

Wonder Room Evaluation Study Preliminary Findings

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Purpose

This evaluation study was designed to answer two key questions:

- What evidence is there that CMA's Wonder Room engages visitors in play?
- What role do the works of art have in the play that happens in the Wonder Room?

Sample

A total of 31 visitor groups were observed during their visit to the Wonder Room. CMA staff used a GoPro to video record visitors as they engaged with the art, connectors, and each other in the Wonder Room. Visitors were selected at random.

Of the 31 visitor groups, 22 (71%) were intergenerational groups, and the remaining 9 groups (29%) were all adult groups. Visitor groups spent an average of 21 minutes, and 20 seconds in the Wonder Room. The minimum time spent was 4 minutes, 58 seconds and the maximum time spent was 69 minutes, and 9 seconds.

Findings

What evidence is there that the Wonder Room engages visitors in play?

Researchers approached this question through a variety of lenses, including: 1) the frequency in which visitors engaged in play, 2) the different types of play in which visitors engaged, and 3) where in the

Wonder Room visitors engaged in play. Each of these topics are discussed in detail below.

Frequency of Play

Across all 31 visitor groups, a total of 182 instances of play were observed in the Wonder Room. On average, visitor groups engaged in 5 instances of play. The maximum instances of play observed within a visitor group was 21 and the minimum instances of play observed was 0. Two of the all-adult visitor groups, and 1 of the intergenerational groups did not demonstrate any observable signs of play.

A Pearson correlation was computed to assess the relationship between the amount of time spent in the Wonder Room and the total instances of play observed in each group. There was a positive correlation between the two variables ($r=0.618$, $n=31$, $p=0.000$). In other words, the frequency in which play occurs increases as the amount of time spent in the Wonder Room increases.

Different Types of Play

Researchers looked for evidence of 6 different types of play (Stuart Brown, 2010): 1) pretend play, 2) storytelling play, 3) creative play, 4) social play, 5) object play, and 6) body/movement play. Descriptions of the 6 different types of play are provided in Table 1 below:

	<i>Dimension</i>	<i>Definition</i>
(1)	Pretend or imaginative play	Play in which someone invents scenarios from his or her imagination and acts with them as a form of play; Can involve moving back and forth between reality and pretend. E.g., role-playing (I'm a pirate)
(2)	Storytelling play	The play of learning and language that develops intellect; E.g., a parent reading aloud to a child, or a child retelling the story in his or her own words.
(3)	Creative play	By which one plays with imagination to transform/transcend what is known in the current state, to create a higher state; E.g., experimenting to find a new way to use a musical instrument, thereby taking that form of music to a higher plane.
(4)	Social play	Play which involves others in activities, and builds connections with another person or group of people;

		E.g., peekaboo, making faces at each other, playing a game together.
(5)	Object play	Manipulating objects/handling physical things in ways that use curiosity; E.g., banging pots and pans.
(6)	Body and movement play	Play in which someone explores the ways in which his or her body works and interacts with the world; E.g., making funny sounds, or slapstick comedy

Researchers analyzed the frequency with which each of these types of play occurred across the sample. (See Figure 1.) Object play was the most commonly observed type of play; 73 of 182 instances of play (40%) were classified as object play. Most of the instances of object play that were observed consisted of visitors making art at one or more of the Connectors. Just over a quarter of the instances of play (26%) were classified as social play, while another 14% were classified as pretend play. Body/movement, storytelling, and creative types of play only made up a small percentage of the total instances of play that were observed in the Wonder Room.

On average, visitor groups engaged in somewhere between 2-3 types of play (mean = 2.61), with a minimum on 0 types of play and a maximum of all 6 types of play.

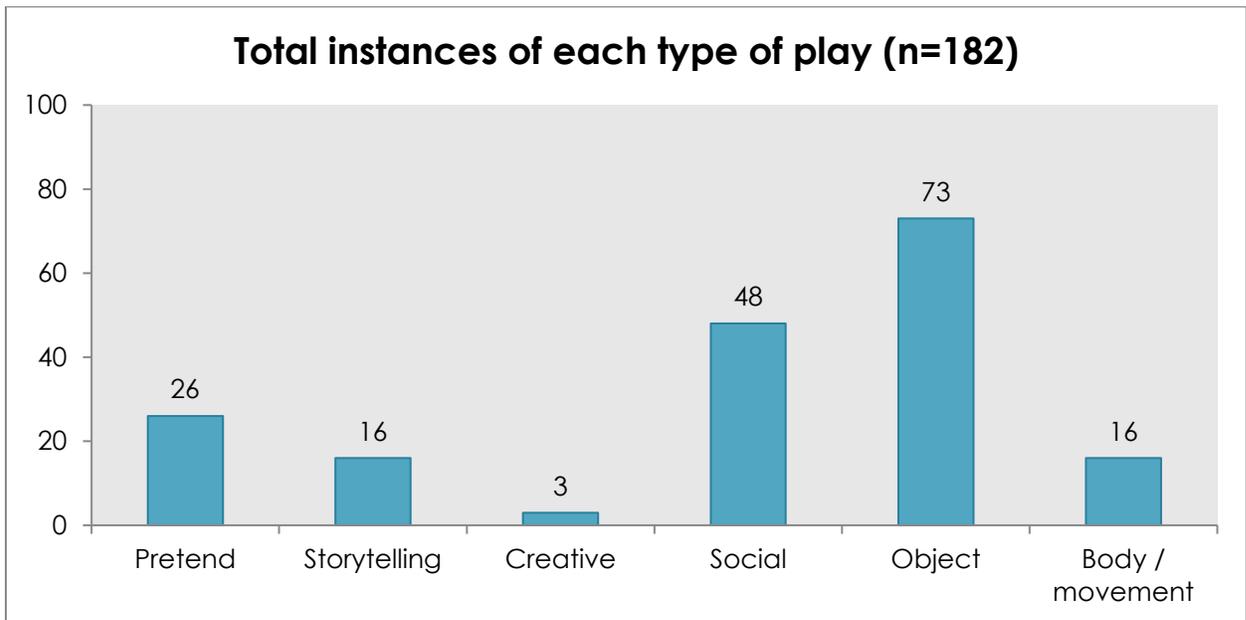


Figure 1: Instances of Play (n=182)

Object Play

Twenty-four of the 31 visitor groups (77%) were observed engaging in object play. Of those 24, 21 (88%) were intergenerational groups, and the remaining 3 groups (12%) were all adult groups. On average, groups who were observed engaging in object play did so 3 times, with a minimum of one time and a maximum of nine times. Visitors engaged in object play throughout the Wonder Room. (See Figure 2)

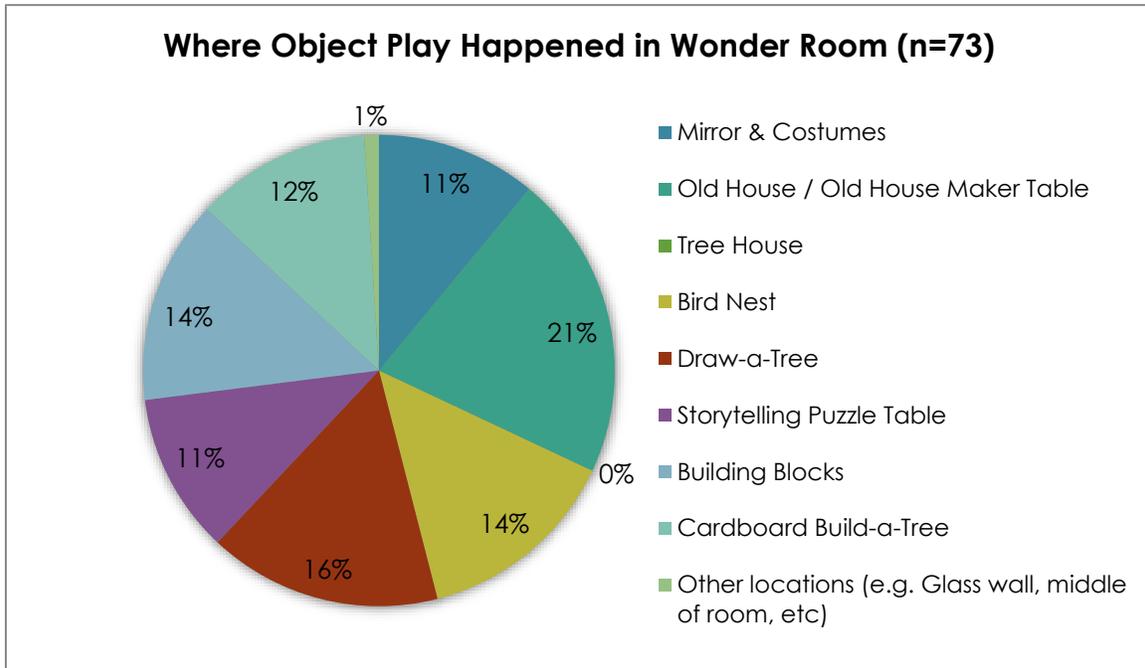


Figure 2: Distribution of Object Play within Wonder Room (n=73)

Some examples of visitors engaged in object play include:

An adult female points to Build a Block Connector activity and says to her toddler-age son with excitement: "What is that?!?" Mother and son begin to pick up the different wood pieces and place them on the table. The young boy picks up two pieces and bangs them together to make sound.

A mother and son approach the Bird Nest Connector. The mom says to the son with excitement: "Did you see this? Look at all the bird's nests!" The mother and son sit down at the connector and begin to manipulate the materials. The mother and son seem to be working together and talking; they continue to work on creating a bird nest.

An adult male is over picking up the costumes and when the female approaches he looks up, almost guiltily, and says "what's up?" They

both start laughing. He says, "I'm just playing around with stuff." They both dig around in the costumes and the male tries on a mask but they do not really act anything out.

A young girl builds on her own at the Cardboard Build a Tree Connector. She experiments with placement of the pieces so as to balance the sculpture. "There!" she says to her mom when she's done.

Two adult women and two kids build at the Build with Wood Blocks Table. They are all laughing while trying to make the blocks balance the higher they build.

Social Play

Eighteen of the 31 visitor groups (58%) were observed engaging in social play. Of those 18, 16 (89%) were intergenerational groups, and the remaining 2 groups (11%) were all adult groups. On average, groups who were observed engaging in social play did so 2.5 times, with a minimum of one time and a maximum of nine times. Social play was observed throughout the Wonder Room, with the highest concentrations being observed at the Old House Maker Station (25%), the Tree House (25%), and the Mirror and Costumes (19%). (See Figure 3)

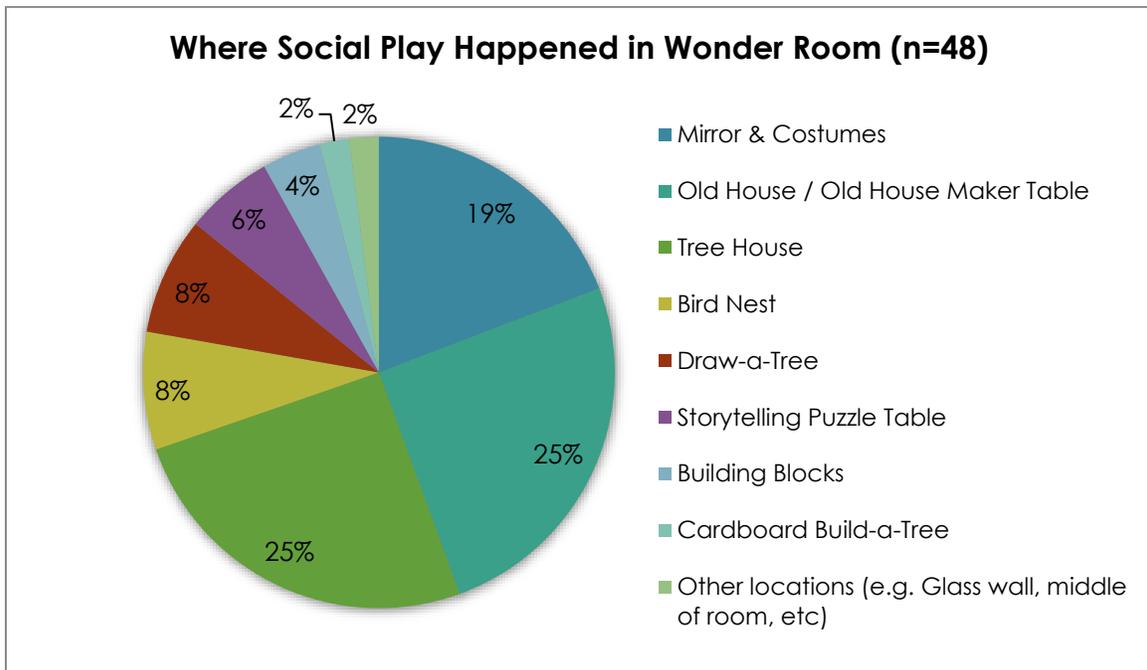


Figure 3: Distribution of Social Play within Wonder Room (n=48)

Some examples of visitors engaged in social play include:

A boy runs through the door of the Old House and his mother playfully runs up from behind, yelling "Peekaboo!"

A mother and her teenage son look carefully at the displays in the Old House. They are talking at a whisper level but appear to be giggling off and on. At one point they turn to the camera and the mother says: "We are trying to figure out who took the spoon and well... (laughing and pointing to one of the displays) suspect #1!" There was also one back here (referring to another artwork - they move towards it and F points). See?"

Two adult males sit down at the make a tree connector and begin to create something. They discuss their process. One male asks his companion: "what is your inspiration" and then looks up to the examples other visitors' have hung in the display above. "What is the state tree?" Maybe it's up here (looks up to the examples). I'm going to make a hole in my tree. [Companion] "Who lives in the hole?" [Male]: Woodpeckers? [Companion]: "Badgers? Woodpeckers peck holes in trees." [Male] "I'm going to draw a woodpecker. I don't know how to draw a bird. I'm going to draw a stick bird."

A boy and girl play the knock-knock anybody home game again with their grandmother. "Peekaboo!" The grandmother comes up the stairs. They all giggle. The girl lays down on some pillows and pretends to sleep. They say "night night"

Mom and girl work on puzzle..."We're working together, Mommy!"

Pretend Play

Fifteen of the 31 visitor groups (48%) were observed engaging in pretend play. Of those 15, 12 (86%) were intergenerational groups, and the remaining 2 (14%) were all adult groups. On average, groups who were observed engaging in pretend play did so just once, with a minimum of one time and a maximum of two times. Pretend play was most commonly observed at the Costume & Mirror Connector; 65% of pretend play instances were seen at this activity. (See Figure 4).

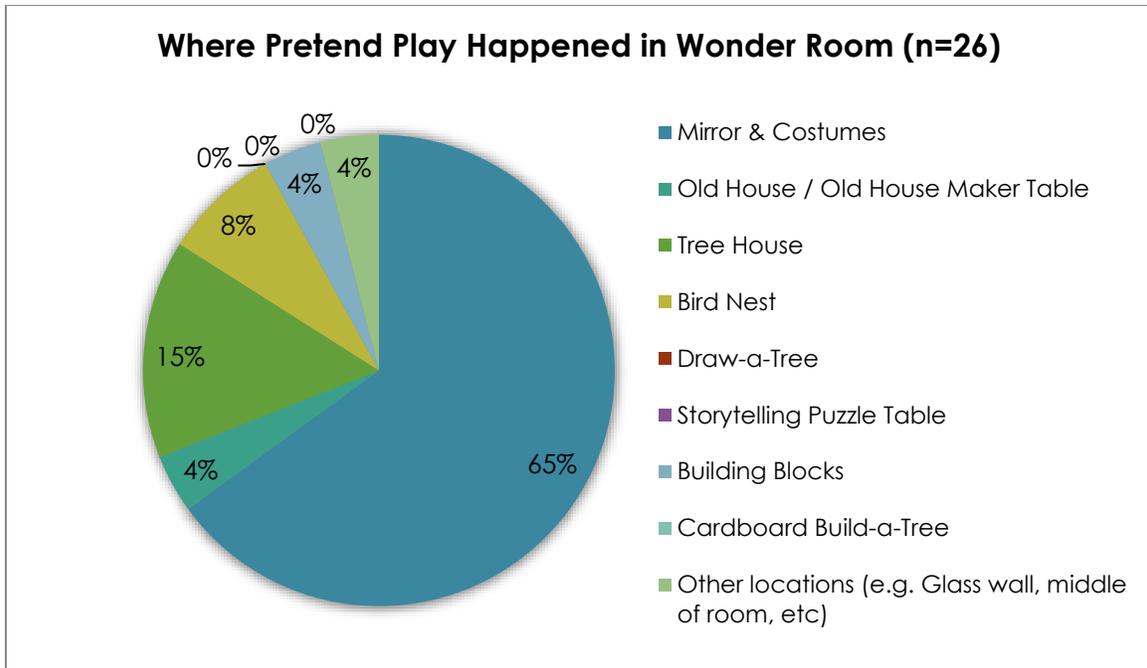


Figure 4: Distribution of Pretend Play within Wonder Room (n=26)

Some examples of visitor groups engaged in pretend play include:

An older girl puts on costume and stands in front of the mirror flapping her arms and making animal noises. Her Grandma tries on a large cape and then wraps it around the young girl, saying: "Where did she go? There she is!"

An adult female puts the cape on her teenage boy. The boy says: "What are you doing? You're putting it on the wrong way." The adult replies: "You know what I think? You can put it on anyway you want. This is an art museum for god sake!" The adult female hands him the owl paw to try on: "There's no wrong way. You can be anything." The teenage boy picks up another costume piece "Oh yea. I'm feeling it." (laughing) He looks at the videographer and starts making animal noises.

At the costumes, an adult male says: "I'm like a stingray." The adult female tries on something, and exclaims: "I'm a dragon. I have dragon arms." The young boy replies: "You look like a cheaper version of a Panda." Adult female: "I have wings too." (looks in mirror). "Like a baby chick or something."

A mother and her son go over to the costumes. The mother suggests her son can be a dinosaur. The mother's friend and the friend's daughter join the group and the first mother helps the boy try on different pieces of a costume. The other mother helps her daughter. The boy runs after the girl with a mask on and makes sounds trying to scare her. These look

like the "wild things!" The first mother shows her son how to flap his wings up and down. The group talks about Halloween and then try to guess what the different costumes are: "Is it a horse? Is it a monkey?" The first mother and her son gallop around like a horse: "I think this is a seahorse! Do you want to be a seahorse underneath in water and go for a swim?" The young girl pretends she is swimming through the space.

Three adults in their 20s create at the Old House maker station. One of the males picks materials up from the table and wraps them around his glasses in a silly way and then asks the female if his glasses look okay [waiting for a response]. Then he sits down and picks up an object made by another visitor. "What is this? A hat? [Female]: It's a crown." Male puts it on. "I'm king of the apes!" The Female makes something that she holds up and shows to the group. It looks like a person and she animates it by making it sing and dance. The other adult male makes something that looks like a hat, which he puts on and shows the group.

Storytelling Play

Eleven of the 31 visitor groups (35%) were observed engaging in storytelling play. Of those 11, 6 (55%) were intergenerational groups, and the other 5 groups (46%) were all adult groups. On average, groups who were observed engaging in storytelling play did so just once, with a minimum of one time and a maximum of three times. Instances of storytelling play were documented at a variety of locations throughout the Wonder Room. The highest concentration of storytelling play (31%) happened at the Storytelling Puzzle Connector and/or large artworks located directly behind the Connector. (See Figure 5)

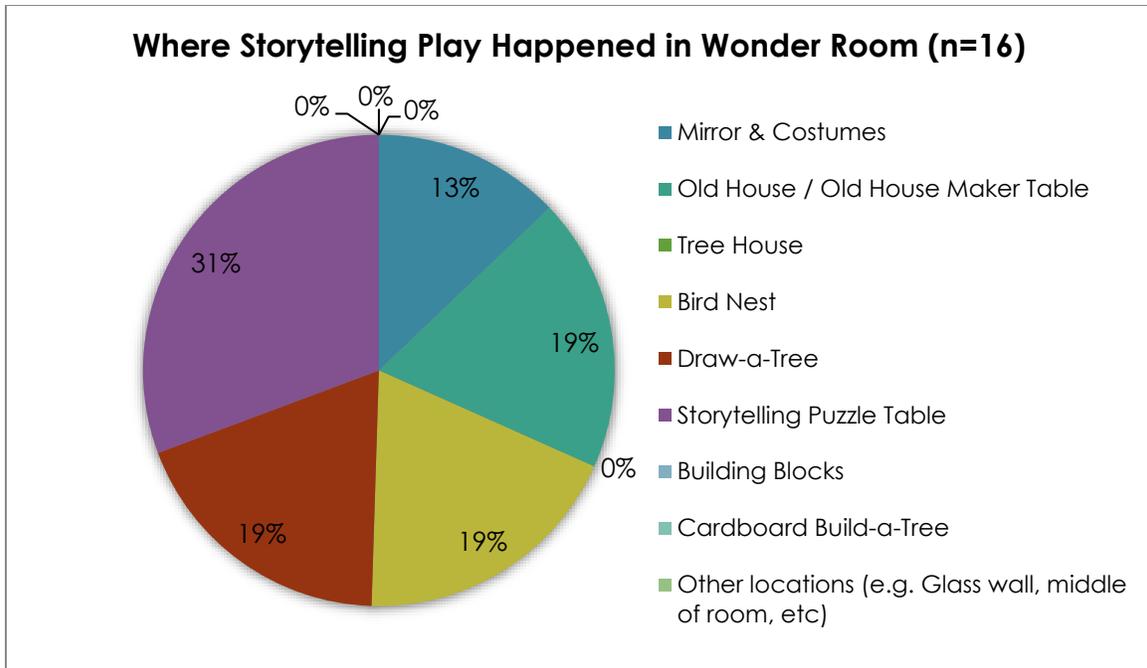


Figure 5: Distribution of Storytelling Play within Wonder Room (n=16)

Some examples of visitor groups engaged in storytelling play include:

Adult Male to Female companion while looking at the large landscape paintings near the front entrance: "Maybe they are looking for their meal? Maybe that is a child and another one is back there climbing in or out of the basket. And those woods are haunted!"

An adult male starts to tell a story to his male companion while looking at objects on display in the Old House: (most was inaudible, but here's what was picked up) "little red table/cable...and the river... so I'm on...and it's a snail and he had just crawled out of his shell. So he's over there and the shell is over here. And it was amazing. I'd never seen a snail out of its shell." [Companion] "No me neither." [First Male] "I'd like to watch one emerge. I mean how do they get their legs out of the shell?"

A boy finishes his creation at the Bird Nest Connector and his mother asks him to tell her about it. The boy explains how there are stairs for the bird and how the bird has "2 daddies and 3 mommies." The mother laughs about this and tries to keep the story going by asking what they eat, etc...

Body / Movement Play

Ten of the 31 visitor groups (32%) were observed engaging in body/movement play. Of those 10, 9 (90%) were intergenerational groups,

and the remaining group (10%) was an all-adult group. On average, groups who were observed engaging in body/movement play did so 1.5 times, with a minimum of one time and a maximum of four times. For the most part, body / movement play occurred in two locations within the Wonder Room: at the Costumes & Mirror Connector (44%) or in the Tree House (38%). (See Figure 6)

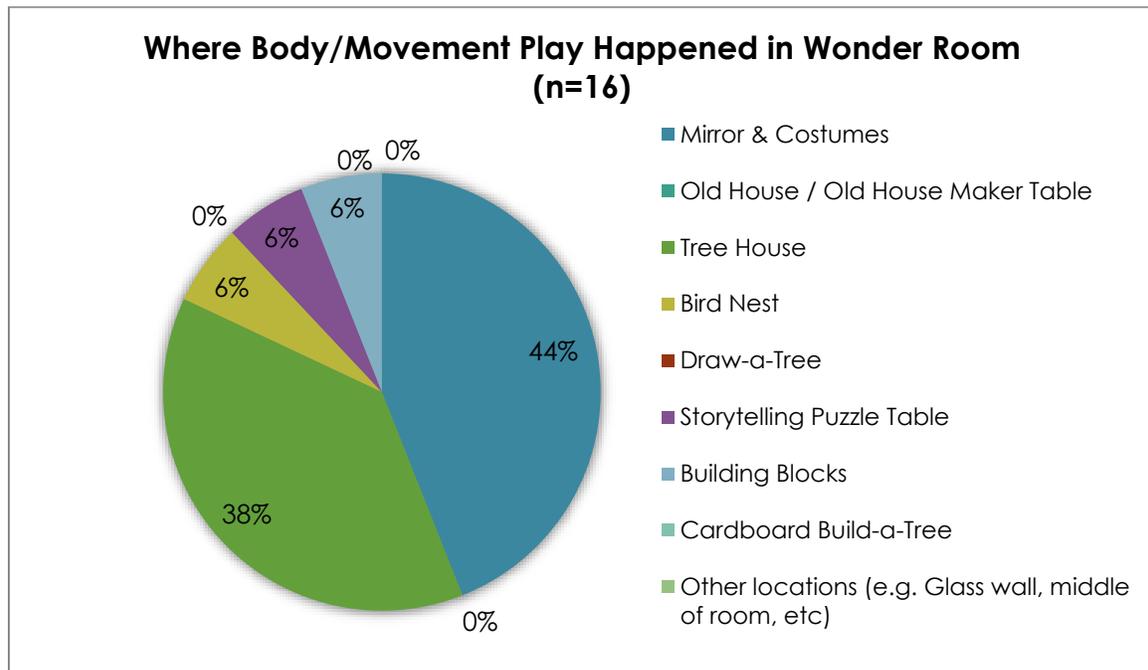


Figure 6: Distribution of Body/Movement Play within Wonder Room (n=16)

Some examples of visitors engaged in body/movement play include:

Two adult males in their 20s experiment with the mirror. They flap around, dance, and tickle each other. "How does this work? This would be so much better drunk! Is it a two way mirror?" They help each other into costumes while laughing.

An adult male in his 20s runs after another adult male to the Tree house and climbs up. "Dude, this is awееeesomeeee!" Several of their female companions follow. The males lie on pillows and ask who can take a picture. One Female asks who wants to tell a scary story. The two males joke about "spooning." Two more males come up and ask if they are too late for the picture and join the rest on the group on the pillows. It is dark on the video but they appear to be doing some sort of "rough and tumble" play. The girls joke that they've seen enough and leave. The boys continue to joke about "cuddling."

A mother says to her toddler-age daughter while at the Storytelling Puzzle Connector: "You know what we need is all of your cars - to drive on the lanes (of the puzzles)." The mother takes the fingers of the girl and

presses them down onto the paths in the puzzle so that she can trace the shapes in the road. At the same time she makes the sound of a car whizzing by "vroooooommmmmmm."

Three girls crawl underneath the Tree house - hiding - young girl comes out - Grandma says, "Good job!!"

A boy stands in front of the mirror, talking to himself, dancing, clapping his hands, and singing.

Creative Play

Only three of the 31 visitor groups (10%) were observed engaging in creative play. Two were intergenerational groups, and the other was a group of young adults. Each group was observed engaged in creative play once. Creative play was observed once at the Mirror & Costumes Connector, once at the Bird Nest Connector, and once at the Cardboard Build A Tree Connector. (See Figure 7)

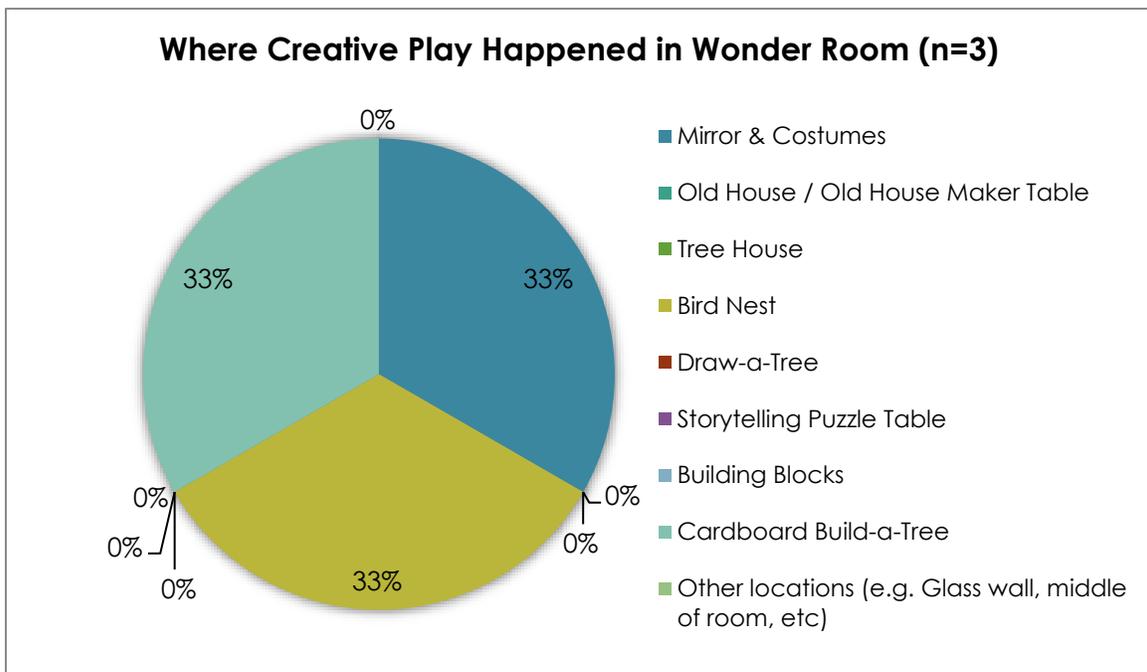


Figure 7: Distribution of Creative Play within Wonder Room (n=3)

Examples of creative play include:

A group of children have taken off the costumes and are sitting on the floor talking about what they COULD do in this space: "we would need stage make-up and glasses and more wings, and feet, and arms, just more costumes..." They're imaging what other things they could do

with costumes in this space. One kid spins on the floor again, around in circles. Kids start making up creatures that would have several of the costume/body parts - "You'd be a chimpanz-foot!"

A boy builds a sculpture...Mom helps...at one point, the sculpture leans over to touch the floor and rather than correcting it, the boy laughs, calls his brother over, and continues to build it out on the floor, creating a sort of "weeping" tree - his mom takes a picture of him beside it.

Two adult males in their 20's run over to the Bird Nest Connector with excitement. First they look at the displays on the wall and then sit down and start creating their own nests. They talk and joke throughout. They frequently refer to other visitors' nests. The two men look through all of the available materials and discuss their process. They imagine and joke about what real birds would say and create if they actually flew into the Wonder Room and had to use the same materials.

Where Do Instances of Play Happen Most Frequently in the Wonder Room?

Researchers recorded specific locations within the Wonder Room where instances of play were observed. Play was observed throughout the space, with the highest frequency occurring at the Mirror & Costumes Connector and Old House Maker Table & Display. (See Figure 8)

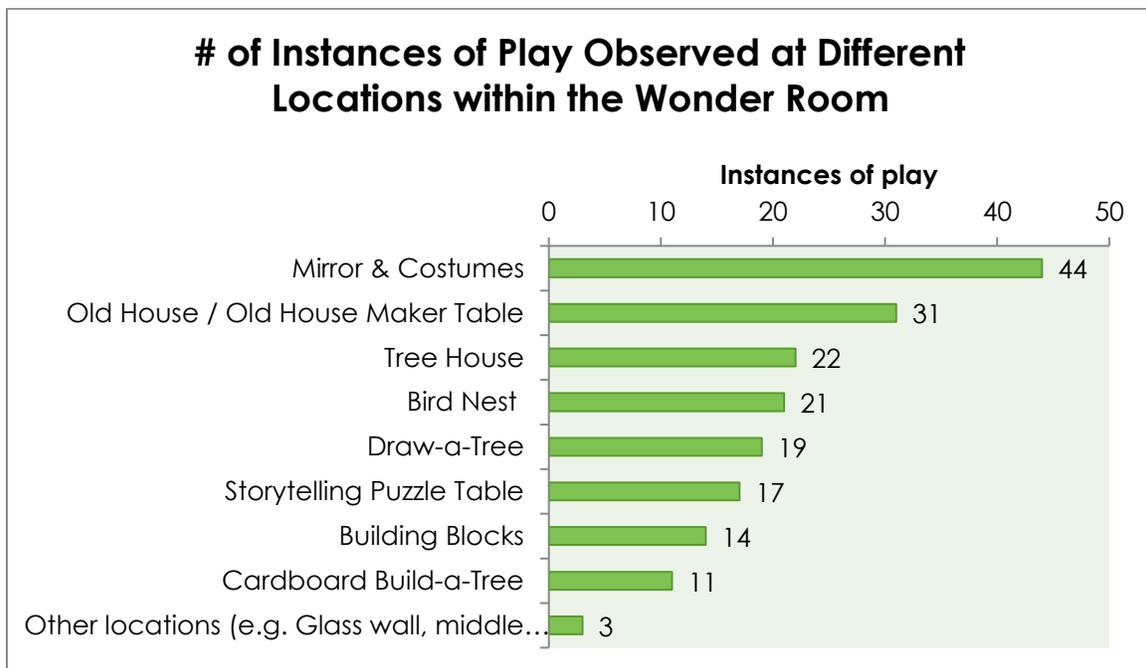


Figure 8: Distribution of where play is happening within the Wonder Room (n=182)

Mirror & Costumes

Close to a quarter (24%) of all instances of play observed in the Wonder Room happened at the Mirror & Costumes Connector. Just over half of the visitor groups (52%, n=16) engaged in play at this location. All 6 types of play happened at the Mirror & Costumes Connector, with Pretend Play happening the most frequently. (See Figure 9)

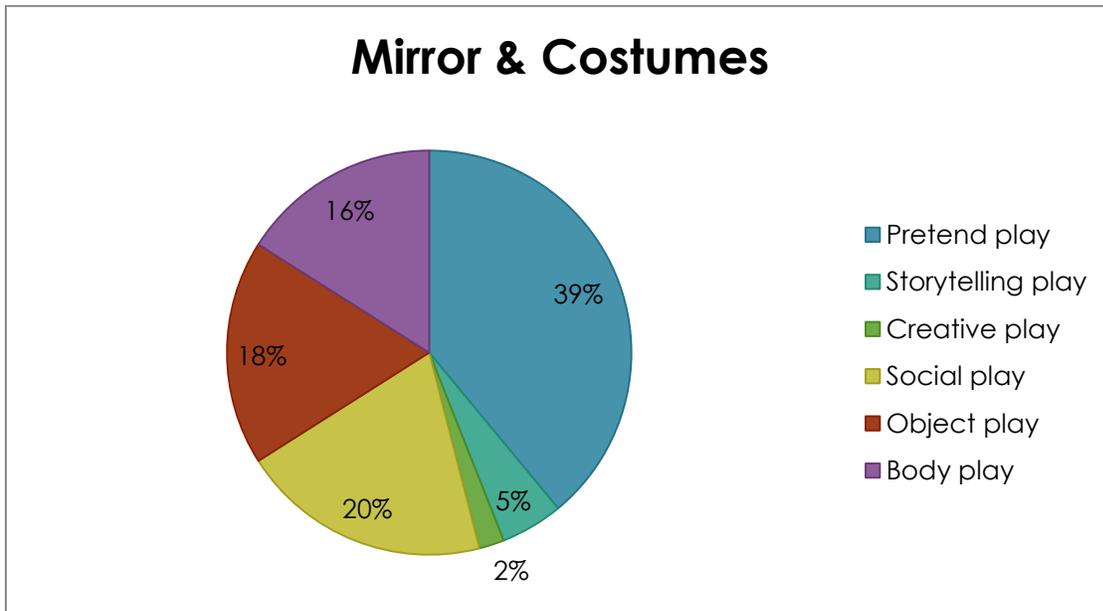


Figure 9: Types of play that happened at the Mirror & Costumes (n=44)

Old House Maker Station & Display

Seventeen percent (17%) of all instances of play observed in the Wonder Room happened at the Old House Maker Station & Display. Just over half of the visitor groups (52%, n=16) engaged in play at this location. Four types of play happened at the Old House Maker Station & Display, with Object play and Social play happening the most frequently. (See Figure 10)

Old House Maker Station / Display

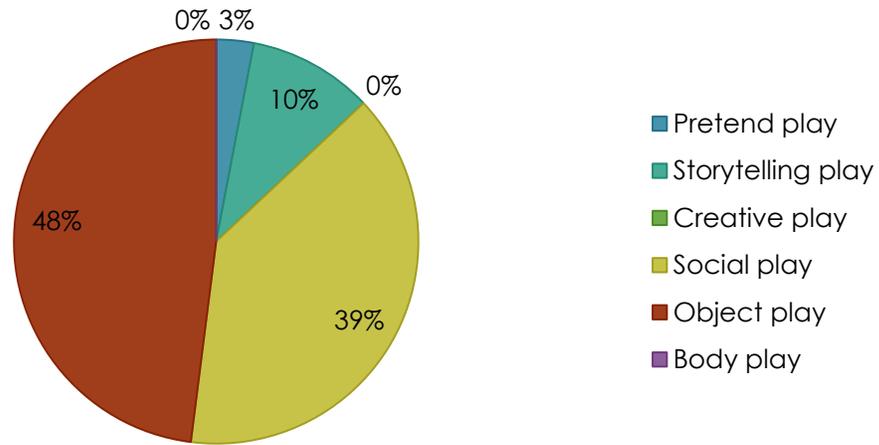


Figure 10: Types of play that happened at the Old House Maker Station & Display (n=31)

Tree House

Twelve percent (12%) of all instances of play observed in the Wonder Room happened at the Tree House. Just over third of visitor groups (39%, n=12) engaged in play at this location. Three types of play happened at the Tree House: Social play, Body/Movement play, and Pretend Play. (See Figure 11)

Tree House

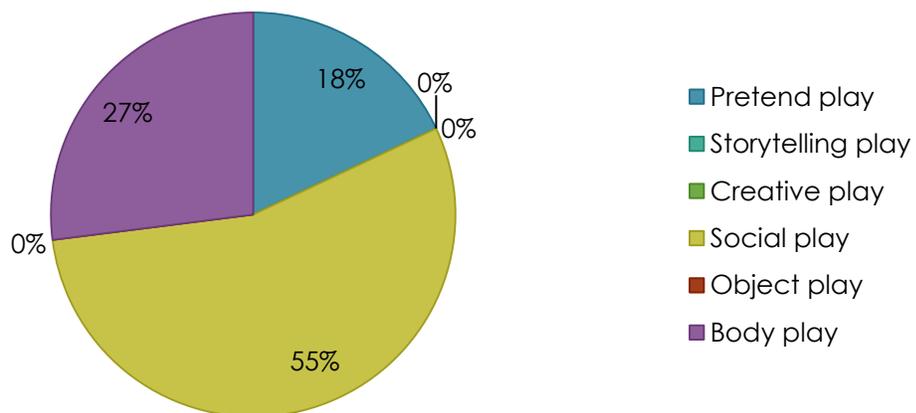


Figure 11: Types of play that happened at the Tree House (n=22)

Bird Nest Connector

Twelve percent (12%) of all instances of play observed in the Wonder Room happened at the Bird Nest Connector. Just over third of visitor groups (35%, n=11) engaged in play at this location. All 6 types of play happened at the Bird Nest Connector, with Object play happening the most frequently. (See Figure 12)

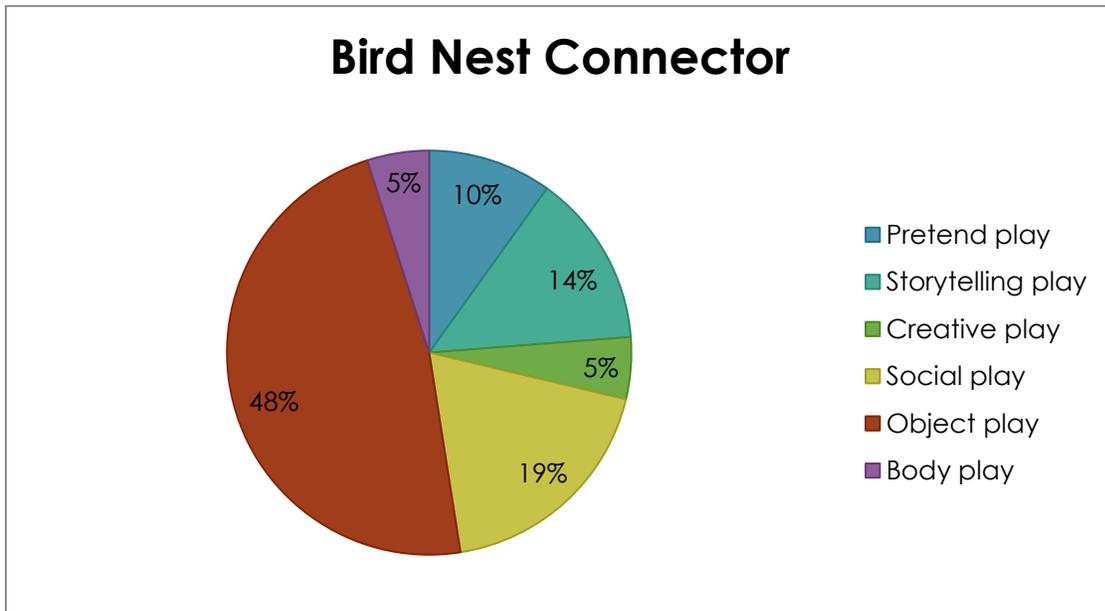


Figure 12: Types of play that happened at the Bird Nest Connector (n=21)

Draw A Tree Connector

Ten percent (10%) of all instances of play observed in the Wonder Room happened at the Draw a Tree Connector. Just over third of visitor groups (39%, n=12) engaged in play at this location. Three types of play happened at the Draw A Tree Connector, with Object play happening the most frequently. (See Figure 13)

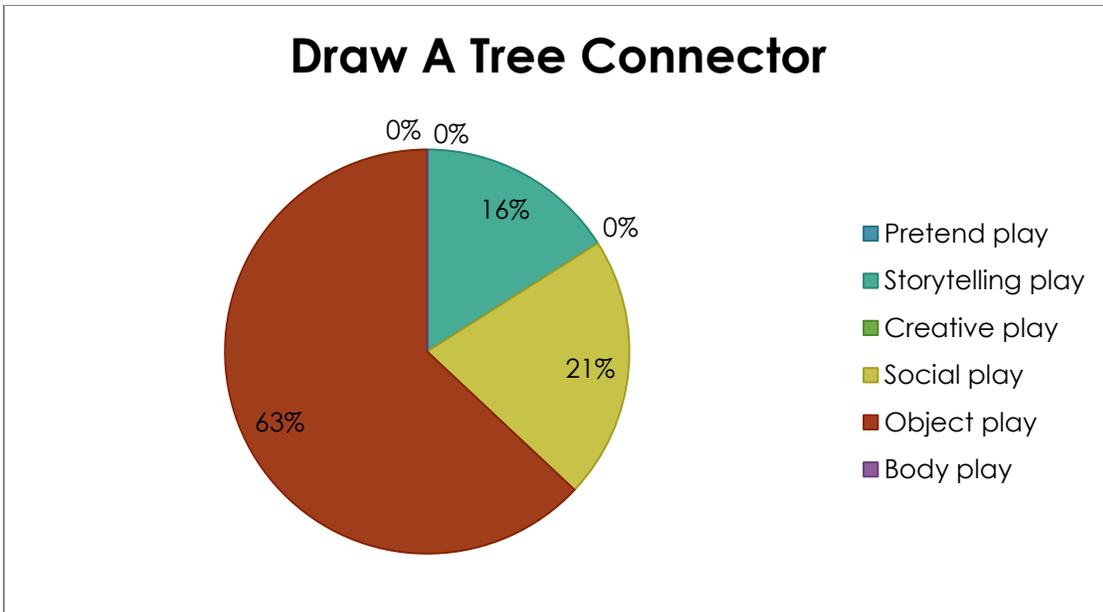


Figure 13: Types of play that happened at the Draw A Tree Connector (n=19)

Storytelling Puzzle & Artworks

Nine percent (9%) of all instances of play observed in the Wonder Room happened at the Storytelling Puzzle & Artworks Connector. Less than a third of visitor groups (29%, n=9) engaged in play at this location. Four types of play happened at the Storytelling Puzzle & Artworks, with Object play and Storytelling play happening the most frequently. (See Figure 14)

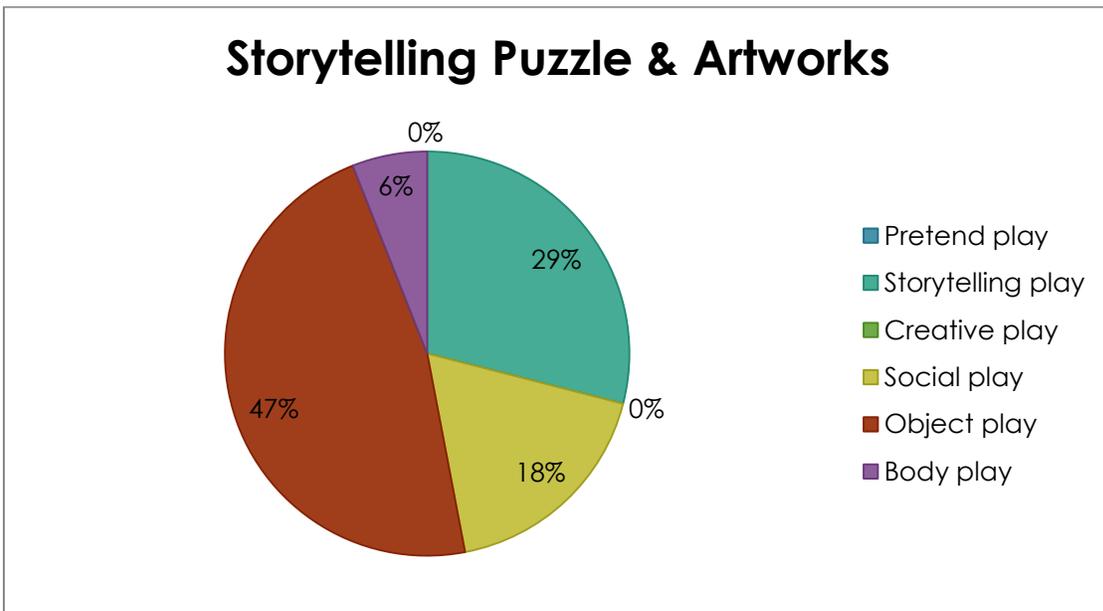


Figure 14: Types of play that happened at the Storytelling Puzzle & Artworks (n=17)

Build with Wooden Blocks

Eight percent (8%) of all instances of play observed in the Wonder Room happened at the Build with Wooden Blocks Connector. Less than a third of visitor groups (29%, n=9) engaged in play at this location. Four types of play happened at the Storytelling Puzzle & Artworks, with Object play happening the most frequently. (See Figure 15)

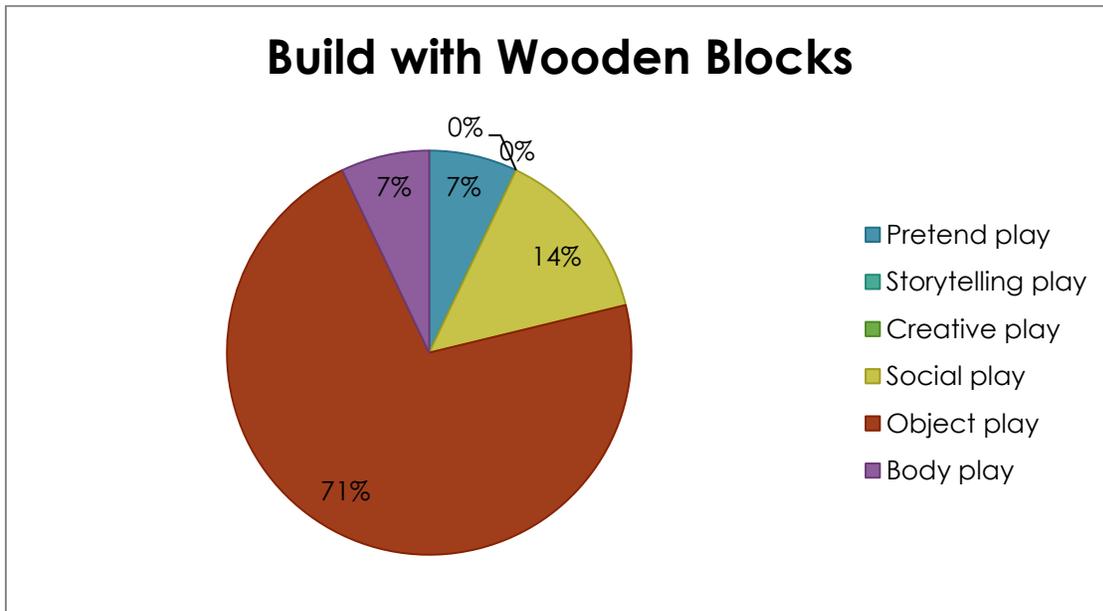


Figure 15: Types of play that happened at the Build with Wooden Blocks Connector (n=14)

Cardboard Build A Tree

Six percent (6%) of all instances of play observed in the Wonder Room happened at the Cardboard Build A Tree Connector. A quarter of visitor groups (26%, n=8) engaged in play at this location. Three types of play happened at the Cardboard Build A Tree, with Object play happening the most frequently. (See Figure 16)

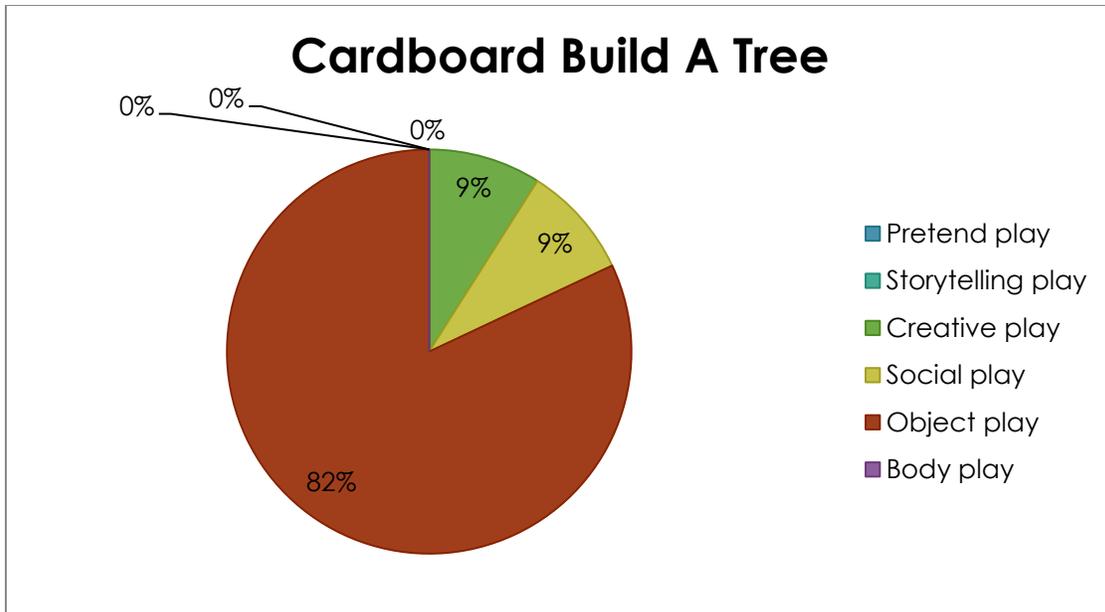


Figure 16: Types of play that happened at the Cardboard Build a Tree (n=11)

What role do the works of art have in the play that happens in the space?

Just under half of visitor groups (45%, n=14) were observed engaging in play that appeared to be inspired by a work of art, including works of art from the collection and/or works of art created by CMA visitors and on display in the Wonder Room.

Of the 14 groups who were observed using a work of art as inspiration for their play, 8 (57%) were intergenerational groups, and 6 (43%) were all adult groups. On average, groups who were observed using works of art as inspiration for play did so 1.5 times, with a minimum of 1 time and a maximum of 3 times. Some examples of play that were influenced by the art include:

Two girls build at the Cardboard Build a Tree Connector. An adult directs their attention to the wooden sculptures on display in the Glass Wall. One of the girls responds: "Cool! Can we build that?"

Two adult females in their 20s sit down at the Build a Nest Connector. "Did other people make these nests?" (referring to display) "That's cool." "Do you want to try it?" "Sure." Both women make their own nests. They talk quietly as they work.

Two girls sit at the Old House Maker table and begin to make something. One mother directs their attention to the art on display in the Old

House. Another girl and a boy sit and the mother asks the children: "Are you going to create something? Use your creative side - your minds."

A girl sits in front of the Glass Wall, takes out a note pad, and starts drawing. She draws several different objects, including the project that she made during an earlier visit that's on display on the shelves.

Conclusions & Recommendations

[To be added]

APPENDIX A: Coding Rubric

	<i>Dimension</i>	<i>Definition</i>
(1)	Pretend or imaginative play	Play in which someone invents scenarios from his or her imagination and acts with them as a form of play; Can involve moving back and forth between reality and pretend. E.g., role-playing (I'm a pirate)
(2)	Storytelling play	The play of learning and language that develops intellect; E.g., a parent reading aloud to a child, or a child retelling the story in his or her own words.
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