



The distinction between real and fictional worlds: Investigating individual differences in fantasy understanding



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ABSTRACT

In this paper, two studies are reported in which children's ability to distinguish reality from fantasy was investigated. In Experiment 1, children of different ages made pairwise comparisons of 12 pictures of fictional figures and 3 photographs of real people by evaluating on a 6-point scale how easily these figures could meet each other. The results revealed that fantasy/reality distinction develops with age: 7–8-year-old showed a fundamental categorical distinction (comparable to that of adults) whereas 3–4-year-old treated the real world like one of many worlds. In Experiment 2, we took an individual differences approach and tested 116 4–5-year-old who performed the same fantasy task. In addition, they were presented with theory-of-mind tasks and tests measuring non-verbal intelligence and language skills. The results showed that, after statistically controlling for age, non-verbal intelligence, and language skills, theory-of-mind abilities still significantly contributed to the prediction of fantasy understanding.

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1. Introduction

Children easily engage in fictional worlds. They spend a considerable amount of time engaging in active pretend play. They also enjoy listening to fairy tales, watching cartoons, and playing video games. The pervasive role of fantasy in childhood has always attracted parental and media attention. There has been a growing number of studies on children's ability to distinguish between fantasy and reality in the last 20 years (for comprehensive reviews, see Woolley, 1997; Woolley & Ghossainy, 2013). Unlike previous scholarly (e.g., see Piaget, 1926/1976) and lay assumptions, children are not merely confounding fantasy and reality or thinking magically instead of logically: There is strong and growing evidence that children as young as age three to five years can make different reality/non-reality distinctions, including reliable distinctions between fantasy and reality (Harris, 2000; Harris, Pasquini, Duke, Asscher, & Pons, 2006; Morison & Gardner, 1978; Subbotsky, 1993; Tullos & Woolley, 2009) and distinctions across different fictional worlds (Skolnick & Bloom, 2006, 2006b).

Indeed, children not only need to learn how to distinguish between reality and fantasy, but also how to distinguish between different fictional worlds. Skolnick and Bloom (2006b) challenged earlier studies, pointing out the interpretative limitations of fantasy/reality distinctions when these abilities are assessed using binary (yes/no) judgments. They pro-

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posed an “intuitive cosmology of fictional worlds” and suggested speaking of “is-real-to” relationships between characters from the same fictional world and “is-fictional-to” relationships between characters across worlds. Skolnick and Bloom (2006b) carried out two experiments designed to investigate possible beliefs and possible actions of different fantasy characters (e.g., in Experiment 2, they asked questions such as “Can Batman see Robin? Can Batman touch Robin? Can Batman talk to Robin?”). They found that four-year-old children were able to distinguish between different fictional worlds (corresponding to “is-fictional-to” distinctions) and concluded that fantasy/fantasy distinctions are an achievement of early development. However, Skolnick and Bloom (2006b) used forced-choice tasks (children chose between “real” and “make believe” in Experiment 1, and between “yes” and “no” in Experiment 2), which makes it difficult to draw firm conclusions about the relationships between multiple fictional worlds.

Thus, the state of research in the field leaves us with two open questions. First, it remains unclear whether young children carry out the fundamental fantasy/reality distinction in the same categorical way adults do. It is possible that the fantasy/reality distinction eventually develops into a categorical distinction, but precursors of this skill may be different in nature. For example, young children may represent “the real world” as just one of many worlds that is by itself not yet distinguishable from any fictional world. Second, it remains an open question whether different fictional worlds are simply distinct, or whether they vary with respect to degree of similarity. In other words, are the different worlds in the universe ordered in some way? Skolnick and Bloom (2006a) hypothesized that the distances between various fictional worlds and reality are different, but were not able to provide a clear answer to this question due to the experimental tasks (binary judgments) they used (Skolnick & Bloom, 2006b).

Both questions can be addressed by replacing the binary judgment tasks with gradual judgment tasks, as is usually done in research on metacognitive abilities (Koriat & Goldsmith, 1996; Roebers, 2002). In the present research, the participants in Experiment 1 (3–4-year-old, 7–8-year-old, and adults) evaluated, on a 6-point scale (instead of via the yes/no format), how easy it would be for two characters of different worlds to meet. The scores were averaged for each age group and then translated using non-metric multidimensional scaling (NMDS) into cognitive maps that were compared by means of Procrustes transformations. This method allowed us to reveal the relationships among the fictional and real characters and was thus useful for studying the distinctions between reality and fantasy and those between different fictional worlds.

The selected methods also allowed us to avoid asking direct questions about reality status. As Bunce and Harris (2008, 2013) pointed out, reality status judgments can refer to either authenticity or ontological status: The question “Is Minnie real?” can mean “Is this Minnie the real one?” or “Is Minnie living in the real world?” Whereas young children (2–3-year-old) are able to differentiate between pretense and reality, they do not understand the ontological status of fantastical characters yet (Bunce & Harris, 2013).

According to the literature, there is a great amount of variability in how well and consistently children, especially those at the age of around 4–5 years, master the fantasy/reality distinction tasks. However, only a few studies have focused on the individual differences that may underlie these abilities (see Carrick & Quas, 2006; Sharon & Woolley, 2004; Taylor & Carlson, 1997; Woolley, Boerger, & Markman, 2004). This is surprising as the investigation of individual differences can provide insight into (a) the developmental trajectories of these skills and (b) possible underlying mechanisms that explain why some children fail to distinguish between fantasy and reality. Experiment 2 therefore aimed to shed light on selected cognitive processes that may contribute to children’s emerging fantasy understanding. In particular, we wanted to explore a possible contribution of theory-of-mind (ToM) abilities.

ToM abilities include predicting, explaining, and interpreting the actions of other people in terms of their mental states; they are thus intrinsically meta-representational (Gopnik, 1993; Leslie, 1987). One specific facet of ToM is *false-belief understanding*, which includes the understanding that mental states can be distinct from reality. A concept closely linked to false-belief understanding is the *understanding of representational change*, which refers to the ability to report one’s own previous false beliefs (Gopnik & Astington, 1988). In the present research, based on our assumption that ToM abilities imply that one is able to hold different representations of the world in mind, we explored the possibility that ToM abilities are related to fantasy/reality and fantasy/fantasy distinctions. Although fantasy/reality distinctions can also be considered judgments about possible or impossible physical events (two characters can or cannot meet), we hypothesized that fantasy/reality distinctions also rely on children’s ability to form and perform operations on distinguishable mental (and physical) worlds. The similar developmental trajectories in these two domains can also be interpreted as indirect support for this hypothesis: Children’s ToM abilities improve dramatically between the ages of 3 and 5 years (e.g., see the meta-analysis by Wellman, Cross, & Watson, 2001). This time period is also characterized by striking development in the ability to distinguish fantasy from reality (Sharon & Woolley, 2004).

Research on individual differences and fantasy/reality distinctions has mainly focused on the relationship between fantasy orientation and ToM. For example, Taylor and Carlson (1997) found a significant positive relationship between fantasy experience (such as interacting with an imaginary friend) and ToM abilities. An important finding for the present study is the work of Corriveau and Harris (2015), whose approach was used to investigate the relationship between children’s developing ToM and their ability to distinguish between historical and fictional stories. The results showed that greater ToM abilities were indeed related to correct classifications of novel entities based on a given story. Understanding that some mental states represent reality while others do not is linked with understanding that certain stories represent reality while others do not (Corriveau & Harris, 2015). Here we investigate whether the former is also linked to understanding that certain visual depictions of real versus fictional figures (without context) represent reality while others do not, including the representation of distinguishable fictional worlds, thus extending the role of this *reality tracking function* (Corriveau & Harris, 2015) from

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