This year, the Cognitive Development Labs at Wesleyan University teamed up with Mattel™, one of the largest toy companies in the world, to look at how playing with toys contributes to children’s development.

The main purpose of this project was to understand how independent toy play supports development. We know that play is a critical part of early life, but how exactly does it affect growth? Do different toys benefit kids in different ways? To answer these questions, we gave 3- to 5-year-old children a toy to take home and play with every day for one month. At the beginning and end of the month, we played a series of games to track the impact of the toy.

We were most interested in the following developmental areas: theory of mind, numerical understanding, social preferences, spatial reasoning, and executive function. Children received one of four toys, each related to a specific domain. Regardless of their assigned toy, all children in the project played games related to all five developmental domains. Our aim was to see how each toy benefits development in each of these areas.
The Power of Play Project: 
Areas of Development, Toys, & Games

**Theory of Mind:** Older children and adults are able to understand what someone else might be thinking or feeling. This ability can be as simple as knowing that a person who is frowning may be upset, or as complex as knowing that by telling a lie, you know something that other people don’t. Young children have difficulty understanding the difference between their own thoughts and the thoughts of others, but slowly develop a theory of mind during the preschool years.

*The Toy*
Cape and Mask: We asked some children to play with a cape and mask. We wanted to see how promoting imaginative play and role-playing might help children consider what others are thinking.

*The Games*
Sally & Anne: We told a story about a girl, Sally, who hid a toy from her friend, Anne. The children knew where the toy was hidden, but Anne did not. We then asked, “Where will Anne look for her toy?” and “Where is the toy really?”

Surprising Objects: We had four toys that looked different from what they really were: a Play-Doh cup filled with paper, a crayon box filled with blocks, a rock that was squishy, and a book that opened like a box. After letting the children interact with the toys, we then asked, “If someone else looks at this toy, what will she think it is?”

**Numerical Reasoning:** By the age of two, children can generally recite a count list up to 10. However, it takes them another year and a half to learn the exact meanings of numbers and how counting represents numbers.

*The Toy*
Numbered Cars with Parking Lot: Some children received a set of ten cars, each labeled with a numeral 1 through 10. They also received a corresponding parking lot, with spaces marked by 1 to 10 dots. We wanted to see if these numbered cars improved children’s understanding of basic number concepts.

*The Game*
Point to the Number: We showed children two pictures and asked them to point to a picture with some number of objects. For example, we showed a picture with five birds and a picture with seven birds and asked, “Which has five birds?” Children were also asked to identify written numerals, like “3” and “5”, and to count to 20.
**Social Preferences:** Children have a natural preference to be friends with people who look similar to themselves and to the people around them. This natural inclination is evident even in very young children.

*The Toy*

Doll Family: We gave some children a family of dolls from diverse backgrounds to see if children who played with these toys were more willing to befriend people from various social groups.

*The Game*

Friendship Choice: Children saw sets of two pictures of kids their age. We asked them, “Who do you want to be friends with?”

**Spatial Reasoning:** Spatial reasoning skills are related to a variety of activities in school, including math and science. As kids get older, they develop a deeper understanding of how objects can be arranged in space.

*The Toy*

Building Blocks: Some children received a set of blocks so we could investigate how experience building and arranging blocks helps kids reason about the spatial relationships between objects.

*The Game*

Block Design: We showed children how to make a series of designs using red and white blocks. Using their own set of blocks, children tried to copy the design. As the game progressed, the arrangements got more complex.

**Executive Function:** Throughout childhood and adolescence, children gain skills related to general cognitive development. These skills include the ability to use multiple rules and inhibit impulsive responses. No toys were assigned to specifically improve children’s executive functioning. Instead, we were curious about how independent toy play, in general, may help kids develop these skills.

*The Games*

Giraffe & Lion: Children saw a puppet giraffe or a lion push one of two buttons. They were told that when the giraffe presses a button, they should press the same button. But, when the lion presses a button, they should press the opposite button. Children first played with the puppets separately, and then with both puppets at the same time.

Card Sort: Children played a sorting game with cards. They learned to match the cards based on either shape or color, and then tried alternating between the two sorting methods.