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# Pretend Play and Creative Processes



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The authors contend that many cognitive abilities and affective processes important in creativity also occur in pretend play and that pretend play in childhood affects the development of creativity in adulthood. They discuss a variety of theories and observations that attempt to explain the importance of pretend play to creativity. They argue that rigorous research supports the association between the two but note that experimental studies are difficult to conduct for a number of reasons. A few promising, well-done studies, they conclude, suggest that engaging in pretend play fosters the development of creativity. And they call for further research—correlational, experimental, and longitudinal—to focus on specific processes in both play and creativity. They suggest that large-scale, multisite studies planned by researchers from different perspectives would be optimal. **Key words:** affect in creativity; creativity: divergent thinking; pretend play

**P**RETEND PLAY is a creative act. In pretend play, we can observe the creativity as it occurs, minute by minute. Theorists and researchers in the fields of child development, child psychotherapy, creativity, personality, and evolution have reached the conclusion that pretend play and creativity are linked. We believe these researchers confirm the connection because pretend play affords children opportunities to express many different processes—cognitive, affective, and interpersonal—important for creativity.

Pretend play constitutes an open-ended event and serves as a tool that a child uses for a variety of creative purposes. She can use such play, for example, to manipulate objects, mental images, and representations; to compose stories; to explore an imaginary cave (or a real one); to rehearse for a trip to the hospital; to recall a memory with many imbedded emotions; and to express positive or negative affect. This variety of possibilities offers an advantage to an individual child, but it confounds the individual researcher. This very variety is one of the reasons for the scattered nature of research in the field of play and creativity: Different children use different processes in different ways to develop their creative potential.

## Processes in Pretend Play and Creativity

What is pretend play? What is creativity? Both pretend play and creativity are multidimensional, and there are many similarities between the processes that occur in both of them (Russ 1993, 2004, 2014). Creativity researchers, beginning with Guilford in 1950, have identified cognitive abilities especially important for creativity, and many of these also characterize pretend play—divergent thinking, broad associative skill, insight, cognitive flexibility, and perspective taking (Russ 2004, 2014). Divergent thinking, an important ingredient of creative production, involves the ability to generate a variety of ideas (Runco 1991). To invent a new creative product, for example, producers might first generate a number of ideas and make remote associations. The ability to produce many ideas, to search one's memory broadly, and to think flexibly increases the odds that the producers will solve a problem creatively or produce a work of art. These cognitive abilities occur in play, and they are, as Singer and Singer (1990) have suggested, practiced in the safe arena of pretend play.

More recently, research has examined affective processes in creative production (Bass, DeDreu, and Nijstad 2008; Isen, Daubman, and Nowicki 1987; Russ 1993; Shaw and Runco 1994). Important affective processes that occur in both pretend play and creativity include producing affect themes in fantasy and memory, experiencing emotion (especially positive emotion), cognitive integration of affect, and experiencing joy in creative expression.

The many routes to creativity involve different profiles of these cognitive abilities and affective processes, which increases the probability of an individual generating a creative product, one that is original, of good quality, and appropriate to the task (Sternberg, Kaufman, and Pretz 2002). Different fields and different situations call for different creative processes, some more essential than others. For example, in science and engineering, the ability to think flexibly may be most important (Feist 2011). As Clement (1989) discussed, scientists need to be able to generate hypotheses and break out of old ways of thinking to solve problems creatively. In the arts, affective processes may be more important (Feist 2013; Russ 1993; Suler 1980). The artist needs the ability to recall affective experiences and the skill to transform these memories into the universal experiences of art. Consider, for example, how film maker Ingmar Bergman used childhood memories in his screenplays. In a 1983 interview with movie critic Michiko Kakutan, Bergman offered, "I have maintained open channels with my childhood. I think it may be that way with many artists. Sometimes in the night, when I am on the limit between sleeping and being awake, I can

just go through the door into my childhood and everything is as it was—with lights, smells, sounds and people. . . . I remember the silent street where my grandmother lived, the sudden aggressivity of the grown-up world, the terror of the unknown and the fear from the tension between my father and mother.” (Rothstein 2007, A20).

Pretend play enables the expression of many cognitive abilities and affective processes important in creativity. Pretend play embodies symbolic behavior in which “one thing is playfully treated ‘as if’ it were something else” (Fein 1987, 282). Fein stresses that pretense involves feelings and emotional intensity, making affect entwine with pretend play. Fein also regards play as a natural form of creativity. Her view agrees with the concept presented by Richard of everyday creativity (1990). For children, creativity in daily life often takes the form of pretend play. Pretend play becomes, then, a child’s creative product. Thus, researchers might study pretend play as either a measure of creativity or as an outlet for it; it can be a predictor of creativity or a measured outcome, depending on the nature of the study.

When children engage in pretend play, for example, we discover how they generate ideas and stories over a period of time. We can observe and measure their abilities to organize narratives: the amount of fantasy and make-believe in which they engage; their ability to symbolize or transform objects into representations of other objects (e.g., block becomes a milk bottle); their capacity for divergent thinking (i.e. to generate of a variety of ideas); and their skill at recombining objects, images, and story events. We can observe and measure their creative affective processes, such as their expressions of affect-laden themes and images (scary monsters, fighting soldiers, yummy birthday cake); their expressions of positive and negative emotion; their experiencing joy in playing and creating; and their integrating affect into a cognitive context (making affect fit the narrative). Not only is this subtle interaction of cognition and affect evident in children’s pretend play (Singer and Singer 1990), affect also influences cognition and vice versa. For example, research on mood induction has shown that positive affect states increase creativity on a variety of measures such as divergent thinking (Bass et al. 2008). In some way, positive affect broadens the association process so important to creative production. This same mechanism could be involved in the relation between pretend play and divergent thinking when positive affect is involved.

A number of theories explain why pretend play fosters creativity. Evolutionary theorists, for example, have speculated about the evolutionary advantage of play. Mitchell (2007) viewed play as a way for animals to practice for adult

activities. Burghardt (2005) thought that in play animals arouse both positive and negative emotions in a safe setting. Boyd (2009) speculated that the amount of play in a species correlates with flexibility of action in the species. If play prepares animals for necessary adult activities, what are the necessary activities for which pretend play prepares humans? Russ (2014) speculates that necessary human activities for which play provides practice fall into two broad categories: practice with problem solving and practice with processing emotions. Both categories foster creativity.

Other theoretical approaches to understanding pretend play and creativity emerged from observing individual children. Vygotsky (1930/1967) theorized that imagination and the capacity for combining things both develop from children's play. Piaget (1967) viewed play as a space for assimilation and adaptation. And, Singer and Singer (1990) suggested that pretend play requires practice in divergent thinking. Sawyer (1997) viewed pretend play as a form of improvisation—a hallmark of adult creativity. Dansky (1980) considered the free combination of objects and ideas that occur in play to resemble the process involved in creative thinking.

Some play therapists have observed and written about how pretend play also provides space for emotional expression and learning to modulate emotion (Freud 1965). Children can think about and express both negative and positive feelings in a pretend situation and slowly gain access to and integrate uncomfortable ideation, memories, and associations. Fein (1987) introduced the concept of an affect symbol system activated by pretend play and important to creativity. An affective symbol system stores information about emotional events and affective relationships which children manipulate and recombine in pretend play. There are similarities between Fein's concepts and psychoanalytic concepts of affect-laden ideation. These affect-laden themes and cognitions provide a richer store of associations and memories that the individual child (or adult) calls upon when creating. Isen, Daubman, and Nowicki (1987) hypothesized that positive affect increases creativity because it primes and broadens the associative process. Russ (2004) has emphasized the importance of both affect themes and affect experiences in creative thinking, especially in the arts. The concept of playfulness also involves positive affect during play itself. Singer and Singer (1990) have focused on the role of play in helping children develop balanced cognitive-affective interactions. Play helps children express and regulate emotions, positive and negative, so that they develop the capacity to feel, express, and think about emotion.

## Research Evidence

Ideally, play researchers would identify specific processes in play and creativity and study these processes. They might ask, for example, “How does divergent thinking in play relate to creative problem solving?” or “How do affect themes in the play narrative relate to creativity in stories?” For the most part, play scholars have not focused on specific components of play, and most studies are rather global in nature. In an attempt to measure specific cognitive and affective processes in play, Russ (1993, 2004) developed the Affect in Play Scale (APS), which measures imagination and the organization of narrative on a 1 to 5 scale. APS also measures—using a frequency count—affect themes in a narrative. Finally, the scale measures enjoyment of and absorption in the play task. The APS is a five-minute play task (using puppets and blocks) that asks a child to make puppets do something together. We include a few of the studies using the APS in our review of research.

Most research on play and creativity has focused on play and divergent thinking because many scholars assume creativity requires this cognitive skill. Also, researchers find assessing divergent thinking in children fairly easy, and they know the measures available for divergent thinking have proven valid. On the other hand, some scholars have criticized divergent thinking as a measure of creativity. Kaufman, Plucker, and Baer (2008) concluded that in many studies, divergent-thinking tests do not predict creativity. However, the Torrance Test of Creative Thinking (Kim 2008) offers strong evidence of predictive validity. Follow-up studies of this test for divergent thinking found that it predicted creative achievement forty years later (Cramond et al. 2005) and also fifty years later (Runco et al. 2011). These studies strengthen the empirical evidence that the ability to think divergently in childhood predicts creativity in adulthood. Tests of divergent thinking continue to be widely used for measuring child creativity.

A large number of studies have found significant relationships between different measures of pretend play and divergent thinking (Dansky 1999; Russ 2004, 2014). In a recent review, Lillard et al. (2013) criticized some of these studies for having the same individual administer both the play task and the divergent-thinking task, which raises the possibility of experimenter bias. However, we found a number of studies that did indeed use different examiners for the two tasks and still found significant associations, as hypothesized, between the play measure and divergent thinking (Lieberman 1977; Russ and Grossman-McKee 1990; Russ, Robins, and Christiano 1999; Singer and Rummo 1973).

In their longitudinal study, Russ, Robins, and Christiano found that imagination and organization in early play predicted divergent thinking four years later, and they used different examiners for the two tasks of the study. In other studies employing the APS which used the same examiner for both tasks, researchers administered the APS in a standard format, and they scored the results at a later time. They also administered the divergent-thinking task in a standard format with standard prompts, and they always scored the results blind. Four studies, each with a different school-aged population, found that the APS related to divergent thinking (Hoffmann and Russ 2012; Russ and Grossman-McKee 1990; Russ and Schafer 2006; Russ, Robins, and Christiano 1999). The preschool version of the APS related to divergent thinking in one study (Kaugars and Russ 2009). In a recent longitudinal study that followed the children in the Hoffmann and Russ study, Wallace (2013) found that pretend play predicted divergent thinking over a four-year period (2013). This conclusion replicates the findings of Russ, Robins, and Christiano (1999) already mentioned. In addition, when researchers controlled for baseline divergent thinking, play continued to predict divergent thinking. This finding suggests that components of play, in addition to relating to divergent thinking, are associated with shifts in divergent thinking over time.

In most studies with the APS, both imagination and affect themes in fantasy play related to the divergent-thinking measure. This relationship is important because affect has been neglected in play research despite its importance in creativity. The amount of affect—positive and negative—expressed in play related to divergent thinking. Also, many of the studies in Russ's research program at Case Western Reserve found significant relationships between play and divergent thinking, independent of intelligence. The studies considered intelligence a confounding variable and controlled for it. The findings are important because they indicate that the components of pretend play related to divergent thinking are separate from components of intelligence, which is consistent with findings in the creativity literature.

Studies have also established relationships between play and other measures of creativity. Kaugars and Russ (2009) found that pretend play in preschool children on the APS related to teacher ratings of make-believe in children's daily play. Hoffmann and Russ (2012) found that pretend play related to creativity in storytelling, independent of verbal ability, and the stories were rated for creativity by independent researchers. Given the number of studies in different research programs, with different child populations, and in different environments that have found significant relations between pretend play and creativity, and given

that some studies used different examiners for the different tasks, we conclude that good evidence exists for associating pretend play and creativity.

### **Experimental Evidence**

Whether a causal relationship exists between play and creativity remains key. Does engaging in play facilitate creativity? Several well-done studies provide evidence that pretend play facilitates divergent thinking in preschool children (Dansky 1980; Dansky and Silverman 1973). Dansky and Silverman found that children who played with objects during a play session produced significantly more uses for those objects than did a control group. Dansky refined the 1973 study and discovered that play had a generalized effect on objects different from those used in the play period. He also found that free play facilitated divergent thinking only for children who engaged in make-believe play. Make-believe and fantasy mediated the relationship between play and divergent thinking.

Smith and Whitney (1987) criticized Dansky's methodology, and, more recently, Lillard et al. raised the issue of Dansky's unconscious experimenter bias because the same experimenter administered the play intervention and the divergent-thinking task. Smith and Whitney avoided that pitfall. They had different experimenters administer the play segment of their study and the divergent-thinking portion. Their study failed to confirm that play enhances divergent thinking in preschool children. We wonder, however, if introducing a new examiner for the divergent-thinking task might have interfered with the experimental set being induced by the play task (Russ 2004). If Dansky's rationale for the effect was correct (i.e., that pretend play loosens the cognitive set and the old associations that facilitate divergent thinking) then interfering with that process might interfere with the effect play has on divergent thinking.

Still, a study by Russ and Kaugars (2000–2001) also found that play did not have an effect on divergent thinking. This study differed from Dansky's in that the children did not play with objects. Rather, they played with puppets and blocks on the APS, making up stories as they did so. Also, the children of the Russ and Kaugars study attended first and second grade, whereas the subjects of Dansky's study attended preschool. Russ and Kaugars randomly assigned eighty children to one of four groups: a happy puppet play group; an angry puppet play group; a free-play group; and a control puzzle group. Children in each group received different instructions. The researchers asked the first group to produce



a happy story; they asked the second to produce an angry story; they gave the third—the free-play group—the standard neutral APS instructions simply to make the puppets do something together. The same examiner administered the Alternate Uses test (on divergent thinking) immediately following the play task.

Russ and Kaugars found no effect for any of the play on divergent thinking. The experimental affect manipulation did work for the angry group (based on a mood check) but not for the happy group. So the hypothesis remains untested for the positive affect group. Nevertheless, the free-play group did not differ from the control group. Maybe the effects of pretend play on divergent thinking that does not include play with objects but rather includes make-believe story play will become apparent over time but not immediately after the play. Perhaps a more appropriate outcome measure would have been a storytelling measure, which raises the methodological issue of choosing the outcome measure that makes the best conceptual sense in a study.

Christie (1994) has cautioned against brief, one-trial studies on play. It may take time to discover the developmental effects of pretend play on creativity. There is evidence that when pretend play occurs in multiple sessions over time, creativity increases. For example, Kasari, Freeman, and Paparella (2006), in a randomized controlled study of children with autism, found that a play intervention increased symbolic play. The study included young children from three to five years of age and positioned the first intervention at the child's developmental level. The training involved modeling and prompting. Children engaged in thirty hours of play weekly for six weeks on a daily basis. This procedure seemed rather intensive, but it was necessary for children with autism. Children in the play group, compared with children in joint-attention and control groups, increased their symbolic play that generalized to play with mothers.

In a pilot study by Russ, Moore, and Farber (2004), school-aged children received five individual thirty-minute play sessions following a standard play-intervention protocol. Different examiners, blind to the group assignment, assessed baseline play and outcome play on the APS. There were two play groups (imagination and affect) and one control group (puzzles and coloring). The study offered a variety of toys to the play groups whose play was attended by an adult trainer. The study asked the children to play out specific story themes that focused on imagination (have a boy go to the moon) or affect (have a girl be happy at a birthday party). The adult trainer followed a child's lead in the story but also praised the child, modeled actions, and asked questions. Russ, Moore, and Farber controlled for adult interaction in the control group as well. This



study concluded that the play interventions effectively improved play skills on the APS. Affect play proved most effective in that, after the researchers controlled for baseline play, the affect play group had significantly higher play scores across the board. These children had more affect (both positive and negative) in their play, a greater variety of affect content, and better imaginations and story organization than had the control group. The imagination play group also exhibited significantly more positive affect and a greater variety of affect than the control group. Also—and importantly—when it came to divergent thinking, the study found play exerted significant group effects.

Although the individual contrasts did not prove significant, when Russ, Moore, and Farber inspected the profile plots, they indicated that the play groups (usually the affect play group) had higher scores on the divergent-thinking test. However, they obtained no baseline measure for divergent thinking, which limits the study. In a follow-up study of these children four to eight months later, Moore and Russ (2008) found the imagination group had improved their play skills over time. The affect group did not maintain the play changes over this period. It may be that an increase in affect expression from a play intervention is temporary, whereas an increase in imagination and pretend in play is longer lasting. The follow-up study did not find a significant group effect for divergent thinking. In fact, the control group now had higher scores. Perhaps booster sessions would have been useful in maintaining the initial group effects.

Although Smith and Whitney (1987) and Lillard et al. (2013) have raised a number of important methodological issues, we agree with Dansky's (1999) conclusion that there exist well-done studies with adequate control groups that have resulted in improved pretend play and imagination. At least enough studies presently exist to support proceeding with future work on this issue, no matter how challenging experimental research on play and creativity remains.

### **Methodological Challenges and Recommendations**

In truth, research into play and creativity takes effort—it is difficult and labor intensive. And, because it is so labor intensive, the research procedures often can involve only small samples. To study larger samples, research in the field needs more funding and better coordinated, multisite studies. The research projects need to include many researchers with a range of expertise designing broader studies that address the most important questions.

Both pretend play and creativity involve many processes, a number of them overlapping. Correlational, longitudinal, and experimental studies should focus on these processes. A study might ask, for example, does expressing affect themes in play, especially of a personal nature, enrich creative storytelling? Or, does increasing divergent thinking in play develop the divergent thinking important in creativity? Or, do the different processes involved in pretend play and in creativity have different developmental trajectories?

We need more standardized measures of play, measures we can adapt to assess play in natural settings. And, although standardized play helps the researcher, its very lack of spontaneity robs play of one of its defining characteristics. Natural settings allow spontaneous play to occur but also involve confounding variables (i.e. the toys available, the number of children, their varying personalities, school climate, etc). We need better measures, too, for affect expression and regulation, an important component of both play and creativity. We should also assess creativity in daily life. We might even consider an assessment of pretend play as a creativity outcome variable. Perhaps we should assess creativity through play when we assess creative potential in children.

We think it is important to investigate the individual differences in how children use play. Who can use it to facilitate creativity? On the surface, children who have poor imagination skills would be prime targets for intervention studies. Yet, some research suggests play facilitates creativity better for children who can already pretend (Dansky 1980). There is conflicting evidence: If you want to increase children's ability to pretend, it seems you should work with children who have play deficits (Kasari et.al 2006); If you want to use play to increase divergent thinking, you need to work with children who already know how to fantasize. And this conflict constitutes but one of the many issues we need to address in our research. Perhaps, for example, we need very different play intervention protocols for different subgroups of children.

In short, we need standardized, empirically validated play-intervention protocols designed to increase the ability to pretend, protocols that we can use in a number of settings. We are trying to develop one in our own research program. We have succeeded in some studies but not in others. Interestingly, we have been more successful at increasing pretend play in older children, six to ten years of age, than in preschool children. Perhaps for younger children, frequent parental involvement is important. In any case, clearly, the age of children in play studies is an important consideration.

Finally, there are so many variables contributing to the development of

creativity that, especially for longitudinal research, we need very large samples to demonstrate any possible effects, and again, these studies are expensive and require significant funding.

A real dilemma is exactly what to recommend to teachers and child-care workers about facilitating play and creativity in the classroom. We do not have a well-validated protocol to facilitate play in the classroom that also increases creative thinking. Although we are not there yet, Kasari and her colleagues (2006) have developed a protocol for children on the autism spectrum. Others need to develop a protocol for the classroom and for parents. In the meantime, Russ—based on experience in working with children in play therapy and in research, on various studies in the therapy and creativity research literature, and on observations of experienced teachers and therapists—has, in other publications, recommended that teachers and child-care workers make time for play, provide some adult guidance, enjoy the play, and provide unstructured toys. But the definitive research that demonstrates causation and the mechanisms underlying the effects remains to be done, so that specific techniques will have empirical support.

Given the challenges of such research, is it worth pursuing? Our answer is a definite “yes.” Converging evidence suggests that pretend play does help children develop creativity. Observations of children from many different perspectives support the theory that play has a role in creative development. The correlational evidence is strong. Some well-done experimental studies suggest that play can be facilitated and that some aspects of creativity are affected.

We believe, then, that pretend play is a tool children carry with them regardless of their circumstances. If we can enhance their ability to play, doing so should give them an advantage in creative problem solving and creative expression as they grow older and become adults. The challenge for our field is to prove it.

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