

The Varieties of Play Match Requirements of Human Existence

Children play at the skills they need most for survival.

Posted Oct 01, 2008: Psychology Today

From an evolutionary perspective, the main purpose of play is education. Play is nature's way of ensuring that young mammals will practice the skills they need for survival. You can predict what a young mammal will play at by knowing what it must learn. Young carnivores, such as lions and tigers, play at stalking, chasing, and pouncing. Young zebras and other animals that are preyed on by lions and such play at running, dodging, and escaping. Young monkeys play endlessly at chasing one another and swinging from trees. Young humans--who have far more to learn than do the young of any other species--play in far more ways than do the young of any other species.

This is the first of a series of essays on the educational value of human play. My point in this installment is that the universal forms of human play--the forms that can be seen in any human culture--match well with the varieties of skills that human beings everywhere must develop to survive and thrive. From an evolutionary perspective, that is no accident.

As a caveat, I should note at the outset that the varieties of play that I list and describe below are not mutually exclusive categories. Any given instance of play that you observe is likely to combine more than one of these varieties. But I think you will recognize, in the list, the range of types of play that we take more or less for granted in children, because we see them everywhere. I ask, as you read this essay, to not take play for granted; think about its extraordinary value to the developing child.

Locomotor play

All, or at least nearly all, young mammals engage in *locomotor play*, such as playful running and leaping, and young humans are no exception. People everywhere must learn to control their own bodies, to move quickly and effectively through space, to avoid falls, and to recover from falls that inevitably occur. As I noted in a [previous essay](#) in this blog, toddlers spend an average of six hours a day at playful walking--walking for no other purpose than the fun of it. In the process they become experts at the universal human skill of two-legged walking. After walking comes running, jumping, climbing, swinging, and--depending on the environment and culture--swimming, bicycling, roller blading, ice skating, cartwheeling, and all sorts of other ways of experiencing the thrill of movement. Children, and adults too, do all this for no other reason than fun, but in the process they acquire skills that may save their lives many times in the future.

Rough and tumble play

Overlapping with locomotor play is *rough-and-tumble play*, playful chasing and fighting, which we also share with other mammals. Like all mammals, we are physical beings that need fit bodies for life's work and emergencies. Rough-and-tumble play builds strength, coordination, and endurance. Children on their own initiative don't lift weights or run laps to keep in shape. Nothing would be more dull and wearisome than that. Instead, they chase one another around, and maybe wrestle or play at sword fighting, to happy exhaustion, many times per day if they have the opportunity. Nothing is more fun than that!

In most cultures boys and girls engage about equally at playful chasing, but boys everywhere engage in more playful fighting than do girls. Play fighting is sometimes confused with real fighting by adults who don't look closely at it, but for anyone who looks closely the distinction is clear. In fact, it is not unreasonable to say that play fighting is the opposite of serious fighting. In a real fight the purpose is to hurt the other person and/or make that person run away. In a play fight the purpose, quite deliberately, is to go through fighting motions without hurting the other person or making that person want to leave. Some researchers have argued that a major function of play fighting, beyond pure physical exercise, is to help children learn restraint and especially to help boys learn how to be in close and peaceful proximity with other boys. Play fighting is one of the ways by which boys bond. We might think of it as boys' means of hugging. But I'll save that story for a future essay.

Language play

We are the linguistic animal, and so we have *language play* that teaches us to talk. Nobody has to teach language to young children. They learn it on their own, through play. The earliest stages of language play involve the production of language-like sounds. At about 2 months of age, infants begin to make repeated, drawn-out vowel-like cooing sounds--*ooh-ooh-ooh, eeh-ahhh-eeh-ahhh*. At about 4 or 5 months of age, the cooing gradually changes to babbling, as the baby begins to put consonant and vowel sounds together--*ba-ba-boo-ba-ga-da-da-da-badada*. Such cooing and babbling is clearly play. It only occurs when the baby is happy; it has structure; it is self-motivated; it is not done to get something--it is done purely for its own sake. All that makes it play. With time, the babbled sounds come increasingly to resemble the sounds of the child's native language, and by about one year of age the child's first words appear and may be repeated over and over in a playful manner.

As children grow older they begin to play with simple grammatical constructions. Many years ago, as research for her doctoral dissertation, Ruth Hirsch Weir recorded and analyzed the "crib speech" of her son Anthony, when he was 28 to 30 months of age. Because this speech occurred when Anthony was alone in his crib, it clearly did not involve an attempt to communicate; it was pure play. Some of Anthony's crib speech is reminiscent of the repetitive phrases, with systematic variation, that you might hear in recordings made for self-instruction in a foreign language. Here's an example [From Weir's book, "Language in the Crib."]:

"What color? What color blanket? What color mop? What color glass? ... Not the yellow blanket, the white. It's not black, it's yellow. Not yellow, red."

In the first part of this sequence Anthony is playing with his new ability to ask about the colors of things and is consolidating his understanding of color words. In the second part he continues playing with color words, but now the focus is on negating and correcting.

Playful language practice doesn't occur just when children are alone; it also occurs in pseudo-communicative exchanges with others. The famous developmental psychologist Jean Piaget gave, as an example, the following exchange between his 3-year-old daughter and himself [in his book, "Play, Dreams, and Imitation in Childhood"]:

What's that? (she asked, looking at a picture) -- *It's a cowshed.* -- *Why?* -- *It's a house for cows.* -- *Why?* -- *Because there are cows in it, do you see?* -- *Why are they cows?* -- *Don't you see?*

They've got horns. -- *Why have they horns?* ... and so on, and so on.

The daughter here was almost certainly not asking questions to get information; rather, she was playfully exercising her newfound capacity to ask questions and elicit responses from her father. All of us who have spent time with young children have experienced similar exchanges. They can be frustrating or fun, depending on whether we take them as serious questions or recognize them as linguistic play.

With still further development, children's language play can involve puns, rhymes, alliterations, and deliberate distortions of grammar, all of which help the child consolidate his or her growing understanding of linguistic sounds, words, grammar, and meanings. Listen closely to the playful language of any young child, alone or in pseudo-dialogues, and you will find many instances of practice at constructions that represent a joyful challenge to the child.

Exploratory play

We are *Homo sapiens*, the wise animal, who makes sense of the world, and so we have *exploratory play*, which combines playfulness with curiosity to help us understand our surroundings. Newborn babies, even on their first day out of the womb, look at patterns that are brand new to them in preference to patterns that they have already seen earlier in the day. Within a few weeks, babies start putting things within their reach into their mouths. Like puppies, they examine things orally, by mouthing them. By about 5 or 6 months of age, they transition to the uniquely human way of examining objects, with hands and eyes together. Put a novel object in reach of a 6-month-old and she will pick it up, hold it before her eyes, look at it, squeeze it, rub it, turn it over, pass it from hand to hand, shake it, pound with it, and act on it in various other ways that seem well designed to learn about its properties.

We come into the world as little scientists, pre-programmed to try to understand everything around us. Nobody has to tell us to explore and learn about our environment; we do it naturally, all our lives, in increasingly sophisticated ways, unless someone turns it into work by trying to make us do it.

Constructive play

We are the animal that survives by building things—including shelters, tools, devices to help us communicate, and devices to help us move from place to place--and so we have *constructive play*, which teaches us to build. In constructive play a child strives to produce some object that he or she has in mind. A child making a sandcastle, or creating a spaceship from blocks, or drawing a giraffe, is engaged in constructive play.

In many cases the objects built in constructive play are miniature or pretend versions of "real" objects that adults in the culture build and use. Hunter-gatherer children make small versions of huts, bows and arrows, blowguns, nets, knives, slingshots, musical instruments, digging sticks, rafts, rope ladders, mortars and pestles, and baskets in their play. Through such play they become good at building, and by the time they are adults they are making well-crafted, useful versions of the real things.

Constructive play can be with words and sounds as well as substances, and people everywhere, adults and children alike, produce stories, poems and melodies in their play. Among the countless kinds of constructions playfully made by children in our culture today are computer programs, written stories, and secret codes with invented symbol systems. Constructive play can be intellectual as well as manual.

Pretend and sociodramatic play

We are the imaginative animal, able to think of things that are not immediately present, and so we have *fantasy play*, or *pretend play*, which builds our capacity for imagination. In this type of play children establish certain propositions about the nature of their pretend world and then play out those propositions logically. In doing so they are exercising the same capacities that allow us, as adults, to think about things that are not immediately present, which is what we all do when we plan for the future and what scientists do when they develop theories to explain or predict events in the real world.

We are an intensely social species, requiring cooperation with others in order to survive, and so we have many forms of *social play*, which teach us to cooperate and to restrain our impulses in ways that make us socially acceptable. The social form of pretend play--in which children engage in elaborate joint pretend ventures and enact roles and scenes that they make up together--is called *sociodramatic play*. In such play, children are doing much more than just exercising their imagination. As they enact roles, they are exercising their ability to behave in accordance with shared conceptions of what is or is not appropriate. If you are the mommy, or the daddy, or the pet dog in a game of house, then you must behave in accordance with the players' shared understanding of how mommies, or daddies, or pet dogs behave. You cannot behave impulsively; you must think about what you are doing to be sure it will be acceptable. I will have more to say in a later essay about play as exercise in self-control. The learning of self-control is perhaps the most important general function of all sorts of human play.

Children in sociodramatic play are also practicing the art of negotiation. As they decide who will play what roles, who will get to use which props, and just what scenes they will enact and how, the players must all come to agreement. Indeed, a basic rule of all social play is that everyone must agree. Anyone left unhappy by a decision will quit, and if everyone quits there will be no game. Since the motive to play is strong, the motive to keep the other players happy is strong. That is true of all social play, but it is especially apparent in the negotiations that are observed in sociodramatic play. Keeping our companions happy, so they stay with us and continue to support us through life, is surely one of the most valuable of human survival skills, and children continuously practice that skill in social play.

Games with explicit rules

We are the rule-abiding animal, able to keep contracts and follow explicit, socially agreed-upon rules, and so we play *formal games*, which teach us to follow explicit rules.

All play to some degree involves rules. Rules in the minds of the players give structure to any form of play. In play fighting, for example, a basic rule is that you don't really hurt the other person--you don't kick, bite, or scratch, and if you are the larger and stronger of the two you don't use your full force. In constructive play a basic rule is that you must attempt to depict some object that you have visualized in your mind; you don't just scribble or pile blocks randomly. In sociodramatic play a general rule is that you must act in accordance with shared understanding of how the person or animal you are pretending to be would act. The rules in all of these forms of play are mostly *implicit*; they are understood but unstated. In formal games the rules are *explicit*, meaning that they are clearly stated, in categorical terms, in a way that makes it possible for observers to agree on whether or not the rules have been followed. All competitive games have such rules, as they are necessary to make the competition fair, but many non-competitive games do too. Dances and cooperative games like jump rope (of the variety where the goal is to keep the rope spinning and the jumper jumping as long as possible) are examples of cooperative games with formal rules. Human beings everywhere must follow explicit as well as implicit rules to function socially. For example, a cooperative hunt may involve explicit rules concerning what each member of the hunting party must do and when. People also need to abide by rules or laws designed to keep peace within the community, and they need to follow through on social agreements (oral or written contracts) made between themselves and others. These crucial social skills are exercised in formal games.

When children are free to play, have sufficient time to play, and have playmates of a range of ages with whom to play, they play in all of these ways. In doing so, they learn all of the basic skills that are required of human beings everywhere--physical skills, linguistic skills, intellectual skills, social skills, self-control, and law-abiding skills. We cannot teach any of these skills to children. All we can do is provide the conditions in which they can teach themselves, using the joyful, playful means designed by evolution. Our job is to make sure that children have lots of time and opportunity to play. They'll take care of the rest.

Peter Gray, Ph.D., research professor at Boston College, is author of *Free to Learn* (Basic Books, 2013) and *Psychology* (Worth Publishers, a college textbook now in its 7th edition).

