



## Parenting and Child Learning: The Role of Parental Beliefs About Child Learning and Language Development

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### Background

Children learn through play. Toddlers who spend more time building jigsaw puzzles have stronger spatial skills as preschoolers than toddlers who do not. Playing linear board games advances early math skills (Siegler & Ramani, 2008) and children who report more frequent engagement in constructive play (e.g., blocks, puzzles) score higher on math word problems, a relation mediated by their spatial skills (Oostermeijer, Boonen, & Jolles, 2014). In contrast, play with electronic toys reduces caregiver-child communication relative to play with blocks and books (Sosa, 2016). Yet, children from low-income homes spend more time with sound-producing toys than their higher-income peers (Jirout & Newcombe, 2015). Despite these outcomes and their impact on learning, limited research exists on how parental beliefs about learning during play contributes to children's cognitive outcomes.

This research explores the relation among parental beliefs about child learning, their toy preferences, and their education and socio-economic status (SES) and highlights the ways in which parental beliefs about child learning shapes toy choices. Results demonstrate how parental beliefs about early learning may shape the opportunities that children, 6 months to 4 years, have at home to develop their cognitive skills through play. Findings from this research will be used to inform Cornell Cooperative Extension (CCE) parent education programs.

### Research Goals

The goals of the research were to:

1. Document parental beliefs about early childhood learning and examine whether these beliefs vary with parent education and socio-economic status (SES).
2. Test whether parental beliefs shape their choice of play materials in the home (e.g., the percentage of electronic toys vs. traditional toys) and the educational value placed on these toys.
3. Examine which play materials, if any, parents believe support their child's learning and in particular, how parents view electronic toys (e.g., toys that provide sounds and light up) versus traditional toys (e.g., books, blocks, board games) as promoting learning.

4. Observe parent-child play interactions during a laboratory visit and test the relation among parent-child interactions, parental beliefs about child learning, and parental educational ranking of traditional versus electronic toys.

## Approach

To assess parental beliefs of child learning and play, we developed a Child Play Inventory Survey for parents ( $N = 339$ ) of children 2 to 5 years that we distributed via Amazon Mechanical Turk (MTurk). Parents were asked to rate the importance of play with a range of materials, such as play with board games, puzzles, figurines, building toys, tablets, electronic toys, and outdoor play. Most parents were between 25 and 34 years of age, identified as Caucasian, were college-educated, and resided in an urban or suburban area. In addition, 51% of parents had a male child or toddler or preschool age. Survey responses allowed us to explore relationships among parental beliefs about child learning, their toy preferences, and their education and socio-economic status (SES). Education level and socio-economic status were determined by career education level (i.e., High School, Some College/Associate Degree, College Degree, and Graduate Degree) and living demographics (i.e., urban, suburban, and rural.)

The Child Play Inventory Survey included categories, such as level of importance parents placed on specific play activities, level of frequency their child engaged in those particular play activities, and parental involvement with those activities (Table 1). We also asked parents about their level of agreement or disagreement with a specific statement about play (Table 2) and about two specific toys, one electronic toy and one traditional toy, such as building blocks. Finally, we asked how likely they were to select between the electric toy or the building blocks, and their reason for their toy selection.

**Table 1.** List of play activities. Parents were asked about their level of importance for these activities and the frequency that their children practiced these activities.

1. Has time to play every day.
2. Plays with you.
3. Plays with puzzles.
4. Plays with board games.
5. Plays with toy cars or trucks.
6. Plays with dolls or stuffed animals.
7. Uses the phone or tablet to play games or watch videos.
8. Plays with building toys, such as wooden blocks, Legos, Magna-tiles.
9. Reads books and/or pretends to read books.
10. Does arts & crafts.
11. Plays outdoors.
12. Plays with non-toy items, such as boxes, sticks, clothes, etc.
13. Plays with other children.
14. Explores and engages in free and unguided play.

15. Plays with electronic toys that make sound, light up, and/or move on their own.
16. Plays with sensory toys, such as slime, squeezey objects, bubbles, sand, etc.

**Table 2.** Statements about play. Parents were asked how much they agree or disagree with the following statements.

Play is ...
1. Something children do by themselves.
2. Something we do together.
3. Something children have time to do in school.
4. Something children do with other children.
5. Something that helps children learn.
6. Something that helps children prepare for school.
7. Something that helps children develop their motor skills.
8. Something that helps children develop language skills.
9. Something that helps children develop their social skills.
10. Something that helps children work out difficulties with other children.
11. Something that helps children manage emotions.
12. Something that helps children problem solve in their everyday life.

To further investigate our research question, we observed parent-child play interactions during a laboratory visit and tested the relationship among parent-child interaction, parental beliefs about child learning, and parental educational ranking of traditional versus electronic toys. Off-line coding of parent-child interactions will help us assess parents' frequency and quality of play with their child. Results will inform how: 1) parents' views of early learning may shape their selection of play materials; 2) materials shape the quality of play interactions with their child; 3) play materials in the home may impact children's early cognitive development; and 4) parenting programs aimed at families highlight the importance of play for supporting school readiness.

### **MTurk Findings**

Results from the survey demonstrated a clear distinction between play and school readiness. Parents who rated allowing their child time to play as important also rated play with a parent, puzzles, blocks, readings, arts and crafts, outdoor play, unguided play, and play with other children as important, and use of tablets and video watching as significantly unimportant.

### **Common Themes from Qualitative Findings**

When survey participants were asked about their beliefs between an electronic toy tablet versus a traditional toy, such as building blocks, we found the following themes:

1. Participants who selected to purchase the electronic toy over the building blocks believed that the electronic toy is more interactive, engaging, and entertaining for

the child, appropriate for learning numbers and letters, and provides more sensory stimulation.

2. Participants who selected the building blocks over the electronic toy believed that the building blocks promote more imagination and creativity and last longer over the years. Also, this group of participants selected the building blocks because it was their personal preference or they believed that their child would be more inclined to play with building blocks.

**Parental beliefs about school readiness.** Most survey participants believed the electronic toy would promote school readiness as it included options for learning letters and numbers. They further believed that the electronic tablet promotes the use of technology necessary for school. This was a limitation in our study as there are limited electronic toys in the market that meet the age-appropriate criteria without a language or math learning component.

**Parental beliefs about language development.** Most survey participants believed the electronic toy would promote language skills as it included the alphabet and word sounds to assist with language learning. However, some participants believed building blocks were better at promoting language development because they promote the exchange of ideas and creative communication between people, an interesting belief worth exploring in future research.

**Parental beliefs about creativity.** Most survey participants believed that building blocks promote imagination and creativity over the electronic toy as the blocks provide endless possibilities for play.

## **Next Steps**

Building off of the MTurk survey results, we are expanding our research to include parent interviews and laboratory observations of parent-child play interactions. This data will allow us to further distinguish the differences in how parental beliefs inform toy selections, based on whether parents view play as a time to explore creative and imaginative thinking or time to prepare for school. Interview responses and videotaped interactions will be coded for behaviors that may promote creativity and imagination, key components of learning through play and cognitive and language development, key components of school readiness.

**Visit the *Parenting Project* website at:**

<https://www.human.cornell.edu/engagement/parenting-project>

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