RESEARCH

Do You See What I See? 
Young Children’s Assumptions 
About God’s Perceptual Abilities

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The present study investigated predictions from the preparedness hypothesis that children’s God concepts may not be strictly anthropomorphic along certain dimensions. In particular, 39 American children (ages 3 to 7) predicted the visual, auditory, and olfactory perspectives of humans, animals with special senses, and God. Results revealed that preschoolers distinguished God and the special animals as having greater perceptual access than humans and normal animals, who were predicted to have limited perceptual access. These results offer further support for the theory that in developing a concept of God, even young children differentiate God from humans and resist incorporating certain aspects of the human concept into their concept of God.

Traditionally, the development of children’s understanding of God has been described as anthropomorphic. In other words, that the starting point for children’s concept of God is that of a parent or “superhuman” in the sky. In terms of cognitive development specifically, the Piagetian notion that the term God is equivalent to a “big person” for a young child echoes throughout historical literature on children’s
religious concepts (Paloutzian, 1996). This paper challenges this traditional cognitive explanation of the development of God concepts and proposes that even young children may not be limited to an anthropomorphic understanding of God. Instead, we offer support for a recent hypothesis that children may be cognitively “prepared” to differentially understand both humans and God (Barrett & Richert, 2003).

This preparedness hypothesis argues that children may be cognitively equipped from early on to develop concepts of God (and other nonhumans) independently from their concepts of people (Barrett & Richert, 2003). According to the preparedness hypothesis, the underlying conceptual structure used for representing God has two general properties. First, rather than simply being devoted to representing humans, this conceptual structure is a general intentional agent device, capable of representing any other intentional agent as well as representing humans. Second, and more important for understanding children’s concepts of God specifically, by default this conceptual structure assumes that many superhuman properties are the norm. The preparedness hypothesis suggests that children acquire concepts of God relatively easily because these concepts capitalize on default assumptions that children have about all intentional agents in general.

The preparedness hypothesis has arisen in contrast to anthropomorphism hypotheses, which emphasize a human analog as a starting point for God concepts. For example, under Piaget’s theory of cognitive development, children simply cannot develop an abstract concept of God until they pass out of the stage of concrete operations, sometime in early adolescence (Gorsuch, 1988; Piaget, 1929). He argued that children younger than age 7 endow their parents and other adults with the properties of omniscience and omnipotence. Until children outgrow this stage and begin to appreciate human fallibility, God is just another human. Thus, because humans are omnipotent and omniscient, God is both as well. After children understand that humans do not, in fact, possess God-like properties, God is left as the only member of the pantheon. Put simply, God is a residual of childhood naiveté supported by theological instruction.

Several later theoretical works have incorporated Piagetian thinking into the exploration of developing God concepts (e.g., Elkind, 1970; Goldman, 1964). In particular, Goldman (1964) distinguished between two types of anthropomorphism. One is anthropomorphism of a “crudely physical kind” (p.87) in which children think of God only in human terms, and as being limited in human ways. The other, more mature, anthropomorphism considers God to be both “superhuman” and “suprahuman,” and, thus, human analogies are made with the specific acknowledgment that they are only analogies. His claim is that children err in taking the analogy for fact, and then progress to maturity when they recognize it as merely an analogy. According to these theories, children first develop an understanding of human abilities, and fallibilities, and then adjust these to account for God’s exceptional abilities.
Recent research in the field of cognitive development, in which God concepts are directly compared to human concepts along the same dimensions, casts doubt on this strictly anthropomorphic characterization of God concepts. These studies suggest that children can represent certain of God’s characteristics, like immortality, creative power, and omniscience quite easily and quite differently from their human representations. For example, Harris (in press; Giminez, Guerrero, & Harris, 2003) found in interviews of 3- to 5-year-old children that the frequency of references to ordinary constraints on mortality and knowledge increased with age when children were talking about their friends. This occurred as children’s understanding of psychological and biological constraints on humans increased. In contrast, references to extraordinary violation of constraints only increased with age in reference to God, and not to friends. These findings suggest that, in terms of attributions of mortality, children may resist the tendency to anthropomorphize God.

Additional research suggests that young children distinguish between God and humans in terms of creative power. Petrovich (1997) has interviewed preschool children about the origins of plants, animals, the sky, the earth, and large rocks. Children were asked to choose from three possible creators: people, God, or nobody knows/unknown power. The preschoolers were about seven times more likely to attribute responsibility for the natural world to God, and not to people. Furthermore, Evans (2001) found that regardless of religious affiliation (fundamentalist Christian communities vs. nonfundamentalist communities) a large majority of 5- to 8-year-old children preferred creationist accounts for the origins of the natural world to either evolutionary, artificialist (created by humans), or emergentist accounts.

Other research has examined whether children are limited to anthropomorphic understanding of God by interviewing children in transition to understanding the representational nature of the human mind (Barrett, Newman, & Richert, 2003; Barrett, Richert, & Driesenga, 2001). Barrett et al. (2001) tested preschoolers’ predictions about what various entities would claim were the contents of a cracker box that actually contained rocks. Most younger children (3- and 4-year-olds) claimed that all characters would think there were rocks in the box, demonstrating young children’s difficulty with attributing false belief. On the other hand, most older children (5- and 6-year-olds) only attributed false belief to the other characters, but did not attribute false belief to God. What is interesting is that when children’s understanding of human false belief was in transition, their understanding of God’s belief remained stable and technically accurate.

Additional studies by Barrett and colleagues (2003) have tested whether children would distinguish what their mother, a dog, and God would know about a visual display. In three structurally similar experiments, 3- to 7-year-old children were presented with a visual display that could not be fully understood (e.g., a secret code made up of unfamiliar symbols). They were then provided with the relevant information for understanding the display (e.g., what the symbols stood for),
and asked to predict whether their mother, a dog, or God would understand the display. The results from these experiments mirrored those of children’s predictions of false beliefs. The majority of 3- and 4-year-old children reported that all agents would understand the displays, but the older children revised their responses for their mother and the dog. Thus, children’s responses that God would understand the display again remained stable.

Findings from these various bodies of work suggest that a strict anthropomorphism explanation of the development of God concepts is incomplete. Children’s original assumptions are about essentially nonhuman traits: immortality, creative power, omniscience. It is the fallibility of humans that must be learned and incorporated into the concept, not the infallibility of gods. There are still open questions regarding the preparedness hypothesis, however.

If the preparedness hypothesis is correct, it would predict that children should easily be able to incorporate the sense of infallibility into their concepts, even of nonreligious entities. In other words, making salient particular features of agents that otherwise have human-like attributes should influence children’s responses for these entities. The present study tests this by introducing children to agents with various features that should influence their perception in some way. In addition, the preparedness hypothesis would predict that children should remain resistant to anthropomorphizing God along these same dimensions, even in cases that might be expected to spur anthropomorphic responses. To test this, the present study asks children to reason about God’s perceptual abilities (i.e., hearing, smelling, and seeing), because these sensory questions might be expected to bring to mind the picture of a human-like God with ears, a nose, and eyes. In this case, and contrary to the preparedness hypothesis, children may be more likely to treat God like a human. So, in addition to testing whether children would resist anthropomorphizing other nonhuman agents, this study explores whether children will remain resistant to anthropomorphizing God’s perceptual abilities.

EXPERIMENT

Research on children’s understanding of perceptual abilities suggests that children’s understanding of their own and others’ perspectives is still somewhat fragile between ages 4 and 5, especially when the different perspective is a result of differing distance from the object, not differing in the angle of an object (Flavell, Flavell, & Green, 1983; Yaniv & Shatz, 1988). One example is found in Experiment 3 of Flavell et al. (1983), in which children were shown pieces of paper on which were drawn a face, a flower, and a cup. From a distance, these drawings looked like a circle, a doughnut, and a spot, respectively. Four-year-olds only performed somewhat (and not significantly) better than 3-year-olds on reporting what it actually looked like from a distance.
In another study, Yaniv and Shatz (1988) explored the development of perspective-taking in four senses: vision, audition, smell, and touch. They had 3- to 5-year-olds answer whether an Ernie doll could see or hear a pig and smell or feel a flower. The children were asked these questions in three different conditions: when Ernie was close to the objects, when the objects were hidden behind an occluder, and when Ernie was far from the objects but the occluder was removed. The intensities of the stimuli for the seeing and hearing questions were varied in this condition as well. Yaniv and Shatz (1988) found that children at all ages demonstrated some perspective-taking understanding in different sensory modalities. However, the older children only performed “relatively well” when asked to take into account the intensity of the stimulus in order to report another’s perspective, again suggesting a potential transition point by which to explore differential treatment of humans and nonhumans.

This experiment was modeled after the Flavell et al. (1983) distance condition and the Yaniv and Shatz (1988) intensity condition. First, because there was a difference in performance of the younger and older children in the distance and intensity conditions, this task provided a potential transition point in development by which to explore differential treatment of humans and nonhumans. Second, the inclusion of other senses allowed for greater variation in the properties of characters used in the study. To test children’s understanding of different agents’ perspectives, we introduced children to animals with “special senses” that provided the animals with different perspectives because of greater acuity. We then tested if children could take into account these varying abilities when considering perspectives.

METHOD

Participants

Forty-two children, ages 3 years 2 months to 7 years 11 months, were recruited from Protestant (Christian Reformed, Lutheran, and Presbyterian) Christian churches and preschools in Michigan. Three children reported that they did not know who God was, and were therefore excluded from further analysis. The remaining sample was 39 children (20 boys and 19 girls, $M = 4$ years 11 months, Range = 3 years 2 months to 7 years 10 months). Children were divided into three groups according to age: young ($n = 13, M = 3$ years 7 months, Range = 3 years 2 months to 4 years), intermediate ($n = 13, M = 4$ years 11 months, Range = 4 years 2 months to 5 years 6 months), and old ($n = 13, M = 6$ years 4 months, Range = 5 years 7 months to 7 years 10 months).

Materials

Five puppets were used in the study: an eagle, a fox, a dog, a monkey, and a girl named Maggie. For the visual task, the stimulus was an 8.5 × 11 standard white
piece of paper with a small yellow smiley face in the center that was 1 centimeter in
diameter. The auditory task involved a standard tape recorder/player and a tape of
various children’s songs. The olfactory task used a 35-mm film container with a
small slit cut in the lid and peanut butter inside.

Procedure
Inspired by the Yaniv and Shatz (1988) intensity condition and the Flavell et al.
(1983) distance condition, this task was altered to become a perspective-taking
task in which children reported the perspectives of agents located at various dis-
tances from a picture. Whereas traditional perspective-taking tasks involve an ob-
ject viewed from different angles, in this task, distance from the object was manip-
ulated. The manipulation of distance required children to appreciate that the
differences in agents’ distances from the target would lead to different perspectives
of the stimulus. Children were asked to report perspectives twice. The first time
was to verify that the children could see, smell, or hear nothing at the start. After
children were aware of the presence of the stimulus, they were then asked to con-
sider that one of the agents had special sight, smelling, and hearing to test whether
they could differentiate between the perspectives of different types of agents.

Because we tested children who had received at least a little religious training,
children were merely asked if they knew who God was. If they responded “No,”
children’s responses were not analyzed ($n = 3$). The experimenter conducted the
rest of the interview, excluding questions about God. All children participated in
three conditions (vision, audition, and olfaction). Due to experiment demands,
children first participated in the visual condition, and auditory and olfaction condi-
tions were counterbalanced across children. For two sets of questions in each con-
dition, all children first reported their own perspective and then predicted the per-
spective of a special agent (an eagle in the visual condition, a fox in the auditory
condition, or a dog in the olfactory condition), a monkey, Maggie, and God, in a
random order. Children were told nothing about God’s knowledge or sensory capa-
bilities, and no puppet was used to represent God. Most children were interviewed
in a quiet room of the church or school. A few children (from all age groups) were
interviewed in their homes due to absence at school the day the interviews were
conducted. All children participated individually.

The experimenter welcomed each child and introduced five friends: Maggie,
the monkey, the eagle, the dog, and the fox. When the child appeared comfortable,
the experimenter began the interview.

**Visual.** The child was asked to stand against a wall and look at a piece of pa-
per taped to the opposite wall in a room approximately 8 m across. From this initial
position, under normal lighting conditions, the paper appeared to have nothing on
it. In reality, a yellow smiley face had been drawn on the paper. Along with the
child, “standing” against the wall were the three puppets. God’s position was unspecified. Control questions were asked to verify that children could not see anything on the paper. The experimenter asked the child, “What do you (God, the monkey, the eagle, Maggie) see?” All children were asked to first report their own perspective and then each of the others in random order. The child was then asked to move to a piece of masking tape on the floor that was 30 cm from the wall. From this position, the child was close enough to see the smiley face on the paper. The puppets remained against the wall. The child was asked to report what they saw on the paper. The child was then asked to return to the original position against the wall. At this time the child was told that eagles have special eyes and can see things better than people can. The experimenter then asked the experimental questions, “What do you (God, the monkey, the eagle, Maggie) see?”

Audition. Each child was seated approximately 2 m from a tape recorder. The recorder was playing a song softly enough that the child could not hear it. The child was asked the control questions, “What do you (the fox, the monkey, Maggie, God) hear playing on the tape recorder?” The child was then asked to put his or her ear up to the tape recorder to hear the song. Once the child stated that a song could be heard playing, the child returned to the original location and was told that foxes have special ears and can hear better than humans can. Each child then was asked the experimental questions, “What do you (the other agents) hear playing on the tape recorder?”

Olfaction. Each child was seated next to the film container. The peanut butter could not be smelled unless the child’s nose was within a few centimeters of the slit in the lid. The child was asked the control questions, “What do you (the dog, the monkey, Maggie, God) smell in the container?” The child was then asked to put his or her nose up to the container to smell the peanut butter. The child then returned to the original location and was also told that dogs have special noses and can smell better than humans can. Once again each child was asked the experimental questions, “What do you (the other agents) smell in the container?”

RESULTS

A score of 1 was given if the child responded that the agent could perceive the stimulus and 0 if the child responded that the agent could not perceive the stimulus. Wilcoxon Signed-Rank analyses were conducted comparing children’s responses on the same characters across senses. No significant differences were found across senses, therefore, children’s responses for themselves and each type of agent were summed across senses for an overall score of the perspective each child attributed to themselves and that type of agent. Therefore, scores for each agent type ranged
from 0 to 3, with 0 indicating that the child always reported the agent could not perceive the stimulus and 3 indicating that the child always responded that the agent could perceive the stimulus. Figure 1 demonstrates the mean responses for each agent by age group.

First testing against possible chance responding, for the young group, children’s responses for themselves, Maggie, and the monkey were not significantly different from a chance mean of 1.5. However, responses for the special agents ($t[12] = 3.88, p < .01$) and God ($t[12] = 2.21, p < .05$) were both significantly above chance. For the intermediate group, children were again no different from chance for themselves, Maggie, and the monkey, but were above chance for the special agents ($t[12] = 6.82, p < .001$) and God ($t[12] = 2.82, p < .05$). For the old group, children responded significantly below chance for themselves ($t[12] = –3.25, p < .01$), Maggie ($t[12] = -3.07, p = .01$), and the monkey ($t[12] = –2.84, p < .05$). They responded significantly above chance for the special agent ($t[12] = 12.93, p < .001$) and God ($t[12] = 4.62, p = .001$).

Analyzing children’s responses for themselves indicated that children had a difficult time reporting that they could not perceive something that really was present. Mean response for the young and intermediate groups were 1.62, and the mean response for the old group was .92. Even though the old group did better than the intermediate and young groups, it did not do significantly better. Implications for this finding are discussed later.

Analysis of Variance tests comparing the responses of children in the varying age groups on the different agents revealed interesting age trends. Since meta-analysis has revealed that children’s responses for a puppet are comparable to their re-

![Figure 1](image_url)
responses for a human (Wellman, Cross, & Watson, 2001), children’s responses for the girl puppet, Maggie, were used as an indication of their ability to take the perspective of a human. Children’s responses for Maggie were significantly different by group \((F[2,38] = 4.04, p < .05)\). Least Significant Difference (LSD) planned contrasts revealed that both the young and intermediate groups were significantly different from the old group, \(p < .05\) in both cases. However, the young and intermediate groups were not significantly different from each other. Children’s pattern of responding for the monkey, the other “normal” agent, was similar to the pattern of responses for Maggie. The differences between groups was significant overall \((F[2,38] = 4.65, p < .05)\), and both the young and intermediate groups were significantly different from the old group, \(p < .05\), but not each other.

Children’s responses for the special agent and God demonstrated a different pattern of responding. There was no overall effect for differences by group for either character. The only significant contrast was the difference between the young group and the old group for the special agent, \(p < .05\). Figure 1 illustrates the differing developmental patterns for the age groups.

By collapsing across the age groups, we can treat children’s actual age as a continuous variable. Simple regressions predicting responses for each of the agents from the age of each child revealed that age was a significant predictor of responses for self \((\beta = -.39, p < .05)\), Maggie \((\beta = -.50, p < .01)\), and the monkey \((\beta = -.59, p = .001)\). In contrast, children’s ages did not significantly predict responses for the special agent and God. This indicates that responses for God and the special agent remained stable across ages, but responses for the self, Maggie, and the monkey changed with age.

**DISCUSSION**

The main goal of this study was to build on previous research examining the development of concepts of God (e.g., Barrett et al., 2001) by studying children’s perspective-taking abilities across various sense modalities. Because testing for perspective-taking understanding in various sense modalities appeared to be a valid test of its general development in children (Yaniv & Shatz, 1988), we tested for the development of various human and nonhuman concepts by including characters with special senses. Even, the young and intermediate children demonstrated an early distinction between characters. They reported above chance that God and the special animals would perceive the stimuli, but were only at chance in responding about the normal characters. This chance responding indicates that they were likely in transition to understanding the limitations of their own perceptual abilities and the role perceptual abilities play in others’ perspectives. The old children clearly made distinctions about which agents could perceive the stimulus based on their knowledge of that agent’s perceptual abilities. They reported significantly be-
low chance that the ordinary characters could not perceive the stimulus, and significantly above chance that the animals with special perceptual abilities, as well as God, could perceive the stimulus.

These findings are in contrast to what would have been predicted by a strict anthropomorphism explanation of God concepts. Traditional theories claim that concepts of nonhuman agency are simply modified forms of human agency (e.g., Guthrie, 1993). If the traditional anthropomorphism account is correct, when children understand that humans have limited perspectives, they will also attribute limited perspectives to God and other nonhumans. In other words, a 3-year-old’s apparently accurate representation of God will begin to disintegrate as he or she acquires a “theory of mind” (Barrett et al., 2001). In contrast to this prediction, when children first began to appreciate that other humans may have different perspectives on reality, they did not overattribute fallible human perspectives to God or the animals with special senses. Thus, although children were in the process of refining their understanding of human minds, they resisted treating God like humans. Children distinguished between different types of characters in our tasks indicating that anthropomorphic accounts of the development of God concepts might not accurately represent the actual developmental process, at least not across all divine properties.

The results offer further support for the preparedness hypothesis of children’s development of a God concept—that children begin with a general concept of agency—which assumes basic infallibility for agents (Barrett & Richert, 2003). To a 3-year-old, minds perceive what there is to perceive. Therefore, their assumptions about agents who can perceive and know all are correct, while their assumptions for agents with limited perception and knowledge are incorrect. Children’s attributions appear egocentric because in the absence of other salient information, children’s (as well as adults’) best guess of another’s perception is what they themselves perceive. The results here suggest, however, that children’s attributions are not strictly egocentric. Even though the young and intermediate children were unsure about their own and others’ perceptions, most were more certain about God’s and the special agents’ perceptions.

Furthermore, children easily incorporated into their animal concepts the perceptual implications of the animals having special eyes, ears, and noses. That this came easily for children and that responses remained stable across age groups offers support for the suggestion that it is not the special features of these concepts that require adjusting. Rather, the difficulty for children came in accounting for the limited perspectives of the human and nonspecial monkey puppets. Second, children resisted treating God like a human, even when asked about human-like traits (i.e., seeing, smelling, hearing). Questions about what God sees, hears, and smells may have been expected to prompt anthropomorphic responses, given that they depict God doing things that natural agents do (as opposed to supernatural agents). That children resisted anthropomorphizing, even along these traits, indicates that it
is quite easy for young children to represent God as different from humans along these dimensions.

An egocentric view of the attribution of human agency to nonhuman agents might predict similar findings claiming that young children attribute human capacities to other agents and base their initial attribution on their own poor perspective-taking abilities. The argument would proceed that older children, on the other hand, understand the limitations of their own abilities and therefore apply their previous understanding of their own “super” perspective-taking ability to agents with “super abilities.” This would not explain, however, why the younger children answered significantly above chance for the special agent and God, but at chance for themselves and the other agents.

The fact that some children in each group indicated that they themselves could perceive the stimulus for the experimental question poses a challenge to this explanation. The (unlikely) possibility exists that the children actually could perceive the stimuli. Perhaps, once again, children were responding egocentrically. Children were not at ceiling, however, which indicated that they were probably in transition to understanding that even their own perceptions are limited. One way to check the egocentric hypothesis is to do within group comparisons on children’s responses for agents. For younger children, responses for God, the monkey, and Maggie were not significantly different from responses for themselves. In contrast, young children did attribute better perception to the eagle, fox, and dog ($t[12] = 2.91, p < .05$), who had special perceptual abilities. Perhaps in this case some children assumed God’s perception was similar to their own as a best guess, since God’s perceptual abilities were not made salient. These abilities may be less salient in their general concept of God and therefore must be inferred from other information children have about God’s agency. However, young children were easily able to assimilate the information that the eagle, fox, and dog had better sight, hearing, and smelling. Recent theory suggests that it is important to consider the role that adult testimony plays in children’s concept development (Harris, in press).

Recall, however, that the young children were still above chance in responding about God’s perception. The intermediate and old children demonstrated this ability to infer God’s perceptual abilities from their other knowledge about God. Thus, it appears that children don’t necessarily conceptualize God as a series of mantras (e.g., God sees all, God hears all, God smells all); however, it is not clear that they treat God as a wholly superlative being either. Young children are not treating God at ceiling levels. It is therefore an open question for further exploration exactly what elements are present in children’s concept of God.

Relatedly, we acknowledge that the findings from this study address in some sense a quite narrow aspect of children’s concept of God. The findings are not intended to generalize to whether or how children anthropomorphize in developing an actual relationship with God, which some evidence suggests is strongly tied to parent–child relationships (Dickie, Eshleman, Merasco, & Shepard, 1997;
Eshleman, Dickie, Merasco, Shepard, & Johnson, 1999). In addition, there are likely features that are quite difficult for children to incorporate into their concept of God, like nontemporality or omnipresence (Barrett & Richert, 2003). One final qualification is that we recognize that the generalizability of these findings is limited because of our rather homogeneous sample. Recruiting children from churches insured that the large majority would have heard of God at some point. On the other hand, however, this excluded all children who have never heard of God and may have a different concept of God’s agency. Lastly our sample was limited to middle class American children.

Despite these limitations, the results of this study and the previous research reviewed in the introduction challenge the traditional theories on the development of nonhuman agency concepts. These traditional theories themselves were formulated based on research with adults in middle-class, Caucasian populations (see Boyer & Walker, 2000). Therefore, evidence of alternative explanations for such broadly accepted theories from children in the very population upon which the theories were established indicates the need for increased research in this area (Richert, 2001). Consequently, the homogeneity of the sample population offers a starting point for future research in this area that should proceed in the direction of cross-cultural comparisons.

As our knowledge of the normal development of children’s understanding of human cognition becomes robust, the gap in research on children’s God concepts is more obvious. By studying the transition points of change in children’s understanding of humans, we can compare the change in their treatment of God as well. Future research in this area should focus on more explicit analysis of if, and how, even younger children understand God as being different from humans. Comparing responses of children at age 2 or 2½ years will reveal a clearer starting point for children’s understanding. Future studies should also explore the understanding of God in different cultures and religions, as well as how different cultures may teach children differently about God. By studying the changes in the understanding of God and how God is treated across different cultures and religions, we may more clearly understand the process by which children arrive at an understanding of God.

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REFERENCES


