The Lion, the Witch, or the Schoolkid? A Study on How Children Understand Moral

Lessons in Different Fantasy Stories

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Abstract

Many children's books and media use fantasy with the intention of entertaining and teaching children moral lessons. Recent findings question whether fantastical elements facilitate or disrupt moral lessons; in several studies, children who were shown stories containing anthropomorphic animals were less likely to correctly interpret the moral lesson. While this field is promising, research has largely overlooked the possibility that children are able to understand moral lessons with human characters but impossible scenarios. The aim of this study is to compare moral understanding of children when exposed to children's books containing human characters and realistic settings, anthropomorphic characters and realistic settings, or human characters and impossible settings. Children ages 5-6 (N = 41) were read one of three picture books categorized as realistic, animal fantasy, or impossible fantasy and assessed for their moral comprehension. Findings trend towards children having significantly lower moral comprehension when reading anthropomorphic animal stories than either impossible or realistic. This seems to indicate children are impacted by the subject of fictional stories, as non-human characters cannot be understood as relatable and therefore cannot become models for moral behavior.

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Moral Lessons in Different Fantasy Stories

Children's media has long included fantastical elements, like magic or talking animals, in order to entertain children and teach them lessons in friendship, honesty, empathy, and more. In a study of 117 popular books, television, and movies created for children aged 3-6, over 90% was found to contain supernatural elements (Goldstein & Aperson, 2020). Modern media does not exclusively incorporate fantasy, as the tradition of teaching moral lessons through fantastical characters or events dates back centuries through fairytales, cultural myths, and Aesop's fables. Though there are many theories as to why children's stories in particular center around fantasy, a prevalent hypothesis by Melson (2002) posits that children naturally gravitate towards impossible events like anthropomorphic animals, and the fascination children have may cause them to be especially attentive to story details. With increased attention, children may be able to also understand the moral lesson of the story.

Despite the historical and cultural importance of fantastical children's media, modern research has called their efficacy for teaching morals into question. When children read picture books with anthropomorphized animals, they were less likely to transfer knowledge on how to solve a social problem as compared to stories with human characters (Richert et al., 2009). Similarly, a televised episode of "Clifford the Big Red Dog" was unable to teach children that they could become friends with disabled children, with many children restating plot details as the intended lesson (Mares & Acosta, 2008). Much of the research seems to imply the source of misunderstanding comes from children being unable to recognize the animal characters as humanistic. Instead, children are likely to view the animals literally and cannot deduce that the lessons learned from the animals' moral dilemmas are ones they too can apply. If the source of

fantasy comes from supernatural forces, like magic or superpowers, children may still be able to relate to the human characters and therefore understand the moral dilemmas central to the plot.

This research is intended to offer insight into children's fantasy-reality distinctions and moral comprehension of picture books, understanding how children incorporate impossible events into learning and how entertaining children find fantasy. Not only will this test current theories on moral stories with fantastical characters (i.e. anthropomorphic animals), but it will additionally fill current gaps in research on children's understanding of moral stories containing fantasy events (i.e. magic). Because many educators implement picture books in language development, results from this and similar research could have major implications. Potentially, this can even affect how instructors and children's media creators develop and implement fictional stories.

Fantasy

It is difficult to give fantasy a concrete definition, but in simplest terms fantasy can be described as the improbable or impossible. In fiction, anything that does not align with our understanding of reality falls under the category of fantasy, whether it is mythical beasts, futuristic technology, revisionist history, paranormal hauntings, or any other event. While psychology also recognizes fantasy as anything inconsistent with reality, fantastical thinking refers to fantasy is just as ill-defined: a cognitive perspective defines fantasy as false cognitions that are either hard to explain or widely accepted as invalid; meanwhile social psychology defines fantasy as any belief that defies fundamental and scientifically proven principles (Lindeman & Aarnio, 2007). Given the ambiguity surrounding fantasy many researchers avoid defining fantasy altogether, instead focusing research on specific fantastical beliefs, like religion, luck and superstition, daydreaming, and creativity (Scheidt, 1973).

Adding to the confusion of psychological fantasy research is the inconsistency in terminology, where fantasy research may be labelled as paranormal, magical, superstitious, and/or supernatural. The label used in any given study seems to be largely based on researcher preference and not distinct topic differences. Though general trends exist between topics and the labels used, like religious research most likely to be assigned supernatural, it can just as easily be denoted as magical, paranormal, or superstitious beliefs and still be understood by scholars. Given the ambiguity surrounding fantastical terminology, I think it is important to discern why "fantasy" is the term I will be using in my thesis. I will explore fantasy through fiction as an avenue for cognition in children, and within this overlap between fiction and psychology the term "fantasy" is best understood in both contexts. For the literature review, I will use the terms chosen by the researchers in their respective works.

Magical thinking. When individuals use fantasy in their internal processes it is known as magical thinking. Magical thinking incorporates subjective evidence to conflate internal and external worlds, giving unfounded justifications or explanations to events. It is not, as one might assume, caused by ignorance or carelessness. Nemeroff and Rozin (2000) claim magical thinking follows the same internal logic as any rational thought. This is best exemplified through sympathetic magic, or the paranormal belief where similar objects affect one another. One of the tenets of sympathetic magic is the "law of contagion", where physical contact between a source and target transfers essence from one to another as a physical, mental, or even emotional quality. The law of contagion draws inspiration from actual contagions, like contact or foodborne illnesses. Infectious illnesses would appear random without a modern scientific background: transferred from person to person or from bacterially infected food, illnesses cannot be visualized or detected until after a person is infected. The idea that we can be both permeable to and a

source of these imperceptible pathogens makes us hypervigilant to all potential pollutants, which could tempt belief in the spread of other imperceptible qualities, like a person's essence or emotions. Through this lens, the law of contagion depicts illogical beliefs as tracking events through direct contact like one would for any epidemic. For example, the belief in ghosts is explained as a contagious transfer of a person's essence to a place after death.

Biological evidence further supports this claim that magical thinking employs logical processes. Zhong et al. (2019) performed CT scans of Vietnam veterans with penetrating traumatic brain injuries (pTBI) and matching healthy control (HC) while conducting interviews for their religious experiences. The pTBI individuals with prefrontal cortex lesions had significantly activity in their prefrontal cortex when discussing their experiences, and these individuals also had the highest religious scores of their peers. Similar research has pinpointed superstitious thinking to activation in the right middle/superior frontal gyrus (Rao et al., 2013). The location of magical ideation is significant because the prefrontal cortex is the most complex portion of the brain and thought to be responsible for human sentience. The prefrontal cortex carries out executive functions like social-emotional functioning (Wang & Hamilton, 2014) and decision making (Manes et al., 2002; Krain et al., 2006), so it follows that our brain processes fact and myth the same way despite our perceptual differences of the two. By trusting superstitions, individuals act with caution and pay attention to details, tracking patterns in order to make decisions for some form of gain; whether or not that perceived pattern or gain is realistic does not change our internal processes.

Anyone is capable of fantastical thinking, but certain characteristics and circumstances can make individuals more likely to engage with magical beliefs. Highly creative individuals are more likely to employ fantastical thinking due to their reduced cognitive inhibition, or less

resistance to new ideas (Badzakova-Trajkov et al., 2011). Because creative individuals are more willing to accept novel solutions to problems, they are also more likely to accept novel ideas about reality and impossible events. If an individual has prior supernatural beliefs, they are also more likely to subscribe to multiple other supernatural beliefs. For example, religious individuals are more likely to believe in paranormal entities like ghosts and demons than unreligious individuals (Beck & Miller, 2001). Some environments can induce magical thinking when people experience higher stress, uncertainty, or lack of control. Many athletes have luck rituals or objects, such as "lucky socks" one would wear when competing, due to the high stress imposed by themselves, their coaches, and spectators cheering them on (Schippers & Van Lange, 2006). One particular experiment also induced superstition in college students by giving them the choice to try differently shaped brownies, including one resembling feces (Rozin et al., 1986). Students largely avoided the brownie due to their feelings of uncertainty towards it, even though the presence other brownies and researcher assurances were proof that the brownie was only a brownie. Under these circumstances magical thinking can act as a coping strategy and give individuals an illusory locus of control. As such, magical thinking is associated with psychological benefits like increased confidence and decreased anxiety and depression levels (Day & Maltby, 2003).

      Adolescent magical thinking. While children can employ magical thinking to stressful situations like adults, adolescent magical thinking is unique in how children employ magical thinking in activities like pretend play, daydreaming, and dreaming. Pretend play is when children use objects and engage with other children in order to act scenes in sociodramatic plays (Lillard & Taggart, 2018). This is often used to describe when children "play house," or reenact domestic scenes that they see adult role models perform, like cooking, working, or completing

chores. Research in this and other children's development was spearheaded by Montessori in the early 20th century. When coining the phrase pretend play, Montessori stated children preferred to reenact scenes of adult figures in order to emulate the daily activities they expect to experience as they grow. Lillard and Taggart (2006) further proved this by confirming children prefer engaging in play grounded in reality, not fantasy.

Another prevalent topic is children's imaginary companions who interact with children while holding different physical or psychological characteristics to the child. Children who have imaginary companions are said to have fantasy orientation, or the ability to think and play in an imaginary world. Unlike other children who participate in pretend play are more likely to engage in magical or supernatural beliefs (Bouldin, 2006). Like adult magical thinking, those with fantasy orientation reported more often that they daydreamed, especially when alone to sustain negative emotions of solitude. Compared to children who engage in realistic pretend play, children with imaginary friends were also reported to have detailed mental images and more detailed descriptions of pretend play.

The distinction between fantastical thinking in adults and children is an important one because of their widely different realms of application. After all, it is a reasonable assumption that most adults do not believe in magical beings like Santa Claus or the monster hiding in the closet, but many children believe in these and other specific fantastical beliefs. Woolley (1997) posited some possible explanations for differences between fantastical thinking and fantasy orientation, like the cultural context of children being allowed to believe in specific fantastical beliefs, like the Tooth Fairy or an imaginary companion. Children may experience fantasy orientation as a result of their adult role models encouraging fantasy orientation and even exposing them to fantastical beliefs. Another explanation is that children have a relatively

weaker belief-system detection than adults because they lack the experiences and cognitive development to question inconsistency with reality.

Moral Development

The values and rules of society are impressed on children as they develop, transitioning from simply differentiating between right and wrong to offering explanations to moral quandaries. As seen in classic developmental models like Kohlberg's (1969) stages of moral development and Piaget's (1965/1932) theory of cognitive development, the moral reasoning of children evolves and becomes increasingly complex as children hit age milestones. Evidence suggests that we are born with some predilection toward moral learning, with several studies even proving that infants can distinguish moral and immoral actions. When two actors performed for 6- and 10-month-old infants an exaggerated display of helping or hindering another person, infants displayed a clear preference for the helpful actor (Hamlin et al., 2007). By showing this preference for helpful actors these infants demonstrated an innate understanding of morality, in so far as people are meant to act courteously to one another, and through their preference condemned the actions of the hindering actor as immoral. Other studies on infant mortality have come to the same conclusion that infants can distinguish between immoral and moral actions (Wynn and Bloom, 2014, Warneken, 2016). It seems that infants have an innate predilection towards some universal moral tenets, like beneficence, which could imply that our moral development is partially biological.

Though infants display a level of innate morality, cultural differences in morality and societal expectations show that biological predisposition alone does not form morality Classic development models explore moral growth through moral reasoning, or the ability to offer solutions to moral questions. Moral reasoning is a skill that develops with time, and the

explanations for the "correct" moral action transforms alongside children's changing relationship with morality. From a biological perspective, this is compounded by key cognitive developments children gain as they grow. For example, children approximately age 2-7 in Piaget's operational cognitive development are egocentric and lack theory of mind. Children at this stage are unable to differentiate between themselves and other people, so they view their experiences as universal. Until they understand that people have desires separate from their own, they cannot comprehend how other people can experience consequences as a result of their actions. At these stages children are at the preconventional moral reasoning stage of Kohlberg's model and make decisions out of self-interest, like to gain reward or avoid punishment (see Boom, 2011, for review).

Understanding the moral of a story

Narrative stories in books and media can impart moral lessons through themes, which are the main ideas or underlying meaning of a story. Themes are typically not explicitly stated in literary works, so interpreting thematic messages requires critical analysis of the events of the story and their consequences from a moral framework. This type of analysis is aptly called critical thinking, using examination of facts to make objective conclusions. Critical thinking is so widely implemented in education because it is a higher-level cognitive skill. Through critical thinking children are actively learning how to surmount native egocentrism and sociocentrism in their academic and interpersonal judgements (Ren et al., 2020). While critical thinking becomes accessible with cognitive development, it certainly does not come naturally or automatically with age. Colleges and universities must still teach cognitive development in lesson plans, and lack of critical thinking in adults is what accounts for their susceptibility to logical fallacies and misinformation, like scams and trust in uncredible websites (van Zyl et al., 2020).

By age 5, children are able to offer satisfying explanations to scenarios (Bonawitz & Lombrozo, 2012), but correct theme extraction of literature typically develops in late adolescence. What this means is until children develop critical thinking for literature, they will draw incorrect conclusions from their stories based on what they observe. This logical fallacy is known as the non sequitur and results from issues with deductive reasoning. Piaget's model reaffirms this because deductive reasoning is achieved late in the concrete operational stage for ages approximately 7-11. Until then, the child uses inductive reasoning and use their experiences to generalize the world. However, children can get the moral of the story as young as age 5-6 with a little prompting (Walker & Lombrozo, 2017). Using a scaffolding method allows children to make conclusions they otherwise couldn't by gradually increasing the difficulty of questions on a subject. This encourages the child to draw information from previous questions and make correct generalizations, which is especially useful for theme comprehension.

Understanding fantastical morals. By age 5, children are able to differentiate between real and pretend beings like witches and mermaids (Woolley et al., 2004), which this allows them to understand that fantasy stories are not literal or biographical. However, children are less likely to understand the moral lesson of a fantastical story when it contains beings like talking animals (Mares & Acosta, 2008; Richert et al., 2009; Larsen et al., 2017). The distinction between reality and fantasy may be what contributes to children's inability to interpret moral lessons in fantastical media. Children often have difficulty distinguishing between impossible and improbably events. In one study of 4-year-old children, roughly half of those questioned ascribed situations like "making a mug-shaped building" or "getting struck by lightning" as outright impossible to do (Shtulman & Carey, 2007). Recent findings have found children are more skeptical to magical beliefs than adults, expressing an initial resistance to new and novel

entities (Woolley & Ghossainy, 2013). The fact that children are quick distinguish between impossible and realistic characters may also cause them to dismiss their narrative stories entirely. An unrealistic character is equated to an unrelatable character because it contradicts their understanding of reality. This assumption, too, could provide an explanation as to why children prefer realistic over fantastical stories (Barnes et al., 2015), as children may be able to find meaning in a realistic story that they cannot in a similar albeit magical story.

While interesting, the research in this area is limited due to an overwhelming focus on anthropomorphic animals compared to other magical situations. Although fantastical creatures dominate children's media, their stories are by no means the only one's children view. It would be rather presumptuous to assume all fantasy stories elicit the same effect without a direct comparison of fantasy as characters versus circumstances. Sharon & Woolley (2004) found that 4-year-olds can give realistic characteristics to fantastical beings like Santa Claus or the tooth fairy; perhaps children only need a human-centered narrative to draw moral conclusions from a story. Additionally, the research surrounding children's preference of realistic to fantastical fiction is also limited because children have to choose between stories with only a brief description or title alone. However, the popularity of human-centered stories witnessing impossible circumstances, like the Harry Potter series or *Frozen* (2013) show that some fantasy stories do resonate with children. The difference between these findings could lie in the lack of a visual source for children to differentiate between stories, like a movie trailer or book cover. Children at these ages have difficulty with abstraction and learn to read alongside visual depictions in picture books. So, it is reasonable to assume they would have difficulty comparing stories with only an audible description.

Conclusions

Most fantasy research for children has proven it to be the less preferable choice to realism for children in play and storytelling. From a developmental psychology perspective this is compounded by children's desire to mirror child and adult role models, replicating their actions in pretend play in order to emulate them and, through concrete examples, assimilate understanding of societal roles and norms. Current research has also proven fantasy to be inferior to instilling moral lessons through anthropomorphic animals, as children are unable to identify animals as stand-ins for humans. None of the prior studies, however, integrate fantasy with human characters; like pretend play, perhaps children better identify moral lessons when given explicit human characters and fantasy environments, as the link between themselves and the character is more definitive and therefore can be used as a role model. The present study will determine if the inclusion of fantasy in stories is too distracting for children to extrapolate moral meaning or, if presented with fantasy through unrealistic characters versus unrealistic environments, one type of fantasy setting is better suited to both entertain and teach moral lessons.

Methods

Study Design Overview

The study hypothesis was children aged 5-6 would be less likely to correctly identify the moral lesson in fantasy picture books that contained animal characters than picture books that contained human characters with fantastical elements. In addition, children who read the realistic picture book, with both human characters and realistic elements, would identify the correct moral more than either fantasy condition. Three picture books were created with the same moral lesson and same general plot details with minor differences to integrate the fantasy condition, labelled

as the "realistic," "animal," or "impossible" conditions. The impossible condition is the

condition unique to this study and lends to how children differentiate fantasy content.

	Condition A	Condition B	Condition C
Title	Peyton McGee wants to be Tall	Peyton Mouse wants to be Big	Peyton Mighty gets Tiny
Fiction Type	Realistic	Animal	Impossible
Variables Manipulated	Human characters Normal events	Fantasy characters (animals) Normal events	Human characters Fantasy events (superpowers)

Table 1: *Categorization of picture book types used in the study.*

Participants were scheduled for a thirty-minute virtual meeting with a researcher on

Zoom, in which the researcher screenshared and read a Qualtrics survey aloud. Each survey

consisted of a magical thinking assessment, one of the listed three picture books and its

respective survey questions, and an exploratory survey for fiction preferences. The primary

independent variables are the picture book type read to each child, or the realistic, animal, and

impossible conditions. The primary dependent variable is children's understanding of the moral

lesson, quantified by the moral comprehension score from questions inspired by Narvaez et al.

(1999) method of reading comprehension question. The participants were ages 5-6, as this is the

demographic where children start to understand moral content in fiction and the precedented age

group in previous research. The primary question of this experiment is if children are able to

better identify the moral lesson of picture books if they are presented with fantastical characters

or fantastical events.

Participants

Forty-one children (21 females, 20 males) ages 5-6 from the Austin, Texas, USA area

participated in this study. The racial identities of the participants were largely Caucasian, with

80.5% identifying as Caucasian or white, 7.3% Asian, 4.9 % American Indian or Alaskan Native, and 2.4% African American or black. Additionally, 29.3% of participants identified as Hispanic or Latino/a, while the remaining 70.7% identified as neither Hispanic nor Latino/a. All of the 41 participants were included in analysis because they had reading comprehension scores 6 out of 10 points or greater, surpassing the exclusion criteria minimum score of 5. The exclusion score would indicate a lack of understanding for the plot, so if participants failed to meet the reading comprehension minimum, they would be unequipped to understand the moral content. All participants were recruited from the University of Texas at Austin's Children's Research Center database of children in the Travis County area of Texas, USA. Parents were contacted via phone and email for study recruitment and signed an informed consent prior to a study session. Each child received a $5 gift certificate as compensation. The study was approved by the Institutional Review Board of the University of Texas (STUDY00001560: The Lion, the Witch, or the Schoolkid? The Effects of Different Fantastical Elements on Children's Comprehension of Moral Lessons in Picture Books). Data was collected from August to November of 2021.

Materials and Measures

The Qualtrics survey created for the study consists of three parts: a magical thinking assessment, a picture book read-through and corresponding moral comprehension test, and a fictional preference survey.

Magical Thinking Assessment

Using fantasy-reality distinction measures from Woolley et al. (2004), children were asked to categorize eight object as "real" or "pretend". Following each assessment, the child was asked to assess the confidence in their answers, as "very sure" or "a little sure". The objects

categorized, in randomized order, are: germs, vitamins, Santa Claus, the Tooth Fairy, mermaids, fairies, oxygen, elves.

Of the eight total objects assessed, two are intended to be real familiar objects (germs and vitamins), two are fantastical objects children will like believe are real (Santa Claus and Tooth Fairy), and the remaining are a mix of fantastical and realistic objects children are likely familiar with, but will likely have no consensus on if it is "real" or "pretend" (mermaids, fairies, oxygen, elves). The frequency of responses real" and "pretend" for each object were collected for a general magical thinking baseline. Additionally, each participant was assigned a magical thinking score based on the number of objects labelled "real", with 8 possible points

Picture Book and Moral Comprehension

Books. Three books were written and illustrated in accordance with realistic, animal fantasy, and impossible fantasy conditions. All books use the same plot, which is about a child named Peyton who is self-conscious of their height. In the beginning of the book, they attempt to increase their size, but by the end they embrace their differences and gain confidence in their appearance. The primary moral lesson or theme of all stories is to accept yourself as you are, with a secondary moral lesson that embracing your differences can uncover a talent others may not have. See Appendices A-C for all books.

Differences in stories were kept minimal and only made in accordance with the study conditions. For example, the dialogue of the animal condition book is described as "squeaks" instead of "said" to emphasize the anthropomorphic animal fantasy of the characters. The main character, Peyton, was given a gender-neutral name and androgynous appearance. The pronouns of the main character corresponded to participants, with he/him for male participants and she/her participants, to minimize any potential gender biases from moral comprehension (see King et al.

(2002) for review of early adolescent gender roles and biases). All illustrations were created with similar poses and backgrounds to minimize undue differences that could alter the plot or moral content.

A sample picture book page is provided to demonstrate study condition differences. As described, all of the books are very similar, because they have same pose and school background. The biggest difference lies in how Peyton is depicted, or as a normal child in condition A, as an anthropomorphic mouse in condition B, and as a child in a superhero costume in condition C. Some minor differences in the background emphasize the study conditions, like the name of the school and the silhouette of a flying man.
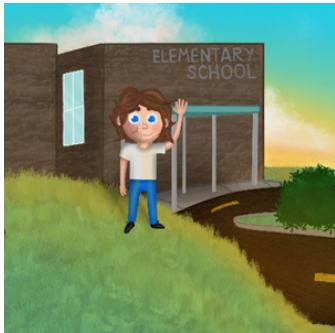
	Realistic (A)	Animal (B)	Impossible (C)
Sample page for comparison (page 2)			
	Peyton is in elementary school. Every morning, Daddy McGee takes Peyton to school on his way to work, and every afternoon Mommy McGee takes Peyton home. Peyton is in Ms. Mendel's class, where [he/she] loves to learn with all the other kids [his/her] age. But, the one thing Peyton hasn't learned is how to be tall.	Peyton goes to Animal Elementary School. Every morning, Daddy Mouse takes Peyton to school on his way to work, and every afternoon Mommy Mouse takes Peyton home. Peyton is in Ms. Sheep's class, where [he/she] loves to learn with all the other animals [his/her] age. But, the one thing Peyton hasn't learned is how to get big.	Peyton goes to school at the Superhero Academy. It is school for kids with superpowers. Every morning, Mighty Dad flies Peyton to school, and every afternoon Mommy McGee takes Peyton home in their superhero car, the Mighty Mobile. Peyton is in Super Teacher's class, where [he/she] learns all kinds of things from Super Teacher. But, the one thing Peyton hasn't learned is how to be tall.

Table 2: *Sample picture book page and illustrations for realistic, animal, and impossible conditions.*

Moral Comprehension Measures. This study tested moral comprehension using a scale adapted from Narvaez et al. (1999). This tests moral comprehension from four question types: reading comprehension, vignette selection, theme selection, and open response. First, the subjects answer 10 true-false questions about the story to ensure they understood basic plot elements. Next, children choose one of three vignettes with the message that best matched the message in the original story. After, children are given three theme statements and identify which two messages had themes closest to that of the original story. Finally, children will be asked what the intended moral lesson of the story was ("What's the moral of the story?"). This scale is helpful to induce moral thinking in the child without explicitly giving the moral lesson. For this reason, it is the preferred scale in prior adolescent fantasy comprehension research.

	Condition A	Condition B	Condition C
Surface content	If you are short, you can fit into really small spaces.	Mice can fit into really small spaces.	Superheroes can do amazing things and save the day.
Incorrect Moral		You should not take things that belong to other people because that's stealing.	

Lesson
Match
(same for
all
stories)

It's okay if you are different from everyone else, because you are great just the way you are.

Procedures

Participants will be scheduled for a 30-minute Zoom call between themselves and the researcher. After completing the consent forms from the guardians, the parent was asked for te child's demographic information including their age and racial identity. Participants are asked to answer some questions about their belief in various real and fantasy objects to establish a magical thinking baseline (see Appendix A for all objects). Participants were then read a picture book aloud with intermittent questions to ensure attention. Following completion of the book, each child is tested using a modified style of questionnaire created by Narvaez et al. (1999) and improved by Walker & Lombrozo (2017). This tests adolescent moral comprehension using four question types: reading comprehension, open-response, theme selection, and vignette selection (see Appendices B-D for each condition book and survey questions). At the end of the study, participants were surveyed for their overall enjoyment of the story and fictional preferences, like whether they would like to read a realistic fictional story or fantastical fictional story (see Appendix E for survey questions).

Results

First, the frequency of "real" or "pretend" responses in the magical thinking assessment was collected. Individual magical thinking scores were assigned from the number of objects labelled "real", with 8 possible point, n = 41, M = 5.05, SD = 1.55.

Classification	Object							
	Elves	Fairies	Germs	Mermaids	Oxygen	Santa	Tooth Fairy	Vitamins
Pretend	25	30	1	35	1	10	16	2
Real	16	11	40	6	40	31	24	39
Total	41	41	41	41	41	41	40	41

Table 3: *Frequency of "real" and "pretend" categorization of objects.*

Next, reading comprehension was generated based on the number of correct responses to the six mid-story questions and four true-false questions, for 10 possible points. All conditions had high moral understanding with minimal differences for realistic (n = 15, M = 9.33, SD = 1.05), animal (n = 14, M = 9.71, SD = 0.47), or impossible (n = 12, M = 9.25, SD = 1.06). Regardless of moral comprehension scores, this indicates participants had a clear understanding of surface content of all conditions.

Moral comprehension was calculated from open response for 2 points, theme selection for 1 point, and vignette selection for 1 point. Four points were possible for the moral comprehension section. The average moral comprehension for the realistic condition was M = 1.47, n = 15 and SD = 1.19; for the animal condition was M = 0.72, n = 14 and SD = 1.14; for the impossible condition M = 1.50, n =12 and SD = 1.17.

Figure 1: *Reading comprehension for each condition realistic (A), animal (B), and impossible (C).*
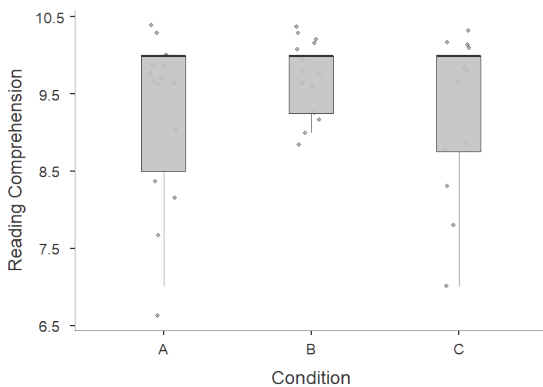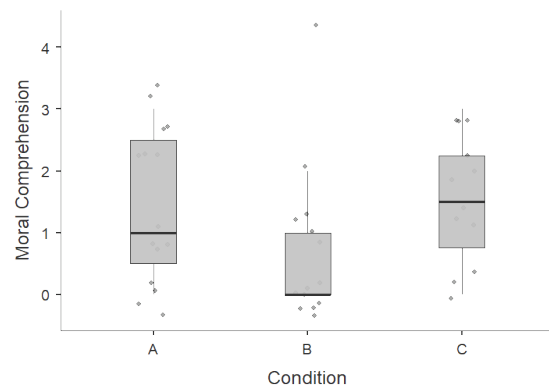

Figure 2: *Moral comprehension for each condition realistic (A), animal (B), and impossible (C).*

Correlation analysis between magical thinking and moral comprehension indicated no significant relationship between adolescent beliefs and critical analysis of fictional stories, with r = -.141 and p = .379. A unilateral ANOVA test of the reading comprehension found no significant difference between reading comprehension for each condition, $F(2, 21.0) = 1.51$, $p = 0.243$. Another unilateral ANOVA test for moral comprehension found no significant difference between moral comprehension for each condition, $F(2, 24.8) = 1.99$, $p = 0.157$. However, the trends within moral comprehension seem to show a lower moral comprehension in the animal condition than either realistic or impossible conditions. Given the small power of the current dataset, significant differences may be found with more data collection.

Discussion

At this time, there are no significant differences in moral comprehension for realistic, animal fantasy, and impossible fantasy stories. Further analysis comparing moral comprehension to magical thinking found no correlation between understanding moral content and the child's baseline magical beliefs. Children showed the greatest preference for fictional stories over realistic stories, with 56% preferring animal stories and 34% preferring impossible fantasy stories.

One reason for these findings could lie in the prevalence of fantasy in children's everyday lives. Fantasy is often encouraged by adults by their endorsement in various magical beings, like Santa Claus and the Easter Bunny. As Woolley (1997) put forth, the reinforcement of magical beings and the child's relative lack of knowledge of the world places some fantastical beings as active and interactive fixtures within day-to-day life. At the same time, the abundance of media centered around fantasy could also encourage encourage critical thinking about what constitutes fantasy fiction. Multiple studies on fictional creatures from media proves children can

distinguish fantasy media from reality (Sen & Karagul, 2021; Kibbe et al., 2018; Skolnick & Bloom, 2006). While consuming this media, children are creating distinctions between reality and fantasy fiction by drawing comparison from their education and experiences. Perhaps in doing so, children are strengthening their critical thinking ability to gain objectivity, finding what similarities remain within their own life for transferrable moral lessons.

Findings from this study also showed children preferred fantastical stories from realistic based on picture book covers. Though this could be shaped by the relative bias in children's media on fantastical stories (see Goldstein & Aperson, 2020), research supports the finding that children are drawn to fictional stories. Fictional characters like Harry Potter were great sources of comfort for children processing trauma, which could be attributed to a balance of relatability to a child's experiences and the fantasy allowing some escapism for the child to immerse themselves in and to self-soothe (Markell et al., 2013). And, although children distinguished between real and fantasy fictional characters in Skolnick & Bloom, 2006, children also showed an appreciation for the fantasy worlds depicted in media.

A predilection for fantasy may play an important role in cognitive development. . Zhong et al. (2019) performed CT scans of Vietnam veterans with penetrating traumatic brain injuries (pTBI) and matching healthy control (HC) while conducting interviews for their religious experiences. The pTBI individuals with prefrontal cortex lesions had significantly activity in their prefrontal cortex when discussing their experiences, and these individuals also had the highest religious scores of their peers. Similar research has pinpointed superstitious thinking to activation in the right middle/superior frontal gyrus (Rao et al., 2013). The location of magical ideation is significant because the prefrontal cortex is the most complex portion of the brain and thought to be responsible for human sentience. The prefrontal cortex carries out executive

functions like social-emotional functioning (Wang & Hamilton, 2014) and decision making (Manes et al., 2002; Krain et al., 2006), so it follows that the human brain processes fact and myth the same way despite perceptual differences between the two. A child's fascination with fantasy may be one method in which the child strengthens connections within the prefrontal cortex, developing their sense of reality and basis for magical thinking.

Given the trends in current data, however, this could only be applicable to human-centric fantasy stories. While no significant differences were found in current data between the type of fiction read, children who read the animal book trended towards lower moral comprehension than either the realistic or impossible books; with a greater number of participants and greater condition power, this may find that children actually understand the moral lessons in animal books less than other types of books.

Further research is needed to determine if children are truly affected by the kind of fiction consumed for their moral comprehension. Additionally, research can benefit from further survey options on children's preference in media. When selecting picture book covers, some children asked if the book containing animal characters was fictional or nonfiction, such as a fact book. If given more options, children could identify whether they indeed like fantasy following anthropomorphic animal characters or if they are interested in animals as a subject of knowledge.

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Appendix A

Section A.1: Full picture book for condition #1 (realistic)

Title: Peyton McGee wants to be Tall

PAGE 1: At the end of Timber Street there is a little blue house, which has a little tree and a little brown fence. In that house lives the McGee Family. They are Mommy and Daddy, and their children, Sarah, Michael, and Peyton. The very smallest is the youngest, Peyton McGee.

PAGE 2: Peyton is in elementary school. Every morning, Daddy McGee takes Peyton to school on his way to work, and every afternoon Mommy McGee takes Peyton home. Peyton is in Ms. Mendel's class, where [he/she] loves to learn with all the other kids [his/her] age. But, the one thing Peyton hasn't learned is how to be tall.

PAGE 3: Peyton wants to be tall more than anything in the world! Daddy McGee can reach the car pedals to drive his car anywhere. But, Peyton can't even see out the car window without a car seat. Mommy McGee can grab things off the highest shelf. But, Peyton has to ask for help to get anything.

PAGE 4: Even at school Peyton is the smallest. All the other kids tease in [his/her] class tease Peyton, saying "Teeny Tiny Peyton! Teeny Tiny Peyton!"

"It's no fair!" said Peyton. "I'm so different from everybody else. I'll find a way to be tall, too!"

[Ask child Question Set #1]

PAGE 5: One day, Peyton asked "Mommy, how do I get tall like you?"

Mommy McGee said, "You'll get taller as you grow up. That's why you need lots of vegetables! Vegetables help you become tall and strong."

At dinner that night, Peyton ate and ate all [his/her] vegetables. But the next morning [he/she] hadn't grown one inch!

PAGE 6: The next day, Peyton asked, "Daddy, how do I get tall like you?"

Daddy McGee said, "You'll get taller as you grow up. That's why you need to go to bed every night. Sleeping helps you become tall and strong!"

At bedtime that night, Peyton put on [his/her] pajamas super-fast and fell asleep early. But the next morning [he/she] hadn't grown one inch!

PAGE 7: At school, Peyton asked, "Ms. Mendel, how do I get tall like you?"

Ms. Mendel said, "You'll get taller as you grow up. That's why you need to go to school! Learning helps your body and brain get bigger and stronger!"

Peyton paid extra close attention in school that whole week. [He/she] even stayed inside during recess to do homework. At the end of the week, Peyton was so sure [he/she] would be taller. But as Peyton looked at the ruler, [he/she] realized [he/she] hadn't grown by even a hair.

[Ask child Question Set #2]

PAGE 8: Peyton was sadder than [he/she] ever felt before. [He/she] started to cry.

Mommy and Daddy McGee rushed over to [him/her]. "What's wrong, Peyton?" asked Daddy.

Peyton said. "I'm trying so hard to get tall. I ate all my vegetables. I went to bed early. I learned a lot in school. But nothing is working!" Peyton

didn't like being teased at school or asking for help to reach things on the shelf. "I'm so much smaller than everyone! I don't like being different."

PAGE 9: Mommy and Daddy McGee gave Peyton a big hug. Mommy McGee said, "You may not be as tall as me, or Daddy, or anyone in your class."

"But that's okay," said Daddy McGee. "You don't need to look like everybody else. We love you because you're you."

PAGE 10: Peyton felt much better after talking to Mommy and Daddy McGee, though [he/she] was still a little nervous. Would Peyton really be able to fit in if [he/she] wasn't tall?

The next day at school, Peyton's classmates teased [him/her], saying "Teeny Tiny Peyton! Teeny Tiny Peyton!" But then, all the lights went out. The classroom was so dark!

PAGE 11: Ms. Mendel took the class to a big room, where all the other kids and the principal were. Once everyone arrived, Principal Parry said, "All our lights went out, and we need your help! There is a very special light switch called a 'breaker switch' that can turn on all the lights."

Principal Parry pointed to a very small door behind him. It was so small Peyton almost didn't see it. Principal Parry said "The breaker switch is in a tiny cubby, and no one fits inside. We need a brave student to go in and flip the switch!"

PAGE 12: All over the room, kids volunteered to flip the switch. Peyton heard shouts of "I can do it!" and "Pick me!" The volunteers tried to go through cubby door, but they were all too big to fit inside.

"Oh no!" thought Peyton. If none of [his/her] classmates could flip the braker switch, what could [he/she] do? Peyton had to try something, so [he/she] took a deep breath and bravely announced, "I will turn on the switch!"

PAGE 13: When Peyton went up to the door, [he/she] thought "This cubby is small like me. If I crouch, maybe I can get inside." [He/she] got down on [his/her] hands and knees and crawled through.

It was very, very dark inside the cubby. Peyton could barely see what was in front of [him/her]! But slowly, [he/she] got to the end of the cubby and saw the light switch. [He/she] said "Here goes nothing!" and flipped it on.

PAGE 14: At that moment, the lights turned on and the cubby was not so dark anymore. When [he/she] got out, everybody cheered! "The lights are back on," exclaimed Principal Parry. "Everyone, give a big thank you to Peyton McGee!"

PAGE 15: Peyton McGee may be small, but on that day, Peyton also became the bravest of them all. Peyton's classmates gave [him/her] high fives and said, "We'll call you Peyton the Hero from now on!"

From that day forward, Peyton was still the smallest person in [his/her] school. [He/she] still had to use a car seat in the car, and [he/she] still had to ask for help to reach things on the shelf. But Peyton doesn't mind. Peyton doesn't need to change a thing about [him/her]self!

THE END

[Ask child Question Set #3, then move onto interview]

Section A.2: Moral understanding questions, adapted from Narvaez et al. (1999)

Question Set #1

Mid-story prompt (report): "Remind me, does Peyton like being short?"

Mid-story prompt (explain): "Tell me, why does Peyton not like being short"

Question Set #2

Mid-story prompt (report): "Remind me, did Peyton eat vegetables?"

Mid-story prompt (explain): "Tell me, why did Peyton eat vegetables?"

Question Set #3

End-story prompt (report): "Remind me, is Peyton short at the end of the story?"

End-story prompt (report): "Tell me, does Peyton like being short at the end of the story?"

Interview

1) **True/ False Questions**

    Did Peyton ask Ms. Mendel how to get tall? (yes)

    Were the other kids able turn on the special light switch? (no)

    Was Peyton able to turn on the special light switch? (yes)

    Did Peyton get taller in the story? (no)

2) **Open-response** (Ask child "What was the lesson of the story?")

3) **Theme Selection**

    a. Lesson: Accept yourself as you are.

    b. Surface content: If you're short, you can fit in really small spaces.

4) **Vignettes**

Different content/ Same lesson: Mrs. Arnold is the choir teacher, and she wants kids to join choir and sing at her concert. Jaimie wants to sing the high notes like all the other girls in her class, but she can only sing low notes. Jaimie doesn't want to be different from her friends, but Mrs. Arnold encourages Jaimie to join and sing low notes. With Jaimie's low singing, the choir sounds really beautiful! Everyone is glad Jaimie joined the choir and sings the low notes, after all.

Same content/ Different lesson: Daddy McGee was driving everyone to school. Peyton was feeling silly so [he/she] started calling [his/her] dad "bus driver", which made [his/her] dad upset. Daddy McGee told Peyton that calling people names makes them sad and isn't very nice. Peyton decided not to call [his/her] dad "bus driver" anymore because [he/she] didn't want to hurt [his/her] dad's feelings.

Different content/ Different lesson: Sam and Marco are best friends. Sam is shorter than Marco, but they always play with each other and share their things. One day, Marco brought some cookies for a snack, and Sam asked if he could have one. Although he wanted to eat them both, Marco gave one to Sam. Marco is glad he shared- Sam was so happy, and it made him feel good they could both enjoy cookies together.

Appendix B

Section B.1: Full picture book for condition #2 (animal)

Title: <u>Peyton Mouse wants to be Big</u>

PAGE 1: At the end of Timber Street there is a little blue house, which has a little tree and a little brown fence. In that house lives a family of mice. They are Mommy and Daddy Mouse, and their children, Sarah, Michael, and Peyton. The very smallest mouse is the youngest, Peyton Mouse.

PAGE 2: Peyton goes to Animal Elementary School. Every morning, Daddy Mouse takes Peyton to school on his way to work, and every afternoon Mommy Mouse takes Peyton home. Peyton is in Ms. Sheep's class, where [he/she] loves to learn with all the other animals [his/her] age. But, the one thing Peyton hasn't learned is how to get big.

PAGE 3: Peyton wants to be big more than anything in the world! Adult animals, like Mommy and Daddy Mouse, can reach car pedals and drive their cars anywhere. But, Peyton can't even see out the car window without a car seat. Other animals, like cows and giraffes can grab things off the highest shelf. But, Peyton has to ask for help to get anything.

PAGE 4: Even at school Peyton is the smallest. All the other animals tease [him/her], saying "Teeny Tiny Peyton! Teeny Tiny Peyton!"

"It's no fair!" squeaked Peyton. "I'm so different from everybody else. I'll find a way to get big, too!"

[Ask child Question Set #1]

PAGE 5: One day, Peyton asked "Mommy, how do I get big like you?"

Mommy Mouse said, "You'll get bigger as you grow up. That's why you need lots of vegetables! Vegetables help you become a big, strong mouse!"

At dinner that night, Peyton ate and ate all [his/her] vegetables. But the next morning [he/she] hadn't grown one bit!

PAGE 6: The next day, Peyton asked, "Daddy, how do I get big like you?"

Daddy Mouse said, "You'll get bigger as you grow up. That's why you need to go to bed every night. Sleeping helps you become a big, strong mouse!"

At bedtime that night, Peyton put on [his/her] pajamas super-fast and fell asleep early. But the next morning [he/she] hadn't grown one bit!

PAGE 7: At school, Peyton asked, "Ms. Sheep, how do I get big like you?"

Ms. Sheep said, "You'll get bigger as you grow up. That's why you need to go to school! Learning helps all little animals get bigger and smarter!"

Peyton paid extra close attention in school that whole week. [He/she] even stayed inside during recess to do homework. At the end of the week, Peyton was so sure [he/she] would be bigger. But as Peyton measured [his/her] height, [he/she] realized [he/she] hadn't grown by even a whisker.

[Ask child Question Set #2]

PAGE 8: Peyton was sadder than [he/she] ever felt before. [He/she] started to cry.

Mommy and Daddy Mouse rushed over to [him/her]. "What's wrong, Peyton?" asked Daddy.

Peyton squeaked, "I'm trying so hard to get tall. I ate all my vegetables. I went to bed early. I learned a lot in school. But nothing is working!" Peyton didn't like being teased at school or asking for help to reach things on the shelf. "I'm so much smaller than everyone! I don't like being different."

PAGE 9: Mommy and Daddy Mouse gave Peyton a big hug. Mommy Mouse said, "You may not be as big as other animals, or even other mice like Daddy and me."

"But that's okay," said Daddy Mouse. "You don't need to look like everybody else. We love you because you're you."

PAGE 10: Peyton felt much better after talking to Mommy and Daddy Mouse, though [he/she] was still a little nervous. Would Peyton really be able to fit in if [he/she] wasn't big?

The next day at school, Peyton's classmates teased [him/her], saying "Teeny Tiny Peyton! Teeny Tiny Peyton!" But then, all the lights went out. The classroom was so dark!

PAGE 11: Ms. Sheep took the class to a big room, where all the other animals and the principal were. Once everyone arrived, Principal Lion said, "All our lights went out, and we need your help! There is a very special light switch called a 'breaker switch' that can turn on all the lights."

Principal Lion pointed to a very small door behind him. It was so small Peyton almost didn't see it. Principal Lion said "The breaker switch is in a tiny cubby, and no one fits inside. We need a brave student to go in and flip the switch!"

PAGE 12: All over the room, animals volunteered to flip the switch. Peyton heard roars of "I can do it!" and "Pick me!" The volunteer animals tried to go through cubby door, but they were all too big to fit inside.

"Oh no!" thought Peyton. If none of [his/her] classmates could flip the breaker switch,

what could [he/she] do? Peyton had to try something, so [he/she] took a deep breath and bravely announced, "I will turn on the switch!"

PAGE 13: When Peyton went up to the door, [he/she] thought "This cubby is small like me. If I crouch, maybe I can get inside." [He/she] got down on [his/her] paws and crawled through.

It was very, very dark inside the cubby. Even with [his/her] mouse eyes, Peyton could barely see what was in front of [him/her]! But slowly, [he/she] got to the end of the cubby and saw the light switch. [He/she] squeaked, "Here goes nothing!" and flipped it on.

PAGE 14: At that moment, the lights turned on and the cubby was not so dark anymore. When [he/she] got out, all the animals cheered! "The lights are back on," Principal Lion roared. "Everyone, give a big thank you to Peyton Mouse!"

PAGE 15: Peyton Mouse may be small, but on that day, Peyton became the bravest animal of them all. Peyton's classmates gave [him/her] high fives and said, "We'll call you Peyton the Hero from now on!"

From that day forward, Peyton was still the smallest animal in [his/her] school. [He/she] still had to use a car seat in the car, and [he/she] still had to ask for help to reach things on the shelf. But Peyton doesn't mind. Peyton doesn't need to change a thing about [him/her]self!

THE END

[Ask child Question Set #3, then move onto interview]

Section B.2: Moral understanding questions, adapted from Narvaez et al. (1999)

Question Set #1

Mid-story prompt (report): "Remind me, does Peyton Mouse like being small?

Mid-story prompt (explain): "Tell me, why does Peyton not like being small?"

Question Set #2

Mid-story prompt (report): "Remind me, did Peyton eat vegetables?"

Mid-story prompt (explain): "Tell me, why did Peyton eat vegetables?"

Question Set #3

End-story prompt (report): "Remind me, is Peyton still small?'

End-story prompt (report): "Tell me, does Peyton like being small at the end of the story?"

Interview

1) **True/ False Questions**

Did Peyton Mouse ask Ms. Sheep how to get tall? (yes)
Were the other animals able turn on the special light switch? (no)
Was Peyton able to turn on the special light switch? (yes)
Did Peyton get bigger in the story? (no)

2) **Open-response (**Ask child "What was the lesson of the story?")

3) **Theme Selection**

    a. Lesson: Accept yourself as you are.

    b. Surface content: Mice can fit in really small spaces.

4) **Vignettes**

Different content/ Same lesson: Mrs. Arnold is the choir teacher, and she wants kids to join choir and sing at her concert. Jaimie wants to sing the high notes like all the other girls in her class, but she can only sing low notes. Jaimie doesn't want to be different from her friends, but Mrs. Arnold encourages Jaimie to join and sing low notes. With Jaimie's low singing, the choir sounds really beautiful! Everyone is glad Jaimie joined the choir and sings the low notes, after all.

Same content/ Different lesson: Daddy Mouse was driving everyone to school. Peyton was feeling silly so [he/she] started calling [his/her] dad "bus driver", which made [his/her] dad upset. Daddy Mouse told Peyton that calling others names makes them sad and isn't very nice. Peyton decided not to call [his/her] dad "bus driver" anymore because [he/she] didn't want to hurt [his/her] dad's feelings.

Different content/ Different lesson: Omar got a pet mouse for his birthday. The mouse is much smaller than his cat or dog, and it is much harder to care for than Omar's other pets. Omar has to clean the mouse's cage every day and feed it special food. It's a lot of work, but Omar is proud that he can do it all by himself. Omar loves his mouse, and by being responsible Omar is caring for his mouse like it should be treated.

Appendix C

Section C.1: Full picture book for condition #3 (impossible)

Title: Peyton Mighty gets Tiny

PAGE 1: At the end of Timber Street there is a little blue house, which has a little tree and a little brown fence. In that house lives a family of superheroes. They are Mighty Mom and Mighty Dad, and their children, Sarah, Michael, and Peyton.

All of the Mightys have different superpowers. The smallest child, Peyton, has the superpower of shrinking. This means Peyton can get very small, from the size of a dog to a mouse.

PAGE 2: Peyton goes to school at the Superhero Academy. It is school for kids with superpowers. Every morning, Mighty Dad flies Peyton to school, and every afternoon Mommy McGee takes Peyton home in their superhero car, the Mighty Mobile.

Peyton is in Super Teacher's class, where [he/she] learns all kinds of things from Super Teacher. But, the one thing Peyton hasn't learned is how to be tall.

PAGE 3: Peyton wants to be tall more than anything in the world! Mighty Mom can reach the pedals and drive the Mighty Mobile anywhere, from outer space to the bottom of the ocean. But, Peyton can't even see out the car window without a car seat. Mighty Dad can grab things off the highest shelf. But, Peyton has to ask for help to get anything.

PAGE 4: Even at school Peyton is the smallest. All the other superkids tease [him/her], saying "Teeny Tiny Peyton! Teeny Tiny Peyton!" What's worse is Peyton's superpower, shrinking, makes him smaller when he's sad or nervous. When he's teased, he only gets shorter and shorter.

"It's no fair!" said Peyton. "I'm so different from everybody else. I'll find a way to be tall, too!"

[Ask child Question Set #1]

PAGE 5: One day, Peyton asked "Mighty Mom, how do I get tall like you?"

Mighty Mom said, "You'll get taller as you grow up. That's why you need lots of super vegetables! Super vegetables help you become a tall, strong super[boy/girl]!"

At dinner that night, Peyton ate all [his/her] vegetables, including all [his/her] radioactive peas and atomic carrots. But the next morning [he/she] hadn't grown one inch!

PAGE 6: The next day, Peyton asked, "Mighty Dad, how do I get tall like you?"

Mighty Dad said, "You'll get taller as you grow up. That's why you need to go to bed every night. Sleeping in your sleep pod helps you become a tall, strong super[boy/girl]!"

At bedtime that night, Peyton fell asleep early in [his/her] sleep pod, which is a bed that looks like a spaceship. But the next morning [he/she] hadn't grown one inch!

PAGE 7: At school, Peyton asked, "Super Teacher, how do I get tall like you?"

Super Teacher said, "You'll get taller as you grow up. That's why all superheroes need to go to school! Learning helps your body and brain get bigger and stronger!"

Peyton paid extra close attention in school that whole week. [He/she] even stayed inside during recess to practice his superpowers. At the end of the week, Peyton was so sure [he/she] would be taller. But as Peyton looked at the ruler, [he/she] realized [he/she] was exactly the same.

[Ask child Question Set #2]

PAGE 8: Peyton was sadder than [he/she] ever felt before. [He/she] started to shrink and cry.

Mighty Mom and Mighty Dad rushed over to [him/her]. "What's wrong, Peyton?" asked Mighty Dad.

Peyton said. "I'm trying so hard to get tall. I ate all my super vegetables. I went to bed early. I practiced my superpowers really hard. But nothing is working!" Peyton didn't like being teased at school or needing to use a car seat. "I'm so much smaller than everyone! I don't like being different."

PAGE 9: Mighty Mom and Mighty Dad picked up in their Peyton in their hands gave [him/her] a big hug. Mighty Mom said, "You may not be as tall as me, or Daddy, or anyone in your class."

"But that's okay," said Mighty Dad. "You don't need to look like everybody else. We love you because you're you."

PAGE 10: Peyton felt much better after talking to Mighty Mom and Mighty Dad, and slowly [he/she] grew back to [his/her] normal height. But Peyton was still a little nervous for school. Would [he/she] really be able to fit in with the other superkids if [he/she] wasn't tall?

The next day, Peyton's classmates teased [him/her], saying "Teeny Tiny Peyton! Teeny Tiny Peyton!" But then, all the lights went out. The classroom was so dark!

PAGE 11: Super Teacher took the class to a big room, where all the other superkids and the principal were. Once everyone arrived, Principal Robot said, "All our lights went out, and we need your help! There is a very special light switch called a 'breaker switch' that can turn on all the lights."

Principal Robot pointed to a very small door behind him. It was so small Peyton almost didn't see it. Principal Robot said "The breaker switch is in a tiny cubby, and no one fits inside. We need a brave student to use their superpowers and flip the switch!"

PAGE 12: All over the room, superkids volunteered to flip the switch. Peyton heard shouts of "I can do it!" and "Pick me!" The volunteers tried to use their superpowers to flip the switch, but no one could. Whether it was ice powers or a really long arm, each superkid was still too big to get inside the cubby

"Oh no!" thought Peyton. If none of [his/her] classmates could flip the braker switch, what could [he/she] do? Peyton had to try something, so [he/she] took a deep breath and bravely announced, "I will turn on the switch!"

PAGE 13: When Peyton went up to the door, [he/she] thought "This cubby is super small. If I use my superpowers, maybe I can get inside." [He/she] shrunk [him/her]self as small as a mouse and walked through the door.

It was very, very dark inside the cubby. Peyton could barely see what was in front of [him/her]! But slowly, [he/she] got to the end of the cubby and saw the light switch. [He/she] said "Here goes nothing!" and flipped it on.

PAGE 14: At that moment, the lights turned on and the cubby was not so dark anymore. When [he/she] got out, all the superheroes cheered! "The lights are back on," exclaimed Principal Robot. "Everyone, give a big thank you to Peyton Mighty!"

PAGE 15: Peyton Mighty may be small, but on that day, Peyton also became the bravest of them all. Peyton's classmates gave [him/her] high fives and said, "We'll call you Super Peyton from now on!"

From that day forward, Peyton was still the smallest person in [his/her] school. [He/she] still had to use a car seat in the Mighty Mobile. But Peyton doesn't mind. Peyton doesn't need to change a thing about [him/her]self!

THE END

[Ask child Question Set #3, then move onto interview]

Section C.2: Moral understanding questions, adapted from Narvaez et al. (1999)

Question Set #1

Mid-story prompt (report): "Remind me, does Peyton like being short?"

Mid-story prompt (explain): "Tell me, why does Peyton not like being short?"

Question Set #2

Mid-story prompt (report): "Remind me, did Peyton eat vegetables?"

Mid-story prompt (explain): "Tell me, why did Peyton eat vegetables?"

Question Set #3

End-story prompt (report): "Remind me, is Peyton still short?'

End-story prompt (explain): "Tell me, does Peyton like being short at the end of the story?"

Interview

1) **True/ False Questions**

    Did Peyton ask Super Teacher how to get tall? (yes)
    Were the superkids able turn on the special light switch? (no)
    Was Peyton able to turn on the special light switch? (yes)
    Does Peyton have super strength? (no)

2) **Open-response** (Ask child "What was the lesson of the story?")

3) **Theme Selection**
    a. Lesson: Accept yourself as you are.
    b. Surface content: Superheroes can do amazing things and save the day.

4) **Vignettes**

Different content/ Same lesson: Mrs. Arnold is the choir teacher, and she wants kids to join choir and sing at her concert. Jaimie wants to sing the high notes like all the other girls in her class, but she can only sing low notes. Jaimie doesn't want to be different from her friends, but Mrs. Arnold encourages Jaimie to join and sing low notes. With Jaimie's low singing, the choir sounds really beautiful! Everyone is glad Jaimie joined the choir and sings the low notes, after all.

Same content/ Different lesson: Mighty Mom was driving everyone home from school in the Mighty Mobile. Peyton was feeling silly so [he/she] started calling [his/her] mom "bus driver", which made [his/her] mom upset. Mighty Mom told Peyton that calling people names makes them sad and isn't very nice. Peyton decided not to call [his/her] mom "bus driver" anymore because [he/she] didn't want to hurt [his/her] mom's feelings.

Different content/ Different lesson: Diego loves to watch superhero movies, and he wants to be just like his favorite superhero Amazing Man! Diego decides to put on a cape and help people as much as he could. That day, he helped his mom make dinner and helped his little brother feel better when he felt sad. Although Diego doesn't have superpowers like Amazing Man, his mom and brother were so grateful! Diego was glad he helped, and he felt good for making others happy.