
Reflections on Pretend Play, Imagination, and Child Development

An Interview with Dorothy G. and Jerome L. Singer

Dorothy G. Singer and Jerome L. Singer have been studying the imaginative play of children for more than forty years, chiefly at Yale University. Currently Dorothy G. Singer is Senior Research Scientist Emeritus and Jerome L. Singer is Professor Emeritus in the Department of Psychology at the university. Both are Fellows of the American Psychological Association. The Singers also served for many years as codirectors of Yale's Family Television Research and Consultation Center. They have published widely individually, with each other, and with others, contributing hundreds of articles, chapters, and other scholarly works. Dorothy G. Singer's books include *The House of Make Believe: Children's Play and the Developing Imagination* (1990), *Playing for Their Lives: Helping Troubled Children through Play Therapy* (1993), *Make-believe: Games and Activities for Imaginative Play: A Book for Parents, Teachers, and the Young Children in Their Lives* (2001), and *Play=Learning: How Play Motivates and Enhances Cognitive and Social-Emotional Growth* (2006). Jerome L. Singer's books include *The Child's World of Make Believe: Experimental Studies of Imaginative Play* (1973), *Imagery and Daydream Methods in Psychotherapy* (1974), *The Inner World of Daydreaming* (1975), *The Human Personality* (1984), and *Imagery in Psychotherapy* (2005). Together the Singers wrote *Television, Imagination, and Aggression: A Study of Preschoolers* (1981) and *Imagination and Play in the Electronic Age* (2005), and they edited the *Handbook of Children and the Media* (2012), a collection that the *Journal of Contemporary Psychology* called the "most comprehensive resource available about all aspects of children's media." In this interview, the Singers reflect on their own early play experiences, their careers and long collaboration in studying play and child development, and the connections that bind pretend play, imagination, and child development. **Key words:** child development and play; children and the media; daydreaming; imaginative play; make-believe play; pretend play

American Journal of Play: How did you first become interested in play?

Dorothy and Jerome Singer: We were in a day-care center watching children play wonderful, imaginative games, and we thought we should study this phenomenon and see what advantages it holds.

AJP: How did you meet and start working together?

Dorothy Singer: We met in a music store. In those days, you could take a record into a little booth and listen to it. I was in one listening to Bach's "Coffee Cantata," and Jerry was wandering the aisles looking for a place to listen to Bach's "The Well-Tempered Clavier." He came into my booth, and when he left, he asked for my phone number, and I gave it to him. He called me a few days later and took me out. I brought my best friend and he brought his. Our two friends fell in love with each other, and I shortly got engaged to someone else. Later, when I broke off the engagement, my friend wrote to Jerry and told him, and he asked me out again. We married six months later.

Jerry had been working in the area of daydreams and fantasy, and I had been doing experiments based on Jean Piaget's work. We first collaborated in 1972, on a journal article about personality. When we found that we could get along working together, we began studying play. We joined forces on play and later began studying television.

AJP: Jerry, can you tell us a little about your childhood experiences, especially as they related to fantasy?

Jerome Singer: I began reading when I was very young and read a lot of Sherlock Holmes and Edgar Rice Burroughs stories, especially Burroughs's Tarzan of the Apes and John Carter of Mars series. Eventually, I worked the Tarzan stories into my private, make-believe play, and then I started telling them to other boys in my neighborhood and building them into games that lasted for years. My friends even called me Tarzan. I also made up a lot of other elaborate make-believe games and played them both alone and with others. Some revolved around stories of King Arthur, knights, and armor; and as early as age three, I had a lot of vocalized conversations and sound effects. Later, I created fantasy athletes, mostly baseball, football, and boxing super stars. So this mix of intellectuality plus some of the adventure games really formed the basis for much of my later interest in play and imagination.

AJP: Tell us something of your early adult life and career.

Jerome Singer: I enlisted in the army during World War II and worked in counterintelligence in the Philippines and New Guinea, and, later, in Occupied Japan. After the war, I earned my doctorate from the University of Pennsylvania and became director of research at the Franklin D. Roosevelt Veteran's Hospital just north of New York City. From there I went into private clinical practice, served as a teaching affiliate at Teacher's College Columbia University, and was then invited to become director of the Clini-

cal Psychology Program at City College of New York. Later I became director of the Center for Research and Cognition and Affect at City University of New York Graduate Center. I also trained at and graduated from the William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology. Subsequently, Yale University invited me to become director of its clinical psychology program, where I also served as director of graduate studies.

AJP: Dorothy, what about your childhood play and early career?

Dorothy Singer: As a child I lived near a park that had many enormous glacier-type rocks. My friends and I played on them making believe we were in a castle, a fort, or just an ordinary cottage. We used sticks, leaves, and pebbles for our food. I also loved to play with paper dolls, dressing them up and pretending they were families. I enjoyed dress-up clothes and wore my mother's old hats, cast-off costume jewelry, and high heels. I loved to read as a child and could spend many hours in a big chair munching on an apple and reading to myself visualizing the places I read about. I also made up many stories with a princess, a prince, a goblin, and other fanciful characters and told them to my brothers.

After Jerry and I met and became interested in studying play, I did a lot of research on it while teaching child development at Manhattanville College. I ran a practicum in which I assigned students projects at various day-care centers. We developed a questionnaire and an observation form so that we could quantify the data we collected on children's play. Later I taught at the University of Bridgeport before joining Jerry at Yale. With both of us in the psychology department there, we began to concentrate not only on research about play but also on looking at the effects of television on children's cognitive, emotional, and social behavior. And together, we founded the Yale University Family Research and Consultation Center.

AJP: Who influenced you most in your work?

Dorothy Singer: Many influenced us, of course, but looking back, Jean Piaget, Lev Vygotsky, Hans Werner, Erik Erikson, and Kurt Lewin seem the most significant ones.

AJP: Did you encounter resistance to your focus on play or on television?

Dorothy and Jerome Singer: We have never encountered any resistance to our research. In fact, most people have been receptive and excited that you could study play in a systematic way. We have, between us, probably more than 600 distinct publications and many chapters devoted to play, and, still, we are constantly invited to write chapters on play. We have also been

funded very generously over time by major foundations to study both play and television.

AJP: Which of your projects have you found most satisfying, and which do you regard as your most significant contributions?

Jerome Singer: My work on daydreaming has been very satisfying, especially the dozens of experiments I conducted trying to understand what daydreaming is all about, developing a daydreaming questionnaire that many other researchers have used, and writing the first book on the subject. Also studying personality. I was trying to understand how people really function and what various personality attributes people have.

Dorothy Singer: We feel that our work on television has also been significant, especially our study of the effects of television on children's social behavior, cognitive development, and imagination. We were able to develop guidelines for parents so they can really understand what television is about and how they can work with their children to make television viewing a much more positive experience. Also, we worked with fourth, fifth, sixth graders. Then that project was picked up by many schools around the country; they used it to teach children how to use television in a positive way and, in effect, how to dissect its various components.

The work we have done on play, though, gives us the most satisfaction. We believe we've made a significant contribution in understanding the dynamics of play and in quantifying measures so that we could study play systematically.

AJP: Jerry spoke earlier about fantasy play as a child. How early does imaginative play begin?

Dorothy Singer: Research has told us that children can begin playing imaginatively as early as eighteen months. Greta Fine found that at about that age, children can take a spoon and pretend they're feeding their teddy bear. Also, Piaget described six stages in a period of imitation that involves an infant's gradual movement from doing reflexive behavior to more complex imitation models. The stages begin with a baby who just acts with his reflexes. He leans his head towards light, grasps his own fingers or another person's fingers, and then these movements that were reflexes become more purposeful. Finally, he begins to imitate sounds of other people. Pretty soon, a baby can see her own body and begin to see her hands and legs and gradually move further on in imitation of other people's bodies. Piaget even said that his daughter imitated some movements of himself.

AJP: Can you give us an example of a play event that features imitation?

Dorothy Singer: If a mother raises her eyebrows and puffs out her cheeks to make funny faces, pretty soon a baby can imitate this in a playful way. This imitation play, according to Piaget, is really a forerunner of symbolic or pretend play. It shows that a child is curious and is ready to imitate sounds and actions of the adults around him. Through play, a baby begins to experience the world around him. As he plays, he begins to internalize.

AJP: Please say more about internalization.

Dorothy Singer: Through play, a baby begins to copy more complex movements he sees adults do. He can imitate objects, he can imitate things like his pet dog or cat, and he can imitate objects that are not present. We call this imitation, which begins during the second year of life, *symbolic imitation* or *symbolic play* because the baby uses something other than the original object to symbolize the object. For example, Piaget's daughter used a walnut to symbolize a cat. As he describes it, while she moved the walnut along the floor she was going "Meow, meow," pretending it was a cat. So this is a very important step.

AJP: Does this type of play lead to children playing together?

Dorothy Singer: It can. An example is when children are engaged in parallel play, when they are sitting next to each other each playing their own little games. You may see children playing in the sandbox, and one may be moving a car along the sand and the other one dumping a truck. They're not interacting, but they're playing next to each other. If one of them goes away, the second child becomes very upset. He wants that friend to play with him, even though they may not be exchanging words and ideas. The idea of the company is enough. So, sometimes parallel play really means that although the child appears to be playing by himself, he's aware, at least to some degree, of his little friend and becomes devastated if that friend leaves.

AJP: Why is make-believe play important to children?

Dorothy Singer: First of all, it develops vocabulary. Children in play develop many, many words, and, as we have found, they use a lot of future tense words, saying such things as, "First we'll do this." For example, if they're going to have a tea party: "First we'll set the table, then we'll warm the tea, then we'll serve it in cups, and then we'll also bring some cookies." They engage in a lot of planning for the future. So, in addition to helping develop vocabulary, make-believe play produces flexibility. If a child doesn't have the object she wants, she can make something else be that object; for

example, if she doesn't have a horse, she can make believe the broom is her horse. Make-believe play also involves both large-muscle control and small-muscle control. If a child is playing that she's in a car by driving a box around the floor pretending it's a car, she's using large muscles. But if she's playing tea party, she has to use some small-muscle control to pick up the cup and the cookie.

AJP: What other benefits do you ascribe to pretend play?

Dorothy Singer: Pretend play is the act of creativity. The child engaged in pretend play is engaged in what Piaget called *ludic* play. She's playing a game, and by taking a piece of mud and pretending that it's a birthday cake and putting candles on it, she's using her imagination. She is differentiating between what is real and what is not real. She knows that this is mud she's playing with, but it becomes the cake. She knows that a broom is something that you sweep the floor with, but when she wants it to be a horse and rides it, then in her imagination it's really not a broom but a horse.

AJP: What is your favorite object for pretend play?

Dorothy and Jerome Singer: We think the box is probably one of the best toys a child can ever have. For example, we've observed children using a box as a boat, a car, or a spaceship. They know it's a box, but in their play, they can convert it into anything they want. So when you have an appliance delivered, save the box; it can also be a wonderful stage for a marionette show if you just add a little curtain. Yes, the box is about the best toy a child can have.

AJP: Are there social dividends in pretend play?

Dorothy and Jerome Singer: In make-believe play, children do a lot of smiling, or what we call positive affect, and they're learning how to control some of their anger and aggression. They can work these out through play. We found in our research that children who are playful tend to be less aggressive than children who don't play.

One of the important aspects of make-believe play is self-regulation and self-control. We notice that when children play together, if one of them becomes disruptive, the other children will want him to leave. So children learn that, in order to play, you have to be cooperative and helpful and share; and that's a very important part of play for not only self-control, but for social behavior.

AJP: Is it possible to measure and quantify how important make-believe play is to various aspects of children's development?

Dorothy and Jerome Singer: We have developed observational checklists so that we can have two or three researchers observing children, recording everything they say or do, and quantifying each behavior. We can see whether the child enjoys make-believe play a great deal or not so much. In one study, we measured twenty-one variables. So, yes, using various measures, we can quantify play and begin to see that children who are not very good at make-believe differ significantly in their imaginations, social behavior, and aggression from children who are excellent make-believe players.

Dorothy Singer: It's important to note here that both our research and the studies other people have carried out on imaginative play and childhood show that imaginative play is developmentally adaptive. Pretend play is consistently associated with smiling and laughing and satisfaction in children.

In addition, imaginative play leads to creative thought. And, very importantly, the participation of adults—parents, grandparents, and others—fosters imaginative play. Reading to children, telling stories, and tolerating or encouraging pretending games will influence constructive play in children. Further, our studies of television indicated that shows like *Mister Rogers' Neighborhood* and *Barney and Friends*, for example, relate very strongly to imaginative play.

AJP: Jerry, you mentioned daydreaming earlier. How does daydreaming tie in with fantasy play?

Jerome Singer: Freud suggested that both children and adults use imaginative thoughts and fantasies as trial actions to restrain their impulses—in effect, to regulate their behavior. In reviewing the literature, I found that, compared to night dreams, practically no significant research had explored daydreams or awakening imaginative thought systematically or experimentally. So I developed the first research program to test Freud's speculations and to place daydreaming within the context of human cognition and motivation. This work showed that adults with test scores suggesting a fairly rich fantasy life were better able to control their movements and compulsive behaviors compared to others lacking evidence of such imagination. For example, a person with a rich fantasy life could write a phrase extremely slowly or sit quietly in a room without restlessness while waiting in an interview. I obtained similar results in studies with children. Those who showed more evidence of richer fantasy lives more capably restrained compulsive acts.

AJP: Do you hold with Piaget's notion of play as compensatory?

Dorothy and Jerome Singer: We do believe that, in certain aspects, play can be

compensatory. When you see a child spanking its doll, or pretending the doll has a boo-boo, or scolding the doll, it may be that the child is working out some conflict with her parent, using the play to heal herself. We know that a child terrified by animals at the zoo will come home, take out her puppet, and play scary animal over and over until she feels better. So sometimes, play works out problems, and we think that's important and that Piaget was correct in saying it can be compensatory.

AJP: Could you sketch for us some of the dividends of playful narration and storytelling? Is such play therapeutic? And if so, what makes it so?

Dorothy Singer: Well, I do know that in my own practice of child therapy, play was very important. I remember a child using a dollhouse and a small doll and placing the furniture so that no one could get into one of the rooms. This child was exposed to a dreadful murder in her own home, and she was terrified. As she played dollhouse, which she did over and over again, she was trying to get rid of that room or hide what was in that room. Gradually, as the play therapy progressed, she was able to take the small doll out of the room. Through play, through the manipulation of small objects, through the storytelling, through drawing in play, a child can work out fears. Here's where imaginative play can be very therapeutic. Storytelling helps as well. When children play with puppets in play therapy, they act out many of the incidents at home or at school that disturb them.

AJP: Do fantasy play and make-believe ever increase children's fear?

Dorothy Singer: No, just the opposite, as we have said. Children only play what they have control over. If there's a scary monster that's been bothering them, they will play that over and over and reduce the fear through imaginative play. We have never noticed that fantasy play has made children more fearful. As a matter of fact, it makes them more confident. It gives them mastery over the fear. Through the imaginative play, they become the ones in control.

AJP: You have referred several times to your study of television. Do you ever find instances where films, video games, and television enhance children's creativity?

Dorothy and Jerome Singer: We do find that a film, game, or television show offers the possibility of enhancing creativity. A good film can be usefully imitated by a child. For example, we watched children playing at Peter Pan. They had seen the film on television, and then—in their day-care center the next day—they acted out Peter Pan, Wendy, and pirate games,

all from the film. The computer game *The Sims* is another example. It has inspired children to build their own little dollhouses and move furniture around after they played the game on a computer. In terms of television, children will watch some positive or constructive TV programs and engage in make-believe play. In our research on *Barney and Friends*, we've seen some children who watch the show and act out some of the little scenarios they saw. Also, *Blue's Clues* has led to children imitating the game, and *Dora the Explorer* has led to children playing the games from that show. Thus, media do have the capability of enhancing children's creativity.

AJP: Does mass media ever frustrate storytelling?

Dorothy Singer: Yes. Sometimes a child will want the story to end in a different way than it does in the film or on TV, and here's where a parent can be helpful and say, "Okay, we've watched that story. How would you like to end it?" This gives a child the opportunity to make his own ending. I sometimes wish television producers would stop their program and say to a child, "We're not ending this for you. What ending would you like?"

So, much depends on the content of the TV program, film, or video game. If the content is age appropriate, if it's positive, and if it has imaginative elements, it can enhance children's creativity. But many times, mass media are not creative. There are just too many shootings and car chases and too much violence.

AJP: Do you ever think children would have been better off if technological development stopped with radio?

Dorothy Singer: No. One can't stop the progress of technology. I think radio was fine. Listeners had to imagine things they heard, rather than saw. Jerry and I remember listening to radio programs and visualizing the characters and the plots, and that was very important. One program we loved was *Let's Pretend*. It was about fairy tales, and we could see each tale in our mind. Television can also be an amazing opportunity for producing creativeness in children, or it can be just really dull and halt creativity. It's not the technology; it's what we do with it.

AJP: What do you regard as some of the high points and low points over the first sixty years of children's educational television?

Dorothy and Jerome Singer: When children began watching TV, there weren't many programs for them. *Howdy Doody* was one of the first, and then there was *Ding Dong School* with Miss Frances, and then *Romper Room*. *Sesame Street* came shortly afterward. Television grew much more sophisticated,

and, as the years went by, we began to see more educational programs. Today on PBS, one finds a full day of children's programming that is really educational. Some of television's low points were the early cartoons aimed at children, which seemed for a long while to be the major fare of television. A lot of the cartoons weren't very educational. Many were of the *Tom and Jerry* variety with a lot of violent hitting and bouncing off the walls that we know from our research created aggression in children. In fact, television for children really was not very good before the breakthrough of *Sesame Street* and *Mister Rogers' Neighborhood*.

AJP: What did children learn best from watching *Mister Rogers' Neighborhood*?

Dorothy and Jerome Singer: *Mister Rogers' Neighborhood* is a model program. In our own research, we found that because of the show's creative imaginative elements, boys significantly increased their imagination from watching it compared to boys who were exposed to other kinds of programming. We also found that the prosocial elements in *Mister Rogers' Neighborhood* had a major effect on children. The program valued good manners, kindness, "thank you," and "please." People interacted in positive ways. When you went into the world of make-believe, you found the king and the queen and all of the other characters, and you learned how to resolve conflicts and how to behave in socially acceptable ways. The show featured constructive work. Also, Mister Rogers was not afraid to touch on some serious issues. For example, when his goldfish died, he talked about how you can remember a pet. Such information was important for children to know. You might never see your pet again, Mister Rogers taught, but the memory of your pet can stay with you for a long time.

The pacing proved another plus of *Mister Rogers' Neighborhood*. It was a much slower program than *Sesame Street*, and we find that children who are two, three, and four years of age need to hear directions several times. Children of these ages need you to talk slowly and clearly to them. This may bore parents, but it is important for the children.

AJP: Do you find it significant that *Mister Rogers' Neighborhood* rarely had children on the program?

Dorothy and Jerome Singer: When Mister Rogers spoke to the audience, he was speaking directly to children, and we found in our research that because he did so, children really responded to him. When Mister Rogers asked a question, he would sometimes pause and wait to give children time to answer him. And they did. He was one of a very few television characters who took

pauses and allowed quiet moments so that interaction could take place.

AJP: How do you feel about *Sesame Street* today? Can Elmo help children get ready for school?

Dorothy Singer: When *Sesame Street* started, the show was built on the premise that children had short attention spans. When we did an analysis of the program, we found that an hour might contain twenty-three segments, each lasting from about a minute to maybe three minutes. The show has changed. The “Elmo’s World” segment has grown longer because the producers found that the audience for the show is younger now, and a younger audience requires additional time. Can Elmo help children get ready for school? I think that by identifying with a character like Elmo, children begin to understand that they’re going to go to school, that there are new words they’re going to need, that they’re going to have to sit still for a while, that they’re going to go to a different place, and they may even have to go by bus. So, yes, I think Elmo in his small way really does prepare children.

AJP: What about television programs that deal with good versus evil. Do these and stories that children themselves spin about the battles of good and evil arm them against imagined dangers?

Dorothy and Jerome Singer: When children act out stories about the battles of good and evil, what they’re really doing is trying to control their anger or the negative impulses of those around them. Through playacting, storytelling, drawings, puppets—all of these imaginative ways of expressing themselves—children gain a mastery over their impulses, over their negative impulses. And in a way, they can conquer their fears. Story acting helps children deal with imagined dangers. When they play games with an evil monster and consider how to conquer the evil monster, in a way they’re conquering their fear of the evil monster.

AJP: Do Superman and other super heroes hold any drawbacks for children?

Dorothy Singer: For many, many years, children in day-care centers have put on capes and run around pretending to be Superman. I think that many of Superman’s actions really should not be imitated by children. Sometimes, for example, children convert what Superman does into hitting other children while pretending to be Superman. But I also think teachers can reconstruct the Superman story by having children build a Superman village, imagining people living there, and allowing children to still wear their capes and pretend they’re Superman but in a constructive way. It’s normal for children to want to be Superman. So much of the time, children

are dominated by large figures, parents, teachers—all these adults around them. When children play Superman, they're in control. They can control the world around them. But I think parents also need to show children that sometimes using force is not a good way to control the people bothering them. Children deal with verbal aggression all the time, and they need to learn to handle their anger through talking about it instead of hitting.

AJP: Can such play, or any other play, lead to moral development? Can play make us more civil, more kindly?

Dorothy Singer: I think, as we mentioned earlier, through play children learn to share, they learn to cooperate, and they learn to help each other. I think it does make them more kindly, and certainly in our research, we found that the children who were good players tend to be more cooperative. They help each other more. They do more sharing than children who are not good players. Remember, if children are playing and a child is disruptive, pretty soon the game falls apart, and the child who doesn't play well is no longer included in the game. When children are playing, they are really learning about the world around them. They are taking the larger world and breaking it down into smaller parts by playing. They learn that you don't cheat, you have to be fair, and you have to be kind to your neighbor when you play. If you're going to be disruptive, you're going to be eliminated from the play game. They begin to develop a sense of self: who I am, what is right, what is morally good.

AJP: Let's turn to television. What, if any, television programs should parents hope to find their kids watching these days?

Dorothy and Jerome Singer: Well, we think that if children are watching public television, they will do pretty well—for example, some of the programs public television offers for children beyond preschool: *Daniel Tiger's Neighborhood*, *Curious George*, and *The Cat in the Hat Knows a Lot about That*. The last two of those are based on books, so parents can read the stories to the child before they watch television. There's also *Dinosaur Train* and, of course, *Sesame Street*, and *Barney and Friends*. *Word World* and *Super WHY!* help children with language development. *Clifford the Big Red Dog* and *The Electric Company* have come back. And *Sid the Science Kid* really helps children with science. So we see that there are a number of programs kids can watch.

AJP: How can parents take best advantage of shows like these?

Dorothy and Jerome Singer: We think any show can be helpful for children if

the parent watches it with them and discusses the content after. Actually, parents can do three things: they can control the children's television viewing by limiting the number of hours they are allowed to watch TV; when a program is over, they can discuss the content with their children to see if they really understand the content; and then they can make sure that their children still have time for play.

Some other things that parents can do is talk about colors—point them out in the show and see if children can name them. If parents and children watch the news together, they can watch the weather portion and keep a chart to see if the weatherman's predictions were correct. They can listen to the music on a TV show together, and the parents can have the children move to the music and let them know which music is fast or slow. Parents can develop a picture book, cut out pictures of television characters and paste them on construction paper, and then ask the children to talk about the characters. Similarly, playing with dolls or puppets can help children imitate some of the programs they see. When a program is over, parents can talk about incidents that are related to social behavior. *Mister Rogers' Neighborhood* was particularly good at that. If Ernie shares something on *Sesame Street*, parents can talk with their children about sharing. So there's a lot that parents can do if they want to make television an interactive medium.

AJP: Does this type of interactive television viewing substitute effectively for imaginative play without television?

Dorothy and Jerome Singer: When children devote more time to television and other electronic media, they play less, as we have discovered, and of course, they do not actively use their imaginations because they are simply looking at a story. Then, when they play, they sometimes imitate a story they have seen. That takes away their ability to create something from themselves, to get the ideas from stories around them, from people around them, or from things that they see and places they visit. It's much more interesting to go to a zoo and see the animals than to watch them on TV. You hear the noises, you get the smells, and you see the animals actually being fed. TV may present the animals, but there's nothing to compare with seeing them live.

AJP: Does television viewing provide children with any gains they might not otherwise have?

Dorothy and Jerome Singer: We think it exposes them to places and events they can't otherwise see or visit. For example, TV has the means of featuring

people from other countries, plus other customs, other foods. It can expose children to many things that are beyond their own world. Computer games can do that too. Children may learn some vocabulary and some concepts. So there is something to gain, but again, these media have to be used with discretion. Parents need to control how many computer games a child plays and how much time a child spends with television—then follow that viewing and play time with interaction, as we have discussed.

AJP: Does the creative and imaginative play of children benefit the eventual adults?

Dorothy and Jerome Singer: We know that people who have become great writers, scientists, inventors, and contributors to society were good players. Work by Robert Root-Bernstein has looked at people who were MacArthur Fellows and Nobel Prize winners and found that as children they were good players. We also know that many writers such as Johann Wolfgang von Goethe, Leo Tolstoy, and the Bronte sisters were great players when they were children. We know, too, that many youngsters who played with LEGO sets later turned that play into careers in architecture. It's important that we don't underestimate the play of children because it can produce a much more satisfyingly creative adult.

AJP: How do you regard the current state of play research? Where would you like to see it head next?

Dorothy and Jerome Singer: We'd like to see more young people doing research on play, more graduate students getting involved in play studies, new questionnaires, new ways of examining the whole phenomenon, and more research on the effects of electronic media. How is the Internet really affecting children and their capacity to play? What positive things do we know about computer games and video games? Also, we'd like to see more funding made available for play research. The scarcity of such support today seriously concerns us.