

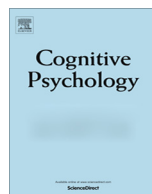


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Contents lists available at ScienceDirect

Cognitive Psychology

journal homepage: www.elsevier.com/locate/cogpsych



Reasoning about knowledge: Children's evaluations of generality and verifiability

Melissa A. Koenig^{a,*}, Caitlin A. Cole^a, Meredith Meyer^b, Katherine E. Ridge^a, Tamar Kushnir^c, Susan A. Gelman^d

^aUniversity of Minnesota, United States

^bOtterbein University, United States

^cCornell University, United States

^dUniversity of Michigan, United States

ARTICLE INFO

Article history:

Accepted 31 August 2015

Available online 8 October 2015

Keywords:

Cognitive development

Testimonial learning

Metacognition

ABSTRACT

In a series of experiments, we examined 3- to 8-year-old children's ($N = 223$) and adults' ($N = 32$) use of two properties of testimony to estimate a speaker's knowledge: generality and verifiability. Participants were presented with a "Generic speaker" who made a series of 4 general claims about "pangolins" (a novel animal kind), and a "Specific speaker" who made a series of 4 specific claims about "this pangolin" as an individual. To investigate the role of verifiability, we systematically varied whether the claim referred to a perceptually-obvious feature visible in a picture (e.g., "has a pointy nose") or a non-evident feature that was not visible (e.g., "sleeps in a hollow tree"). Three main findings emerged: (1) young children showed a pronounced reliance on verifiability that decreased with age. Three-year-old children were especially prone to credit knowledge to speakers who made verifiable claims, whereas 7- to 8-year-olds and adults credited knowledge to generic speakers regardless of whether the claims were verifiable; (2) children's attributions of knowledge to generic speakers was not detectable until age 5, and only when those claims were also verifiable; (3) children often generalized speakers' knowledge outside of the pangolin domain, indicating a belief that a person's knowledge about pangolins likely extends to new facts. Findings indicate that young children may be inclined to doubt speakers who make claims they cannot verify themselves, as well as a

* Corresponding author at: 51 East River Rd., Minneapolis, MN 55455, United States.

E-mail address: mkoenig@umn.edu (M.A. Koenig).

developmentally increasing appreciation for speakers who make general claims.

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1. Introduction

In learning about the world, we acquire much knowledge from what others tell us (Gelman, 2009; Harris & Koenig, 2006). Our dependence on testimony is massive and far-reaching and without it, our knowledge would extend no further than what can be gained from our personal experiences. Our adult knowledge of how babies are born, how the blood circulates, or the geography of North America are not acquired by direct experience or observation (Coady, 1992; Sosa, 1994). Likewise, children's acceptance of claims concerning unobservable facts (e.g., mental states, biology of the body, round shape of the earth) and supernatural entities (e.g., omnipotence of God, efficacy of prayer) demonstrates that children's trust regularly extends to people's claims regarding hidden or non-evident properties of the world (Bering, 2006; Harris & Koenig, 2006). In this way, testimony can offer a quintessential benefit by extending the reach of our senses, giving us "vicarious" access to information from those in a better position to know (p. 50, Quine & Ullian, 1970). But, how do we determine who is in a better position to know?

This question puts into focus the epistemological problem that presents itself when we recognize that the basis or grounds for beliefs in the biology of the body or the efficacy of prayer lie only in a speaker's word. Given that testimony can be only as reliable as the beliefs that speakers report on, hearers face an epistemological vulnerability and a resulting need for reasons that substantiate or support the trust that is placed in what they're told (Faulkner, 2007; Koenig, 2012; Lackey, 2008). Importantly for our purposes, even when the basic competence of a speaker can be assumed, and her intentions are known to be good, this epistemic vulnerability remains given our reliance on other people's beliefs. Thus, in core cases, when a speaker's intention is to inform, the testimony takes the form of a single utterance, and the hearer has no privileged knowledge about the speaker, how do hearers ascribe knowledge or authority to a speaker?

In this paper, we examine children's and adults' knowledge attributions by focusing on two basic properties of testimony: generality and verifiability. Any given statement can be more or less general (as in, "Cars need gas" vs. "My Toyota needs gas"), and more or less verifiable. For example, the claim that "Mary has red hair" is easy to verify by looking at Mary; the claim that "Life continues after death" is impossible to verify given the nature of death, and statements like "Large animals have axial skeletons" lie somewhere in between in that they are in principle verifiable even if the relevant information is not immediately available. Importantly for our purposes, both generality and verifiability can be used to provide insight into the knowledge of speakers. For example, a speaker who makes a more general claim about a novel animal kind, such as "Pangolins eat insects," is claiming to know more than a speaker who presents the same content with a more specific claim, "This pangolin eats insects". Likewise, a speaker who makes a verifiable claim that can be either partly or wholly confirmed by one's own prior or current perceptual experience can be deemed knowledgeable by having made a claim that can be directly assessed as true. For example, given a picture that depicts a pangolin, a speaker who comments on a visible property makes a claim that can be verified by simply looking at the picture. This leads to our primary empirical questions: When presented with a speaker who makes general claims, do children credit her as more knowledgeable than someone who makes more specific claims? And when a speaker makes verifiable claims that can be immediately checked against direct experience, do children credit her as knowledgeable?

1.1. Generality

One particularly powerful means by which testimony allows us to make general statements is generic language – that is, language that refers to kinds of things (e.g., "Dogs are four-legged"). In fact,

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