



## PAPER

## Young children separate multiple pretend worlds

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*Each fictional world that adults create has its own distinct properties, separating it from other fictional worlds. Here we explore whether this separation also exists for young children's pretend game worlds. Studies 1 and 1A set up two simultaneous games and encouraged children to create appropriate pretend identities for coloured blocks. When prompted with a situation that required the use of a Game 1 object in Game 2, 3- and 4-year-olds were reluctant to move pretend objects between games, even when the alternative-world object was explicitly highlighted as a possible choice. Study 2 found the same effect when the two game worlds were presented sequentially. This suggests that, even for young children, multiple pretend game worlds are kept psychologically separate.*

**Introduction**

Adults often reason about events that they know are not real. This happens while daydreaming, reading books, watching television, reasoning counterfactually, and planning for the future. When imagining a non-real world, only a small set of non-real facts are introduced, and much of what we know about the real world remains true. For instance, when creating a mental representation of the television program *The Sopranos*, we assume that people have kidneys,  $1 + 1 = 2$ , Paris is the capital of France, and so on. In addition, the non-real facts in any given non-real world remain fixed within that world. That is, while watching *The Sopranos*, we don't expect Anna Karenina to show up – she's in a different story, a different fictional world (for discussion, see Gendler, 2000; Lewis, 1978; Skolnick & Bloom, 2006a). Similarly, when we imagine spending the summer in another country, and then imagine spending the summer at home working, the counterfactual claims in the first world should not carry over into the second. Indeed, without the ability to keep counterfactual worlds distinct, imagination and planning would be impossible (see Byrne, 2005).

Previous research explored 4-year-olds' appreciation of the separateness of different fictional worlds from familiar stories (Skolnick & Bloom, 2006b). Like adults, children tend to keep these worlds separate: they understand that Batman can interact with Robin, but not with SpongeBob SquarePants. This is because SpongeBob does not exist in Batman's world, and vice versa. Although this finding suggests that children can keep different worlds separate, it does not tell us whether they will do so spontaneously. After all, preschool children have considerable experience both with the conventions

of fiction and with the specific worlds about which they were asked. It is possible, then, that the 4-year-olds in that study separated these specific worlds because they have learned to, not because this separation comes naturally.

We are interested here in whether children both at this age and younger will spontaneously separate different worlds, and whether they will do so with worlds that they themselves are involved in creating – pretend play games. Pretence comes easily to children. They start pretending at about their second birthday (Singer & Singer, 1990). They can make correct, productive inferences about what should happen in a play sequence (Harris, 2000; Harris & Kavanaguh, 1993; Leslie, 1987), even before producing pretend behaviours themselves (Bosco, Friedman & Leslie, 2006; Onishi, Baillargeon & Leslie, 2007). They clearly distinguish pretend behaviour from real behaviour (Lillard & Witherington, 2004) and, more generally, understand the difference between imagination and reality (e.g. DiLalla & Watson, 1988; Wellman & Estes, 1986; Woolley & Phelps, 1994).

Setting up a pretend game involves imagining that certain things that may not be true in reality are true in the game, such as that a block has the properties of a cookie. In parallel with Skolnick and Bloom's (2006b) investigation of whether fictional truths in one story extend into another, the current studies investigate whether children believe that the things that are true in one pretend game extend into another.

To examine this issue, we created scenarios in which children played two different pretend games, either in parallel (Studies 1 and 1A) or one after the other (Study 2). While playing, children created pretend identities for coloured blocks from a central pile and used them as part

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of their games. The question of interest was whether children would 'import' an object from one game to another, reflecting the belief that the two games are mutually accessible and share a set of background truths, or would prefer not to, reflecting the belief that they are separate.

## Study 1

### Methods

#### Participants

Twenty-five 3-year-olds (mean age = 3 years 7 months, range = 3 years 1 month to 4 years 0 months, 12 female) and 25 4-year-olds (mean age = 4 years 9 months, range = 4 years 0 months to 5 years 4 months, 13 female) participated in this study. An additional two 3-year-olds were tested but excluded from the final sample owing to inattentiveness. Children were tested individually in quiet rooms in a psychology laboratory or at their schools. All sessions were videotaped.

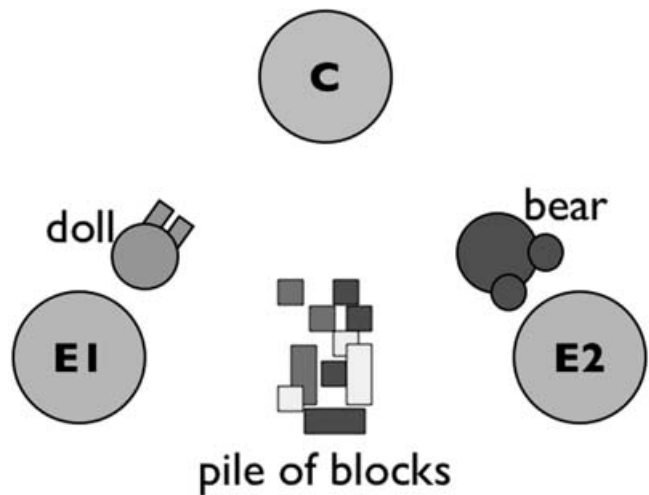
#### Materials

Two stuffed animals were characters in two pretend scenarios. 'Maggie' was a purple humanoid doll, and 'Bruno' was a white teddy bear. Also present was a set of small blocks of different colours and shapes, piled in a cardboard tray.

#### Procedure

The child participant and two experimenters sat in a triangle on the floor with the tray of blocks in the centre. To eliminate any bias of reaching for the closest object, the child was equidistant from each of the two games and the centre tray. Each game was closer to the tray than to the other game, but both games and the tray were always within easy reach (see Figure 1).

*First game setup:* The first experimenter introduced the children to Maggie by making her hand wave in greeting and encouraging children to say 'hi', setting up a pretend context. Then the experimenter set up a bath-time scenario with Maggie: 'It's Maggie's bath-time, and she needs your help. Can you get her some things to help her take a bath?' In response to this prompt, children chose one block or several blocks from the pile and labelled it/them as any bath-time object(s). Children were then prompted to use this object productively in the context of the pretend game: 'Can you show me how Maggie uses that/those for her bath?' All children engaged in at least one productive pretend action before continuing with the procedure. For instance, some children chose to get Maggie a bar of soap and used it to 'wash' her by rubbing it on her back. After playing with their chosen object(s) briefly in the first game, children's attention was directed to the second experimenter.



**Figure 1** Overhead view of experimental setup for Study 1 (*C* represents the child; *E*, the experimenter).

*Second game setup:* The second experimenter set up a naptime scenario with Bruno: 'Bruno needs to take a nap now. Can you get him some things that he needs for his nap? Can you show me how Bruno uses that/those for his nap?' Again, children productively followed these prompts, choosing a block to be a pillow for Bruno's nap, for example, and making Bruno lie down with his head on the 'pillow'. As in the first game, although children were provided with the naptime scenario by the experimenter, the choice of objects and how those objects should be used in the game was entirely up to them.

*Memory questions:* One experimenter pointed to each object in turn and asked the children, 'Do you remember what this is?', to ensure that they remembered the pretend identities of the two target objects. Most did remember both objects' identities (74% of 3-year-olds and 92% of 4-year-olds), showing that they kept the representation of both pretend games in mind at once. Those who did not were reminded of the objects' identities.

*Test questions:* Experimenter 1 reported that Maggie was done with her bath and now needed to go to sleep. Children were asked to get her the same type of object as previously chosen for Bruno's nap in Game 2: 'Can you get Maggie a pillow?' To follow this prompt, children could choose the already-established pillow from Game 2, or they could choose an object from the pile of blocks in the tray, which did not yet have established identities in either game. Then Experimenter 1 told the children that Bruno was done with his nap and needed some soap to wash his hands. The question was the same: Do children choose the Game 1 soap, or do they pick a new object to be Bruno's soap? Each child thus received two test questions, asking whether they would be willing to move the object from each of the two games into the other.

*Explicit contact questions:* After the two test questions, children were asked explicit questions about whether characters from the two games could use the alternative-world objects and whether they could contact each other. Children found these questions difficult, and, for reasons of brevity, these will not be discussed further.

The order in which the test questions were asked and which game (bath or nap) was established first were counterbalanced across participants.

### Results and discussion

Our goal in this study was to discover whether children would keep two pretend worlds separate. When asked for an object in Game 1 that was already present in Game 2, children could simply reach for it, indicating that they did not see a separation between the two games. They could choose an object from the pile, as would be predicted if they kept the two worlds separate from each other. Or they could do something else, such as create a new identity for an object from the same game world.

A comparison of children's responses to the test questions revealed no difference between the age groups ( $\chi^2(2) = .37, p > .1$ ) and no difference in responding to the first test question compared with the second one ( $\chi^2(2) = .43, p > .1$ ). We thus did not consider these variables further in our analyses.

The question of interest is whether children are more likely to choose an object from the pile than from the alternative world, which would indicate their intuition that the two game worlds should not overlap. A binomial test revealed exactly this pattern: 71 of the children's responses were to reach to the pile as opposed to 21 responses of reaching for the object from the other game (binomial:  $p < .01$ ) (8 of the responses were 'other'). As predicted, then, children did not move objects between games, consistent with the notion that the two game worlds should be kept separate. Just because something was a pillow in Bruno's world did not necessarily mean that it was a pillow in Maggie's world.

It is possible that children were reluctant to transfer the target object from one game to another because it already had been used; they might prefer to choose a new object for each new action. We believe that this was not the case, as earlier results show that children have no trouble investing a single prop with multiple identities in multiple pretend scenarios (Gopnik & Slaughter, 1991; Harris & Kavanaugh, 1993, Studies 3 and 4).

An alternative account is that children might have been concerned with ownership or usage. Bruno couldn't take the soap, not because it was in a different game, but because it was *being used by* Maggie. We see this as unlikely, because the first question explicitly stated that Maggie was done with her bath, and hence her soap should have been available to Bruno in response to the second question. But it is possible that this option was not clear to the children, which motivated Study 1A.

## Study 1A

### Methods

#### Participants

Twenty-four children (mean age = 3 years 8 months, range = 3 years 5 months to 4 years 3 months, 18 female) participated in the study. None of these children was tested in Study 1. Children were recruited from local preschools and were tested in quiet rooms at their schools. All sessions were videotaped.

#### Procedure

The methods were identical to Study 1, except that, before each test question was asked, each experimenter explicitly stated that the character was done with the target object and was doing a different activity. For example, Game 1 was set up with Maggie using soap for her bath, and Game 2 was set up with Bruno using a pillow for his nap, as in Study 1. Once these two games had been established, Experimenter 2 said that Bruno was done with his nap, and was going outside to play. Experimenter 2 then hid the stuffed bear out of sight, with the pillow-block still in view. Then the child was asked the first test question: 'Can you get Maggie a pillow?' After this question, Maggie and the pillow were hidden away. Then Bruno came back on the scene and needed some soap to wash his hands. Maggie was explicitly not using the soap because she was out of view taking a nap. The question was the same as in Study 1: 'Can you get Bruno some soap?' The order in which the test questions were asked, which character was removed first, and which type of game was established first were counterbalanced across participants.

### Results and discussion

Children's responses to the memory questions were comparable to those of Study 1: 85% of children remembered the objects' pretend identities. Those who did not remember were reminded by the experimenter.

As in Study 1, we analysed children's responses to the test questions to see whether they chose from the pile, chose from the alternative world, or did something else. Children's responses to the first test question and the second test question were not significantly different ( $\chi^2(2) = .42, p > .1$ ), so the data were collapsed into a single response measure. As in Study 1, children were significantly more likely to choose an object from the pile in response to the test question than to choose an object from the alternative world: 36 of the responses were to reach to the pile and 8 were to reach for the object from the other game (binomial test,  $p < .01$ ) (4 of the responses were 'other'). Hence, even when the choice to cross world boundaries to solve a character's problem was made more salient and pragmatically available, children still showed

a strong tendency to choose neutral objects from the pile in response to the test questions.<sup>1</sup>

It is difficult to draw firm conclusions here, however, because the games in both Study 1 and Study 1A were set up by encouraging the child to choose objects from the pile. Children might have simply continued with this pile-reaching behaviour, not because they saw a boundary between the games, but because they thought that they were expected to choose new objects from the pile in response to prompts. Children may have also reached for the pile because they expected that the character who originally used the object would come back to use it again, and hence they did not want to give a potentially needed object to a different character. It is necessary, then, to test children's responses in a design that does not present these implicit expectations. In addition, a full test of children's intuitions should contrast their choices when they see two different pretend worlds, as in the studies reported above, with a structurally identical situation in which they think that these objects reside within a single world. Finally, playing two games at a time with two experimenters is a somewhat unnatural situation – it would be more realistic to establish a situation in which children play one game at a time (i.e. play two games sequentially, not simultaneously).

These three concerns motivated Study 2. Study 2 used a more naturalistic, sequential play setting and involved comparing two conditions, one that set up two distinct pretend worlds (Stopping condition), and one that set up a single pretend world (Continuing condition).

## Study 2

### Methods

#### Participants

Twenty-five 3-year-olds (mean age = 3 years 4 months, range = 2 years 11 months to 3 years 9 months, 14 female) and 30 4-year-olds (mean age = 4 years 6 months, range = 4 years 0 months to 4 years 10 months, 18 female) participated in the study. An additional two 3-year-olds and two 4-year-olds were tested but removed from the final sample owing to inattentiveness (3) and poor language skills (1). All children were recruited from local preschools. Children were tested individually in quiet rooms at their schools. All sessions were videotaped. None of these children had participated in either Study 1 or Study 1A.

<sup>1</sup> There was, in addition, a significant effect on children's responses of which type of game was set up first. For the children who saw the nap game first, 23 of their choices were to the pile and 0 to the alternative world in response to both test questions, with 2 'other' responses. For the children who saw the bath game first, however, 13 of their responses were to the pile and 8 were to the alternative world, again with 2 'other' responses ( $\chi^2(2) = 11.09, p < .01$ ). We have no explanation for this difference, especially considering that children's performance did not differ depending on which target object they were asked about first or on whether the game they set up first was also the target of the first test question (both  $p$ -values > .1).

Thirteen 3-year-olds and 16 4-year-olds were randomly assigned to the Continuing condition, and 12 3-year-olds and 14 4-year-olds were randomly assigned to the Stopping condition.

### Materials

The same set of blocks and tray as in previous studies were used, as well as the purple doll 'Maggie' and a plastic snap-top container.

### Procedure

Each child sat across from a single experimenter on the floor. There was an open game area between them and the tray of blocks off to one side, easily accessible by the child.

*Game 1 setup:* The experimenter asked children to choose objects in one of two versions of the task. In the food version, children were encouraged to make a snack by picking out blocks: 'What would you have for snack if you could have anything in the world?' After children named some snack foods, the experimenter showed them the tray of blocks and asked, 'Can you pretend that some of these blocks are your snack?' As in the previous two studies, children then created pretend identities for the blocks by labelling them and arranging them for snack (e.g. putting 'peanut butter' on a piece of 'sandwich bread' or lining up a set of 'cheese balls'). In the animal version, children were encouraged to pick a block to be a pet dog, and then to pick other blocks to be the dog's food or toys, depending on what they thought that the dog should do: 'What kind of dog is it? What should we name him/her? What do you think we should do with our dog?' Children in this version would often 'feed' the dog by using another block as dog food, or play fetch with the dog by using another block as a stick.

*Waiting:* In the food version, the child was told that the snack was ready, but that he/she needed to wait for snack-time to eat it. In the animal version, the child was told that the dog needed to take a nap, but that he/she could play with the dog more when it woke up. The waiting period for lasted about five seconds, during which time the child and experimenter sat quietly.

#### *Transition to Game 2*

*Continuing Condition:* In this condition, meant to set up a single pretend play world, the waiting period was terminated by the experimenter suggesting that she and the child 'do something in the meantime, while we're waiting'.

*Stopping Condition:* In this condition, meant to set up two different pretend play worlds, the experimenter said that she was 'bored, and [didn't] want to wait. Let's play something else'.

In both cases, the objects chosen for Game 1 were pushed off to one side, out of the active play area between the experimenter and the child but still in view and in reach of the child.

*Game 2 setup:* In the food version, the experimenter and the child pretended they were at the grocery store,

buying food: 'What should we get at the grocery store?' In the animal version, the experimenter and the child pretended they were at the zoo, looking at animals: 'What do we see at the zoo?' Children chose more blocks from the pile to be appropriate objects in the game, giving them pretend identities as in Game 1.

*Test question:* The experimenter introduced her friend Maggie, who was also at the grocery store/zoo, and hence a character within Game 2. Maggie was presented along with an empty plastic container, which was described as being an empty refrigerator in the food version, or her empty house in the animal version. The child was told that Maggie needed all the food to fill up her refrigerator, or all the animals to go into her house to keep her company. Children were encouraged to find 'all the food' or 'all the animals' and put them in the plastic box.

As children chose objects to go in the box, they were questioned as to these objects' pretend identities, to be sure they remembered which objects they were choosing. The time elapsed for the waiting period and the transition period were the same across conditions, equating memory demands. Indeed, children tended to remember the Game 1 objects equally well across conditions, showing a slight memory advantage in the Stopping condition (Continuing condition, 72% of 18 observations; Stopping condition, 100% of 11 observations;  $t(27) = -2.0, p < .1$ ). This demonstrates that children were not simply wiping the slate clean and forgetting their representation of Game 1 once they started Game 2. Even children in the Stopping condition remembered the identities of the pretend objects from Game 1, showing that children kept the representations of both games active in memory.

### Results and discussion

If children were sensitive to the fact that the Continuing condition kept the Game 1 objects 'live', they should include the objects from Game 1 when asked for 'all the food' or 'all the animals'. If they were sensitive to the fact that the Stopping condition ended Game 1 and moved on to (the metaphysically separate) Game 2, they should not include the objects from Game 1. In both conditions, children were expected to choose the objects from Game 2, since these were still active in the pretend game.

Preliminary results indicated no difference in responding by age ( $\chi^2(1) = 0.12, p > .1$ ), so responses from the younger children and the older children were collapsed into a single group for analysis. As predicted, a significantly higher proportion of children chose the Game 1 objects in the Continuing condition (17 children) than in the Stopping condition (8 children;  $\chi^2(1) = 4.29, p < .05$ ).<sup>2</sup>

<sup>2</sup> There were also two unanticipated effects. There was a significant main effect of test version,  $\chi^2(1) = 5.0, p < .05$ . Children in the food version were more likely to choose the Game 1 objects than children in the animal version. We also found a marginally significant effect of gender,  $\chi^2(1) = 3.79, p < .1$ , indicating that boys were somewhat more likely to choose the Game 1 objects than were girls.

In sum, in support of our results from Studies 1 and 1A, children's differential performance here shows that they keep multiple pretend worlds separate from each other; they did not transfer objects between games in the Stopping condition. These results also support earlier findings that children can represent multiple pretend identities of a single object (Gopnik & Slaughter, 1991; Harris & Kavanaugh, 1993) and can accurately remember objects' pretend identities even when they have seen multiple pretend scenarios (Amsel, Bobadilla, Coch & Remy, 1996). The current study extends these results by showing that children can hold two sets of pretend identities independently in mind, even after the completion of both games.

### General discussion

The results from these three studies suggest that children keep different pretend play games separate from each other, imposing subtle structure on their make-believe worlds. Children are able to separate these worlds when given spatial cues to their separation, as in Studies 1 and 1A, and when given temporal cues, as in Study 2.

We should emphasize that this sort of separation is not special to pretence. The same spatial and temporal cues as used in these studies would probably also lead to separation in other, non-pretence contexts. For instance, a phrase such as 'Let's play something else' might lead children to separate two sets of blocks when they are used instrumentally (e.g. for building), not just when they are used in pretend play. The nature of the cues that can lead to such separations is an interesting issue; for instance, children are sensitive to certain actions that signal pretence as opposed to reality (see Richert & Lillard, 2004), and similar cues might be employed when signalling that one is moving from one pretend world to another. We should emphasize, though, that our focus here is not on the cues themselves, but rather on whether children use them to create multiple pretend worlds. Our results suggest that they do.

The fact that separation is not special to pretence, however, raises two alternative explanations of our findings.<sup>3</sup> First, how do we know that the children in these studies were actually engaged in pretence? Could they have been acting on the blocks in some instrumental, non-pretence fashion? Admittedly, we did not include any explicit tests of engagement or generativity (e.g. Harris & Kavanaugh, 1993; Lewis & Boucher, 1988), but our experiments were designed to encourage children to engage in pretence by prompting them to use the blocks in non-literal ways. Children in all three studies were free to create whatever pretend identities they wished for the blocks, as long as they were within the correct category (e.g. bath objects, zoo animals), all children performed appropriate actions on or with the blocks (e.g. drying off a doll with a pretend towel, making a pretend lion 'roar'). These acts of non-literal

<sup>3</sup> Thanks to two anonymous reviewers for suggesting these points to us.

labelling and these types of actions, which were appropriate only to the blocks' pretend identities and not to their actual identities, demonstrate children's active involvement in pretend scenarios (see Leslie, 1994).

An alternative is that the children in these studies did not actually create multiple pretend worlds, but rather established different activities within a single pretend world. Recall that these studies were motivated by the hypothesis that every move out of reality into a fictional world involves creating a new, encapsulated world to represent the non-real properties and events in that world (Skolnick & Bloom, 2006a). We interpret children's behaviour as evidence that they represent Maggie's bath as one pretend world and Bruno's nap as another, in the same way that adults see Tony Soprano as existing in a different world from Anna Karenina. But it is possible that this is too strong an interpretation. Children may have created a single world containing both Maggie and Bruno and kept them separate because the two characters were involved in different activities within that pretend world.

The distinction between these views is subtle. Consider the Stopping condition of Study 2, in which children tended not to reach for the food or animals from an earlier pretend game that had been marked as separate from the current one. Under our different-worlds interpretation, this happened because children saw the earlier items as not existing in the current pretend world. But under a different-activities interpretation, this happened because children did see those items as existing in the current pretend world, but thought that it was somehow inappropriate to include them in this new activity – so much so that those objects were not chosen in response to the explicit prompts to 'get all food/animals'.

It is difficult to see how to distinguish between these two possibilities, since they both predict the same pattern of action. Presumably, someone who held the different-activities view would claim that there could be situations in which children *would* include pretend objects from the other activity, perhaps if one asked for them directly or in a more insistent way. We are doubtful, but see this as an important avenue for future research.

In addition, we have an important external reason for favouring a different-worlds interpretation of the current data: it has strong connections with the way in which other events that are known to exist outside of reality are represented. Adults and children separate the multiple worlds used to represent fictional stories (Skolnick & Bloom, 2006b), and the existence of a separation among multiple worlds is essential for hypothetical and counterfactual worlds. There is nothing incoherent, after all, with the notion that people might possess just a single fictional world, one in which Harry Potter, Anna Karenina and Tony Soprano occupy different corners. It is even possible that children younger than we tested here are not capable of constructing distinct worlds for stories. But hypothetical and counterfactual worlds are explicitly compared with each other: 'What if I do this instead of that? What if

I had done this instead of that?' Without a separation between the worlds used to represent these alternative possibilities, such comparisons would be impossible.

Our findings have two implications for previous theories of how children represent their pretend play games (e.g. Leslie, 1987; Nichols & Stich, 2000). First, in order to represent and predict children's behaviour accurately in pretend play, these theories must include a representation of the fact that children separate their pretend play games into multiple worlds and hold these multiple worlds separate in their minds. This requirement has not yet been incorporated into existing theories. Second, these theories have tended to focus on the similarities between pretence and other representational attitudes, particularly belief, and hence have linked children's success in pretence to their capacities to represent others' mental states. Children's ability to pretend may indeed be linked to other meta-representational abilities, and the current studies provide no evidence one way or the other on this claim. The current studies do, however, indicate a link between pretend play and the representation of other types of non-real worlds (see also Gopnik, 2009; Harris & Kavanaugh, 1993; Nichols & Stich, 2000), suggesting that these theories of pretend play could also be used to understand how children (and adults) represent fictional stories and counterfactual claims.

Our motivation in studying pretence was to move away from the established fictional worlds created by adults, the better to explore the constraints that children naturally impose upon non-real worlds. But we have only taken first steps in this direction. In the studies above, although children actively participated in the creation of the pretend worlds, the worlds of Maggie and Bruno were thought up by adults. Moreover, both the fictional stories examined in previous work and the pretend play games tested here contained some sort of narrative component. It may be that the presence of a narrative is a necessary cue to create a separate world in order to represent events that unfold in a temporal sequence. Children's own games and daydreams may lack this structure, and hence may not show the sort of world separation we found here. Future research should investigate the role that these two variables of control and narrative structure have on children's world-separateness intuitions.

Even if children do create a distinct fictional world for each of their own games or stories, the question remains as to how they can tell that a game or story is a new one, as opposed to a continuation of an old one. In the studies above, the cues were social. In Studies 1 and 1A, each game was linked to its own experimenter; in Study 2, the experimenter explicitly said, 'Let's play something else'. In the real world, however, these social cues are typically absent. One is introduced to a new world created by others by picking up a book, going to a movie, or turning on the television; one creates a new world by daydreaming, wondering how things might have been

different, or trying to work out the implication of some future action. In addition, at least for adults, not every new fictional event inevitably leads to the creation of a new world. Adults revisit non-real worlds: we do so when we are daydreaming (Singer, 1981), or when we watch an episode of a television series or read one of a series of books (see Skolnick & Bloom, 2006a). These cases illustrate the fact that adults take into account a variety of subtle cues in order to judge whether a given fictional scenario takes place in a separate world or not, and imply that children must learn that mere separation in time or space may not be enough to create separate fictional worlds.

Finally, the precise nature of the constraints governing the creation of these fictional worlds is still unknown. Each world is created using a different set of premises to specify the structure of the story, counterfactual scenario, or pretend play game. But how do children and adults represent these premises? Which aspects of the real world are preserved in the shift from reality to fiction, and which are left behind? We are investigating these questions in our laboratory. What we know from the current studies, however, provides a starting point: even young children create multiple non-real worlds, and the facts that hold true in one world do not necessarily migrate into others.

## Acknowledgements

Thanks to the children, teachers and parents at Betsy Ross Cooperative Nursery School, Carriage House Daycare, East Shore Daycare, KinderCare, Masonic Child Development Center, Orange Community Nursery School, Sleeping Giant Daycare, St. Raphael's Child Care Center, Team Inc., and West Haven Green for their participation in these studies, and to two anonymous reviewers for their helpful comments on an earlier version of this paper.

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Received: 10 September 2007

Accepted: 5 June 2008