Cognitive Psychology 61 (2010) 248–272

Contents lists available at ScienceDirect

Cognitive Psychology

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

Believing what you're told: Young children's trust in unexpected testimony about the physical world

Vikram K. Jaswal *

Department of Psychology, 102 Gilmer Hall, P.O. Box 400400, University of Virginia, Charlottesville, VA 22904-4400, United States

ARTICLE INFO

Article history:
Accepted 3 June 2010
Available online 22 July 2010

Keywords:
Testimony
Credulity
Skepticism
Toddlers
Naïve physics

ABSTRACT

How do children resolve conflicts between a self-generated belief and what they are told? Four studies investigated the circumstances under which toddlers would trust testimony that conflicted with their expectations about the physical world. Thirty-month-olds believed testimony that conflicted with a naive bias (Study 1), and they also repeatedly trusted testimony that conflicted with an event they had just seen (Study 2)—even when they had an incentive to ignore the testimony (Study 3). Children responded more skeptically if they could see that the testimony was wrong as it was being delivered (Study 3), or if they had the opportunity to accumulate evidence confirming their initial belief before hearing someone contradict it (Study 4). Together, these studies demonstrate that toddlers have a robust bias to trust even surprising testimony, but this trust can be influenced by how much confidence they have in their initial belief.

1. Introduction

Children routinely face conflicts between what they are told and what they already believe. For example, in their everyday lives, the earth looks flat, and yet they will hear it described as round. Eels look like snakes, but they may hear them referred to as "fish." They might remember having left their shoes outside, but hear a parent explain that they are in the closet. How do they reconcile a belief they have acquired or generated themselves with a conflicting piece of information offered by another person?

One possibility is that they will cling to their own beliefs until they have obtained first-hand evidence to support whatever surprising claim they have heard. The primary advantage of this strategy is

* Fax: +1 434 982 4766.
E-mail address: jaswal@virginia.edu

0010-0285/$ - see front matter © 2010 Elsevier Inc. All rights reserved.
doi:10.1016/j.cogpsych.2010.06.002

that it would prevent them from being misled by a poorly informed or intentionally deceptive speaker. But it would also severely limit the amount of knowledge they could acquire. It is highly unlikely, for example, that they would ever be in a position to detect the curvature of the earth for themselves. A second possibility is that children will simply give up beliefs that conflict with what someone tells them. Blind deference would allow them to quickly and efficiently acquire knowledge that would be difficult to obtain on their own (e.g., Coady, 1992; Harris, 2002a, 2002b; Harris, 2007). But it would also leave them epistemically vulnerable. For a variety of reasons, including error, ignorance, and deception, people sometimes say things that are wrong (e.g., Fricker, 2006; Perner, 1988).

A third possibility is that children are, by default, inclined to trust what they are told (e.g., Dawkins, 1995; Reid, 1764/1997), but that they can over-ride this default bias under certain circumstances. Some research suggests that adults operate with such a "truth bias:" In the very act of comprehending a statement, they seem to accept it as true (Gilbert, 1991; Gilbert, Krull, & Malone, 1990; Gilbert, Tafarodi, & Malone, 1993; Grice, 1975). Of course, adults can go back to "unaccept" a proposition, but this requires cognitive effort. For example, Gilbert et al. (1990) showed that when adults' cognitive resources were taxed, they were more likely to misremember as true something they had earlier learned was false, than to misremember as false something they had earlier learned was true. In other words, when they had only limited cognitive resources available, they had difficulty "unaccepting" what they were told.

When children are faced with testimony that conflicts with their expectations, at least three factors seem to influence how readily they can over-ride the normally reasonable expectation that what they have been told is true (for an analogous list for adults, see Jaccard, 1981). One is how confident they are in the source of the testimony. For example, preschoolers are more likely to trust unexpected testimony from an informant who speaks authoritatively than one who speaks hesitantly (Jaswal & Malone, 2007; see also Sabbagh & Baldwin, 2001), and from an informant who seems to have some privileged knowledge about the matter being testified to than one who does not (Jaswal, 2006; Robinson, Champion, & Mitchell, 1999). A second factor is just how unexpected the testimony is. For example, although children are willing to accept that a dog-like animal is a "cat" (Jaswal, 2004), even toddlers may object if a speaker refers to a typical exemplar of a car as a "ball" (Pea, 1982; see also Koenig & Echols, 2003). In both cases, the objects and labels are highly familiar, so the most likely explanation for the difference is that dogs and cats are similar enough that it is possible that an animal that looks like a dog could actually be a cat (see Quinn, Eimas, & Rosencrantz, 1993). Cars and balls are much less similar in appearance (and are dissimilar in function), making it highly unlikely that a something that looked like a car could actually be a ball.

A third factor that may influence children's response to unexpected testimony—and the focus of the studies here—is how much confidence they have in their initial belief. This factor has received relatively little attention experimentally, but there is some evidence to suggest that the more confidence children have in a belief, the less persuasive they find testimony that conflicts with that belief. For example, in Tamis-LeMonda et al. (2008), the mothers of 18-month-olds offered unsolicited advice to their children about whether they should attempt to walk down ramps of varying slopes. On ramps that their child had earlier walked down without falling, they would discourage him or her from attempting it ("No!" "Stay there!"); on ramps their child had earlier always fallen on, they would encourage him or her ("Come here!"); and on ramps they had sometimes walked down and sometimes fallen on, they would either discourage or encourage the child. Infants tended to ignore their mothers' advice on slopes they had earlier walked down without falling, as well as those they had always fallen on, presumably because they were confident in what the outcome would be in those cases. But they heeded her advice on the borderline slopes—the ones about which they were uncertain.

Children's initial confidence in a belief may depend, in part, on the extent to which knowledge in that domain can be acquired autonomously, without input from other people. Knowledge in some domains seems more dependent on testimony than knowledge in others. For example, knowledge that is a matter of convention, such as a vocabulary, can only be acquired from other people. Even very young children seem to be aware of this epistemological constraint on conventional knowledge. They abandon words they coin themselves (e.g., "plant-man" for "gardener") once they hear the conventional terms (Clark, 1991), suggesting that at least implicitly, they have very little confidence in the accuracy of self-generated vocabulary terms.