Children's evaluation of verified and unverified claims

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ABSTRACT

Critical to children's learning is the ability to judiciously select what information to accept—to use as the basis for learning and inference—and what information to reject. This becomes especially difficult in a world increasingly inundated with information, where children must carefully reason about the process by which claims are made in order to acquire accurate knowledge. In two experiments, we investigated whether 3- to 7-year-old children (N = 120) understand that factual claims based on verified evidence are more acceptable than claims that have not been sufficiently verified. We found that even at preschool age, children evaluated verified claims as more acceptable than insufficiently verified claims, and that the extent to which they did so was related to their explicit understanding, as evident in their explanations of why those claims were more or less acceptable. These experiments lay the groundwork for an important line of research studying the roots and development of this foundational critical thinking skill.

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Introduction

Much of children's learning about the world relies on what others tell them (Gelman, 2009; Harris & Koenig, 2006; Harris, 2012; Harris, Koenig, Corriveau, & Jaswal, 2018; Koenig, Clément, & Harris,

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2004). However, learning from testimony presents an epistemological challenge in that it relies almost entirely on our trust in the individual we hope to learn from—whether parents, teachers, mentors, or peers. To learn effectively from the testimony of others, children must first learn to balance trust with vigilance and to reject testimony that is false or based on insufficient evidence (Sperber et al., 2010).

Contemporary research in developmental psychology has shown that very young children are indeed epistemically vigilant. They use both social and epistemic cues—such as whether informants share an accent or group membership with them (Corriveau, Kinzler, & Harris, 2013), whether informants have a past history of accuracy (Clément, Koenig, & Harris, 2004), and whether informants seem to have access to evidence supporting their claims (Brosseau-Liard & Birch, 2011; Nurmsoo & Robinson, 2009)—in order to selectively choose which informants are most likely to be reliable in providing information.

Furthermore, there is a growing body of work supporting the idea that children have a developing capacity to identify and judge an informant's ignorance, incompetence, and/or inaccuracy (Mills, 2013) and may use this mental state reasoning to characterize individuals' relative trustworthiness (Koenig & Harris, 2005). Young children also discriminate between cases in which informants show a pattern of accuracy and cases in which they can truly be deemed knowledgeable (Einav & Robinson, 2011). Indeed, children are fairly adept at using both person-specific cues (e.g., history of prior accuracy) and situation-specific cues (e.g., current visual access) to judge who is likely to provide reliable information. They show some ability to flexibly use these different types of cues when judging different types of testimony based on the specific type of claim being made (Brosseau-Liard & Birch, 2011; Koenig et al., 2015). Furthermore, children recognize who has access to relevant information (Pillow, 1989) and use that to guide who to use as a source for information (Robinson, Butterfill, & Nurmsoo, 2011). Finally, they will excuse informants for inaccuracy in cases where they are unable to corroborate informants' claims (Koenig, 2012; Nurmsoo & Robinson, 2009).

Thus, children appear to be quite sophisticated in their selective judgments of who to trust. However, making judgments about who is a trustworthy informant is a necessary but not fully sufficient component of epistemic reasoning. Trait-like factors such as informants' prior accuracy or reliability should give us a high prior expectation that their claims are likely to be true. But this assumption of trustworthiness must have its limits. In many cases, even experts make claims about things they may know little about. Therefore, it remains important to evaluate the process by which they make those claims—even given a prior history of accuracy or inaccuracy. Children ought to be able to overlook prior trustworthiness as they reason about specific claims that are clearly verifiable.

As an illustrative example, a doctor may be highly educated and can generally be relied on to provide accurate information about biological processes and medical issues. However, in a situation where some evidence is not available to the doctor, say the contents of an unlabeled medicine bottle, the doctor's expertise and prior accuracy no longer have any relevance to the reliability of a claim she or he may make about the bottle's contents. The doctor must first *verify* the contents of the bottle before she or he can make a valid claim about them. If the doctor claims knowledge without sufficient verification, we should reject that claim even though it is being made by an expert. Even within the doctor's area of expertise, such education and training are not sufficient to support claims she or he cannot make without additional evidence. The doctor cannot diagnose cancer without a biopsy, HIV without a blood test, or hearing problems without a hearing screen. Although the accumulated knowledge of medical training is important, likely the most critical skill a medical expert learns is what evidence the expert needs to make a diagnosis and how that evidence ought to be gathered.

The current research addressed this specific question of how young children develop the ability to evaluate and reason about others' claims. To gain initial purchase on this issue, the current research investigated at what age children comprehend that factual claims need to be verified in advance and how this affects their evaluation and acceptance of novel claims. Specifically, we asked whether and when young children can evaluate claims on the basis of whether the individual making a claim has first verified it by generating sufficient and necessary evidence. We also traced the developmental trajectory of this important skill by investigating children at an age when, although they have likely had some experiences in formal education, they are unlikely to have had any formal training in this kind of reasoning. Children were introduced to a digital storybook in which characters encounter unusual containers and make factual claims about their contents. Crucially, the characters in the