

**TOWARD CREATIVITY: DO THEATRICAL EXPERIENCES IMPROVE PRETEND PLAY AND COOPERATION
AMONG PRESCHOOLERS?**

MEREDITH L. ROWE, VIRGINIA C. SALO, AND KENNETH RUBIN

UNIVERSITY OF MARYLAND

This project was supported in part or in whole by an award from the Research: Art Works program at the National Endowment for the Arts: Grant# 14-3800-7015.

The opinions expressed in this paper are those of the author(s) and do not represent the views of the Office of Research & Analysis or the National Endowment for the Arts. The NEA does not guarantee the accuracy or completeness of the information included in this paper and is not responsible for any consequence of its use.



Toward Creativity

Do Theatrical Experiences Improve Pretend Play and Cooperation among Preschoolers?

●

MEREDITH L. ROWE, VIRGINIA C. SALO,
AND KENNETH RUBIN

The authors ask if participating in an early-childhood theater production improves pretend play and cooperation among preschoolers. They examined play sessions immediately before and after productions of interactive early-childhood performances at Imagination Stage, Inc. and measured children's engagement, cooperation, pretense, and misbehavior. They found that participating in the performances enhanced the cooperation and pretense of preschoolers. The authors discuss their results in relation to the role of the arts and of play in early creativity and social-competence development. **Key words:** cooperation; creativity; early-childhood development and the arts; make-believe; pretense; social competence

Introduction

RESearchers note a steep recent decline in creativity among American children, a “creativity crisis” (Bronson and Merryman 2010). An analysis of scores on a standardized test of creative thinking for school-aged children from 1966 to 2008 revealed a significant decrease in scores since 1990, particularly for students in kindergarten through third grade (Kim 2011). The same study also highlighted that much of the drop in creativity occurs before the end of the early-childhood period. Creativity may be on the decline because children do not have the opportunities to play as often as they did in the past (Howes 2011).

As a result of the No Child Left Behind Act, which went into effect in 2001, there has been a shift in early-childhood curricula to focus more on school readiness skills such as literacy and numeracy and, therefore, a reduction in

opportunities for free play. However, researchers argue that play and learning do go hand-in-hand (Zigler 2009) and that depriving children of play denies them vital opportunities to practice important cognitive and social skills to develop their imagination and creativity (Hirsh-Pasek et al. 2008; Pellegrini 2011; Roskos and Christie 2013).

Gopnik and Walker (2013) provide evidence that engaging in pretend play facilitates causal reasoning and hypothesis generation by allowing children to exercise the ability to consider different scenarios. Several studies show a similar link between engaging in pretend play and divergent thinking (the ability to generate a variety of solutions to a problem), a skill considered foundational to creativity (see Russ and Wallace 2013 for a review). Participation in the arts also facilitates creativity and social and cognitive development, yet the links between arts experiences and developmental growth are not especially clear (see Winner, Goldstein, and Vincent-Lancrin 2013 for a review) and many researchers have noted that we still have much work to do in this area (e.g., Reed, Hirsh-Pasek, and Golinkoff 2012).

Here we examine the role of the arts in children's play and development by asking whether participating in an early-childhood theater production improves preschoolers' pretend play, creativity, and social competence (cooperation).

Pretend Play, Creativity, and Cooperation

Scholars have studied the role of play in children's development for more than fifty years. Theoretical work outlined the developmental trajectory of particular types of play (Piaget 1962) and the role of play in children's cognition (Vygotsky 1967). Educational thinkers have posited that play promotes creativity and flexible thinking (Bruner 1972; Pepler and Ross 1981). Further, more recent theoretical accounts have emphasized the specific role of social pretense, or sociodramatic play, in the development of children's perspective-taking skills (Bergen 2002; Rubin and Howe 1986), theory of mind (Harris 2000; Harris and Jalloul 2013), and social competence (Coplan et al. 2015).

Social pretense—in contrast to other forms of play and to nonsocial pretense—serves at least three essential functions (Howes 2011). First, it creates a context for mastering the communication of meaning. Second, social pretense helps children learn to collaborate and compromise through their discussions and negotiations concerning pretend roles and scripts and the rules guiding

the pretend episodes. Third, social pretense provides a comfortable and natural context in which children can explore and discuss issues of intimacy and trust. We can, thus, consider sociodramatic play a marker of social competence in early and middle childhood (Rubin, Fein, and Vandenberg 1983).

Pretend play, which enacts the imagination (Mitchell 2007), functions to develop capacities that allow and encourage creative thought (Picciuto and Caruthers 2012). During early childhood, children increasingly engage in social pretend play (Rubin, Watson, and Jambor 1978). Engaging in pretend play relates to children's later ability to understand others' points of view (Youngblade and Dunn 1995). Sociodramatic play with peers supports children's divergent thinking and cognitive flexibility, core components of creativity (Russ 2004; Singer and Singer 2005). Further, research shows that in controlled experiments, preschoolers trained in sociodramatic play have greater gains in measures of imagination and fluency (Dansky 1980a, 1980b) than children trained in exploration; and children in preschools with a focus on play scored better on the Torrance Tests of Creative Thinking than children in academically focused classrooms (Hirsh-Pasek 1991). Thus, play, and in particular, social pretend play, appears to foster creativity in young children when we measure creativity by a variety of different standards.

Finally, peer play may also contribute to young children's cooperation (Berk, Mann, and Ogan 2006). According to Vygotskian theory on the benefits of play (Vygotsky 1967), children voluntarily restrain themselves by following social rules when playing with peers. The peer group provides children with practice at working together; at conversing to understand the viewpoints of others; at observing, imitating, and engaging in shared goals; and at taking responsibility to help meet such shared goals (Gauvain 2001; Pellegrini 2009; Rubin, Bukowski, and Bowker 2015; Tomasello 2009). In an observation of three- and four-year-olds in their preschool classrooms, Elias and Berk (2002) found that children who spent more time engaged in sociodramatic play with their peers at the beginning of the school year exhibited more cooperative classroom behaviors several months later.

The Arts and Development

Researchers pay less attention to the role of the arts in child development compared to the role of play in development. The limited research on the positive impact of engagement in the arts primarily highlights the social and cognitive

outcomes of music training and the visual arts rather than the performing arts (see Winner 2006 for a review). However, a few promising studies show links between drama experiences and developmental outcomes, particularly in the verbal realm (Winner, Goldstein, and Vincent-Lancrin 2013). A meta-analysis (Podzlony 2000) provides evidence that engagement in creative drama activities supports verbal skills (Winner 2006). Additionally, researchers have shown that providing preschool children with experience in drama or acting out stories improves spoken narrative abilities (Nicolopoulou and Richner 2007) and written ones (Moore and Caldwell 1993).

It is not surprising that drama training would relate to narrative skills in preschoolers, because this type of training constitutes, in many ways, a form of sociodramatic play. That is, “acting” involves role playing in the company of peers and using language in a decontextualized manner to produce or comprehend a story. Interestingly, recent research shows that drama training in school-aged children (eight- to ten-year olds) improves social cognitive skills including empathy and theory of mind (Goldstein and Winner 2011, 2012). The performing arts and sociodramatic play both require active collaboration. Collaboration and coconstruction, or working together toward a goal, can lead to success in creativity or social problem solving in the real world (Sawyer 2008).

Method

In our study, we built on this previous work about the role of the arts and play in early-childhood development by examining whether engaging in an early-childhood theater production enhances children’s sociodramatic play, creativity, and cooperation.

Sample and Procedures

We collected data for this project during live early-childhood theater performances at Imagination Stage, a children’s theater in the greater Washington D.C. area. The performance, titled “Inside Out,” concerned a brother and sister who play together before bedtime. Some of the main themes of the show included transforming objects (e.g., clothes) into other objects, nonliterality, and metaphors, and making up stories while engaging with the materials on stage. The performance lasted for thirty minutes, during which children sat on the same

level as the actors around the circular stage, thus allowing for easy interaction with the actors and materials. Throughout the performance, actors encouraged the children to engage either physically or verbally with them on stage and off. At the start of the performance, each child received a set of props, and several times throughout the show the actors asked the children to engage with the props in particular ways. For example, the actors led the children, each of whom had been given a pair of socks, through an activity in which they pretended the socks in their hands were fish. Also, several times throughout the performance, the actors asked the children to call out ideas for the actors to incorporate into the performance. After the performance, the actors provided children with dress-up clothes for a seven-minute, postperformance, free-play session on stage.

For ten of the performances, we added a similar play session immediately prior to the performance. Thus, we observed the children while they took part in free-play sessions immediately before (preplay) and after (postplay) they participated in the age-appropriate performances. There were both preplay and postplay sessions for ten performances. For five performances, we did not add a preplay session so that we could compare postplay ratings with and without the preplay experience.

Data collection took place at a total of fifteen performances in December 2014 and January 2015. Approximately thirty children attended each performance, making for a total of approximately 450 children we observed in groups in all performances. The children were three- to five-years old, and they came from local preschool or kindergarten programs. All play sessions were live coded, meaning that coders assigned ratings during the play sessions or immediately after.

Coding and Reliability

Trained research assistants who were blind to the goals of the study live coded the seven-minute preplay and postplay sessions. That is, coders watched the play sessions as they occurred and globally rated the groups using a five-point Likert scale on five different dimensions intended to capture the extent to which children, as a group during each play session, cooperated and engaged in pre-tense. During the postplay-only sessions, all four coders observed and coded the play sessions simultaneously. During the performances which included both a preplay and postplay, we assigned two research assistants to code preplay and two others to code postplay. The two coders assigned to the postplay session remained outside of the performance hall during the preplay sessions. The cod-

ers sat several rows behind and above the stage in an amphitheater-style seating so they had an unobstructed view of the entire stage area but could hear the children during the play sessions. The seating area was unlit, which obscured the children’s views of the coders.

The five dimensions on which coders made ratings included: cooperation (e.g., sharing materials or playing together toward a common goal, such as playing house together); misbehaving (e.g., taking materials from another child, pushing); character-driven pretense (e.g., putting on a tie and pretending to be dad); object-transforming pretense (e.g., pretending that a pile of scarves is a puddle to jump in); and overall engagement (i.e., the extent to which the group as a whole was engaged with the materials and each other).

	Low (1)	Medium (3)	High (5)
Cooperation/ Collaboration	Children play on their own and do not use the materials together	Some children play together to coconstruct something or engage with materials.	Several groups of children playing together with materials to build, or pretend.
Not Sharing/ Not Behaving	Children are behaving well, sharing.	Some instances of not sharing and/or little arguments.	Lots of arguments, instances of knocking down others’ constructions, pushing, etc.
Character Driven Pretense	Children are not pretending to be different characters.	Some children are pretending to be different characters.	Several children are pretending to be different characters. (e.g., playing house)
Object Transforming Pretense	Children are not engaging in pretend play using the materials as something new.	Some children are engaging in pretend play using the materials as something new.	Several children are engaging in pretend play using the materials as something new. (e.g., a scarf as a snake or a jump rope)
Engagement	The children are not playing with the materials.	Some children playing with materials and some not.	All children playing with the materials.

Figure 1. Behavioral coding dimensions

We separated pretense into character-driven and object-transformation dimensions for two reasons. First, when we tested the coding scheme, we found that these categories best capture the primary pretense in which children engaged using our materials, but they remained distinct because one involved pretending to be someone else and one involved transforming an object into something else. Second, research suggests that playful object transformations, such as those using a stick as a sword or a banana as a telephone, provide a basis for subsequent problem-solving proficiency (Bjorklund and Gardiner 2011; Cheyne and Rubin 1983; Sylva 1977), particularly solving divergent problems or problems with multiple solutions (Pepler and Ross 1981; Wyver and Spence 1999). Researchers often use divergent problem solving as a measure of creativity (Russ 2004; Singer and Singer 2005), and thus we considered the object transformation score as a preliminary measure of creativity during play.

We trained four coders on the coding scheme using videos of previous play sessions from the same performance provided by the theater. Then, all four coders coded the five postplay-only sessions. For the remaining ten performances, we randomly assigned coders either to the preplay or postplay session, to prevent coders from artificially inflating the postplay scores. Although we attempted to keep coders impartial and blind to the purpose of the study, watching consecutive play sessions with the same children may have influenced a coder's ratings, so we averaged ratings for each session across coders, and we calculated reliability by comparing the five postplay-only sessions from all four coders. We computed intraclass correlations coefficients (ICCs) with a two-way mixed-effects model with average measures (Shrout and Fleiss 1979). ICCs describe how well the different coders scores align with one another or how consistent they are. Average ICCs across the five items was .80 and all were well within the good or excellent range (Cicchetti 1994): .67 for cooperation/collaboration, .82 for not behaving, .81 for character-driven pretense, .92 for object-transformation pretense, and .77 for engagement.

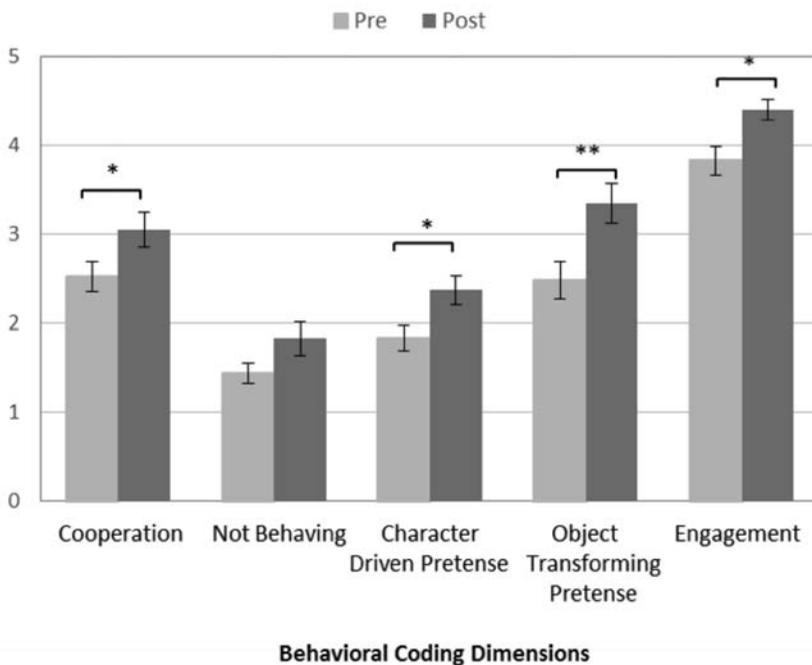
Results

We conducted paired *t*-tests to compare the preplay and postplay session scores on each coding dimension. Results show that postplay scores were significantly higher than preplay scores on four of the five categories (see figure 2). During the postplay sessions, children were more cooperative ($t = -2.27, p = .049$),

engaged in more character-driven pretense ($t = -2.94, p = .016$), and engaged in more object-transforming pretense ($t = -3.45, p = .007$), and were more socially engaged ($t = -2.68, p = .025$).

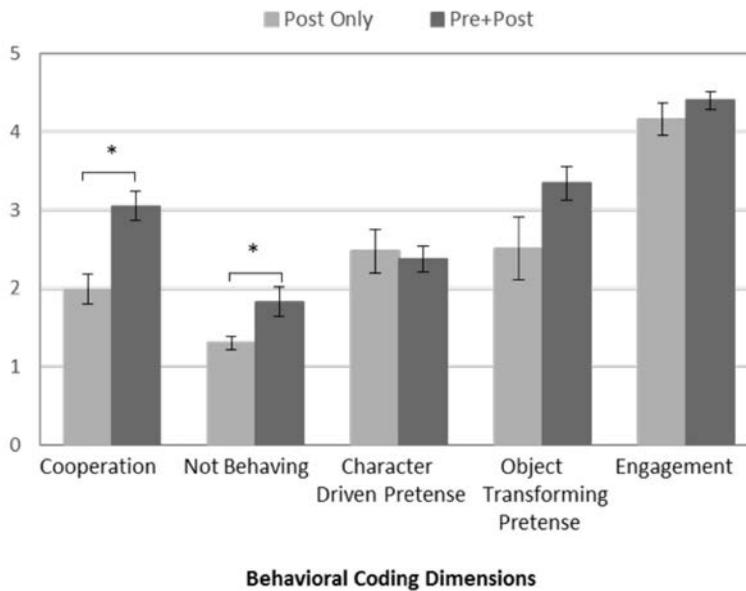
Importantly, we also compared postplay sessions when no play session preceded the performance ($n=5$) and when a play session did so ($n=10$) to determine the effects, if any, of engaging in a preplay session. We conducted independent samples t -tests with a Levene correction for unequal variances.

Cooperation and misbehaving showed such an effect. Children were more cooperative ($t = 3.45, p = .004$), but also misbehaved more frequently ($t = 2.51, p = .028$), when they participated in a preplay session as compared to when they did so only in a postplay session. Thus, some of the effect of the theater experience on cooperation at postplay may be due to the children's previous experience with the materials during the preplay. However, the increases in both measures



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

FIGURE 2. Average preplay and postplay session scores.



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

FIGURE 3. Average postplay scores for groups who had only a preplay session and those who had both a preplay and postplay session.

of pretend play do not seem to be due to the preplay experience.

Discussion

The current study adds to other research on the role of the arts and play in child development. We examined whether participating in an early-childhood theater production had immediate effects on children's pretense and cooperation. We found that children did indeed use more character-driven pretense and produced more object transformations, such as using one object to represent another (a potential early indicator of creativity), during the postplay than during the preplay. Children also collaborated more often in postplay, yet our follow-up analyses suggested that the increase in collaboration may have been due to their prior experience playing with the materials together during preplay. Our

findings suggest that engaging in early-childhood theater may be one route to improving pretend play and, ultimately, creativity in young children.

We could consider these findings in light of the previous literature and suggest future steps for related research. Recent work suggests that enhancing arts education may promote creativity in children (Reed, Hirsh-Pasek, and Golinkoff 2012; Winner, Goldstein, and Vincent-Lancrin 2013). Our study concurs with that viewpoint and suggests that one pathway for positive effects could come through the role of play. That is, our work brings together the literature on the benefits of play during early childhood with the literature on the benefits of the arts, and it offers a theoretical model where the arts (specifically the performing arts targeting young children) may promote social pretense that, in turn, helps foster divergent problem solving and potentially other social-cognitive skills.

In a recent review of the literature on play and development, Lillard and her colleagues (2013) examined the relation between play and children's development and concluded that pretense may play a more causal role (Vygotsky 1967) in some aspects of development such as narrative and social skills, but for other outcomes such as theory of mind and creativity, play may represent more of an epiphenomenon (Piaget 1962). For example, the authors proposed that the relation between pretend play and other positive developmental outcomes might reflect some other common child characteristic, like heightened intelligence. However, several researchers have challenged the epiphenomenon perspective, citing a need for more thorough research (Harris and Jalloul 2013; Nicolopoulou and Ilgaz 2013). We agree with these authors that the relation between play and other social-cognitive skills seems more than just an epiphenomenon and that more work should be done in this area to tease out the mechanisms involved. Further, we point to the arts during early childhood as a potential facilitator of play in the first place and, thus, of creativity and development more generally.

Our results cannot speak to the issue of whether the experience needs to be "live" or whether there are other similar experiences that could play the same role in promoting social pretense. Our hunch is that the experience needs to be live rather than televised, because we know enough now about the role of social interaction in learning (Kuhl 2007) to make this hypothesis. However, it is very likely that some other social experiences, such as storytelling and acting out stories, would have similar effects—as shown in preschool classroom work by Nicolopoulou and colleagues (2015). However, the beauty of early-childhood theater experiences is this: they are designed to be play based themselves and

encourage the child to take another person's perspective and participate in the play. We think this allows the child more freedom to create than would other adult games of make-believe. And, this experience also exposes children to a form of art, which is important in and of itself.

One related limitation of our study is that we could not assess each child individually or follow the development of each child over time. We aim to do so in future research, and we hypothesize that increased experience with early-childhood theater could influence not only pretense and cooperation but ultimately more specific indexes of creativity such as divergent problem solving and language and literacy skills. The latter would include, in particular, narrative skills (Nicolopoulou and Richner 2007) and other social-cognitive skills such as empathy and theory of mind like those found with older children engaging in theatrical training (Goldstein and Winner 2012). Further, taking an individual approach in future work will enable us to determine whether this type of experience is more beneficial for some children than others.

During the preschool period, some children are more outgoing and socially competent than others. It is likely that these children are popular with their peers (Rubin, Bukowski, and Bowker 2015). It would be interesting in future research to identify which children are the first to imitate the actors or play with the materials. And it would also be interesting to see if these children invite their peers to join them in social pretense—an exercise known to predict the development of theory of mind and creativity.

Alternatively, there may be some children for whom the theatrical experience proves overwhelming. This group of children might be identified as behaviorally inhibited or extremely shy (Rubin, Coplan, and Bowker 2009). Given that play does influence social and social-cognitive development, it would be important to identify the ways and means by which such children could be encouraged to participate (perhaps in smaller group settings). Such notions have yet to be examined in empirical research; it would be timely to do so.

In sum, our findings suggest that early-childhood performing-arts experiences can have positive and immediate effects on young children's cooperation and pretend play. We see this as a first step in a line of work examining the social and cognitive outcomes of such arts experience for preschoolers. Indeed, by providing high quality early arts experiences and more opportunities to play, we may be able to overcome the growing creativity crisis evident in America today (Howes 2011; Kim 2011; Reed, Hirsh-Pasek, and Golinkoff 2012).

REFERENCES

- Bergen, Doris. 2002. "The Role of Pretend Play in Children's Cognitive Development." *Early Childhood Research & Practice* 4. <http://www.ecrp.uiuc.edu/v4n1/bergen.html>.
- Berk, Laura E., Trisha D. Mann, and Amy T. Ogan. 2006. "Make-Believe Play: Wellspring for Development of Self-Regulation." In *Play=Learning: How Play Motivates and Enhances Children's Cognitive and Social-Emotional Growth*, edited by Dorothy G. Singer, Roberta Michnick Golinkoff, and Kathy Hirsh-Pasek, 74–100.
- Bjorklund, David F., and Amy K. Gardiner. 2011. "Object Play and Tool Use: Developmental and Evolutionary Perspectives." In *The Oxford Handbook of the Development of Play*, edited by Anthony D. Pellegrini, 153–71.
- Bronson, Po, and Ashley Merryman. 2010. "The Creativity Crisis." *Newsweek*, July 12, 156.
- Bruner, Jerome S. 1972. "Nature and Uses of Immaturity." *American Psychologist* 27:687–708.
- Cheyne, J. Allan, and Kenneth H. Rubin. 1983. "Playful Precursors of Problem Solving in Preschoolers." *Developmental Psychology* 19:577–84.
- Cicchetti, Domenic V. 1994. "Guidelines, Criteria, and Rules of Thumb for Evaluating Normed and Standardized Assessment Instruments in Psychology." *Psychological Assessment* 6:284–90.
- Coplan, Robert J., Laura L. Ooi, Alison Kirkpatrick, and Kenneth H. Rubin. 2015. "Social and Nonsocial Play." In *Play from Birth to Twelve: Contexts, Perspectives, and Meanings*, 3rd ed., edited by Doris Pronin Fromberg and Doris Bergen, 97–106.
- Dansky, Jeffrey L. 1980a. "Cognitive Consequences of Sociodramatic Play and Exploration Training for Economically Disadvantaged Preschoolers." *Journal of Child Psychology and Psychiatry* 21:47–58.
- . 1980b. "Make-Believe: A Mediator of the Relationship between Play and Associative Fluency." *Child Development* 51:576–79.
- Elias, Cynthia L., and Laura E. Berk. 2002. "Self-Regulation in Young Children: Is There a Role for Sociodramatic Play?" *Early Childhood Research Quarterly* 17:216–38.
- Gauvain, Mary. 2001. *The Social Context of Cognitive Development*.
- Glenberg, Arthur M., Tiana Gutierrez, Joel R. Levin, Sandra Japuntich, and Michael P. Kaschak. 2004. "Activity and Imagined Activity Can Enhance Young Children's Reading Comprehension." *Journal of Educational Psychology* 96:424–36.
- Goldstein, Thalia R., and Paul Bloom. 2011. "The Mind on Stage: Why Cognitive Scientists Should Study Acting." *Trends in Cognitive Science* 15:141–42.
- Goldstein, Thalia R., and Ellen Winner. 2011. "Engagement in Role Play, Pretense, and Acting Classes Predict Advanced Theory of Mind Skill in Middle Childhood." *Imagination, Cognition, and Personality* 30:249–58.
- . 2012. "Enhancing Empathy and Theory of Mind." *Journal of Cognition and Development* 13:19–37.
- Gopnik, Alison, and Caren M. Walker. 2013. "Considering Counterfactuals: The Rela-

- tionship between Causal Learning and Pretend Play.” *American Journal of Play* 6:15–28.
- Harris, Paul L. 2000. *The Work of the Imagination*.
- Harris, Paul L., and Malak Jalloul. 2013. “Running on Empty? Observing Causal Relationships of Play and Development.” *American Journal of Play* 6:29–38.
- Hirsh-Pasek, Kathy. 1991. “Pressure or Challenge in Preschool? How Academic Environments Affect Children.” *New Directions for Child Development* 53:39–46.
- Hirsh-Pasek, Kathy, Roberta Michnick Golinkoff, Laura E. Berk, and Dorothy G. Singer. 2008. *A Mandate for Playful Learning in Preschool: Presenting the Evidence*.
- Howes, Carollee. 2011. “Social Play of Children with Adults and Peers.” In *The Oxford Handbook of the Development of Play*, edited by Anthony D. Pellegrini, 231–44.
- Kim, Kyung Hee. 2011. “The Creativity Crisis: The Decrease in Creative Thinking Scores on the Torrance Tests of Creative Thinking.” *Creativity Research Journal* 23:285–95.
- Kuhl, Patricia K. 2007. “Is Speech Learning ‘Gated’ by the Social Brain?” *Developmental Science* 10:110–20.
- Lillard, Angeline S., Matthew D. Lerner, Emily J. Hopkins, Rebecca A. Dore, Eric D. Smith, and Carolyn M. Palmquist. 2013. “The Impact of Pretend Play on Children’s Development: A Review of the Evidence.” *Psychological Bulletin* 139:1–34.
- Mitchell, Robert W. 2007. “Pretense in Animals: The Continuing Relevance of Children’s Pretense.” In *Play and Development: Evolutionary, Sociocultural, and Functional Perspectives*, edited by Artin Göncü and Suzanne Gaskins, 51–75.
- Moore, Blaine H., and Helen Caldwell. 1993. “Drama and Drawing for Narrative Writing in Primary Grades.” *The Journal of Educational Research* 87:100–10.
- Nicolopoulou, Ageliki, Kai Schnabel Cortina, Hande Ilgaz, Carolyn Brockmeyer Cates, and Aline B. de Sá. 2015. “Using a Narrative- and Play-Based Activity to Promote Low-Income Preschoolers’ Oral Language, Emergent Literacy, and Social Competence.” *Early Childhood Research Quarterly* 31:147–62.
- Nicolopoulou, Ageliki, and Hande Ilgaz. 2013. “What Do We Know about Pretend Play and Narrative Development? A Response to Lillard, Lerner, Hopkins, Dore, Smith, and Palmquist on ‘The Impact of Pretend Play on Children’s Development: A Review of the Evidence.’” *American Journal of Play* 6:55–81.
- Nicolopoulou, Ageliki, and Elizabeth S. Richner. 2007. “From Actors to Agents to Persons: The Development of Character Representation in Young Children’s Narratives.” *Child Development* 78:412–29.
- Pellegrini, Anthony D. 2009. *The Role of Play in Human Development*.
- , ed. 2011. *The Oxford Handbook of the Development of Play*.
- Pepler, Debra J., and Hildy S. Ross. 1981. “The Effects of Play on Convergent and Divergent Problem Solving.” *Child Development* 52:1202–210.
- Piaget, Jean. 1962. *Play, Dreams, and Imitation in Childhood*.
- Picciuto, Elizabeth, and Peter Carruthers. 2012. “The Origins of Creativity.” In *The Philosophy of Creativity*, edited by Elliott Samuel Paul and Scott Barry Kaufman, 199–223.
- Podzlon, Ann. 2000. “Strengthening Verbal Skills through the Use of Classroom Drama:

- A Clear Link." *Journal of Aesthetic Education* 34:239–75.
- Reed, Jessa, Kathy Hirsh-Pasek, and Roberta Michnick Golinkoff. 2012. "Drawing on the Arts: Less-Traveled Paths towards a Science of Learning?" In *Knowledge Development in Early Childhood: Sources of Learning and Classroom Implications*, edited by Ashley M. Pinkham, Tanya Kaefer, and Susan B. Neuman, 71–89.
- Roskos, Kathleen A., and James F. Christie. 2013. "Gaining Ground in Understanding the Play-Literacy Relationship." *American Journal of Play* 6:82–97.
- Rubin, Kenneth H., William M. Bukowski, and Julie C. Bowker. 2015. "Children in Peer Groups." In *Ecological Settings and Processes, Handbook of Child Psychology and Developmental Science*, 7th ed., Vol. 4, edited by Marc H. Bornstein and Tama Leventhal, 175–222.
- Rubin, Kenneth H., Robert J. Coplan, and Julie C. Bowker. 2009. "Social Withdrawal in Childhood." *Annual Review of Psychology* 60:141–71.
- Rubin, Kenneth H., Greta G. Fein, and B. Vandenberg. 1983. "Play." In *Socialization, Personality and Social Development, Handbook of Child Psychology*, Vol. 4, edited by Paul H. Mussen, 693–774.
- Rubin, Kenneth H., and Nina Howe. 1986. "Social Play and Perspective Taking." In *The Young Child at Play, Reviews of Research*, Vol. 4, edited by Greta Fein and Mary Rivkin, 113–125.
- Rubin, Kenneth H., and Linda Rose Krasnor. 1980. "Changes in the Play Behaviours of Preschoolers: A Short-Term Longitudinal Investigation." *Canadian Journal of Behavioural Science* 12:278–82.
- Rubin, Kenneth H., Kathryn S. Watson, and Thomas W. Jambor. 1978. "Free-Play Behaviors in Preschool and Kindergarten Children." *Child Development* 49:534–36.
- Russ, Sandra W. 2004. *Play in Child Development and Psychotherapy: Toward Empirically Supported Practice*.
- Russ, Sandra W., and Claire E. Wallace. 2013. "Pretend Play and Creative Processes." *American Journal of Play* 6:136–48.
- Sawyer, R. Keith. 2008. "Arts, Creativity, and Learning: Future Directions." In *Art, Creativity, and Learning*, National Science Foundation Final Workshop Report, June 11–13, 2008, edited by Christopher Tyler, Daniel Levitin, and Lora Likova, 50.
- Shrout, Patrick E., and Joseph L. Fleiss. 1979. "Intraclass Correlations: Uses in Assessing Rater Reliability." *Psychological Bulletin* 86:420–28.
- Singer, Dorothy G., and Jerome L. Singer. 2005. *Imagination and Play in the Electronic Age*.
- Sylva, Kathy. 1977. "Play and Learning." In *Biology of Play*, edited by Barbara Tizard and David Harvey, 59–73.
- Tomasello, Michael. 2009. *Why We Cooperate*.
- Vygotsky, Lev S. 1967. "Play and Its Role in the Mental Development of the Child." *Soviet Psychology* 5:6–18.
- Winner, Ellen. 2006. "Development in the Arts: Drawing and Music." In *Cognition, Perception, and Language, Handbook of Child Psychology*, 6th ed., Vol. 2, edited by Deanna Kuhn and Robert Siegler, 859–904.

- Winner, Ellen, Thalia R. Goldstein, and Stéphan Vincent-Lancrin. 2013. *Art for Art's Sake? The Impact of Arts Education*.
- Wyver, Shirley R., and Susan H. Spence. 1999. "Play and Divergent Problem Solving: Evidence Supporting a Reciprocal Relationship." *Early Education and Development* 10:419–44.
- Youngblade, Lise M., and Judy Dunn. 1995. "Individual Differences in Young Children's Pretend Play with Mother and Sibling: Links to Relationships and Understanding of Other People's Feelings and Beliefs." *Child Development* 66:1472–492.
- Zigler, Edward. 2009. "Foreword." In *A Mandate for Playful Learning in Preschool: Applying the Scientific Evidence*, edited by Kathy Hirsh-Pasek, Roberta Michnick Golinkoff, Laura E. Berk, and Dorothy G. Singer, ix–xiii.