social functioning and whether this relationship is mediated by children´s emotional functioning. Seventy-eight children (age, 55- 77 months) were tested on their theory of mind and emotion understanding. Parents reported on their children's time for free play, empathic abilities, social competence and externalizing behaviors. The main findings showed that free play and children's theory of mind are negatively related to externalizing behaviors. Empathy was strongly related to children's social competence, but free play and social competence were not associated. Less time for free play is related to more disruptive behaviors in preschool children, however certain emotional functioning skills influence these behaviors independently of the time children have for free play. These outcomes suggest that free play might help to prevent the development of disruptive behaviors, but future studies should further examine the causality of this relationship.

Keywords: free play, externalizing behaviors, emotional competence, social competence, young children

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Introduction

Play refers to an activity that is predominantly pleasurable. For many children, there is no other meaning to it than just enjoying yourself, alone or in the company of others. In other words, the motivation for play is purely intrinsic, and implies active engagement. It provides children with the opportunity for escaping reality, setting new rules and exploring new avenues, extending their world and possibilities without the serious consequences of taking risks. This perceived sense of freedom and safety encourages children to discover, practice and master their competencies without the fear of failure, and therefore contributes to their adaptive functioning and well-being (e.g., Lester & Russell, 2010; Pellegrini, 2009).

The premise that play promotes healthy child development is well established among professionals and academics (e.g., Burdette & Whitaker, 2005; Ginsburg, 2007). In particular, the American Academy of Pediatrics (2007) advocates that parents should prioritize child-directed and non-structured free play (from here on referred to as free play), over adult-driven play. Apparently, in adult-driven play children tend to conform to adults' norms, which may restrain them from exploring the effectiveness and adjustment of their behaviors. Conversely, when it is the child who chooses when, how and with whom to play, directing the playtime without external constraints, there are more opportunities to follow his/her own interests, and to practice novel skills and domains, which often implies making decisions under risks and uncertainty (e.g., Gray, 2011; Hurwitz, 2003).

Despite its critical role in child development, there has been a reduction of time and opportunities for free play. Over the past half century, children's free time has declined severely in many countries in Europe and the developed countries. In a recent international survey, *Play Report* (2010), almost three quarters of the surveyed parents agreed that they do not have enough time to play with their children, with Portuguese parents reporting the highest levels of agreement, along with Chinese. From 1981 to 1997 children lost 25% of time for free play (Hofferth, 2009). In 2008, 25% of Los Angeles' kindergarten teachers reported that their children had no time available for free play (Miller & Almon, 2009).

One of the reasons for this serious decrease in free play is the current trend of institutionalizing children's free time with early stimulation and structured enrichment activities, which are believed to guarantee academic success in children. On the other hand, this decrease coincides with the rise of parents' safety concerns, particularly in those neighborhoods where road traffic, strangers or violence demand adults' constant supervision of children's playtime (Ginsburg, 2007). Even when children do have unscheduled time and safe places to play, they often engage in screen activities than in free play (Schwarzmueller & Rinaldo, 2013).

The decline of play time, has been accompanied by a decline in young people's mental health, and these decreases are believed to be connected (Gray, 2011). Indeed, persistent absence of free play is believed to negatively affect children's development (Pellis & Pellis, 2006). However, to date, only scarce empirical data has examined this relationship. Much of the research comes from studies with rats, showing that depriving an animal from play brings harmful effects in terms of emotional regulation deficits, failures in social interactions and externalizing behavior (Hol, Van den Berg, Van Ree, & Spruijt, 1999; Pellis & Pellis, 2006; Pellis & Pellis, 2007; Spinka, Newberry, & Bekoff, 2001; Van den Berg et al., 1999). Given the

obvious ethical issues of replicating these studies with children, there is a lack of research on the impact of a deficit in free playtime on children's development (Lester & Russell, 2010). In a pilot study with young people who had committed homicide, Brown (1998) revealed that 90% of them reported play deprivation and/or major play abnormalities in their childhood, compared to 10% of the non-homicidal comparison group. In light of the alarming decrease in free playtime for children in recent times, the need for empirically based knowledge concerning the relationship between time for free play and social and emotional functioning is even more urgent (Hofferth, 2009).

Free Play and Social Competence

Free play is assumed essential for positive social development (Burdette & Whitaker, 2005) (Figure 1). In free play children have the autonomy to guide their play by their interests and needs, and therefore to be the agents of their own development. Free play is the primary context for positive social-interactions, but it also enables children to act out aggressive tensions, helping them to regulate these aggressive feelings and behaviors (Peterson & Flanders, 2005). Kwon, Bingham, Lewsade, Jeon, and Elicker (2013) examined whether free or structured play would promote better outcomes in terms of parent-child interactions, language and play behaviors. Parent-child dyads were observed playing (a) freely with multiple toys available and no guidelines imposed, and (b) with a specific toy with clear rules in order to accomplish a specific goal. Overall, free play was associated with more positive outcomes. In comparison to the structured play situation, children demonstrated more complex play behaviors, engaged with their parents more positively and were more active in language interactions during free play. Barros, Silver and Stein (2009) showed that having more time to engage in free play at school had a positive effect on children's classroom behavior, compared to no/minimal opportunities for free play.

The Mediating Role of Emotional Competence

So far, we have described evidence from studies demonstrating that play and social functioning are related. Yet, the assumed relationship between play and social functioning might not be a direct one, but might be modulated by emotional skills acquired during play. The non-structured, uncertain yet safe environment in which free play occurs encourages children to seek out for novel and more advanced skills (Lester & Russell, 2010). In order to achieve and maintain the joy of playing together children have to be able to consider others' perspectives and emotions, to communicate their own ideas and emotions, and to empathically react to others. Therefore, the playful context incites children to sophisticate these emotional competencies which, in turn, is assumed to play a critical role in children's social functioning (e.g., Denham et al., 2003) (Figure 2).

Children initiate and guide their play based on their own intentions, desires, and emotions and when playing with others they communicate, negotiate and synchronize their ideas with them. In fact, children need to understand other children's perspectives or acknowledge that the other child in the play situation might have intentions, desires or beliefs that deviate from their own. In other words, play can put a strong demand on children's so-called Theory of Mind (ToM) capacities (e.g., Astington & Jenkins, 1995; Leslie, 1987,

1994; Lillard, 1998). Empirical studies show that specifically pretend play is associated with the development of ToM abilities (Dockett, 1998; Schwebel, Rosen, & Singer, 1999; Youngblade & Dunn, 1995).

Sometimes children use play to understand and communicate emotions and situations, which they find difficult to verbalize (Landreth, Homeyer, & Morrison, 2006). For example, play often involves the representation of typical contextual scenarios (e.g., the baby doll does not want to go to school so the mother gets angry), and the subsequent display of the corresponding emotions. At other times, children reenact arousing emotional situations, which help them to gain a better understanding (Galyer & Evans, 2001). In both cases, the more children play, the more they learn about the causes, consequences and expressions of emotions. In fact, the frequency of social free play at school has been related to emotion understanding abilities (Lindsey & Colwell, 2013).

Moreover, these abilities enable children to predict and understand others' behaviors, and to react to these with reciprocal and affective actions and expressions. Empathy is therefore implied in play. Indeed it seems that less empathic children find it more difficult to join others in play (Veiga et al., 2016b) and to maintain their play frame, which they often disrupt (Cordier, Bundy, Hocking, & Einfeld, 2009). Galyer and Evans (2001) also found a positive relationship between the frequency of pretend play and empathy in everyday life interactions.

Objectives of the Study

Despite the clear consensus among researchers and pediatricians that play is essential for children's positive social development (e.g., Ginsburg, 2007; Lester & Russell, 2010; Mathieson & Banerjee, 2010; Pellegrini, 2009), it is also assumed that emotional functioning has a mediatory role in the relationship between play and social competence (Veiga et al., 2016b). That is, play gives children more opportunities to practice their own emotional skills, which will help them to successfully interact with their peers (Burdette & Whitaker, 2005; Denham et al., 2003). The main aim of this study is to test these two hypotheses. Hence, we will first examine the extent to which children´s free play is related to their social competence. It is expected that children who engage more in free play, will also have better social competence (Figure 1, Model 1). Second, as this relationship between free play and social competence can be mediated by children´s emotional functioning (Figure 2, Model 2), an alternative model will be also examined. More free play will also give children more opportunity to learn about other children´s emotions or practice their own emotional skills (Burdette & Whitaker, 2005), which, in turn, is also related to better social competence (e.g., Denham et al., 2003; Halberstadt, Denham, & Dunsmore, 2001).

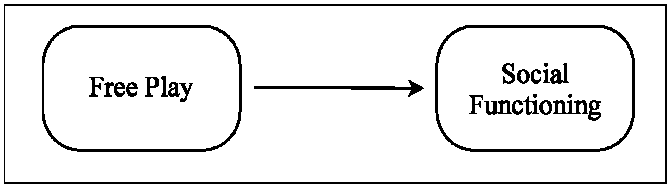

Figure 1: Model 1

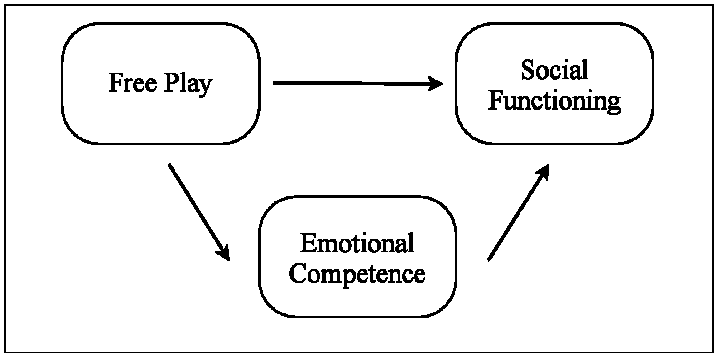

Figure 2: Model 2

Despite the concerns on the debilitating effect of the decrease in play time (Ginsburg, 2007; Gray, 2011), to the best of our knowledge, no studies have addressed the question whether time for free play contributes to adaptive emotional and subsequently social functioning. Play has been mostly studied from a school or laboratorial perspective. That is, whereas some studies have focused the relationship between different forms of play and emotional and social competencies (e.g., Lindsey & Colwell, 2013; Veiga et al., 2016a), other studies have examined the impact of interventions on play skills, which in fact emphasizes the structured and directive feature of the concept of play in these studies (e.g., Rosen, 1974; Stagnitti, O'Connor, & Sheppard, 2012). However, time for free play outside school can be equally important. Although in school all children have the same time to engage in play, at home children may be stimulated or deprived from the developmental benefits of play, which may have an impact on their social competence. Considering the increasing loss of time for free play, it is urgent to investigate whether this trend is impeding our children from developing their emotional competencies, and is subsequently affecting their social functioning. This study aims to fill in this gap in our existing knowledge by asking parents about the frequency of their children's free play outside the school context.

Method

Participants and Procedure

Children between four and six years of age have been selected for the study, because at this age play is a significant part of young children's daily lives (Pellegrini & Smith, 1998). Besides, in this developmental phase children's ToM and empathy reach their peak (Denham et al., 2003; Wellman, 1990), and social competence is assumed as a critical milestone and an important requisite skill for primary-school readiness (Denham, 2006; Guralnick, 1993). A total of 78 children participated in this research (36 boys, 42 girls; mean age = 69 months; SD 4.9 months; age range 55 – 77 months). Children referred or diagnosed with developmental disorders were excluded. Directors of a public Pre-school Institution from the Educative Region of Lisbon, Portugal, were asked for permission to conduct the current study at their school. The teachers and parents were informed about the project sign and asked to sign consent forms indicating their willingness to participate in the study. The children were then tested individually in a quiet room of the school. Testing sessions took approximately 15 minutes and were video recorded. Table II provides details on the socio-economic status of the participants.

Table I: Participants' Characteristics.

	Boys (n=36)	Girls (n=42)
Age, mean (SD)	69.47(5.36)	68.81 (4.61)
Socioeconomic status		
Paternal Job, mean (SD)[a]	1.97 (.93)	1.90 (.84)
Maternal Job, mean (SD)[a]	2.09 (.82)	2.00 (.88)
Paternal Education, mean (SD) [b]	2.67 (.71)	2.80 (.66)
Maternal Education, mean (SD) [b]	3.03 (.83)	3.00 (.77)

[a] 1 = low, 2 = average, 3 = high
[b] 1 = no/primary education, 2 = lower general secondary education, 3 = higher general secondary education, 4 = college/university

Materials

Free Play: The Free Play Scale consists of 2 items, asking parents to report in a 4-point response scale, how often their child engaged in child-driven non-structured free play during the week and during the weekend (1=less than 1 hour, 2=from 1 to 2 hours, 3=from 2 to 4 hours, 4=5 or more hours). These items were specially designed for this study and had good internal consistency (*Cronbach's alpha* = .74).

Emotional Functioning: All the 6 tasks indicating emotional functioning were originally designed in Dutch. A backward and foreward translation process was adopted to translate the scale in Portuguese

Theory of Mind was measured through a Desire Task (Rieffe, Meerum Terwogt, Koops, Stegge, & Oomen, 2001) and two False Belief Tasks. The Desire Task consisted of drawings showing four combinations of a more and a less desirable food item (i.e., carrot and a piece of cake). Children were asked to choose their preferred item. Next, participants were presented twice with a protagonist who preferred the food item consistent with the participant's preference (Common Desire condition) and twice with a protagonist who preferred to food item that was not chosen by the participant (Uncommon Desire condition). These four vignettes were presented in varying order. Participants were asked to predict which food item the boy would pick (test question) and to state which food item the boy did and did not like (control questions). Participants who responded correctly to the test question as well as the two control questions were assigned a score of 1.

The first *False Belief Task* was adapted from Baron-Cohen, Leslie and Frith (1985) by Ketelaar, Rieffe, Wiefferink and Frijns (2012) and consisted of a short illustrated story about a boy who put his toy in a bicycle basket and while he was away, a girl threw it behind a bush. Next the boy returned. After being presented to the story, children were asked to tell where the boy would look for his plane (test question), where is the plane and where did the boy put the plane when he went away (control questions).

The second *False Belief Task* was based on a paradigm designed by Terwogt, Rieffe, Tuijn, Harris, and Mant (1999). Two boxes were put at once on the table: an empty plastic box with an image of colored pencils in the lid and a small round white box with crayons. Children were asked to pick the colored pencils. After children pointed to the pencil's image box, they were told that there was nothing inside and that the pencils were in the white round box. The pencils in the round box were shown, and children were asked to tell

what they have thought, when the boxes were closed, the pencils were, and where were the pencils then (control questions). After other tasks were performed, children were presented a teddy bear, who also wanted to draw. Children were asked to tell which box does Bear pick (test question) and why would he pick such box. A total score was obtained calculating the mean of the scores obtained in the three tasks.

Emotion Discrimination of facial expression was examined, following the protocol by Wiefferink, Rieffe, Ketelaar, De Raeve, and Frijns (2013). Children were given six cards with different images of two categories that they had to sort in two columns. In order to reassure that children were able to sort, two neutral tasks were presented consisting of discriminating cars from flowers, and faces with hats from faces with glasses. Next, children were asked to discriminate facial expressions with different valences (happy versus sad) and within the same valence (sad versus angry). The cards that were placed correctly were counted with a maximum score of 3 per category.

Emotion Attribution in a situational context (Wiefferink et al., 2013) was measured using eight illustrated emotion-evoking vignettes, designed to evoke happiness, anger, fear and sadness. Each emotion was represented twice. An example of a story is: 'Someone kicks over the tower of the boy.' Children were asked how the protagonist would feel (Question 1, verbal condition) and how the protagonist would look, whereby children were shown cards of a sad/angry/happy/scared face (Question 2, visual condition). The number of emotions correctly attributed was recorded, with a maximum score of 16.

The *Empathy Questionnaire* (Rieffe, Ketelaar, & Wiefferink, 2010) is a parent report, containing 20 items, reflecting the degree to which children showed contagion, attention and prosocial reactions towards others' emotions over the last two months (e.g., 'When another child gets upset, my child tries to cheer him/her up') on a 5-point response scale. The internal consistency of the scale was good (*Cronbach's alpha* = .84).

Social Functioning: Social Functioning was obtained through the Portuguese version of The Strengths and Difficulties Questionnaire (Goodman, 1997). Parents rated their children's behavior (e.g., 'Often fights with other children or bullies them') on a 5-point scale. Following Wiefferink, Rieffe, Ketelaar, and Frijns (2012), two composite scales were obtained: *Externalizing Behaviors* (comprising the SDQ scales behavior problems and hyperactivity) and *Social Competence* (comprising the SDQ scales prosocial behavior and peer problems recoded into a positive scale). The internal consistency of the scales was good (*Cronbach's alpha* = .80).

Statistical Analyses

Descriptive data (mean and standard deviation) were gathered for boys and girls separately on all variables. In order to answer the research question, relations between the different measures of play time, emotional and social functioning were examined by means of Pearson's correlations. Additionally, to examine the contributions of the different variables to the prediction of Social Functioning indices, two hierarchical regression analyses were carried out. Age, Free play (Model 1), Empathy, Emotional Attribution and Theory of Mind (Model 2) were considered as the predictor variables, and Social Competence and Externalizing Behaviors as the dependent variables.

Table II: Internal Consistencies, Means and SDs for Questionnaires of Play, Emotional and Social Functioning.

Instruments (min-max)	No of items	Cronbach's Alpha	Inter-item correlation	Mean scores (*SD*)	
				Boys (*n* = 36)	Girls (*n* = 42)
Parent Questionnaires					
Free Play (1-4)	2	.74	.59	2.76 (.79)	2.76 (.72)
Empathy (1-5)	20	.84	.21	2.60 (.52)	2.86 (.36)
Social Competence (1-3)	7	.65	.21	2.53 (.27)	2.69 (.28)
Externalizing Behaviors (1-3)	10	.72	.17	1.71 (.35)	1.63 (.31)

*$p \leq .001$

Results

Table III shows the correlations between Age, Free Play, Theory of Mind, Emotion Understanding (Emotion Discrimination and Emotion Attribution) and Empathy, and Social Functioning indices (i.e., Social Competence and Externalizing Behaviors). Social Competence was negatively associated with Externalizing Behavior and positively associated with Empathy. Externalizing Behavior was negatively related with Free Play, Theory of Mind and Emotion Attribution. Additionally, Free Play was positively associated with Emotion Discrimination.

Results of the hierarchical regression analyses of Free Play and emotional competencies in social functioning indices (Table IV) show that, consistent with the correlation analysis, Age and Free Play did not significantly contribute to the prediction of Social Competence. However, adding Empathy, Theory of Mind and Emotion Attribution in Model 2 resulted in a significant adjusted R square with an increase of the explained variance from 0% to 22% (p = .002). As in the correlation analysis, only Empathy was positively associated with Social Competence.

Age and Free Play contributed negatively to the prediction of Externalizing Behaviors, accounting for 14% (p = 0.05) of the explained variance. The subsequent entry (Model 2) of Emotional Competence Measures resulted in an increase of the explained variance from 14% to 17% (p = .007). Engagement in Free Play and Theory of Mind skills were negatively associated with Externalizing Behaviors. Although Emotion Attribution was correlated with Externalizing Behaviors (Table III), its effect on Externalizing Behaviors was no longer significant in this regression model.

Table III: Correlations between Free Play, Empathy, Emotion Understanding and Theory of Mind and Social Functioning Indices

	2	3	4	5	6	7	8
1. Age	-.05	.10	.25*	.01	.11*	.09	.15
2. Free Play	-	.15	.23*	.16	-.04	.08	-.20*
3. Theory of Mind		-	.14	.06	.09	.11	-.26*
4. Emo. Discrimination			-	-.02	.10	.12	-.12
5. Emotion Attribution				-	.00	.12	-.21*
6. Empathy					-	.44***	-.08
7. Social Competence						-	-.23*
8. Externalizing Behavior							

*p< .05; ** p< .01; *** p< .001

Table IV: Hierarchical Regression Analyses for Social Functioning.

	Social Competence			Externalizing Behaviors		
	ΔR^2	*B*	*p*	ΔR^2	*B*	*p*
Model 1	.00		.359	.14		.005
Age					.013	.094
Free Play					-.157	.005
Model 2	.22		.002	.17		.007
Age		.014	.029		.015	.054
Free Play		.006	.892		-.139	.011
Theory of Mind		.061	.597		-.299	.034
Emotion Attribution		.366	.094		-.080	.754
Empathy		.287	<.001		-.062	.459

Note. B-coefficients only shown when Δ R^2 for Model was significant.

Discussion

Play is the daily of children, where they learn, explore and test new skills. However, children have been given less and less time to play, especially to freely direct their play. In this study we examined the extent to which time for free play is associated with two indices of social functioning: social competence and externalizing behaviors, and whether these associations are mediated by emotional competence, that is, Theory of Mind, emotion discrimination, emotion attribution and empathy. The outcomes of this study showed that more free play in preschool children is indeed related to fewer disruptive behaviors. Children's Theory of Mind understanding added negatively to the relation with disruptive behaviors, over and above the

unique contribution of free play. Possibly, during free play children feel the freedom and the safe distance they need to express unacceptable impulses in socially acceptable ways. This outcome is coherent with outcomes from animal research studies that have been revealing the critical function of play in the regulation of externalizing behaviors such as aggression (e.g., Suomi, 2005). Besides, aggression has been also related to lower social understanding skills, such as an impaired ability to discriminate facial expressions (Denham et al., 2001). The outcome of our study that emotion recognition was positively associated with free play seems to support the idea that social skills further develop during free play. Indeed, decreasing play time may have serious consequences; it might be giving rise to children's externalizing disorders. Nevertheless, future studies with a longitudinal design could further investigate the validity of the causal relationships that we here assume.

The fact that empathy, but not free play was related to social competence contradicts the recognized assertion of the crucial role of free play in the development of socially competent children (Mathieson & Banerjee, 2010). The sense of freedom experienced during free play generates a feeling of autonomy and of self-capacity that can be helpful during stressful social situations. However, this might not be enough for social competence, i.e., for succeeding in peer interactions (Rose-Krasnor, 1997). Play and social competence have been linked through two main premises. First, play is the principal context for peer interactions. Second, the capacity to play with peers denotes social ability (Fantuzzo, Sekino, & Cohen, 2004; Gagnon & Nagle, 2004).

However, in this study we approached free play without distinguishing its social level. Possibly, only social free play (i.e., with siblings, neighbours, etc.) contributes to social competence, by providing opportunities to practice perspective-taking abilities and negotiating skills, particularly when conflicts with peers arise and children need to apply sophisticated skills of getting along with others, maintaining a positive play atmosphere. Indeed, several studies have associated solitary free play with social maladjustment (Choo, Xu, & Haron, 2011; Coplan, DeBow, Schneider, & Graham, 2009; Coplan, Gavinski-Molina, Lagacé-Séguin, & Wichmann, 2001; Veiga et al., 2016b). Moreover, the type of play (e.g., pretend, rough-and-tumble, exercise) in which children engage might also be an important aspect to consider in further studies as not all kinds of play promote social competence (Veiga et al., 2016a). For example, preschoolers who more frequently engage in rough-and-tumble play are also seen by their peers as less likable (Hart, DeWolf, Wozniak, & Burts, 1992; Ladd & Price, 1987).

Studying a particular preschool made it possible to examine the relationship between parental options regarding free play opportunities and children's social-emotional skills, by guaranteeing that all children had the same opportunities for free play at school. However, a future study with larger and more heterogeneous sample would be important to the generalizability of these findings, as well as to detail the impact of free play at both contexts, i.e., at preschool and at home. Future longitudinal research is also required to further explore the nature of the relationship between free play and externalizing behaviors. Although play has been claimed as the natural context in which children act out their emotions so they can better regulate them (e.g., Ginsberg, 1993; Rubin, Burgess, Kennedy, & Stewart, 2003), it is also possible that children who more frequently engage in free play, are those who are also better behaved. It is quite understandable that parents of disruptive

children will have the need to structure and guide their children's play time, in order to contain and moderate externalizing behaviors.

Conclusion

The present study gives an important contribution to existing literature connecting free play and children's development, specifically social functioning. Our findings are particularly important in the recent era of overscheduled families. The negative contribution of free play to the manifestation of externalizing behaviors should make parents rethink the importance of the time for child-directed non-structured free play. Young children learn by doing, by exploring the world, by using their imagination, that is, young children learn through play. Overscheduling children and overusing electronic devices may be stifling the unique opportunity children have to exteriorize impulses in playful, active and socially acceptable ways.

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