



Learning Through Play

PETER K SMITH, BA, PhD
ANTHONY PELLEGRINI, PhD

Goldsmiths, University of London, UNITED KINGDOM
University of Minnesota, USA

(Published online September 12, 2008)

Topic *Play*

Introduction

We define play, review the main types of play and their developmental benefits in various areas.

Subject: What is Play?

Play is often defined as activity done for its own sake, characterized by means rather than ends (the process is more important than any end point or goal), flexibility (objects are put in new combinations or roles are acted out in new ways), and positive affect (children often smile, laugh, and say they enjoy it). These criteria contrast play with *exploration* (focused investigation as a child gets more familiar with a new toy or environment, that may then lead into play), *work* (which has a definite goal), and *games* (more organized activities in which there is some goal, typically winning the game). Developmentally, games with rules tend to be common after about 6 years of age, whereas play is very frequent for 2- to 6-year-olds.

The Research Context

Almost all children play, except those who are malnourished, deprived, or have severe disabilities. Between 3% and 20% of young children's time and energy is typically spent in play¹, more so in richly provisioned niches.² If young children are temporarily deprived of play opportunities, for example being kept in a classroom, they play for longer and more vigorously afterwards.¹

As children invest time and energy in play, and there are opportunities for learning when they do play, there seems to be a need for play. This is true of young mammals generally, although other mammals show much less variety of play forms than human children. These findings suggest that play has developmental benefits. Benefits might be immediate, long-term, or both. However, the exact role of play in learning is still debated. A prevailing "play ethos"^{3, 4} has tended to exaggerate the evidence for the essential role of play. Nevertheless, correlational and experimental evidence suggest important benefits of play, even if some benefits can also be obtained in other ways.

Locomotor play, including exercise play (running, climbing, etc.), involves large body activity and is generally thought to support physical training of muscles, for strength, endurance, and skill. Exercise play increases from toddlers to preschool and peaks at early primary school ages, when the neural and muscular basis of physical

coordination and healthy growth is important, and vigorous play obviously provides good opportunities for this;⁵ later, it declines. There is evidence that active, playground-type breaks can help young children concentrate better at subsequent sedentary tasks,¹ consistent with the cognitive immaturity hypothesis that the “need to exercise helps young children to space out cognitive demands for which they have less mature capacities.”⁶

Social play refers to playful interactions between children and parents or caregivers in children up to 2 years old, but increasingly with other children as social play increases dramatically from 2 to 6 years of age. At first, playing with one partner is complex enough, but by 3 or 4 years old a play group can consist of three or more participants, as children acquire social coordination skills and social scripts. *Parallel play*, common in 2- and 3-year-olds, is when children play next to others without much interaction. Some play is solitary.⁷ This type of play can be physical, incorporate objects or language, be pretend, or include all of these aspects. *Rough-and-tumble play*, including play fighting and chasing, can look like real fighting, but in play fighting children are often laughing, kicks and blows are not hard or do not make contact, and it is usually done with friends.

Object play refers to playful use of objects such as building blocks, jigsaw puzzles, cars, dolls, etc. With babies, this play is mouthing objects and dropping them. With toddlers, this is sometimes just manipulating the objects (e.g., assembling blocks), but sometimes involves pretend play (e.g., building a house, feeding a doll). Play with objects allows children to try out new combinations of actions, free of external constraint, and may help develop problem solving skills. Any benefits of object play need to be balanced against those of instruction, bearing in mind the ages of the children, the nature of the task, and whether learning is for specific skills, or a more general inquisitive and creative attitude. The more marked benefits may be for independent and creative thought,⁸ though the evidence is equivocal.⁹

Language play At around 2 years old, toddlers often talk to themselves before going to sleep or upon waking up. This is playful, with repetition and sometimes laughter. Children use language humorously at 3 and 4 years old. (“I’m a whale. This is my tail.” “I’m a flamingo. Look at my wingo.”) Language skills--phonology (speech sounds), vocabulary and meaning (semantics), grammar (syntax), and pragmatics (using language appropriately in social situations)--are rapidly developing in the preschool years. Some phonological skills can be developed in the solitary monologues when children babble to themselves in their cot, but most benefits of language learning probably come in sociodramatic play.

Pretend play involves pretending an object or an action is something else than it really is. A banana is a telephone, for example. This play develops from 15 months of age with simple actions, such as pretending to sleep or putting dolly to bed, developing into longer story sequences and role play. *Sociodramatic play*, common from around 3 years of age, is pretend play with others, sustained role taking, and a narrative line. It can involve understanding others’ intent, sophisticated language constructions, and development of (sometimes) novel and intricate story lines. Children negotiate meanings and roles (“You be daddy, right?”) and argue about appropriate behavior (“No, you don’t feed the baby like that!”).

Many learning functions have been advanced for pretend and especially sociodramatic play.¹⁰ One hypothesis is that it is useful for developing preliteracy skills, such as awareness of letters and print, and the purpose of books.^{11, 12, 13} The narrative structure of sociodramatic play sequences mirrors the narratives of story books. For these benefits, some structuring by adults is helpful (in maintaining a story line, having suitable materials including plastic letters, books, etc.).

Another hypothesis is that pretend play enhances emotional security. A child who is emotionally upset, for example, by parents arguing or the illness or death of someone in the family, can work through the anxieties by acting out such themes in pretend play, with dolls for example. Play therapists use such techniques to help understand children's anxieties; and most therapists believe that it helps the child work towards a resolution of them.¹⁴

A relatively recent hypothesis is that pretend play enhances theory of mind development. Theory of mind ability means being able to understand (represent) the knowledge and beliefs of others; that is, that someone else can have a different belief or state of knowledge from yourself. This does not happen until the age of late 3 or 4 years old. Social interaction with age-mates seems to be important for this, and social pretend play (with siblings or with other age-mates) may be especially helpful, as children negotiate different roles and realize that different roles entail different behaviors.¹⁵ While these benefits are plausible, there is little experimental evidence; the correlational evidence suggests that social pretend play is helpful but is only one route to acquiring theory of mind.¹⁶

Key Research Questions and Gaps

We lack descriptive information on the time and energy spent in various forms of play. Without this we cannot understand the putative benefits of play. Further, while play may have many positive benefits, this is not always so. Play fighting is viewed ambivalently by nursery staff as many staff find it noisy and disruptive, and believe it often leads to real fights. In fact, research suggests that during the primary school years, only about 1% of rough-and-tumble play bouts turn into real fighting. However, this is more frequent for some children who lack social skills and are rejected by playmates. These children often respond to rough-and-tumble play aggressively.¹⁷

A related area of concern has been *war play* (play with toy guns, weapons, or combat superhero figures).¹⁸ Carlsson-Paige and Levin¹⁹ contrasted a developmental view that play including war play is a primary vehicle for children to express themselves, with a sociopolitical view that children learn militaristic political concepts and values through war play. There is not a large research base on which to make informed judgments about whether the concerns are justified. Dunn and Hughes²⁰ found that 4-year-old, hard-to-manage children showed frequent violent fantasy and the extent of this was related to poorer language and play skills, more antisocial behaviour, and less empathic understanding at the age of 6 years. This does suggest concerns for the effects of such play on disturbed children.

Implications

In contemporary societies, adults are usually involved in children's play, providing play environments and toys. Preliteracy benefits of play can be enhanced by providing paper, crayons, and plastic letters. Exercise benefits of play can be enhanced by

providing challenging forms of climbing apparatus. Creative play can be enhanced by providing lego-type bricks to stimulate creative construction activities.

Nursery staff can work with children to structure their play and give it more educational value by including activities such as jigsaw puzzles, color and pattern matching games, and materials like water, sand, and clay that children can manipulate and by enhancing sociodramatic play.¹⁰ Such *play tutoring* involves providing suitable props (play house, clothes for role play, hospital equipment, etc.), taking children on visits to stimulate their imagination (to a hospital, zoo, etc.), and suggesting play themes and helping children to develop them. Play training can be one enjoyable and effective way of improving skills in language development, cognitive development, creativity, and role-taking.²¹

Most experts in play research believe that a balanced approach is best. There should be good opportunities for genuine free play. Also, there should be some active involvement of adults in structuring some play, as in play tutoring. And, increasingly, as children get older, there is a need for direct instruction. The balance between types of play is a matter of continuing debate. As all types of play provide different opportunities, a blended program in preschool, with plenty of opportunities for free and structured play, is likely to be best for children and to provide them with a happy and stimulating environment in which they can flourish.

REFERENCES

1. Pellegrini AD, Smith PK. Physical activity play: The nature and function of a neglected aspect of play. *Child Development* 1998;69(3):577-598.
2. Burghardt GM. *The genesis of animal play: Testing the limits*. Cambridge, MA: MIT Press; 2005.
3. Smith PK. Children's play and its role in early development: A re-evaluation of the 'Play Ethos'. In: Pellegrini AD, ed. *Psychological Bases for Early education*. New York, NY: John Wiley & Sons Ltd.; 1988: 207-226.
4. Smith PK. *Children and Play*. New York, NY: J. Wiley. In press.
5. Byers JA, Walker C. Refining the motor training hypothesis for the evolution of play. *American Naturalist* 1995;146(1):25-40.
6. Bjorklund D, Green B. The adaptive nature of cognitive immaturity. *American Psychologist* 1992;47(1):46-54.
7. Parten M. Social participation among preschool children. *Journal of Abnormal and Social Psychology* 1932;27:243-269.
8. Bruner JS. The nature and uses of immaturity. *American Psychologist* 1972; 27(8):687-708.
9. Pellegrini AD, Gustafson K. Boys' and girls' uses of objects for exploration, play, and tools in early childhood. In: Pellegrini AD, Smith PK, eds. *The Nature of Play: Great Apes and Humans*. New York, NY: Guilford Press; 2005: 113-138.
10. Smilansky S. *The effects of Sociodramatic Play on Disadvantaged Preschool children*. New York: Wiley; 1968.
11. Pellegrini A, Galda L. Ten years after: A reexamination of symbolic play and literacy research. *Reading Research Quarterly* 1993;28(2):163-175.
12. Roskos K, Christie J, eds. *Play and Literacy: Research from Multiple Perspectives*. 2nd ed. Hillsdale, N.J.: Lawrence Erlbaum Associates; 2007.
13. Zigler EF, Singer DG, Bishop-Josef S.J, eds. *Children's Play: The Roots of Reading*. Washington, DC: Zero to Three Press; 2004.
14. Porter ML, Hernandez-Reif M, Jessee P. Play therapy: A review. *Early Child Development and Care*. In press.
15. Dunn J, Cutting AL. Understanding others, and individual differences in friendship interactions in young children. *Social Development* 1999;8(2):201-219.
16. Smith PK. Social and pretend play in children. In: Pellegrini AD, Smith PK, eds. *The Nature of Play: Great Apes and Humans*. New York, NY: Guilford Publications; 2005:173-209.
17. Pellegrini AD. The rough play of adolescent boys of differing sociometric status. *International Journal of Behavioral Development* 1994;17(3):525-540.
18. Holland P. *We don't Play with Guns here: War, Weapon and Superhero Play in the Early Years*. Maidenhead, UK: Open University Press; 2003.
19. Carlsson-Paige N, Levin DE. *The War Play Dilemma*. New York, NY: Teachers College Press; 1987.
20. Dunn J, Hughes C. "I got some swords and you're dead!": Violent fantasy, antisocial behavior, friendship, and moral sensibility in young children. *Child Development* 2001;72(2): 491-505.
21. Smith PK, Dalgleish M, Herzmark G. A comparison of the effects of fantasy play tutoring and skills tutoring in nursery classes. *International Journal of Behavioural Development* 1981;4(4): 421-441.

To cite this document:

Smith PK, Pellegrini A. Learning through play. In: Tremblay RE, Barr RG, Peters RDeV, Boivin M, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2008:1-6. Available at: <http://www.child-encyclopedia.com/documents/Smith-PellegriniANGxp.pdf>. Accessed [insert date].

Copyright © 2008

This article is funded by the Centre of Excellence for Early Childhood Development and the Canadian Council on Learning's Early Childhood Learning Knowledge Centre.

