Preschoolers' understanding of stories from storybooks:

The influence of genre, affect and language.

By

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ABSTRACT

PRESCHOOLERS' UNDERSTANDING OF STORIES FROM STORYBOOKS:

THE INFLUENCE OF GENRE, AFFECT AND LANGUAGE.

by

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How and when do young children come to understand that the stories in storybooks are "not real", but are imaginary products with imaginary characters? Previous research on the distinction between the real and imaginary has focused on objects. These studies show that children as young as 3 years can distinguish between mental entities and solid physical objects (Estes, Wellman, & Woolley, 1989). Four-year-olds differentiate real objects from both ordinary imagined objects and supernatural items (monsters), although they may be unsure as to whether the supernatural may become real (Harris, et. al, 1991). Applebee's (1978) studies of story understanding, however, found that children as old as 6 years may understand a story and its characters to be imaginary, but still believe one character to be real.

To explore further what might be happening with children and their understanding of the real (existing externally as part of the material world) and the imaginary (that which is created in the minds of individuals) in the story world, sixty-

seven 4- and 5-year-olds listened to two stories and were then questioned about the them, the representational nature of the story's events, and the real or imaginary categorization of the characters. Children were randomly assigned to either the reality-based or the fantasy-based genre conditions. The theme and characters of one story listened to was neutral in affect, while the other story had at least one character who was affectively salient.

Story understanding was significantly influenced by affective salience, while genre had no significant effect. Representational understanding was significantly influenced by an interaction between story genre and story affect. Categorization of character was significantly affected by genre after the representational understanding score for the salient score was entered into the analysis as a covariate. Qualitative analyses revealed that children's explanations for their discrimination is developmental, progressing from affective explanations to cognitive ones, with experiential knowledge as a major force bringing about change. Results of this study suggest that children's interactions with a story, and their understanding of its imaginary status, depends on the story's genre, and the child's emotional engagement with its theme, events and characters.

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INTRODUCTION

Understanding the distinction between the representation of that which is real (existing externally as part of the material world) and the representation of the imaginary (that which is created in the minds of individuals) can be difficult for adults as well as children. There are a myriad of representational forms in the world; text, pictures and sound are a few examples. Each of these representational modalities has multiple contexts (e.g. text and pictures in books, magazines, and newspapers; visual image and sound in television, video and film). It is the task of each individual to learn to distinguish, for each representational modality and context, what is a representation of the real and what is a product of the imagination. While it is essential for persons to be able to differentiate the real from the imaginary, it is equally important for individuals to be able to use their imagination, and to be caught up in the representation.

The focus of this study is on preschoolers and the representational medium of storybooks. It examines the understanding of these forms that 4- and 5-year olds display when talking about storybooks. Specifically, it investigates the phenomena that young children attribute both real and imaginary status to events and characters within the same story. In an effort to understand what is occurring when children make such apparently contradictory attributions, this study explores children's representational knowledge about storybook characters and events.

The ability to imagine, to expand beyond facts and personal experience, is at the root of being able to think outside the bounds of what we believe to be empirically

so. Imagination allows us to create and releases us from the bonds of our personal knowledge and experience. Imagination is important for cognitive leaps that extend beyond the "known" facts. Applebee (Applebee, 1978) refers to the individual who is able to be caught up in the representational in regard to a text as having the ability to take the spectator role in relation to narratives. The idea of a spectator role in reference to texts can easily be expanded to incorporate all representational modalities.

This spectator role is important for it enables us to enlarge our experiences without physically participating in them, thereby shielding us from danger and distress. In the extreme, the spectator role is a form of vicarious living. The key is for individuals who are reading to be spectators while remaining aware that they are reading. The key for spectators of movies, plays and television is to know that what they are viewing is being enacted by actors and recognize that they are watching a representation of a story which is in fact not happening to them.

A twofold job is presented to the spectator: First to be able to understand the representational quality of that which they are the spectator. Second, that the representation has a reality status, that is, it is real (factual), imaginary (fictional) or an amalgam of the two. The ability to make these distinctions is critical. An inability to do so can lead to both personal and societal difficulties. The ability to distinguish between the real (actual), the representation of the real and the representation of the imaginary is essential not just for the media in the physical world, but also for those representations in each person's mental world such as memories.

The importance of being able to distinguish one's own personal experiences from others', as well as from the fictional, is essential; both for personal reasons that affect the individual's emotional stability and for social reasons that require an individual to operate in a social system of cultural conventions which hold individuals responsible for their actions. From early on individuals are called upon to distinguish between their personal experiences and the experiences of others. Children are often asked questions of the general form "did you do X or did the other child?" Parents, teachers, employers, and colleagues, to name just a few, often ask of another "who did this?" It is important that the person being questioned knows what he is responding to and able to engage in source monitoring (Lindsay, Johnson, & Kwon, 1991) in order to answer the question appropriately.

In the case of a simple action it would seem that it is easy for one to answer whether they did A or B. Yet, children often misattribute this information even in the case of a simple action (Foley, Ratner, & Passalacqua, 1993).Young children, age three to five years, often confuse others' actions with their own and vice versa. These children are eliding their actions with others, they are not necessarily lying, as adults often label the phenomena.

Johnson (1991) and her colleagues have carried out an extensive program of research with adults and children on realization judgments (discriminations between memories of actual and imagined self-generations), reality monitoring (discriminations between memories, imagined self-generations, and actions of another) and source monitoring ("the process by which people identify the sources of their recollections"). These three categories encompass information that is relevant

for an individual in distinguishing between the imaginary and the real. If you know the source of the knowledge conveyed you are one step closer to determining what it represents: fact or fiction. For example, if you know correctly that what is being read to you is written by an author, you are closer to understanding that it is a story created by another. However, there is still the concept of fiction and non-fiction to be understood.

Johnson and Raye (1981) use the term Reality Monitoring to refer to the process by which individuals discriminate between memories based on perception of events (actual events viewed) and those they generated mentally (imagined events). Lindsay and his colleagues (1991) reported a study with young children and adults finding that the more perceived and imagined events differ, the easier and more successful their source monitoring process. Conversely, the more similar in content the perceived and imagined events, the less successful the source monitoring process. For example, children when asked to imagine some everyday actions (e.g. "touch nose", "cross arms") and to watch an actor perform these actions were then queried as to who performed the action. When the actor was the same for both the imagined action and the actual action children were most likely to confuse their memories of who did what.

As children get older they are expected to be able to tell the difference between what they experience and what others experience. This expectation often takes the form of: "did you really do x?", "don't lie to me", or "tell me the truth" Society requires that its members take responsibility for their actions and not confuse them with the actual or fictional actions of others.

This ability to distinguish between the self and other and between the real and fictional is not as easy as it would first appear. Vinden (1998) refers to the cases where television actors have been attacked physically or verbally by adults who would appear to have confused the actor with the character he/she plays. Vinden attributes this to both an emotional factor as well the frequency of exposure and the "true to life" quality of the television shows. Adults may confuse fiction and reality in entertainment, which sometimes is designed to encourage such confusion, as in the movie "JFK" where the real and the fictional are elided. Social and emotional problems can ensue for the individual who is unable to distinguish between their own personal experiences and others', as well as the real and the imaginary. Persons unable to make the distinction may be labeled unreliable or delusional by those they interact with.

It is important for children as well as adults to be able to parse out real occurrences from fictional ones, and one's own experiences and other's experiences. This allows the individual to keep separate the participant-self from the spectator-self. Watching a scary movie and being able to understand that the events occurring are not real or watching a documentary and understanding that what one is seeing is horrible but that "I'm O.K." are examples. Here the spectator role allows one to develop empathy and understanding of others' trauma while also realizing that she or he did not actually go through that trauma.

Reality , Mind and Representation

Learning to tell the difference between self and other, real and imaginary, and the representational from the represented is a developmental process that most theorists agree takes time. Piaget (1929) believed that young children lacked the ability to make these distinctions. In his terms they lacked a reality concept. The young child, according to Piaget, thinks that everything is real, that there is no distinction of the mental and the real. Thus, young children suffered from what Piaget termed *childhood realism*, unable to distinguish the mental from the material (the real). For example, dreams are as real to children as walking in the park. Neither is considered to be a mental product.

Re-framing Piaget's work on childhood realism in more contemporary terms, Piaget's child lacks the ability to understand the representational nature of the mental such as dreams or thoughts. His work describes children who are able to state that the person in a dream is not the real person, but are unable to disentangle that the person in the dream is not in fact a part of the actual person. The child is unable to understand that the dream is a self constructed mental event. Furthermore, the child is unable to construct a theory of thought. She is unable to construct a relationship between the material (objects in the world) and thought other than a very direct one; where thought and the material are directly connected.

Wellman (1990), in response to Piaget's work, argues that Piaget confused two categories under the single heading of childhood realism: that of ontological realism and epistemological realism. Wellman believes that it is possible for a child to understand the ontological differences and still be an epistemological realist. He

believes that Piaget's description of the child's confusion with dreams is an example of a child suffering from epistemological realism. In Piaget's words "For the child, thoughts, images and words, though distinguished to a certain degree from things, are none the less situated in the things." (Piaget, 1929, p. 126). This lack of knowledge about how objects and ideas are connected is what Wellman terms epistemological realism.

Wellman contends that the first step in children's developing a Theory of Mind is for them to be able to make the ontological distinction between mental entities and physical entities, a distinction Piaget claimed young children were unable to make. An inability to understand the difference between these categories, Piaget said, leaves the child adualistic, with a single category, rather than dualistic understanding of the "differentiation between the self (or thought) and the external world" (Piaget 1929, p. 159), two distinct categories.

Wellman and Estes (1986) demonstrated that 4- and 5-year-olds and many 3-year-olds are very good at making correct judgments about mental and physical entities. Children were asked to judge a series of different mental and physical contrasts along three criteria: behavioral sensory evidence (can you see and touch it), public existence (can others see it), and consistency (does it remain stable over time). An example of a contrast presented to the child is a girl who had a doll with a girl who thought about a doll. The child was asked which of these entities – the doll or the thought-doll – could be seen, which could be seen by someone else and which could be manipulated in the future. The authors found that 4-, 5- and even many 3-year-olds were able to make correct judgments along the three criteria. Wellman and Estes

concluded that young children do not display behavior consistent with ontological realism nor do they appear to suffer from being adualistic as Piaget claimed.

A more detailed study by Estes, Wellman, and Woolley (1989) was carried out to determine whether young children could distinguish between mental entities, solid physical objects and close impostors (e.g. shadow of a tree, used-up toothpaste). Again children were asked judgment questions about different entities, and this time it was their explanations that were of interest. Would the children explain the inability to touch a shadow of a tree differently from the inability to touch a dream tree? Neither can be touched though the reasons an adult gives are different. Children were read short stories of two to three sentences involving either mental entities (the boy is dreaming about a bicycle), solid physical objects (the boy rode his bicycle), and close impostors (the burned-up leaves). After each story children were asked three questions along the same three criteria used in Wellman and Estes (1986). After each judgment question the child was asked for an explanation of her answer, for example, "why can't the girl touch it?" The findings revealed once again that

> young children are not realists in the sense of equating mental entities with the physical objects to which they refer. More important the data begin to confirm that young children also are not realists in the more subtle sense of confusing mental entities with physical but intangible entities such as smoke, shadows, or sounds, nor do they seem to confuse mental entities with physical representational entities such as photographs. (Wellman, 1990, p 33)

Although 3-year-olds do not perform as consistently well as 4- and 5-year-olds, the data from the study provides evidence that young children know about the difference in properties between physical entities, mental entities and close impostors of mental entities.

Wellman's findings suggest that children should be able to discriminate between the real (material or actual) and the imaginary (mental). Wellman's is an ontological perspective. He perceives the child as developing a theory of the mental by providing evidence that young children have a concept of ontological distinctions. Furthermore, he claims that having these distinctions constitutes having a Theory of Mind.

The work of Piaget and Wellman is relevant to the Theory of Mind research and work on real and imaginary, for it speaks to the question of what young children's thinking may be like. If young children have "theories" that enable them to distinguish the material from the mental and hold dual representations, would this not qualify them for a Theory of Mind. And if they have a Theory of Mind should they then not be able to distinguish the real from the imaginary, having the requisite theories? Piaget, interpreted in light of Wellman's ontological and epistemological distinctions, tells us that young children have difficulty drawing complex connections between the material and thought, they are epistemological realists. Does this mean that young children do not have the theories needed and hence no Theory of Mind? Wellman's work provides evidence that while young children are epistemological realists they are not ontological realists, thereby having the pre-requisite theories regarding the material and the mental. Possibly a Theory of Mind is necessary, but not sufficient, for the discrimination of the real and the imaginary in specific situations.

Harris, Brown, Marriott, and Whittall (1991) examined the discrepancy between the finding that children have an understanding of the differences between

fantasy and reality, yet they are often scared by creatures they have imagined (DiLalla & Watson, 1988; Jersild, 1943; Kavanaugh & Harris, 1999). The study explored children's thoughts about real objects (a pen) imagined objects (image of a pen) and imagined supernatural entities for which no real counterparts exist (a ghost). The authors were trying to find an explanation for children's believing in imagined items. They hypothesized that children might not be as confident about the imaginary status of the supernatural creatures and thus be afraid of them, thinking they are real.

Children were asked two questions about nine test items (three real, three imagined counterparts to the real item and three imagined supernatural figures). For each physical item the child was asked if it was real and if the experimenter could see it. For the imaginary counterpart item and the imagined supernatural entity the child was instructed to close her eyes and make a picture of the item in her head. She was then asked if the item in her head was real and if the experimenter could see it. The results were that the 4- and 6-year-old children were not only able to make a clear distinction between the real and imagined counterpart items, but they were equally good at discriminating the supernatural entities. The results support Wellman and his colleagues (Wellman & Estes, 1986), but do not shed light on children's fears about imagined creatures.

Another experiment (Harris et al., 1991) was carried out to make the supernatural entity more frightening. The experiment is the same as previously described but the children, after they made the picture in their head of the supernatural creature, were instructed to have the creature chase after them. An additional question was added to the protocol, children were asked if they were scared

and why or why not. All the other questions remained. The results were similar to the findings in experiment one. A possible reason given was that the manipulation of the supernatural entity was too mild.

An additional experiment in the study (Harris et al., 1991) examined children's behavior toward creatures they would imagine in two different boxes. The children were told to pretend that a nice friendly puppy was in one box and a monster in the other. Children were repeatedly reminded that they were pretending. Each box had a small hole in the front and children were asked which box they would rather put their finger in and in which box a stick. They were then questioned about whether there were really such creatures in the box and than asked to act on their choice and place their finger or the stick into one of the boxes. Although the majority of children said they were pretending and the creatures were pretend, most chose the puppy box to visit and of those who chose the monster box they were wary and most opted for the stick. Harris and his colleagues concluded that, although the children have a firm distinction between reality and fantasy, children have doubts about creatures they have imagined. Harris gives a possible explanations for the findings in the "transmigration hypothesis". This hypothesis argues that "young children might still be unsure of the rules that govern transformations between those two realms" (Harris et al., 1991, p.121) while still having the cognitive ability to understand the properties of real and imaginary, hence able to make distinctions between the two realms. The research of Harris and his colleagues is in keeping with Wellman, separating ontological and epistemological distinctions that young children need to understand. Yet since the work in 1991, Harris (1994) has provided an alternative to a theory

explanation for children's eliding the real and the fantasy. He describes children not as theorists, but as creators of working models, as actors in the world. Nelson's (Nelson, 1997, 1996) experiential model of the child's cognitive development incorporates the idea of children as creators of working models, providing a more comprehensive theory about the process of children coming to learn and know the difference between the imaginary and the real (actual experience of self or others).

Essential to the experiential model is that children's knowledge is activity driven. The experiential view of the child's cognitive development places its emphasis on the child being in the world and needing to understand and predict activities if she is to act effectively in the world. At any given moment the child's knowledge state depends upon her former experiences and ability to "perceive, explore, and interpret situations" (Nelson, 1996, p. 6).

Nelson's child starts out with no conception of a mental reality and a world reality, hence there can be no distinction between the two. The world is one, unmediated, with no distinctions between self and other mental states. As the child develops distinctions begin to emerge. First, is the understanding of self and other in terms of activity roles and perspectives. The child comes to recognize these different roles and perspectives and that the real other is not the real me. Next, within the distinction of self and other, the child learns to make a further distinction between the mental world and the experienced world. Within the category of mental there are the sub-categories of real and imaginary. When and how these cognitive distinctions emerge is much debated. Nelson's model attributes much of the process to the child's experiential knowledge and developing representation and language skill.

Three-year-old children already have a wealth of experiential knowledge of the world evidenced by their ability to produce familiar event scripts (Nelson, 1986). As experiential knowledge increases and the child acquires the ability to represent in language as well as in action, multiple representations become possible. Donald (1993) calls a mind that can represent in both language and action a hybrid mind. The important developmental step here is that the hybrid mind incorporates linguistic representations, where mental models are brought under symbolic control.

Language is the cognitive key in both Donald's hybrid mind and in Nelson's move from the single mind to the multi-representational mind. However, language is not the sole mover, as Nelson is careful to point out. The child's experiences, mental event representations, and activity in the social cultural world all play a part in the child's moving from a single world view to an understanding that self and other mental worlds, as well as the mental and real, are different.

The story world

A significant aid in the child's development of her understanding of self, others, the mental and the material is language, specifically narrative (Bruner & Kalmar, 1998; Nelson, 1989b). Narratives and stories appear to be a part of children's lives the world over. What is not universal are the stories themselves or when, why and how they are told. Even in literate societies not all stories are textual; often children hear stories that are oral productions with no textual bases.

Children are exposed to a myriad of story forms and contents from the time they are born; in short, they grow up in a storied world. In the United States children

from middle class Caucasian families are introduced to story books as early as a few months of age (Heath, 1982). In addition, to early word-learning storybooks, children are engaged with family members, most notably mothers, in hearing stories about themselves and others in past activities (Fivush, 1994; Hudson, 1993; Miller & Mehler, 1994; Miller, 1994; Tessler & Nelson, 1994). Talking to children about the past is a common experience for toddlers in the United States. Children are encouraged to create stories and recount their memories of salient events that happened days or weeks ago (e.g. a birthday party) or to recount memories of their day in pre-school, to adults who were not present.

What is clear to the adult about all these different narratives, namely that there are different types of stories, fictional and experiential, is not so clear to young children. In fact, young children develop knowledge about different types of narratives and stories over a prolonged period of time (Bruner, 1986; Engel, 1995; McCabe & Peterson, 1991). Children by age 6 have been exposed to and developed their knowledge about a multitude of narratives: fiction, adult's memories, talk about past, present and future events, and co-constructed narratives with a parent, adult or another child. These narratives are represented in a multitude of representational forms such as: text, television, movies, and plays. Each type of narrative highlights different information and calls upon the cognitive abilities of the child to different degrees; for example, television by its very nature is a more overtly representational medium requiring less cognitive "energy" than a storybook with text and some pictures. The present study is concerned with children and the representational nature of text.

Children's understanding of stories

Applebee (1978), in a study of 88 London school children, found that 6-year-olds have difficulty distinguishing between real and fictional stories. The dominant characteristic of the 6-year-olds was ambivalence. Children of this age often reported that a story may not be about a real event but a central character may be real. However, for 3-year-olds there was no ambivalence: the stories, though fictional, were in fact understood by the children as "real". By age 9 the children understood that the story is just that, a story. Applebee noted that the process is not a sudden change, but rather a gradual understanding as the characters and events become "more difficult to reconcile with the rest of the child's knowledge of the world" (p. 46).

Although by age 9 children understand narrative convention and that stories are made-up, there are still some 9-year-olds who make real/imaginary attribution mistakes. In another study by Applebee (1978) younger children, 3 years of age, were found more often than not to say that the characters in stories were real, displaying no understanding of the conventions related to stories. "The earliest interpretation seems to be that a story is something that happened in the past, a *history* rather than a fictional construct" (p.38). Older children age four and five have a greater understanding and ask questions about the stories such as: are they "real" or "just a story"? Applebee believes that as children acquire a greater knowledge of the world they compare their world knowledge with that in the stories and when there is a clash they recognize that the story is "not real". If Applebee is correct children should come to understand the fictional nature of fantasy stories earlier than reality-based stories.

Nelson's experientially based model of the child's mind should also support such a view.

Returning to Nelson's experiential model, children are engaged in the process of constructing event representations and building a storehouse of knowledge based on these mental event representations and the child's individual and socially constructed experiences. In addition, children are developing greater and greater language facility. "[Language is developing] as a representational system, both for internal cognitive functions and for external communicative functions."(Nelson, 1996, p.12). We would expect, as a result of these developmental changes and constructions, that the comparison process that Applebee describes would be well within the ability of the language-using child of age four.

Children's stories

One of the many ways in which children use stories is to tell them, to make up their own or to re-tell stories they have heard. Young children learn what makes for a good narrative and are able to tell stories long before they can read text. Story structure is considered one of the first measures of young children's competence in story production (McCabe & Peterson, 1991). What is established, according to Labov and Waletzky (1967), is that a narrative consists of a sequence and an evaluation. Western Caucasian children can provide a beginning setting, a rise to a high point and then a concluding evaluation and by the age of three are already incorporating these structures in their stories. (McCabe & Peterson, 1991). It is important to acknowledge that there are many story structures that are possible and

that the "story telling" background of the child is key in identifying narrative style and competence.

Hudson (1990, 1993) and Fivush (1994) have shown that through talk with parents children learn how to talk about the past and create narratives about themselves and others. In this vein Nelson (1989a) talks about children's development of their autobiographical stories which are aided by the child's increasing personal experience, conversation about these experiences, cognitive and linguistic development and parent talk about the past. Miller, Hoogstra, Mintz, Fung, and Williams (1993) studied how children use stories to work out their understanding of events and their feelings in their world. Children retell both text stories, as in "Peter Rabbit" (Miller et al., 1993) and stories they have heard from adults (Miller & Mehler, 1994). Although this research supports that, from a pre-school age, Western middle class children understand and are able to implement story structures to produce narratives, with assistance, about themselves, others, and fictional characters the case should not be over interpreted. As Nelson (2000) explains, children's narratives are not very coherent and skilled before age 5. She claims that children show confusion about their own and others' stories. Still, it appears from work done with children on story production that they know the difference between what has really happened and what they are making up. The question is what do young children understand about text and how do they integrate their story productions into their knowledge about story texts.

Where to next?

There has been little research following up Applebee's claims regarding children's distinguishing between fact and fiction. Yet, learning to distinguish between the real and imaginary or fact and fiction is a necessary component of cognitive development.

Based on Johnson's reality monitoring work and Applebee's studies of children's knowledge about stories, we should expect that the more story books differ from a child's experiential world the less likely they will be to confuse the events and characters with their own narratives and schemas of the world, and thus, the more likely they would be to label the story imaginary. We could also expect that the more similar the events in the story are to the child's experience the more likely the child will be to elide her world with that conveyed in the storybook.

One group of theorists on the topic of children attaining a "theory of mind" claim that around 4-years of age children come to understand "false belief". Many elements are involved in this shift, a key one being that these children have attained the ability to hold multiple representations in their mind. These "theory theorists" describe children more as scientists constructing theories, than as gatherers of life experiences, and, as such, a theory once constructed is considered to hold in all situations (Gopnik, 1993; Gopnik & Wellman, 1990, 1992, 1994). If this were the case, the same children that can distinguish between the physical and the mental should also be able to distinguish between the imaginary and the material as well as the real and the imaginary (Wellman, 1990).

Harris, who takes issue with the idea of the child scientist (Harris, 1994), provides evidence that 4-year-olds waver in making distinctions between the imaginary and the material (Harris & Kavanaugh, 1993; Kavanaugh & Harris, 1999). Two possibilities for this finding arise: 1) children are not theorists who can construct a theory in one situation and extend it to a variety of similar yet different situations and 2) other factors must be influencing the discriminatory process, in addition to children's ability to hold dual representations. Applebee (1978) suggests that the distinction is one of learning the conventions related to narratives. If this is so, 9-year-old children, and certainly adults, should be able to distinguish between fact and fiction. However, this is not always the case.

Wellman's ontological criteria gets us to a starting point, but no further. Three-year-olds know the proprieties of the mental and the material (which are very similar to those of the imaginary and the material), but 3-year-olds demonstrate no ability or much interest in distinguishing between these two categories in the narrative world.

Piaget's description of the child suffering from epistemological realism gives us insight into how young children may be connecting the imaginary with the material, but offers no suggestions about what develops and how it develops such that children eventually overcome epistemological realism.

Nelson's theory provides insight into what is happening by offering us a model that encompasses the child's activity, experiences, social interaction, and the child's cognitive process, specifically language and representational abilities.

The present study

This study will explore how 4- and 5-year-old children understand characters and events in fictional storybooks. The role of story genre (reality-based and fantasy-based themes) and story salience will be examined for possible effects on children's comprehension of stories and their understanding of the representational nature of the stories specifically, children's representational knowledge about story book characters and events.

Children are read to in a variety of ways with a variety of intentions and results (Dickinson & Keebler, 1989; Dickinson, 2001; Dickinson & Smith, 1994; Heath, 1982). The stories in this study have been carefully chosen and the reading style was practiced for consistency in a pilot study. An interactive style of reading was chosen to engage the child and the reader always stopped and commented, drawing the child into the reading at the same places regardless of the child's questions or enthusiasm. The points for comment were selected after countless readings of each story to different pilot children and were either natural places where the reader found she was engaging the children, or places children often had a comment or question of their own. In order to make the readings as similar as possible and because children elicit different reading styles, this systematic reading approach was adopted, striving to give all the children an equal opportunity to become engaged.

The questions

The purpose of this study is to begin to formulate answers to the following questions regarding children's understanding of the real and the imaginary in fictional storybooks and to examine possible effects of different story genres (i.e. reality-based vs. fictional based) and story types (salient affect vs. neutral affect) on children's comprehension of stories, as well as their understanding of the representational nature of the stories. The questions to answer are: 1) Does the nature (genre and type) of the story affect the children's comprehension of the story's events? 2) Does the genre (reality-based or fantasy-based) of a story influence young children's discriminations concerning the real or imaginary representational nature of the story's events? Similarly, what effect if any will story type (neutrality or salience of affect) have? 3) How does story genre (reality-based or fantasy-based) influence young children's identification of storybook characters as belonging to either this world or an imaginary one? Furthermore, is the story type an influencing factor in these categorizations? 4) Does language ability (as measured by the CELF Pre-School assessment test, see Methods) either as a total or component measure aid in predicting how well children will do in answering factual and representational questions regarding the stories they listen to? 5) Are the characters' and events' status (neutral/salient) influencing factors for children in their ability to discriminate between the actual world and the world of make-believe?

Hypotheses

The major hypotheses of this research are:1) The genre of the story will influence both children's story understanding and children's discriminations concerning the real or imaginary representational nature of the story's events. 2) The story type (neutral/salient) of the book will influence children's discriminations concerning the real or imaginary representational nature of the story's events. 3) Story genre will influence children's categorization of the characters. Those characters whose behavior conforms more to the children's schema knowledge will be categorized as real more than those behaving in a fantastical manner. 4) Character's qualities, such as being perceived as good or mean, will influence children's categorization of characters as real or imaginary. 5) Language ability will be a contributing factor in children's story understanding, and their understanding of the real or imaginary representational nature of each story's events and characters. 6) The emotional content of the story will affect the children's responses as to the event's or character's nature, real or imaginary. 7) There will be a developmental trend that the emotional content will be a diminishing factor in determining the representational nature of events and characters for older children, than for younger children.

METHOD

Participants

Participants were recruited from a Southern New Jersey pediatric practice. They were either children who visited the doctor for a routine examination or siblings of such children. None of the children were ill at the time of recruitment. A flyer outlining the study was placed in each of his two offices at the receptionists' desk for parents to read if they wished. Those parents and children that were interested in the study placed their name and phone number on a contact sheet. The researcher than contacted those interested in participating. Of those contacted about 10% ended up not participating, mostly due to scheduling logistics. All but two children were recruited via the pediatric practice; these two children were recruited at the location at which the study took place, two South New Jersey public libraries. Both libraries provided separate quiet rooms for the interview sessions.

Selection criteria was based on willing participation. Only those children who gave verbal consent and whose parent or guardian signed a consent form participated. A total of 67 children, 38 girls and 29 boys took part. Children ranged in age from 4:0 to 5:11. Later, for analysis purposes, three age groups were formed. The groups were divided as follows: 4:0 – 4:8, 4:9 – 5:3, and 5:4 – 5:11. All spoke English at home, and had a familiarity with story books (parents reported that they were read to at least 3 times a week). The participant age range, 4:0 – 5:11, was chosen because it is a time when there are many changes in children's comments about self and other, and real and imaginary (Harris, 1991; Henseler, 2000). It is also around this time that changes

are noted in children's developing theory of mind (Astington, Harris, & Olson, 1988; Flavell, Green, & Flavell, 1990; Perner, 1991; Wellman, 1990). This two-year range is also a time when children are becoming more sophisticated users of language moving from a largely pragmatic use of language to a more representational use (Applebee, 1978; Nelson, 1996).

To the degree possible, a culturally homogeneous mainstream sample was sought with the intention of reducing the range of ideological and philosophical backgrounds. However, research on differences in language, memory talk and general conversation styles shows that selecting a homogeneous group of children is illusory. Parents have different styles of communicating with their children, which affects how children communicate and relate to those about them (Fivush, 1994; Tessler & Nelson, 1994). Home observation also reveals that each child grows up in a sub-culture of parents, siblings and others that differentiates each specific child from similar peers. Given the understanding that a "true" culturally homogeneous group is unattainable, selection criteria here aimed for participants growing up exposed to similar general philosophies, allowing for a greater probability that these children would share a western philosophical framework and hence have more similar ideas about the real and the imaginary.

Design

Children were randomly assigned, with constraints on age and gender, to one of two genres: reality (listened to reality-based stories) or fantasy (listened to fantasy-based stories). The study design (Table 1, p.25) provided that each child heard and

was questioned about two stories, one of which was neutral in affective tone and characters, and the other which was salient in affective tone and characters. Depending upon condition, children heard either fantasy or reality-based stories of each type (neutral or salient). Thus, genre condition was a between-subjects factor, while story type (affective salience) was a within-subjects factor.

Table 1
Study Design

Story type*	Condition	
	Fantasy-based stories	Reality-based stories
Neutral affect	First / Second	First / Second
Salient affect	Second/ First	Second/ First

* Order of story type counter-balanced within conditions

Procedure

Once children and their parents agreed to participate and signed a consent form, a time was arranged to meet. Meetings took place at whichever library was the more convenient for the parent.

All children listened to the reading of two story books and answered story understanding questions as well as representational understanding questions about the stories they heard. Within each age group, half of the children heard fantasy -based books (a story that breaks with traditional knowledge about the real world, for example: a fairy tale that involves characters' actions that "break with reality") and the other half heard reality-based books (a story that is within the realm of possibility and the child's schema knowledge, for example a child goes to the library). Within the two conditions, one story has all positive affect characters (neutral type) and in

the other story there are a mixture of positive and negative affect characters (salient type). Affective salience was initially determined by the researcher. Subsequently, children's assessments proved the researcher's categorization to be accurate, although within stories not all characters were assessed the same by each child.

Each child listened to the first book and then the researcher began the story understanding questions (Appendix 1). Upon completion of the first story and interview the researcher read the second book to the child. Again, after the completion of the second story there was the story understanding interview. Upon completion of the reading and questions for both stories the researcher began the representational understanding interview (Appendix 2) regarding the first book listened to and then the second book listened to. The formal questions finished, the researcher and child had a more general discussion concerning the real and imaginary in representational media: television shows, videos, newspapers and books (Appendix 3).

When the general discussion about media was finished, the character-board interview (Appendix 4) was initiated. This focused questioning about character traits was intended to further reveal what emotions the child might feel toward the different characters and was structured around pictures of all the different characters. Color pictures of all of the characters from both stories were on a single 8 ½ " x 11" board (Appendix 4.1) and the children could easily discern the different individual characters from the two stories they had heard. The researcher directed the child's attention to the character-board and proceeded through a series of questions asking the child to point at or name the character(s) that best fit the interviewer's description.

Explanations about each choice were sought (i.e. "Did you have a favorite character? Which one?, Why?").

The interview completed the child was asked if she was ready to play some word games at which point the CELF-Preschool language assessment was administered (Wiig, Secord, & Semel, 1992). At the end of the entire session the child was thanked and given the choice of a small gift as a thank you.

The session completed, the researcher reviewed the parent questionnaire (Appendix 5) with the parent and answered any questions they might have regarding the study. All portions of the session, except the language assessment, were audio taped The entire session averaged about forty-five minutes depending on how talkative the child was.

Materials

Four books were used in the study: *The Princess And The Frog* (Isadora, 1989) and *The Talking Eggs* (San Souci, 1989) for the fantasy genre condition; and *Ira Sleeps Over* (Waber, 1972) and *Bootsie Barker Bites* (Bottner & Rathmann, 1992) for the reality genre condition. Every child in each of the two conditions listened to the same stories. (See Table 1, Study Design). Other materials used were the CELF-Preschool language assessment test materials (Wiig et al., 1992) and a small gift. Each child was offered the choice of a toy car or a beanie baby-like animal after the entire session was over.

A pilot study was conducted to test the protocols and, most important, to find story books that would be engaging, familiar in theme and yet new stories to the

children. There was also the question of finding stories that were long enough to give the child a chance to become involved with the characters but not so long that there attention would wander. Stories were chosen with the assistance of librarians from the children's section of the New York Public Library and consulting books which review storybooks for children.

After the pilot research tested a number of different storybooks with 8 children of the age of study participants. Two books were chosen for the reality-based books: *Ira Sleeps Over* for the neutral story and *Bootsie Barker Bites* for the salient story. These books were captivating for the children, similar in length and in illustration style. The themes of a sleepover and having to play with a child who is a bully were understandable and familiar to many of the children. The stories chosen, however, were not ones the children had heard before. Choosing the fantasy-based books posed three problems in relation to the reality genre books. Fantasy genre tends towards stories that are longer in duration, the illustration style is more painterly, and fairy tales by their very nature are not intended to be neutral. A version of *The Princess and The Frog* was chosen for the neutral story. The version used for this study has a very benign Princess and no evil fairy in the illustrations. The theme of magical transformation and the Princess finding her Prince was also familiar. The salient story chosen was *The Talking Eggs* which has the familiar Cinderella theme minus the Prince and is set in the Bayou of Louisiana. These two fantasy genre books were captivating for the children, similar in length and illustration style. Although illustration styles were different for the two different genres, within the two chosen books for each genre the style of illustrations are very similar. None of the

illustrations included photo-realistic images. In the event that a child knew a story from the initial assignment, he or she was placed in the other genre condition.

Setting

Two public libraries were used for the study. The head librarian of each was enthusiastic about the study and separate quiet rooms were provided for the interview sessions at each of the two sites. One library is located in the South West of New Jersey and the other is located near the South New Jersey Shore.

Measures

The CELF-Preschool was used as a language measure to estimate the language development of the children within the sample and as a variable in the analyses.

A story understanding measure was derived from the questions asked of each child after each story book reading. This measure assessed the child's narrative understanding of the story based on the information contained within it. The score reflects how well each child understands the events and characters in the story through answering a series of "why" questions (Table 2, below).

Table 2
Story understanding questions *The Princess And The Frog*

Why does the princess cry?
Why is the frog offering to help the princess get her ball?
Why does the prince say he was a frog?
Why is the princess happy at the end of the story?

Only unprompted answers were counted. A score was derived for each story (i.e. story understanding questions for story one) by creating a proportion: the number of unprompted answers over the total number of questions asked. Total scores were created by adding the scores for both story one and story two. For example if the story understanding score in story one was 7/9 and the story understanding score in story two was 7/8 the total story understanding score would be 14/17.

A representational understanding measure was derived from questions addressed to the child regarding the representational nature of events in the story under discussion. The questions are intended to focus the child's attention on the differences between what is represented in the story text and what is represented in the world. For example the first questions, for those children in the fantasy genre condition, has the story text conflicting with knowledge about the world i.e. frogs do not speak as the frog in the story does. Children who recognize that the story is make-believe (not possible) are able to reconcile their knowledge of the story and their knowledge of the world and answer that frogs do not talk to people because frogs cannot talk. If pushed further by the interviewer, "but this frog [in the story] talks. How is that possible?" a common answer is that it's because "it's a magical frog" or "it's just a story"; demonstrating their understanding at least on this point that they recognize a difference between what is possible in books and what is possible in the "real" world. The questions answered correctly point to an understanding of the representational.

A story can represent anything the writer wants regardless of the validity of such events occurring in the non-representational or "real" or action world, the world

we all inhabit as a community. We and community are used because any child could create a world of make-believe that is not textually represented but in which frogs can talk. This is a form of internal representation but it is a private world and 4-and5-year-old children have been shown to know the difference between that which is imaginary and that which is not (Harris et al., 1991; Harris & Kavanaugh, 1993). The questions posed in this study are intended to examine textual representation about which children have shown mixed knowledge. Noteworthy and discussed in the results section is that all the children do very well on these representational questions (Table 3, below) yet still have difficulty determining the real or imaginary status of individual characters.

Table 3
Representational understanding questions *The Princess And The Frog*

- The frog talks to the princess. Can frogs talk to people?
- The princess thinks the frog can not leave the water and eat from her plate, sleep in her bed and be her friend but he does all of these things. Could a frog do these things? Why not?
- The frog turns into a prince. Could a frog turn into a person? Why not?
- An evil fairy put a spell on the prince and turned him into a frog. Could this happen today? Why not?
- The princess broke the spell on the prince. Could you break a spell? Why not? What are spells?
- The prince and princess get married. Could two people get married?

Only unprompted answers were counted to create a representational understanding score. Although prompting often revealed that a child could work out the answer to a question, not all children were responsive to prompting, thus ruining comparability. Most children recognized that two people could get married and answered yes to the last question in Table 3. However, there were children who answered "no", or "I don't know". These children were prompted with the question:

"do you know anyone who is married?" Often they would respond saying that their mommy and daddy were married. The child would then be prompted with a direct question "So could two people get married?" at which time many would then say "yes". Not all children lend themselves to this exchange or similar ones and for that reason only the unprompted response was counted. The score for the entire measure is the proportion of the number of unprompted answers over the total number of questions asked. Incorrect answers were not used directly but are inherent in the correct answer score being less than perfect.

Another representational understanding measure, the character category score, reflects each child's thoughts about the individual characters in each book and what category the character belongs to, i.e. real or imaginary (Table 4, below).

Table 4
Character categorization questions *The Princess And The Frog*

- What kind of person is the princess?
- What kind of person is the prince?
- What kind of person is the frog a real animal or an imaginary animal?
- What kind of person is the king?

The character categorization was scored on a binary system with a total character score derived by adding all the character scores together, dividing by the total number of characters scored and multiplying by 100. An example is: There are eight characters in the reality condition and a child says three are real and five are imaginary. This child would have a score of zero for the three real characters and a score of five for the five imaginary characters. The total score is then the real score added to the imaginary score with the sum divided by the total number of characters

(eight) multiplied by 100. In this example the score would be 62.5. The higher the score the more characters the child said were imaginary.

A parent questionnaire was completed by the parent who brought the child to the session and provides some background information about the child's story reading background, and the parents goals in reading to their child. A score that tried to capture each child's base fantasy or reality inclination was derived by adding the score parents gave to their child on three of the questions regarding their rating of their child's play and preferences (Appendix 6). The result from adding the scores from the three questions was then divided by the number of questions answered. In most cases this number was three, although in a few cases it was two. In all but a few cases the questionnaire was filled out by the parent while the child was with the interviewer. In the rare case where the parent was unable to complete the questionnaire it was taken home and mailed to the interviewer.

Reliability of coding

All 67 participants' transcripts were coded by the researcher for story understanding, representational understanding and character category. Twenty-four (18%) of the transcripts were coded by an additional coder for the same measures to assess inter-rater-reliability. The percentage of inter-rater reliability was broken down into four categories for both the story understanding measure and the representational understanding measure. Because the statistical analysis only used unprompted answered questions, reliability was calculated for both overall agreement as well as agreement on questions that received an unprompted answered code. An initial

coding of the Story understanding measure by the second coder yielded 78% agreement overall and 81% agreement for the unprompted answers. After discussion inter-rater reliability was 90% overall and 93% for the unprompted answered. An initial coding of the representational understanding measure by the second coder yielded 93% agreement overall and 94% agreement for the unprompted answered. After discussion inter-rater reliability rose to 98% overall and for the unprompted answered questions.

Inter-rater-reliability for character categorization was 100% after discussion. Prior to discussion 13 responses were in question but all but one were due to clerical rather than interpretation error. The 100% agreement was easy to attain as the questions were very straightforward.

RESULTS – QUANTITATIVE

The results that follow are organized by three outcome measures. Discussed first is the story understanding measure which reveals how well each child understands the events and characters in the story through answering a series of why questions. Each story has its own story understanding score as well as a combined score. The score is the number of questions correct over the number of questions asked. Discussed second is the representational understanding measure (within storybook). This is the measure of how well each child grasps the ideas of the real and the imaginary as they relate to the text of the storybook. The representational understanding score, like the story understanding score, is a proportion of the number of correct answers over the total number of questions asked. Again, each story has its own representational understanding score as well as a combined score. The last outcome measure discussed is the children's assessment of each of the storybook's characters as to what type of a character he/she might be. For example a real character, existing in the world, or an imaginary character existing only in the minds of the author and her/his readers. This measure, referred to as the character status measure, was obtained by asking each child about the status of each character, scoring on a binary system and then summing the responses for all the characters, thereby obtaining a final score.

Because each child was read two story books, one characterized as having neutral characters and the other as having salient characters, there are two scores for the story understanding measure and two scores for the representational

understanding measure. The character status measure was a combination of each child's assessment of the characters from both story types (neutral and salient) as either real or imaginary.

Story understanding

To consider the questions of whether genre (reality or fantasy) or story type (salient or neutral) influences children's story understanding scores, a repeated measures general linear mixed analysis of variance model was used. This model included one within-participants factor, story type and one between-participants factor, genre. A highly significant main effect for story type was found, $F(1, 65) = 21.555$ $p < .0001$). Children demonstrated higher comprehension scores on the neutral story questions than on the salient story questions (Table 5, below). No main or interaction effect was found for genre.

Table 5
Story understanding means and standard deviations

Story Type	N	Genre	Mean	SD
Salient	36	Reality	31.25	23.43
	31	Fantasy	33.71	26.11
Total	67		32.39*	24.55
Neutral	36	Reality	49.31	25.69
	31	Fantasy	45.97	22.45
Total	67		47.76*	24.12

* Significant mean differences $p < .0001$.

Story understanding was better for neutral stories across both genre conditions and the genre did not interact with story type to affect the children's answering of the story understanding questions

To understand if language ability played a significant role in the children's story understanding score each of the language measures was entered separately as a covariate into the repeated measures general linear mixed analysis of variance model, after taking into account the story type and the genre. Using the CELF Pre-school language assessment provided three language scores: a receptive score, an expressive score and a total score (the sum of the receptive and expressive scores). The analyses revealed no significant main or interaction effects. All three standardized language variables as main effect covariates were not significant and did not change the model. A follow-up analysis was conducted separating out language effects and age. The expectation was that language would be a significant indicator predicting story understanding, and it is. Raw language scores were used to separate out possible language effects and age was entered separately. Standardized scores imbed age within the score, raw scores do not. The analysis found no significant main or interaction effects. Age was non-significant as a covariate. However, raw receptive language was significant as a covariate $F(1, 63) = 4.656$, $p<.035$. It is interesting that age is not a covariate in a task that has generally been conceived of as purely cognitive.

A further analysis was run with just raw receptive language as a covariate leaving out age, a non-significant covariate. Results revealed that raw receptive language is a significant covariate $F(1, 64) = 10.027$, $p<.002$. Additionally, raw

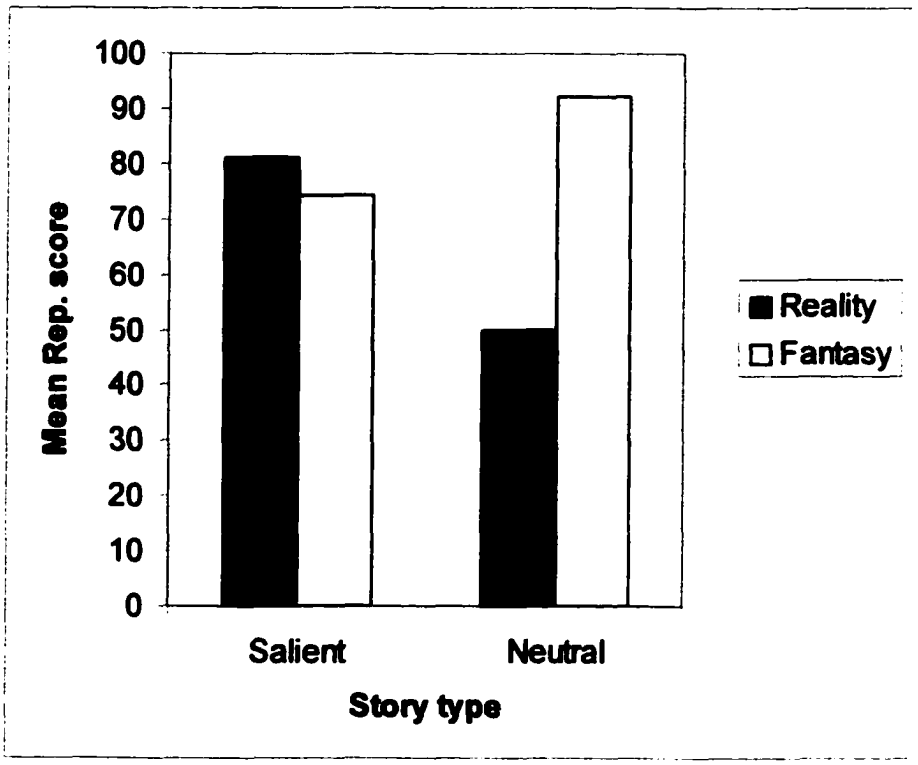
receptive language works the same for both story types as the beta score is positive for both the neutral and the salient stories. An additional effect of having raw receptive language as a covariate in the analysis is to diminish to non-significance the effect of story type $F(1, 64) = .777$, $p<.381$. Furthermore, there is no significant interaction between raw receptive language and story type. It appears that language mediates out the effects of story type. This result is plausible because the better the child's receptive language skills, the less the neutrality or saliency of a story matters. Cognitive skills are ruling over emotional responses. Possibly there is a link between receptive language and the meta-cognition of text.

Representational understanding

Using a repeated measures general linear model, children's scores on the representational understanding questions were analyzed. This model included one within-participants factor –story type and one between-participants factor – genre with raw receptive language as a covariate. With raw receptive language included as a covariate there was no main effect found for story type, $F(1, 64) = .254$ $p<.616$). However, there was a highly significant interaction between story type and genre, $F(1,64) = 42.432$, $p<.0001$). Story type plays a role in children's responses to representational understanding but it depends upon the genre condition they are in. (See Figure 1, page 39) Those in the reality-based condition do better with the salient story ($M = 80.86$, S.E. = 3.03) and those in the fantasy-based condition do better with the neutral story ($M = 92.08$, S.E. = 3.90). Raw receptive language was found to be significant as a covariate $F(1,64) = 13.904$, $p<.0001$) although there was no

significant interaction between story type and raw receptive language $F(1,64) = .430, p<.514$.

Figure 1
Interaction of story condition by story type



Categorization of character

A univariate analysis of variance model was used to explore genre effects on children's categorization of character score. Because Levene's test of the homogeneity of variance was significant, the categorization of character score was weighted by one over the standard deviation of each group *times* the original variable to correct for the lack of homogeneity of variance. This procedure, which is a

standard econometric transformation, renders the variances homogeneous and allows the use of an univariate analysis of variance model. The procedure involves a weighted least squares solution for the test of the model (Draper & Smith, 1998). Genre was the fixed factor while several different covariates were examined. Children were found to do significantly better at correctly categorizing the characters in the fantasy condition (M = 81.417, S.E. = .174) than in the reality condition (M = 65.480, S.E. = 0.161) after adjusting for their representational understanding for the salient story score. The adjustment for the representational understanding score as a covariate was statistically significant $F(1, 64) = 6.308$, $p < .015$ while keeping the genre main effect $F(1, 64) = 17.755$, $p < .0001$ significant. The result is that children in the fantasy condition were significantly better at answering questions about their understanding of the real and imaginary than were children in the reality condition.

Although weighted least squares is a common practice, it should be pointed out that the adjustment employed in the previous analysis may be slightly biased (Winer, Brown, & Michaels, 1991). One solution to this problem has been proposed by Overton (2001). The comparison of the fantasy and reality conditions using Overton's approach yielded an $F(1,64) = 3.62$, $p = 0.06$ indicating a trend in the differences between the two groups. The means still favored the children in the fantasy condition compared to the reality condition in terms of their understanding of the reality of the characters (81.99 versus 65.44 respectively) and, had the sample been slightly larger, would have, no doubt, yielded significance at the conventional alpha level.

Returning to the results of the first categorization of character analysis, (where the children in the fantasy condition were found to do significantly better at answering questions regarding the real and imaginary as it related to story characters than those children in the reality condition), the next question to answer was the role of genre versus story type on the children's categorization of character score. In an effort to answer the question regarding how much of the variance in the children's categorization of character score was due to genre and how much to the saliency of the story, changes in R^2 were examined for genre and story type. Findings revealed that genre accounts for 17.5% of the variance and the representational understanding score for the salient story accounts for an additional 7.4% of the variance which is a significant increase. The result is that genre is far more important in explaining children's categorization of character than story type.

Follow up analyses were conducted individually adding the following variables as covariates into the univariate analysis model: standardized receptive language, age, story understanding, and the parent-child rating. None of these variables were found to be significant factors in explaining children's categorization of character score.

Language effects

Prior to this point in the analyses, language has been entered into the various statistical models as a covariate. Across analyses it was the raw language scores that were found to be significant. Raw receptive language was found to be significant as a covariate for the story understanding outcome measure. The better children's raw

receptive language the better their story understanding score regardless of the story type. The representational understanding measure is also affected by a significant raw receptive language covariate. To understand the effects of genre and story type on children's representational understanding, raw receptive language has to be adjusted for. Once raw receptive language is entered into the analysis as a covariate, story type alone does not explain children's representational scores and language and story type do not significantly interact.

Two stepwise multiple regression analyses were conducted to answer the question of what aspects of language affect story understanding using the neutral and the salient stories as separate outcomes.

Table 6
Pearson correlations for age, language competence, and story understanding measures.

	SU Salient	SU Neutral
Age	.338***	.236*
Raw receptive language	.340****	.275*
Raw expressive language	.319**	.262*

* = $p < .02$, ** = $p < .004$, *** = $p < .003$, **** $p < .002$

Note, SU Salient = story understanding on the salient story
SU Neutral = story understanding on the neutral story.

Receptive language appears to be the most strongly correlated to the outcome measure for both the salient and the neutral story (Table 6, above). The significance levels are very close for all three variables so it would seem that all three independent

measures affect story understanding for the salient story and even possibly for the neutral story.

Given the Pearson correlations, a stepwise regression analysis was performed to determine what aspects of language affect story understanding (Table 7, below). The independent variables were chronological age, raw receptive language score and raw expressive language score entered in that order. The findings indicate that for both the salient and neutral conditions story understanding was significantly affected by the raw receptive language score.

Table 7
Summary of stepwise regression analyses predicting story understanding across story type for age, raw receptive and raw expressive language

Step/Variable	B	SE B	β	Increment in R^2	F	P
Salient story:						
1. Raw Recep.	1.813	.622	.340	.116	8.505	.005
Neutral story						
1. Raw Recep.	1.439	.625	.275	.075	5.303	.025

Both age and raw expressive language were removed in the analysis as they did not meet the stepwise criteria probability of F to enter <= .05, probability of F to remove >= .10. Hence, neither age nor the raw expressive language score are responsible for explaining the variance in the story understanding outcome measure.

A similar stepwise multiple regression analysis was conducted to answer the question of what aspects of language affect the representational understanding score using the neutral and the salient stories as separate outcomes.

The Pearson correlations (Table 8, below) reveal two very different phenomena for the neutral and salient stories. The two outcome measures only have one correlated independent variable and the variable is different for each. The representational understanding measure for the salient story is correlated with receptive language while the representational understanding measure for the neutral story is correlated to a slightly lesser degree with expressive language. Neither outcomes are significantly correlated with age.

Table 8
Pearson correlations for age, language competence, and the representational understanding measures.

	Representational understanding	
	Salient story:	Neutral story:
Age	.070	.178
Raw receptive language	.361**	.177
Raw expressive language	.173	.317*

* = $p < .004$, ** = $p < .001$,

A stepwise regression analysis was performed with independent variables: age, raw receptive language score and raw expressive language score. The findings indicate that for the salient condition the representational understanding measure was significantly affected by the raw receptive language score. However, for the neutral condition, the representational understanding measure was significantly affected by the raw expressive language score. (See Table 9, page 45). The independent variable age was removed in both analyses as was the raw expressive language score in the salient condition analysis and the raw receptive language score in the neutral condition analysis as these variables did not meet the stepwise criteria probability

of F to enter <= .05, probability of F to remove >= .10. Consequently age was found not to be a measure that affects representational understanding in either the neutral or salient conditions.

The regression analysis highlights language competence as a significant variable and as a predictor in young children's cognitive tasks. In neither the story understanding analysis nor the representational understanding analysis was chronological age found to be a significant predictor independent of language. Age and language are surely correlated yet in these analyses it appears that language dominates as the explanatory variable.

Table 9
Summary of stepwise regression analyses predicting representational understanding across story type for age, raw receptive and raw expressive language.

Step/Variable	B	SE B	β	Increment in R^2	F	P
Salient story:						
1. Raw Recep.	1.527	.490	.361	.130	9.719	.003
Neutral story:						
1. Raw Exp.	.584	.217	.317	.100	7.253	.009

Demographic analysis

Although a similar participant pool was sought out, there were several substantial demographic differences. Gender (38 girls and 29 boys participated) in the story understanding analysis was found to be significant as a between subjects

variable $F(1, 59) = 10.228$ $p < .002$ with girls ($M = 1.978$, $SD = .137$) having a better story understanding than boys ($M = 1.314$, $SD = .156$). This finding is not surprising as girls are often developmentally further along than boys at this age. Gender was not found to be significant in the analysis either of representational understanding or categorization of character; this may indicate that these measures have a greater emotional component which dominates over possible gender differences.

The participant population came from a single doctor's practice. However the practice has two locations serving two different South Jersey populations. One population is located in the south-west portion of the state, less than an hour's drive from Philadelphia. The other population is located along the south-east coast near the shore. The first location will be called Inland and the second location will be called Ocean.

Unfortunately, it was not possible to obtain demographic information from the participant's family. However, demographic information was gleaned through the researcher's observations and casual conversations with the participants and their parents as well as statistical information regarding county demographics and socio-economic characteristics from the 1990 U.S. Census, The New Jersey Municipal Data Book (1999). Differences in the Inland and Ocean population were apparent. Although all participants are Christian with English as their first and primary language the two populations differed on SES, education level, and occupation. The Inland population's median family income is roughly $22,000 greater than the Ocean population's median family income. The majority of the Inland participants had fathers in white-collar jobs, some commuting to Philadelphia. The Ocean population

participants had both fathers and mothers who worked predominantly in blue-collar occupations. Many of the participants' parents are in the service industry either to the shore community or the surrounding mainland community in which they live. Most of the mothers worked and extended family looked after their young children. Unlike the Inland parents who worked indoors in office occupations, a few as teachers, the Ocean parents mostly hold outdoor or outside related jobs. Heath's work (1982) on story reading and different populations prompted this researcher to consider location as a variable. Differences by location were explored in the outcome measures. However, location was found to be non-significant across all three outcome measures.

Results – Qualitative

Many of the children in this study recognized that there is a distinction between what is real and what is imaginary. Children used a variety of words to describe the not real, such as "imaginary", "pretend", "fake", "made-up" or "make-believe". Although different words were used, children were consistent in their word choice and it would be considered the adult equivalent of imaginary. Context is everything in understanding each child's use of their chosen word to describe the not real. When the interviewer tried to clarify how a child was using a word "what do you mean by fake" or "what makes it fake" a common reply was "it's not real". There were a few occasions where children explained saying "it's just dress-up" in response to "what do you mean by pretend?" However, these responses are in the context of the interview not reviewed in this study.

Although the media interview is not within the scope of this paper, given the magnitude of the information contained, it does provide insight into children's thinking on the real and the imaginary. Briefly, the media conversation points to the ambiguity of the terms imaginary and real and reveals that children are using these terms in a multitude of ways. Often the way children used "real" and "imaginary" was not how it was conceived of by the researcher. For example, in reference to the television show *Rugrats,* the Rugrats were claimed to be imaginary "because babies don't talk". The Rugrats are not held to be imaginary because someone created them nor because they are cartoons but rather because they do what is not possible, talk and carry on independent lives from adults. Responses such as the above offered insight into how children were using plausibility to determine what was real and what was

imaginary. The term imaginary often reflected a judgment that "this person is not possible" as opposed to, "this person is the creation of someone's mind". Few children (2 out of 67) were able to articulate that the characters they saw on television shows were actors pretending to be a character that was created by someone.

Adults have conventionally split the world in two, into the real and the imaginary, but what both the story interviews and the media interview highlight is that these pre-school age children do not participate in this dichotomy in the same manner. The variety of terms that children use in describing the "not real" possibly points to a wider range of distinctions that children are making regarding events and "people" they come in contact with both physically, in the actual world, and representationaly in the world of media. We should remember, as discussed in the introduction, that adults are not always so clear on the real and the imaginary when it comes to media that they are substantially engaged in (Vinden, 1998).

Regardless of the word used to define the not-real, children recognized a distinction between the real and the imaginary but only 58% of the children were able to articulate some explanation for why the character was real or imaginary. Of the 39 children giving some explanation about at least one character's status, 15 of the children were in the fantasy condition and the remaining 24 were in the reality condition. Interestingly, more children in the reality condition gave explanations than those in the fantasy condition. Additionally, those children in the reality condition who gave explanations were evenly split between 4- and 5-year-olds, 12 children from each group. In the fantasy condition only 5 children from the 4-year-old group and 10 children form the 5-year-old group gave explanations. The children from both

conditions who did not give explanations either did not respond to prompts by the interviewer to explain why a character was real or imaginary or said they didn't know.

An examination of the explanations children gave in response to the question "could you see X at the playground?", combined with the explanation for the status of the character offers a possible window on the children's process of discriminating between referents and the representational (that is, the real and the imaginary, the actual and the fictional).

The explanations for why they could or could not see and why a character was real or make-believe fell into several categories defined as follows:

- "kid-logic" example #1 (included such reasons as too big, too old, no playground in story, wrong playground or I don't see them, they're in my mind, people draw them);
- Affect example #2 (included such reasons as "she's mean" or I like her");
- Representational knowledge example #3(included such reasons as because they live in story books, it's only a story);
- Dogma example #4 ("because", my Mom tells me, or God).

Example #1
(Girl, 4:01:16)

*RGF:	could you see Bootsie at the playground?
*RH4:	no.
*RGF:	how come?
***RH4:**	**and she's (pointing to Anna) not at the playground either.**
*RGF:	but I thought you just told me you could see her at the playground?
***RH4:**	**but she's not at the playground.**
*RGF:	oh where is she?
***RH4:**	**she's just at her house.**
*RGF:	oh and what about Bootsie could you see Bootsie at the playground?

*RH4: no.
*RGF: how come?
*RH4: because she's not there.
*RGF: where is she?
***RH4: she's with someone else and she's not gonna be there.**
*RGF: oh how do you know well what about Anna's Mom could you see Anna's Mom at the playground?
*RH4: # yeah.
***RGF:** yeah you could # and **could Kyle see Anna's Mom at the playground?**
***RH4: no.**
*RGF: no how come?
***RH4: because he's not at the playground.**
*RGF: oh I see okay so let me ask you is Anna real or is she imaginary?
*RH4: she's real.
*RGF: and what about Anna's Mom is she real or imaginary?
*RH4: real.
*RGF: and what about Bootsie is she real or imaginary?
*RH4: real.
***RGF: they're all real okay and how did you know that they're all real?**
***RH4: because they're people!**

Transcription note: Dialogue was transcribed using a modified CHILDES protocol. In this system **#** denote a pause, longer the pauses use more symbols. To denote a string of unintelligible speech **xxx** is used. When a single word is unintelligible **xx** is used. To denote a dialogue turn where there is no speech but there is gesture **0** is used. The following line (%gpx:) states the gesture. To denote a speaker being cut off and **x/.** is used while **+^** is to denote a speaker interrupting. For purposes of space and ease of reading there are places where the is a skipping over of portions of the interview, these instances are marked with a line marker ***...** and the text "Forward advance in interview". Sometimes there is additional information in brackets to aide the reader in locating the dialogue within the larger context of the interview.

Note: For all examples bold segments illustrate answers and/or provide important content. Non-bold segments provide the context of the response.

The child talking in example #1 uses "kid-logic" to justify both correct and incorrect responses. The responses of "no" she can't see the character at the playground leads us to believe that the child understands the representational nature and the made-up nature of the characters. However, when pressed for why she cannot

see them she gives a reason that is logical from her world view; the characters are real but, not at the playground. They are at home. The child is not at the playground at the time of the interview, but appears to be imagining herself at the playground in responding to the questions. The responses of "real" to the question of "what kind of people are the characters?" makes sense in accordance with the logic used for why she can't see the characters at the playground. What appears disjointed in fact is part of a logical but naïve construction on the child's part.

Example #2
(Boy, 4:05:20)

***RGF:**	oh what about **Bootsie could you see her at the playground?**
*WF4:	xxx.
*RGF:	no what if the playground was empty what if it was really early in the morning when your Mom took you there could you see them then?
***WF4:**	**hunmmm.**
*RGF:	no why not?
1)WF4:	**because because they're too scared and stuff.**
*RGF:	they're too scared or you're too scared?
2)WF4:	**they're too scary.**
*RGF:	they're too scary.
*WF4:	hmm.
*RGF:	okay is Anna a real person or an imaginary person?
*WF4:	imaginary.
*RGF:	and what about Bootsie is she real or imaginary?
*WF4:	imaginary.
*RGF:	uhhuh and Bootsie's Mom she real or imaginary?
*WF4:	she's imaginary.
3)RGF:	**so how do you know that all of these all of these characters are imaginary what tells you?**
4)WF4:	**I don't know.**

The child speaking in example #2 gives the correct responses to the question but his reasoning is based upon his emotions, lines 1 and 2, not his understanding of the representational. When asked if he can explain why the characters are imaginary he is at a loss, lines 3 and 4.

Example #3
(Boy, 5:03:26)

1)RGF:	**mmhm what about Bootsie could you see Bootsie at the playground?**
2)ME5:	**# no.**
*RGF:	no why not?
3)ME5:	**(be)cause she's mean.**
*...	Forward advance in interview
*RGF:	what kind of a person is is Anna is she a real person or a make-believe person?
*ME5:	a real person.
*RGF:	she's a real person and what about Bootsie what kind of a person is she?
*ME5:	fake.
*RGF:	fake uhhuh and how and what about Anna's Mom what kind of a person is she?
*ME5:	real.
4)RGF:	**real now how do you know that Anna and her Mom are real but that Bootsie's fake?**
*...	Forward advance in interview (off task dialogue)
5)ME5:	**because I know that they are nice and she is mean.**

Example #3 is the dialogue of another child who for affective reasons can see one character, Anna, but cannot see Bootsie, the mean character, lines 1 – 3. The follow up to the child's emotional assessment is that Anna is real and Bootsie is not. When questioned about the discrepancy between the characters the explanation is internally logical based upon the child's feelings for the characters or possibly his wish for how he would like the world to be, lines 4 –5 .

Example #3A
(Girl 5:03:11)

*RGF:	so how come Anna's imaginary but Bootsie real?
1)RGF:	**# what's the difference between them?**
*RGF:	### is there a difference?
*RGF:	## there is a difference what's the difference your shaking you're your head that there is a difference so what's the difference between them?
*AG5:	one is mean and one +/.
%com:	child is mumbling hard to understand.
*RGF:	I can't hear you.
2)AG5:	**one is mean and one is not.**

3)RGF:	**oh one is mean and one is not so is the mean one real or imaginary?**
4)AG5:	**imaginary.**
*RGF:	imaginary so so which one then would be would be imaginary?
*AG5:	0
***gpx:**	**points to Bootsie.**
5)RGF:	# Bootsie and **which one would be the one who's nice?**
6)AG5:	**Anna.**
7)RGF:	**and she'd be real?**
8)AG5:	**mmhm.**
*...	Forward advance in interview (below is in reference to *Ira sleeps over*)
9)RGF:	**okay so they're all real okay so and and is this story a real story or an imaginary story?**
10)AG5:	**imaginary.**
*RGF:	an imaginary story?
*AG5:	mmhm.
11)RGF:	**so what does that mean that it's an imaginary story?**
12)AG5:	**it can't really happen.**
*RGF:	it can't really happen or is that what it means or does it mean that it it didn't happen?
13)AG5:	**it did not.**
*RGF:	what?
*AG5:	it did not.

Example #3A is another example of a child that uses affect as well as book knowledge as a basis for explaining the status of the characters and the stories. The first story discussed has real and imaginary characters and the child employs emotional reasons for explaining the difference between Anna being real and Bootsie being imaginary, lines 1 – 8. Yet, later when talking about the Ira story the characters are real yet the story is imaginary. The explanation for the story being imaginary is correct, it did not happen, lines 9 – 13. This little girl has some grasp that she is able to articulate about the imaginary and the real but when pressed further with some of the inconsistencies of her answers she says she doesn't know why some of the characters are real and some are not.

Knowledge about the nature of books was cited by several children as an explanation for how they can tell that the characters are not real; below is one such example (Girl, 5:02:19).

*RGF: he's not real none of them are real okay how can you tell how do you know that they're not real how can you tell +/.
***LM5: (be)cause they're from a storybook.**

Example #4
(Girl, 5:9:27)

*RGF:	they're all make-believe how do you know they're make-believe? [Referring to characters in Ira book]
***KB5:**	**because they're in the story.**
***RGF:**	**so if if something's in a story then it's make-believe?**
***KB5:**	**yep.**
***RGF:**	**I-: see are and is the story a real story or a make-believe story?**
***KB5:**	**make-believe story.**
***RGF:**	okay and what makes something make-believe like **what's the difference between make-believe and real?**
***KB5:**	**uh I don't know.**
*RGF:	is there a difference?
*KB5:	what's the difference?
*RGF:	do you think there is a difference?
*KB5:	mmhm.
*RGF:	what do you think the difference might be?
*KB5:	# xx.
*RGF:	I don't know so that's why I'm asking you.
*KB5:	oh.
***RGF:**	**# how do you know that the stories are make-believe stories?**
***KB5:**	**because the authors made it.**
*...	Forward advance in interview (below follows the *Bootsie Barker bites* representational understanding questions).
***RGF:**	**no and why can't you see any of them at the playground?**
***KB5:**	**because they're make-believe.**
*RGF:	I-: see and are they all make-believe?
*KB5:	yes.
*RGF:	they all are I see now you told me that they're make-believe and they're in books and you told me that the way that you know that it's make-believe is because somebody wrote it the **author are all books make-believe?**
***KB5:**	**+^ yes.**
***RGF:**	**do you think there are any books that aren't make-believe?**
***KB5:**	**yes.**

***RGF:** **what would you call those books** what do you call those books that aren't make-believe?
***KB5:** **+^ real books.**

The child, in example #4, not only understands that the characters are make-believe, she also knows the source of the stories, an author. Yet the child's knowledge is not fully integrated, as she is unable to articulate the difference between make-believe and real, and when questioned further about books she says they are all make-believe but there are also books that are not make-believe, they are real books. The inconsistency is not explained and it is unclear what the distinction is for this child.

Example #4A
(Boy, Age: 4:10:15)

***RGF:** # okay now **what kind of a person is Blanch?**
***CK4:** **# a real person.**
***RGF:** and **what kind of person is the old lady?**
***CK4:** # a fake # **a fake one because she took off her head.**

Included in the same category of knowledge about the nature of books was knowledge about how the actual world operates, for example, people cannot take their heads on and off, example #4A.

Example #5
(Girl, 5:04:05)

*RGF: would you like to play with Blanch?
*AT5: 0.
%gpx: nods yes.
*RGF: yeah did you like her?
*AT5: ## mmhm.
*RGF: mmhm and where would you play?
*AT5: hmm # at my house.
*RGF: at your house okay would you like to play with her sister Rose?
*AT5: I got um # no.
*RGF: no why not?
1)AT5: **because her mean.**
*RGF: she's mean right and if you had to play with her where would you play with her?

*AT5: # at her house.

(Section A)

*RGF: at her house okay and could you see Blanch at the playground?
*AT5: uh # yes.
*RGF: yes # could your best friend see her at the playground?
*... Forward advance in interview (off track dialogue).
*RGF: # you said that you could see Blanch at the playground could your best friend see her at the playground?
*AT5: 0.
%gpx: nods no.
*RGF: no why not # how come you can see her and your best friend can't?
2)AT5: because um her I can see her because um her because her visible.
3)RGF: because she's visible and why can't your best friend see her?
4)AT5: uh my best friend can see her.
*RGF: you think your best friend can see her okay now what about Rose could you see her at the playground?
*AT5: 0.
%gpx: nods no.
*RGF: your shaking your head no.
*AT5: no.
*RGF: no why not?
5)AT5: um (be)cause her Mom wants them to play at her play with her.
*RGF: I'm sorry why?
6)AT5: because her want to play because her mean.
*RGF: because she's mean?
*AT5: mmhm.

(Section B)

In response to all the characters she has been asked about
*RGF: yeah and could your best friend see her?
*AT5: mmhm them all visible.
*RGF: they're all what?
*AT5: all of them are visible.
*RGF: they're all visible you can see all of them okay now # okay now what kind of a person is Blanch is she real or is she pretend?
*AT5: um her is pretend.
*RGF: she's pretend
*AT5: yeah.
*RGF: and what about Rose is she real or imaginary?
*AT5: imaginary.
*RGF: and what about Rose's mom?
*AT5: uh imaginary.
*RGF: and what about the old lady?
*AT5: uh imaginary.
*RGF: okay now how do you know that they're all imaginary?

*AT5: because um xxx around here.
*RGF: because what?
7)AT5: because they're um not here.
*RGF: they're not here but but how do you know that what does it mean that they're pretend or they're imaginary?
8)AT5: because them only in the story.

(Section C)

*RGF: oh they're only in the story?
*AT5: mmhm.
9)RGF: I see and do they live outside of the story also?
*AT5: hmm.
*RGF: what do you think?
10)AT5: hmm # yes.
11)RGF: you think they do # so if they live outside the story does that make them pretend or real?
12)AT5: pretend.

Section D

*RGF: pretend # okay how do you know when something's real?
13)AT5: because I can see it.
*RGF: you can see it so something's that real you can see so am I real?
*AT5: 0.
%gpx: nods.

Section E

*RGF: okay and you said that they were pretend but you said you can see them at the playground?
*AT5: only in this book.
*RGF: ## can you think of another way of saying that cause I'm not +/.
*AT5: +^ I can't see them at the playground.
*RGF: you can't see them at the playground?
*AT5: no.
14)RGF: ## and why can't you see them at the playground?
15)AT5: because # them only um pretend.

Section F

*RGF: they're only pretend I see and how do you know when things are pretend?
*AT5: um because I read books.
*RGF: oh because you read books # I see okay and are books are books pretend?
*AT5: yeah.

The girl, Amanda, in example #5 provides an exploration that is illustrative of several of types of explanations, unlike many of the other children who used only one type of explanation. Amanda appears to be a child in transition in implementing a coherent representational understanding system.

Amanda can see the characters at the playground yet she is steadfast in telling the interviewer that the characters are pretend or imaginary and they are only in the story book (section A). It could be that many or all of the children who say they can see the characters are caught up in the idea of playing with them, imaging themselves in the story world. However, when they are asked what kind of person the character is, and when prompted with real or imaginary, they are brought out of the imaginary world and respond with the "realist" answer, or perhaps an answer that is in relation to the world they are occupying with the interviewer, the actual world. For many children the explanation for why the characters are imaginary is that they cannot be seen even though the children earlier said they can see the character at the playground (section A).

This example is illustrative of several points occurring in the conversations of some of the children. Early in the conversation Amanda says that she can see the characters but her best friend cannot (section A). This dialogue illustrates that when challenged about the best friend being unable to see the character the girl changes her mind, but not to "you can't see any of the characters" but to the fact that her best friend can see the character, the reason being that the character is visible, line 2. With regard to the next character (Rose) whom Amanda has identified as mean, line 1, she says "no she can't see her". At first she starts to give a "kid-logic" reason, line 5, but

when the interviewer asks for clarification she switches to an emotional reason, line 6.

The conversation takes a turn (section B) when the child is asked what kind of person the characters are. She responds that they are all pretend and the reason is "because they're um not here", line 7. When questioned further the child explains that the characters are "only in the story" line 8. However, the concepts appear to get confused (dialogue in section C) when the interviewer asks if the characters live outside the story, line 9 and the child responds (line 10) "yes" as if the characters are now real. Yet, when asked for clarification, line 11, the child responds that the characters are pretend (line 12). There appears to be a disjoint between the ability of the characters to live outside the story and yet be pretend.

In section D the interviewer attempts to get the child to clarify her own knowledge, to see if the child can notice and bridge the inconsistencies in her answers. The child is then able to explain that what makes something real is to be able to see it, line 13.

Returning to the idea of seeing the characters at the playground (section E) after a discussion about what makes something real, Amanda modifies her answer to accord with the information she has just given about what makes something real. If seeing is a criteria for realness, which she believes, then she cannot see them at the playground and the reason is that they are pretend, lines 14 and 15.

In an effort to confirm and or expand the dialogue the child is asked again, albeit in a slightly different wording, "how do you know when things are pretend?" the response (section F) is that she reads books and books are pretend.

Example #5.1

***RGF:**	**## now what about the tooth fairy?**
***AT5:**	**<her are> [?] real.**
*RGF:	she's real # now how do you know that the Tooth Fairy is real and that the evil fairy is pretend?
***AT5:**	**because um um the Tooth Fairy um comes around um when kids have tooths behind them pillow.**
*RGF:	uhhuh.
***AT5:**	**in the nighttime.**
*RGF:	and have you ever has the Tooth Fairy ever come to your house?
*AT5:	and I show you my two tooths.
*RGF:	I see and did you leave that front tooth did you when it fell out did you leave it under your pillow?
*AT5:	um uhhuh these tooth right here did not fall out.
*RGF:	right so when that fall out and you left it under your pillow did the Tooth Fairy come?
*AT5:	0.
%gpx:	nods yes.
*RGF:	and what did she leave you?
*AT5:	+^ and I got a tooth little box.
*RGF:	oh wow.
*AT5:	and the xxx.
*RGF:	so you went to the nurse when your tooth fell out and you took it home and what did the Tooth Fairy bring you?
*AT5:	hmm um hmm xxx.
%com:	cannot hear child speaking.
*RGF:	did she bring you something?
*AT5:	xxx quarters.
%com:	xxx = child speaking a string of info.
*RGF:	four quarters that's a dollar she brought you wow-: and where does the Tooth Fairy live?
*AT5:	uh hmm in in the in the sky?
*RGF:	in the sky yeah probably uhhuh so+/.
*AT5:	maybe in like she takes the tooth and um um ok um and the first tooth that fell out I keep it.
*RGF:	uhhuh she let you have it?
*AT5:	yeah.
*RGF:	that was nice.
*AT5:	now um the first time um um and I get to and her get to have it and and maybe her takes the tooth and the tooth fairy builds it into a castle maybe.
1)RGF:	**that is a great idea maybe that's what she does # wow I never thought of that before so # real or pretend in this story is this a real story or pretend story?**
2)AT5:	**it's a real story.**

3)RGF: **and what does it mean that it's a real story?**
4)AT5: **hmm that only a book.**

Later in the same interview with Amanda she is asked questions about seeing the characters of *The Princess And The Frog* story at the playground she says that neither she nor her friend can see any of the characters, because they are pretend. It appears that the previous conversation regarding *The Talking Eggs* may have served to consolidate the child's knowledge. The interviewer acknowledges her responses and pushes the dialogue a little further to ask about the Tooth Fairy (example #5.1) a figure that many children this age know about either from first hand experience or through a sibling or friend. It is no surprise that for her the Tooth Fairy is real for she has experiential knowledge of this fairy as the dialogue demonstrates

The dialogue regarding Amanda and the Tooth Fairy is that of a child engaged in the information about how the Tooth Fairy works and where she lives. After the Tooth Fairy information winds down the interviewer returns to the stories the two have been reading. Pointing to the storybook of *The Princess And The Frog* she inquires about the nature of the story, (lines 1 – 4). As if all her previous reasoning has gone away she replies that the story is real. Yet, when questioned gives an explanation for it being pretend, line 4, "it's only a book".

Example #5.2

***RGF:**	so let me ask you just one more question **what's the difference between stuff that is real and stuff that is pretend?**
1)AT5:	um books are real and um and and people are pretend.
*RGF:	so the books are real but the people in them are pretend?
*AT5:	yeah.
....	Skip over media dialogue
*RGF:	I-: see okay now book # **you told me that people in the books are pretend but the books are real.**
*AT5:	yeah!

2)RGF: **what do you mean by the books are real?**
3)AT5: **because people made them.**
*RGF: right your right people did make them and **where do the stories inside the books come from?**
***AT5:** uh hmm # **they're made too.**
*RGF: they're made-up uhhuh.
*AT5: and the +/.
*RGF: so the actual story everything that we read the actual story that we read is that story a story that happened or a story that was made-up by somebody?
4)AT5: **only made up.**

Amanda understands that there is a difference between the real and the pretend and is able to give a little insight into the distinction but, not at a meta-cognitive level. Amanda seems to be saying that the real is tangible such as the book and the pretend is not, it is the characters which are physically present in pictures but not in a three dimensional way. A little later on she clarifies what real is by saying the story is made-up, line 4. She even understands that the stories she has just listened to are made-up. These are very difficult concepts as one little boy (5:06:09) put it.

*RGF: okay now **how could you tell the difference between those stories that are make-believe and those stories that are not do you think there's someway to tell the difference?**
*JB5: # it's hard.

Another boy (4:03:13) agrees with the difficulty involved and admits that telling the difference is difficult and a task that is beyond reasoning, but he understands that he is called upon to do it and accomplishes it with guessing. Guessing as a strategy is not a bad one for at any given time this child has a fifty-fifty chance of being correct.

***RGF: how do you know that they're [real]+/.**
***TC4: just a guess!**

Returning to Amanda the child in example #5 her system of discrimination is still incomplete but it is evolving and has some internal consistency, if not external consistency in that the words she is using do not have the same meaning to adults that they have to her. An indication of this pointed out earlier (example 5 section A, lines 2 – 4) shows the openness of the system. When Amanda is presented with a discrepancy between her seeing a character and her friend not seeing the character she switches the answer to the friend seeing the character. True, the switch is in the "wrong" direction but it shows a flexibility of her system and her understanding of the need for consistency between answers. Children throughout the study recognize the need for consistency with some children changing the wrong answer to accord with the right ones while others change the right answer to accord with the wrong ones. However, the wrongness and rightness of answers, if seen within the child's world of representations makes logical sense and forms a coherent system. What is of great interest is the evolution of the reasoning system as it comes into accordance with the system of the child's larger social understanding.

Example #6
(Boy, 4:04:09)

*RGF:	what makes them real? (referring to the Bootsie characters)
*TS4:	God.
*...	Forward advance in interview (at the end of the representational understanding interview for *Ira sleeps over*.
%Com:	All the Ira characters were imaginary and all the Bootsie characters were real for this child.
*RGF:	they're all real okay so how do you know that they're real?
*TS4:	because God made (th)em.
*RGF:	(be)cause God made (th)em okay and do you know where storybooks come from?
*TS4:	God.
*RGF:	mmhm and where do the stories inside them come from?
*TS4:	God.

*RGF:	you think that God writes all these stories?
*TS4:	mmhm.
...	interview resumes at end of the open ended interview
*RGF:	and what makes something real?
*TS4:	God.
*RGF:	but and what makes something imaginary?
*TS4:	# God.
*RGF:	so what's the difference then then there's no difference what's the difference between something that's real and something that's imaginary is there a difference?
*TS4:	I don't know.
*RGF:	what do you think though if you were gonna take a guess do you think there's a difference?
*RGF:	# yeah you're shaking your head yeah and what do you think that difference might be?
*TS4:	hmm-: # I don't know.

A few of the children explained their answers within their larger social framework; for some this is a religious one as for the child speaking in example #6. These children appealed to God as the reason for "realness" or "imaginariness" of either a character or book. Although the responses may seem lacking in cognitive maturity they are logical within that child's world view. These explanations were categorized as dogma. If we return to Amanda's dialogue when talking about the Tooth Fairy her response to the Tooth Fairy being real makes sense in that it matches Amanda's experiential knowledge as well as the knowledge that, most likely, her parents have given her about what happens to baby teeth that fall out. The responses of Amanda about the Tooth Fairy and of the child in example #6 about what makes something real or imaginary may not be as far apart as they first appear. Both children's responses are framed within their social frameworks.

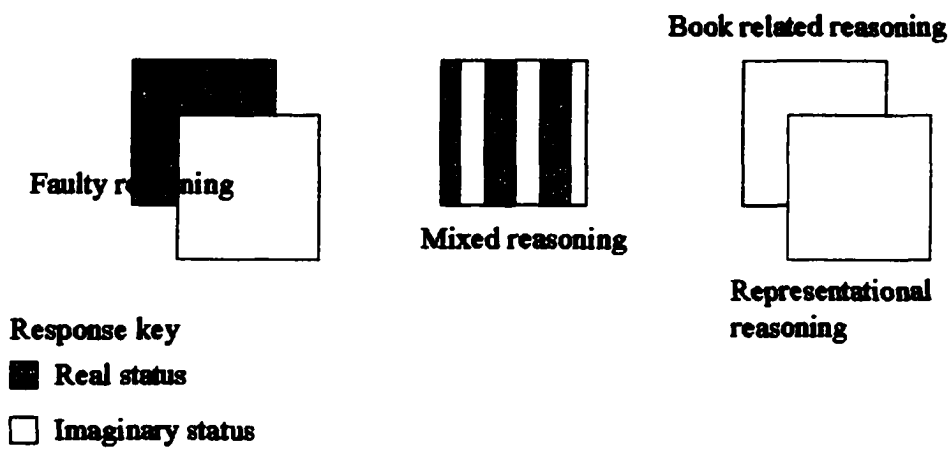
Example #7
(Boy, 5:10:04)

*RGF:	oh okay now let me ask you a different question if you went to the playground do you think you could see Anna at the playground?
*BH5:	no.
*RGF:	why not?
1)BH5:	**because she's fake and she won't be there.**
*RGF:	ah-: okay and what about Bootsie could you see her at the playground?
*BH5:	0.
%gpx:	nods no.
*RGF:	why not?
2)BH5:	**because she's fake too and and besides God didn't create her.**
*RGF:	oh okay and what about Anna's Mom?
*BH5:	no.
*RGF:	no so so how do you know that they're that these are fake people what I mean what makes them fake?
3)BH5:	**because g because this a guy that wrote the story make them all up and and and the pictures are all written so are the little girls and people.**
*....	Forward advance in interview
*RGF:	now how do you know that it's a make-believe story?
*BH5:	hmm because um everything in it it's fake.
*...	Forward advance in interview (near the end at the discussion about stories.
*RGF:	I see now here's my question are there any books that are about people that are in real life?
*BH5:	maybe.
*RGF:	yeah okay so there are I agree with you so how do you know whether your reading a book about people in real life or whether your reading a book about people that some guy made up?
4)BH5:	**well um because if because if if if your Mom or Dad or teacher is reading you a story they're tell they'll tell you because they'll know if it's real or fake.**
*RGF:	okay what about the newspaper real or fake do you think?
*BH5:	re real and like when you're alive it'll happen newspaper's real life.
*RGF:	okay now if your Mom or Dad isn't around to tell you whether a book
*BH5:	yeah.
*RGF:	is real or fake.
*BH5:	yeah.
*RGF:	do you think there's anyway that you could tell if it's real or fake?
*BH5:	0.
%gpx:	nods yes.
*RGF:	how?
5)BH5:	um you you can like um you can go um ask your Mom if it's real or fake you can go over with the book and ask your Mom if it's real or fake and she'll probably say it's real or something.

Many of the children appeal to their parents as their source of knowledge (example #7) for what is real and what is imaginary. Example #7 is a young boy who is employing a variety of explanations, almost working through them as the interview progresses. He understands why he can not see the characters (line 1), because they are fake. He expands on this fakeness (line 2) and goes beyond God as the determiner of the real and the fake when he explains that someone made up the stories (line 3). Later, when discussing the nature of stories, the boy implies that telling the real from the fake is difficult. One needs to appeal to the larger social network beyond oneself.

A reading of the sixty-seven transcripts reveals that children's answers on the status of the characters follows a progression of status attributions and reasoning (see Figure 2, p.68). As illustrated, by the excerpts, simply examining the numbers of how many children fell into each category tells a misleading story. Many of the children say the characters are made-up, but their reasoning for the categorization is faulty. Often the reason is based on the visual or literal, "I can't see them" or some other form of "kid-logic". There were those children who knew the characters were made-up, because the story was pretend. However, many of the children categorized the characters as made-up while the stories themselves were real. The most interesting category are those children who gave a mixture of character statuses. These children provide a glimpse of what the developmental path with representational understanding might be – from the all real to the all made-up.

Figure 2
Developmental progression of character status(real/imaginary) and reasoning.



Only 7 children fell into the all real category (three, 4-year-olds and four, 5-year-olds). Once again age does not appear to be a determining factor in why children make a particular character categorization. A greater factor may be children's script knowledge. Of the 7 children, 5 were in the reality condition with the remaining 2 children coming from the fantasy condition. This finding makes sense, since those in the reality condition had characters that were much more likely to fit the children's own experiential knowledge. The closer the story line of the book to reality the greater the likelihood of a misattribution of real by a child.

The remaining categories of mixed and all imaginary are more difficult to interpret, because many of the children did not give explanations for their attributions. Twenty-three of the remaining 60 children gave mixed responses, leaving 37 children

claiming all the characters were imaginary. Of those 37 children, 15 gave no explanation for their responses, leaving 22 children who gave some explanation. Of the 22 children giving explanations, 13 gave an incorrect reason and 9 (41%) gave a book related response (i.e. "it's just in a book" or "it's a pretend story").

The book related responses do not fully reveal whether the child has complete representational understanding. The response "it's a pretend story" points to more representational knowledge and the possibility that the child is acknowledging that there might be "real stories" with characters that did or do exist. It is not possible with these data to separate which children have robust representational understanding and those which have some book understanding, but not a fully developed representational understanding system that would allow for comprehending the fiction/ on-fiction nature of text.

The remaining group and the most interesting are those children who gave some characters as real and some as made-up. This group allowed for a little more discussion on the interviewer's part. The interviewer could raise the question contrasting the real and the imaginary characters (i.e. "how come the Princess is imaginary but the King and the Prince are real?"). The children's responses to such inconsistencies were varied. Such inconsistencies to adults is most likely to be perceived as cognitive dissonance, but this was not the case with many of these children. Some children switched the real characters to imaginary while others switched the imaginary characters to real. Other children made no changes, explaining the "discrepancy" with emotional reasoning or "kid-logic". Still others did not explain the "discrepancy" at all, saying "I don't know".

Of the 23 children who gave mixed responses 14 gave no explanation for their response, leaving 9 children who gave some explanation. Of the 9 children giving explanations 7 gave an incorrect reason and 2 gave a book related response.

Those children giving mixed answers allowed for prompting, with questions about why some of the characters were real and others pretend. Eleven of the 22 children were not prompted, while 12 were. Of the 12 prompted children only 5 did not change their answers, while 7 did. Children did not always change their answer from "wrong" to "right". Children in the reality condition changed the character's status from real to imaginary when faced with an inconsistency. However, 2 of the 3 children in the fantasy condition changed their answers in the wrong direction, from fake to real, to resolve the inconsistency pointed out by the interviewer. The remaining child changed characters' status appropriately from real to fake (Table 10, below).

Table 10
Character Status – Mixed Responses

Condition	N	No reason	Incorrect	Correct	Not prompted	Prompted
4s Reality	7	5	1	1	4	3
5s Reality	6	3	2	1	3	3
4s Fantasy	8	4	4	0	3	5
5s Fantasy	2	2	0	0	1	1
Total	23	14	7	2	11	12

An examination of the mixed responses reveals, as in the quantitative results, that story genre rather than age is of greater influence on children's discriminatory ability. The children in the reality condition are changing their responses in the correct direction to resolve inconsistencies while the children in the fantasy condition

are not. In addition, the children in the reality condition create a consistency between all the characters and both stories; while children in the fantasy condition left inconsistencies both within and across both stories. One child placed some of the characters in *The Talking Eggs* as real and some as fake and all of the characters in *The Princess And The Frog* as imaginary. When the child was faced with the inconsistency she changed all of the characters in *The Talking Eggs* to real. Internal story consistency was produced but across story consistency was not.

Example #8
(Boy, 4:10:15)

*RGF:	# okay now what kind of a person is Blanch?
*CK4:	# a real person.
*RGF:	and what kind of person is the old lady?
1)CK4:	**# a fake # a fake one because she took off her head.**
*RGF:	I see okay that makes sense to me that makes sense (be)cause you told me people can't take their heads off # so she's fake.
*RGF:	and what kind of a person is the Mom?
*CK4:	# fake.
*RGF:	now why is she fake?
*CK4:	## hmm?
*RGF:	I understand why she's [the Auntie]fake that makes perfect sense to me and # and and what kind of a person and you tell me she's fake but why is she [the Mom] fake?
*CK4:	I don't know.
*RGF:	you must have some reason.
*CK4:	uh because # she takes her head off like the other xxx woman.
*RGF:	she does I don't remember her taking her head off what about the sister what kind of a person is she?
*CK4:	a real person.
2)RGF:	**so Rose is a real person now how do you know that she's a real person and Blanch is a real person but the Mommy is not a real person # is there a difference between them?**
3)CK4:	**the Mom's a real person but # Blanch is the real person too.**
4)RGF:	**okay now what's the difference between real people and fake people?**
5)CK4:	**# (be)cause they take off their head.**

A similar occurrence of internal consistency occurs with another child who changes the Princess' status from make-believe to real in *The Princess And The Frog,* thus providing internal consistency where all the characters are real. This boy also changes the Mom in *The Talking Eggs* from fake to real (example #8), but is unwilling to do the same for the Auntie. She remains fake. In *The Talking Eggs* it looks as if the boy understands why the Auntie is fake (lines 1, 4 and 5), she takes her head off., Yet, he applies the same logic to the character of the mother who does not take her head off and goes through no fantastical changes. It is difficult to know what is guiding the logic of this child in his attributions of real and fake to the characters. On the one hand, it appears to be his experiential knowledge (i.e. real people are unable to take off their heads), yet on the other hand it might be his personal likes or desires. The Auntie's status as fake may hold because she blatantly performs an "un-real" act (i.e. removing her head to brush her hair). She may remain fake because she is a scary character whom the child desires to be fake.

During the story-board interview this child (example #8) identified the Auntie as scary. The mother in the story is rather mean and initially this may be why she is considered fake. Some children expressed that the mother's meanness made her fake because a real mother is not mean. They do not want a mean mother to be real. This boy may be using one of these two reasons because, when he is confronted with the inconsistency of the characters, he overcomes his initial emotional reaction to the character of the mother and changes her to real. This child may not be confident in his reasoning of the real/fake distinction. What is clear is that he knows there is a distinction between the two categories and that there needs to be some consistency

(lines 2 and 3) based on his logic for what makes the Auntie fake and by extension what makes a character real. This child switches his characters from fake to real in accordance with his knowledge about the real physical world. He is not yet at the place where he recognizes the representational world as existing with realistic characters that are fake.

Example #9
(Boy, 4:11:13)

*RGF:	now how do you know that the King is fake but the Prince and the Princess are real?
***JJ4:**	**that you know what if the umm if the man is a frog it's different than the girl.**
*RGF:	mmhm.
***JJ4:**	**so the man is fake and the girl ain't.**
*RGF:	# oh-: that's interesting so because the man is is a frog he's fake?
***JJ4:**	**yeah.**
*RGF:	but because the girl is not a frog she's just a girl the whole time <and she's> [>] real.
***JJ4:**	**<yeah> [<] if anybody kisses the Frog and turns into handsome prince they're good.**

There was one child in the fantasy condition who changes one of two characters he said were real to fake. This boy changes the Prince to fake but not the Princess. His reasoning is that the Prince undergoes a transformation and the Princess does not, thereby making her just a girl, or real (example #9). There is also a hint of emotional reasoning regarding the Princess. In the last line the child equates the Princess with goodness. Just as meanness may be a reason for a character to be fake, goodness may be a reason for a character to be real. This child achieved consistency with the status of all the characters in *The Talking Eggs* which he categorized as being all fake.

Example #10
(Boy, 5:07:28)

*RGF:	is this right exactly exactly so if this is a made-up story and it could happen that all makes sense to me how come Ira's real?
*RB5:	# I don't know I didn't know that.
*RGF:	you told me that Ira was real.
*RB5:	hmm-: no I didn't # uh no I didn't did I?
*RGF:	you did.
*RB5:	uh.
*RGF:	and you told me that Reggie was real.
*RB5:	no I didn't.
*RGF:	yeah.
*RB5:	did I?
*RGF:	we can play back the tape and listen.
*RB5:	## um hmm.
***RGF:**	**so do you still think they're real?**
***RB5:**	**no I forgot that I said it I forgot what I said it about.**
***RGF:**	**so you think maybe they're made-up like the story?**
***RB5:**	**yeah!**

Children when faced with an inconsistency by the interviewer responded in a variety of ways. Some changed their answers to agree although often to the "wrong" status, as the boy in example #8. Others did not change any answers, either ignoring the inconsistency or using "kid-logic" to explain the inconsistency. Still others with a more complete understanding of the representational nature of the story changed their answers to accord with the knowledge that all the characters had to be make-believe, since it was just a made-up story (example #10).

Overall what we see in the children who responded with mixed status for the characters is the development of reasoning skills that may initially be internally motivated (the desire for a character to be real or fake) to reasoning skills that are more externally motivated (taking into account the larger outside world and its constraints). The boy in example #10 illustrates this point. He liked the characters and would have played with all of them at the playground. Directly following the

conversation about playing with the characters he is asked about their status, he said the characters are real. When faced with his knowledge that the story is made-up he realizes that the characters must be made-up as well. Interestingly, he initially doubts that he ever said the characters were real, almost as if it is impossible since he knows the story is made-up. It appears that prompting helps to bring some children out of their internal world and into the shared social world that they occupy with the interviewer. A similar prompting phenomena was found to operate with regard to the story understanding questions and the representational understanding questions.

Discussion

This study began with the goal of examining children's understanding of the representational nature of stories from storybooks. The literature (Karmiloff-Smith, 1992; Leslie, 1987; Perner, 1991; Wimmer & Hartl, 1991) claims that by age 4 children are able to hold multiple representations in their mind. Wellman's work (Wellman & Estes, 1986; Wellman, 1990) provides evidence that children as young as 3 know the properties of the mental and the material. Yet, when we take children into the representational world of storybooks, "confusion" ensues. Harris' new book *The Work Of The Imagination* offers an insight about "how an event can be independently analyzed for its ontological status on the one hand, and appraised for its emotional implications on the other" (Harris, 2000, p. 66). This would appear to be just what is happening with the children in this study.

The appraisal system, that works so nicely with objects, events and characters that are emotionally neutral, appears to falter with events and characters that are emotionally charged. Harris (2000) suggests that listeners can become absorbed in an imaginary world and then process events within this world the same way they do real events. Harris goes on to discuss an appraisal system that is employed by the individual to respond to incoming information as real or fictional. He suggests that this system also takes in information about the source of the material to modulate the output of the appraisal. This is similar to Johnson and Raye's (1981) source monitoring discussed in this introduction. Knowing the source of a recollection is helpful in determining its fact or fictional status. Similarly, Harris suggests that children can remind themselves that they are playing an imaginary game, can recast

the monster in the game as less frightening, or can withdraw form the game completely. All three strategies serve to modulate the input into the appraisal system resulting in modulating the output and reducing emotional involvement. But this does not always happen. There are times when children and adults clearly know that what they are viewing or reading is not real and yet they are still emotionally affected.

The objective of this study was three-fold, first to examine possible effects of story genre and story type on children's comprehension of stories, second to examine their understanding of the representational nature of the stories and third, to learn more about how 4- and 5-year-old children make sense of the real and the imaginary in fictional storybooks.

The problem of separating the real from the imaginary is one that children as well as adults face throughout their daily lives. Story books are just one area in which children need to make judgment calls on the real or imaginary nature of the information they are receiving both verbally and visually. Children may hear about an event and ask a parent or adult "is that really true?". Or they may go to an amusement park and see a story character and ask if the character is "really real?". One little boy's mother in this study reported that he went to a local mall where there were dinosaur models and asked if they were "for real". She commented that this enquiring if something is for real or fake is a new area of interest for her son.

Storybooks pose an interesting problem regarding the real and the imaginary. Text combined with pictures creates the storybook which is a representational medium that can represent real world events and situations and yet still be imaginary. An example is a story about a little girl who rides her bike to visit her friend down the

block. The story is plausible, it could in fact happen, yet the little girl in the story and all the other characters and events never happened as described by the author, thus placing the story in the category of imaginary or fictional. This study explored possible contributing factors to children's recognizing the imaginary status of either reality-based or fantasy-based fictional storybooks. The results offer insight into the process that takes place in the young child's grasping of the representational aspect of storybook events and characters and the influence of different types of stories on the process.

The findings of this research looked at children's responses to questions and their explanations for the responses they gave. Although children bring a lot to the interview, it is first and foremost an interaction between two people, the researcher and the child. The children's responses and explanations are part of a transaction, with each turn of the dialogue influencing the next. This process is not problematic for this study or the children, but it highlights the issue of the child's engagement and that children are continually in the process of defining and redefining their thoughts, and that the researcher is part of this process at the time of the story reading and interview session.

Story understanding

Does the nature of the story affect the children's comprehension of the story's events? This question was examined from two perspectives, story genre (reality-based and fantasy-based) and story type (salient and neutral affect).

The hypothesis was that children would do better answering questions about the reality-based story because they would recognize the story schema as either first-hand or second-hand experiential knowledge. Second-hand experiential knowledge might come from another story with a similar theme, television, or learned about from an older sibling or friend. The two reality-based books had familiar themes. *Ira Sleeps Over* is about a young child's first sleepover experience and *Bootsie Barker Bites* is about a little girl who must play with another little girl who is a bully. The events and characters are totally plausible and many children recognized the themes, saying such things as "I slept over Jane's house".

Story type was not hypothesized to be a factor for there was no way to know which story the child would find to be affectively salient to them. The sleepover theme might be uppermost in one child's thoughts as they prepare to spend the night away from home, while another child might be experiencing issues of bullying at school, making *Bootsie Barker Bites* the more salient story. Because the story as an entire entity was considered in this measure no effect was hypothesized.

The results were unexpected, but understandable given the theoretical relation between affective arousal and performance. Children's performance on the story understanding questions was not significantly affected by which genre condition they were in, but rather by the story type. Children did significantly better with the neutral story questions than they did with the salient story questions, regardless of the story genre. There was no difference on performance based upon being in either the reality-based or fantasy-based condition.

The expectation that the stories that matched the child's previous schema knowledge would aid them in what was assumed to be a cognitive task was not met. A possible explanation is that the task, although conceived as a purely cognitive one, is not. The task must engage other processes that help or hinder the child's understanding.

Once language was added to the model for analysis, it was not only found to be significant as a covariate, but it had the same effect for both the neutral story condition and the salient story condition. With receptive language taken into consideration the story type no longer is a factor in predicting how well a child will do in answering the story understanding questions.

This finding suggests that language competence mediates the effects of story type so that story type is no longer a significant factor. Several explanations are possible. The measure of receptive language indexes a cognitive skill that is critical to the child's ability to hear the story correctly and completely and to process, store and retrieve the story's events. The better the cognitive skill and the more accessible the skill the less the neutrality or salience of the story matters. The understanding skills are invoked automatically, bypassing the child's emotional involvement.

A second explanation that could operate concurrent with the above is that there is a link between receptive language and the meta-cognition of text. If this is so, then the neutrality or salience of the story is lessened as the listener is aware of the representational nature of the text, thereby reducing the emotional effect of the text. This explanation is similar to the idea that if you are watching a scary movie you can reduce the fear by telling yourself that you know that these are just actors on a set

with special effects taking place. The scene might still be scary but the emotional impact is reduced.

The child who is more advanced in receptive language may thereby be advanced in representational understanding, allowing the child to take what Applebee (Applebee, 1978) calls the spectator role, like the movie attendee, thereby reducing the affective impact of the story content (neutral or salient).

Representational understanding

Does the genre (reality-based or fantasy-based) of a storybook influence young children's discrimination concerning the real or imaginary representational nature of the story's events? What effect, if any, would story type (neutrality or salience of affect) have?

The original hypothesis was that both the story genre and the story type would influence children's discrimination ability. Specifically, those children in the reality condition would have greater difficulty differentiating the story as being imaginary than those in the fantasy condition. Furthermore, it was hypothesized that story type would affect children's discrimination ability, although in which direction was uncertain.

Where schema knowledge was hypothesized to be a positive factor in children's doing well on story understanding, the opposite was expected for the representational measure. Here the reality-based text's similarity to the child's schema knowledge was expected to be a hindrance in distinguishing the text's representational nature as an imaginary story. The closer the story's events and

character were to experienced life the greater would be the child's difficulty in grasping their representational nature in the text and the poorer the child would do on answering the questions.

The results are more complicated than hypothesized. Neither story type nor story genre alone plays a significant role in influencing the representational understanding measure. Rather, the two factors interact with one another to significantly affect the outcome. The children in the reality-based genre did better with the salient story and the children in the fantasy-based genre did better with the neutral story.

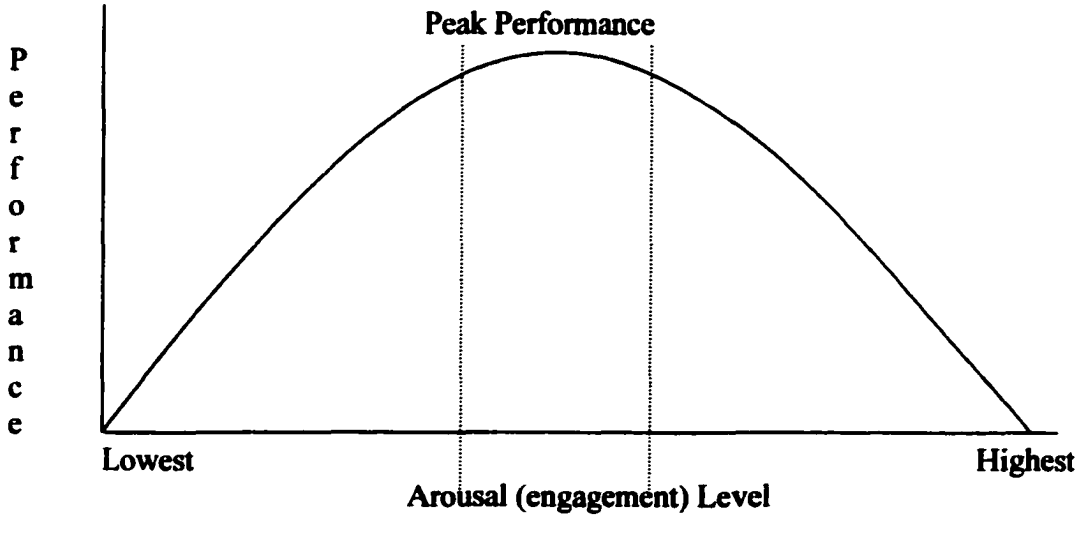
The findings that those children in the fantasy condition do better in answering the representational understanding of the neutral story and that the opposite holds true for those children in the reality condition, highlights the issue of participant involvement or engagement in the task. The children in the fantasy condition may do better responding to questions regarding the neutral story because they are not as emotionally bound up in the story. They have no strong reaction to the story and, therefore, are able to engage at a more cognitive level. They pay attention to the frog turning into a person and recognize this as a story, a representation of the impossible. For those children in the reality condition the neutral story is probably not engaging enough and so the more captivating story holds their interest and they respond better.

Research on the effects of arousal and cognition suggests that the relationship is not a linear one, but rather a curvilinear one, an 'inverted U' to be precise (Yerkes & Dodson, 1908). It is at the very low and very high ends of arousal that individuals

do poorly. Ideally, a mid-level of arousal is optimum for the best performance. As arousal increases there is an increase in performance, reaching a peak of performance with an elevated state of arousal. However, once arousal goes beyond the optimum level a decline in performance occurs, which can fall as low as the initial performance as the very low arousal level (See figure 3 below).

It is possible that a similar arousal phenomena (in the form of the child's engagement with the story) is operating with these young 4- and 5-year-olds.The neutral reality condition would occupy the lowest arousal point and salient fantasy the highest arousal point with salient reality and neutral fantasy occupying the central peak performance area.

Figure 3 Arousal performance relationship curve



What is unclear is how, if at all, the similarity of schema knowledge to story text interacts in the children's discrimination. Further study is needed to better

understand the differences occurring within the two story genres. What is of importance in these findings is that a story's salience, or lack of it, is related to how children respond to questions about their representational nature.

Receptive language ability implies the ability to understand language's representational function. Receptive language ability was significant as a covariate in both the story understanding measure as well as the representational understanding measure. An examination of the R^2 for raw receptive language in both analyses shows that raw receptive language explains 17.8% of the variance in the representational understanding outcome compared to only 6.9% in the story understanding outcome. The comparison of R^2 points to the necessity of good representational language as a key component in children's grasping the representational nature of text and their ability to distinguish the real from the imaginary. Interestingly, receptive language skills do not appear to be a significant factor in helping children respond to the more technical story understanding questions which relate more to story structure and grammar.

Categorization of character

How does story genre (reality-based or fantasy-based) of a storybook influence young children's identification of storybook characters as belonging to either this world or an imaginary one? Also, is story type an influencing factor in these categorizations?

It was hypothesized that similar to the representational understanding measure those characters conforming to the behavior of this world (those in the reality-based

books) would be more likely to be considered actual while the characters behaving in a more fantastical manner (the fantasy-based books) would be categorized as imaginary.

As expected, those children in the fantasy condition did better at correctly attributing imaginary or make-believe status to the story book characters than did those children in the reality condition. This result only occurs once children's representational understanding score for the salient story is taken into account as a covariate in the analysis. The representational understanding score for the salient story and the representational understanding score for the neutral story were entered as covariates into the analyses. It was conjectured that these scores would be an index of the child's ability to comprehend the representational nature of text and to differentiate the imaginary from the actual. Only the representational understanding score for the salient story was found to be significant as a covariate.

The analysis of the categorization of character suggests that there might be some degree of a context effect (textual and pictorial) for the two conditions. The fantasy books evoke fantasy. Therefore, it is easier to say the characters are not real. In the reality condition the context is one that could easily match a reality schema, so it is difficult to separate the characters as being make-believe. However, a context effect does not fully explain the results. Although some of the fantasy characters are clearly make-believe, only two of the eight characters from the fantasy stories undergo transformations that would make them "easily" distinguishable as being not real (i.e. one character removes her head). It is the representational measure as a

significant covariate that suggests something other than context is involved in the children's discrimination.

The children in the fantasy condition do better than children in the reality condition after the representational understanding score for the salient story is entered into the model. This is an unexpected finding. Two questions arise. Why is the representational understanding score most helpful for the fantasy and not the reality-based books? Why is it only the salient representational understanding score that is significant as a covariate? A possibility is that the two conditions present their own set of difficulties in the children's cognitive processes. The finding that having good representational understanding skills is more helpful for those children in the fantasy condition suggests that for the reality condition having an understanding of the real and imaginary is not as useful, possibly because other cognitive skills are needed to differentiate the more familiar. If this is true, then it follows that the process of discrimination regarding the actual and the imaginary is different depending upon the genre of the material to be categorized. This further suggests that what appears as the same cognitive task for both conditions is in fact a different task. If different skills are being called upon in this task, that was initially conceived of as a single cognitive task, a question arises: are there other tasks under different conditions that have been conceived of as cognitively the same, but in fact may be acted upon differently by young children?

That only the salient representational understanding score is useful might be an indication of the importance of adjusting for the salience of a text before assessing cognitive process. If we return to the story understanding measure it is the issue of

salience that is the predictor of how well the child will do in answering factual questions about a story, with those listening to the neutral stories doing better than those hearing the salient stories regardless of story genre. Once you adjust for story salience, then other processes and factors can be explored. Clearly more work needs to be done in this area with well defined measures that can separate matters of context, cognition, and emotion.

Language effects

Does language ability (as measured by the CELF Pre-School assessment test) aid in predicting how well children will do in answering factual and representational questions regarding the stories they listen to?

It was hypothesized that language as a complete measure would be an indicator of how well children would do on the outcome measures. The better the child's language skill the better they were hypothesized to do on the outcome measures. Additionally, it was thought that language as a total score would be significant as well as the receptive language score, since receptive language is an indication of how well an individual grasps the representational function of language.

The finding that language was significant as a covariate for the analysis of story understanding and representational understanding confirmed the hypotheses that language is a substantial indicator of how well a child will do on a cognitive task of this kind. What the study pointed out beyond the expected importance of language is that total language scores were not useful and that it was the raw score, specifically the raw receptive language scores, that were significant as a covariate. This finding

that the total language score was unhelpful highlights the need for studies to disaggregate language. It may be that in previous research where language has been considered to be immaterial, it is only because language as a totality was being examined. The significance of receptive language in these analysis underscores the need to more fully examine language as consisting of a variety of components and skills.

Regression analyses of language effects revealed both the expected and the unexpected. The expected finding was the confirmation that the raw receptive language score explains a significant amount of the variance for the story understanding measure for both the neutral and salient stories. The unexpected finding was that, in the analysis of the representational understanding measure, receptive language explains a significant amount of the variance for the salient condition, while expressive language explains a significant amount of the variance for the neutral condition.

The finding of the different language measures having different significant effects suggests two possibilities. First, as mentioned previously, what appears to be the same task may not be so for the child. The significant variable in affecting how well a child does on the representational understanding in the salient condition is her receptive language skill, while expressive language is more effective in the neutral condition. If the tasks were assessing the same underlying competence it should follow that the same variable would be significant in both conditions. Second, the task of answering questions about the real and the imaginary may be the same across conditions, but the two conditions call upon different cognitive resources, as well as

engaging other facets of the children's psyche, such as emotional responses. The salient condition requires better representational skills to overcome an initial emotional response. These good receptive language skills would aid responding. However, the neutral story does not arouse an emotional responses and more expressive language skills are the factor that come to the fore in determining the children's ability to do well on the questions.

Emotion, salience, and content

The results illustrate that emotion, salience, and content are intertwined factors affecting how children interpret and respond to stories. In the story understanding measure we see salience of affect, not story genre, as the key factor in determining how well the children do in the cognitive task of answering story understanding questions. Those children in the neutral condition do best, which suggests that emotional reactions to the story content affect children's cognitive processing in the task.

The emotional element is also relevant in the representational understanding measure where story genre and story type interact. Here emotional involvement appears to be an enhancing factor on cognition for the children in the reality condition, but not for the children in the fantasy condition. In the reality condition emotional engagement is helpful yet in the fantasy condition emotional engagement hinders.

At first glance story genre appears to be the pertinent factor in understanding children's imaginary attribution to the storybook characters. Yet, it is only after

accounting for children's representational score on the salient story that the story genre effect appears. In this case emotion is entwined with context.

Developmental patterns

Although it was hypothesized that older children would do better than younger ones on all the outcome measures, this was not the case. Age was not found to be significant in any of the analyses. This study suggest that it is the development of life experience (often indexed by age, although not always accurately so) and the integration of language as both an "internal (cognitive) and an external (communicative) representational system" (Nelson, 1996, p.121) that is required for young 4- and 5-year-old children to successfully understand and act upon the representational nature of stories from storybooks. This is evidenced by the results. Those children with high receptive language scores do well on the representational understanding measures, discriminating between the actual and the made up. The children who do well on the representational measure are able to disentangle the characters from the events and do well on the categorization of character.

What emerges is a developmental model that is characterized by a pattern in the development of the young child from a single mind to a multi-representational one that can hold diverse and multiple representations (Nelson, 1996). The process of arriving at the conclusion that the story is just a story, with made up characters, by an author appears to be a difficult one for children. This is preceded by a phase where the child gives the "correct" answer, but with faulty reasoning. Children were found in all different places in their ability to recognize the representational nature of both

the reality-based and the fantasy-based stories. For those children who might be considered to have only a "single mind", everything was real for there is only one real world, this world. Next is the realization that there other possibilities exist, there is more than just one world or just a "single mind". However, this knowledge brought, in some cases, an overextension to, "everything is imaginary", not because the stories are made up in the minds of others, but because "kid-logic" was at work. The children in these two categories were unmoved by prompting by the researcher or by pointing out elements that would cause cognitive dissonance.

Another group of children named some characters as real and some as imaginary, often with affect dominating thought, as in the statement: "she's real because I like her" or. "she's not real because she's mean and Mom's are not mean". For these children prompting was not that useful. If the child's experiential knowledge was in conflict with the researcher's prompt, the child stuck more often than not with their knowledge. Yet, another group of children could be prompted and correctly understood why the stories were imaginary. This group, which could be considered to have a multi-representational mind, responded to the cognitive dissonance inspired by the researcher's prompting with a change in their assessment. The last group in this sample was that group of children who understood the representational nature of the story even if the story could have been real. These children got the right answers for the right reasons, demonstrating a multi-representational mind able to utilize a experiential knowledge as well as representational knowledge and general learned knowledge.

Although these results are qualitative, they point to a process that might help explain the quantitative results which are that children's experience and emotions are conjoined with their cognition. There is an interplay between the development of a multi-representational mind, the cognitive skills to utilize such a mind and the child's emotional and experiential knowledge. The different developmental places where the children were found points to a delicate orchestration of the cognitive, the emotional, and the experiential.

Conclusion

This study begins to explore possible relationships preschoolers have with stories, specifically from storybooks. Several relationships were examined.

First, the relationship between story understanding and genre was examined. No effect was found. Children did equally well at answering questions regardless of the story-text being reality-based or fantasy-based. Additionally, the relationship between story understanding and the child's involvement with the text was explored. Here it was found that affect (story type) was the significant factor in determining how well children answered questions regarding the story they had listened to. Children did better with questions about the neutral story.

Second, children's relationship between the story from a storybook and their understanding of its representational nature was explored and genre and affect were found to interact with one another in influencing how children did on the representational understanding measure. Children in the reality genre condition did

better with the salient story while the children in the fantasy genre condition did better with the neutral story.

Third, the relationship of the children to the characters in storybooks was examined. This relationship revealed children's desires and fears. On the one hand genre is far more important in explaining children's categorization of character than story type, with those children in the fantasy genre condition doing better than those in the reality genre condition on the measure. Yet, on the other hand a qualitative perspective revealed that children's emotional and personal identification with characters is an aspect of children's relationship with the story and their understanding of characters, as either real or imaginary. The explanations that children gave for their character categorizations illuminated an interaction between children's concerns and life experience and character status assessments on the real and the imaginary regarding both the characters and the stories themselves.

Fourth, and last, weaving itself like a golden thread through the various relationships is language competence. Language competence as a measure was found to be most useful in its two components of receptive and expressive language skills. Receptive language appears to be highly important in understanding the relationships reviewed above as it was found to be a covariate in both the story understanding as well as the representational understanding measures. Additionally, both receptive and expressive language were found to explain a significant amount of the variance in the representational understanding measure. Although these language skills were significant in different story types. Receptive language explains variance in the salient condition while expressive language explains variance in the neutral condition. These

are interesting findings and point to the need to disaggregate language measures in the future.

The work of this study reveals a complicated and fascinating relationship that preschoolers have with stories from storybooks. It is believed by this researcher that understanding these relationships and their development is vital as it is a foundation upon which later representational and meta-cognitive process will rest.

The need to be able to expand our experiences and knowledge without actually experiencing events is critical to human intellectual and emotional growth. This ability to take the spectator role, I suggest, is crucial to both intellectual as well as emotional development. If we were unable to take the spectator role, to become involved in the imaginative, we would have only our small experienced world to learn from. To become emotionally involved as a spectator allows us to experience the "other" and go beyond our limited experiences.

This study suggests that, in addition to some type of "source" material appraisal model, the following is required for an individual to take the spectator role: good representational language skills; schema knowledge about the world; a mind developed beyond the single-mind to a multi-representational one, and some meta-cognitive understanding of the representational nature of the medium.

There is much more work to be done in exploring individual's emotional, imaginative, and cognitive involvement with representational mediums. This study is a beginning to the uncovering of possible connections and paths to explore in the future. The results suggest that it will be a verdant area of research with practical applications.

APPENDIX

Appendix 1
Story Understanding Protocol For The Princess and the frog

All questions were addressed directly to the child using his or her name.

Wow! did you like that story?
If yes - What did you like about the book? If no- what didn't you like about the book?
Do you have a favorite part?, what is it?
Why questions:
Why does the princess cry?
Why is the frog offering to help the princess get her ball?
Why does the prince say he was a frog?
Why is the princess happy at the end of the story?

Have you heard other books like this one?
O.K., are you ready to read the next story with me?
(After the next story it's the same style interview with the sentence below added.)
Of the two stories we read did you enjoy one more than the other? Can you tell me why?

Appendix 2
Representational understanding protocol For The princess and the frog

Child's name I have some questions about the story we read today, maybe you can help me answer them.

In the story:
The frog talks to the Princess. Can frogs talk to people?

The Princess thinks the frog can not leave the water and eat from her plate, sleep in her bed and be her friend but he does all of these things.
Could a frog do these things? Why not?

The frog turns into a Prince. Could a frog turn into a person? Why not?

An evil fairy put a spell on the Prince and turned him into a frog.
Could this happen today? Why not?

The Princess broke the spell on the Prince. Could you break a spell? Why not? What are spells?
The Prince and Princess get married. Could two people get married?

Would you like to play with the Princess?
(Yes) = Why? (she's nice) So do you like her? (yes) where would you play?
(No) = Why not? (she's boring) So you don't like her?(yes) If you had to play together where would you play?

Would you like to play with the frog/Prince?
(Yes) = Why? (he's fun) So, do you like frogs? (yes) Where would you play?
(No) = Why not? (he's mean) So, you don't like frogs? (yes) If you had to play together where would you play?

Let me ask you Could you see the Princess at the playground?
(No) = Why not? (she's mean)
If the Princess was not mean could you see her at the playground?
Could your best friend see her in the playground? Why or why not?
(Yes) = Why? (She's nice)
Could your best friend see her at the playground? Why or why not?

Could you see the frog/Prince at the playground?
(No) = Why not? (he's boring) If the frog/ Prince was not (x) could you see the frog/him at the playground?
Could your best friend see him in the playground? Why or why not?
(Yes) = Why? (He's nice)
Could your best friend see him at the playground? Why or why not?

Could you see the King at the playground?

(No) = Why not? (he's mean) If the King was not X could you see him at the playground?

Could your best friend see him in the playground? Why or why not?

(Yes) = Why? (He's nice)

Could your best friend see him at the playground? Why or why not?

What kind of person is the Princess?
What kind of person is the Prince?
What kind of person is the frog a real animal or an imaginary animal?
What kind of person is the King?

For each of the questions above if no response prompt with:
Is he/she a real person or an imaginary person? Response. Could he/she be real?
How can you tell which characters are real and which are not?
You told me X was real but Y was not. What's the difference between them?

Appendix 3
Probe questions for general representational media conversation

You say none of the characters are real. What are they? or You say all of the characters are imaginary. How do you know that?

How can you tell if something is real? Can you give me an example?

How can you tell if something is imaginary? Can you give me an example?

What about the story, what is it? (prompt: real or imaginary)

How can you tell if a story is real or if a story is imaginary?

What do you know about storybooks?

Where do storybooks come from?

Are there storybooks that tell stories that really happened? How can you tell? Have you read a story that really happened? What was it called/about? What would you call a story that really happened?

Are there storybooks that tell stories that never happened, but could? How can you tell? Have you read a story that never happened but could? What was it called/about? What would you call a story did not happened but could happen?

Are there storybooks that tell stories that are impossible and never could happened? Have you read a story that never happened but could, what was it called/about? How can you tell? What would you call a story that could never happen?

We've been talking about storybooks. What about the stories you watch on TV?
How would you describe them (prompt possible, impossible, possible but never happened/made up)?
How do you know what kind of story you are watching?
Have you ever watched a video? If yes what did you watch? What kind of story is that? (prompt possible, impossible, possible but never happened/made up)
Are the characters real or imaginary how do you know.

What about things people read in the newspaper, are they imaginary or real? How do you know?

Continue on in this vein expanding the conversation whenever possible.

Appendix 4
Character-board interview protocol

Child's name, let me show you something I made. (Show child the character board.)

Do you recognize any of these pictures?
Yes? Great.
What are these pictures of?
Right?
What can you tell me about them?
Wow, you listened really well?

I have a question for you about these characters

Is there one or more that you especially liked?
Which one(s), why?
Do you have a favorite?
Which one(s)? Why is he/she your favorite?
Do you think any of them are scary?
Which one(s)?, What makes character's name scary?
Do you think any of them are kind? Which one(s)?, Why?
Why do you think character's name is kind?
Do you think any of them are good? Which one(s)?
Why do you think character's name is good?

If you could talk with any of them what would you want to say? To which one would you say it?

It's been fun reading these stories and talking with you. I have some stickers here for you as a treat. Which would you like? Ok, let's go find your Mom/Dad.

Appendix 4.1
Character-board

Appendix 5
Parent rating questions

Parent Interview Protocol

Thank you for participating in today's study about children and storybooks. It would be helpful if you would fill out the questionnaire about storybooks below. Please feel free to answer whichever questions you like or to wait and we can talk about the questions before you leave. Again, thank you for your input.

When did your child start her/his schooling?_____

1) Do you have a particular style in which you try and read to your child? How would you describe your reading style?(*For example: Some parents focus on teaching new words, others on understanding the story information, still other read in different character voices, others concentrate on how the story is related to things the child does. These are just a few examples. Please remember there is no correct way to read to your child, there are just stylistic differences.*)

2)Do you think your focus is changing as your child is growing up? ___Yes_No
Explain how the focus has changed and why you think it is occurring.

3)If you were going to try and encourage another parent to read to their child what would you say to her/him?

4)What value(s) would you want to stress to the new reading parent for when they read with their child?

5)What kinds of books does your child like you to read to him/her? (Funny, fantasy, stories about everyday events and kids, etc.)

5a) Not counting school how often does someone read him/her a storybook?_____

6)When you read to your child and "impossible" characters and or events are presented, do you remark on them? If yes, what do you say?

7)Does your child often ask you about story characters or events asking if they are real or could really happen? How do you respond?

8)What types of stories do you like to tell/read your child?

9)Do you make up stories to tell your child? Is there a theme to them? If yes what are the general themes?

10)Do you enjoy reading for yourself?

11)What types of books do you enjoy most?

12)Is it important to you for your child to understand that something that happens in a book is imaginary and can't happen in real life?

13)Looking at children's story books some appear more real and others more imaginary. Do you make such a distinction with your child? Do you think it's important to make such distinctions? Why/why not?

14)Children have different preferences in their play. Some like make-believe games like house, or veterinarian while others prefer make-believe games in which they pretend they are fanciful characters, or characters with magical powers. How would you characterize your child's play?

Note: parents answered in words which were converted to numbers. The range was 0 – 1; 0 being very reality-based to 2 being very imaginative

14a)On a scale of 1 – 5 1 being very true to life and 5 being very fanciful where would you place your child?

15)Would you say your child is very imaginative, making up stories about events around them or more interested in the workings of everyday life, telling stories about things they see or do?

Note: parents answered in words which were converted to numbers. The range was 0 – 1; 0 being very reality-based to 2 being very imaginative

16) On average how much T.V./Video does you child watch from the time she/he wakes up till she/he goes to sleep at night?

16a) What kind of shows/videos?

Thank you so much for you answers to these questions and for bringing your child to participate in this research. If you have any questions about the study I would be happy to answer them for you now, or you can always call me at (212)***-****.

Your First Name_____ Highest level of education completed_____
Spouse's highest level of education completed _____
Your Child's First Name_____ Date of birth_____
Birth order_____ How old are her/his other siblings?_____

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