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Brief article

Varieties of testimony: Children's selective learning in semantic versus episodic domains

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ABSTRACT

Although preschoolers appear sensitive to the risk of misinformation and demonstrate selective learning in certain experimental contexts (e.g., Koenig, Clément, & Harris, 2004), other paradigms emphasize their striking credulity (e.g., Jaswal, Croft, Setia, & Cole, 2010). The current study sought to explain these divergent patterns by examining the possibility that errors for semantic information, a type of information that is typically generalizable and difficult to verify independently, promote greater vigilance than errors for episodic information, which is often event-specific and independently verifiable. Three- and 4-year-olds first viewed 2 speakers testify correctly or incorrectly about object labels (Semantic condition) or locations (Episodic condition). At test, speakers presented conflicting novel object labels and locations. Preschoolers initially exposed to semantic inaccuracy more vigilantly preferred a previously accurate informant than did children initially exposed to episodic inaccuracy. Findings speak against a homogeneous treatment of testimony and suggest that preschoolers' testimonial vigilance varies according to the content of speakers' errors.

1. Introduction

Humans rely on the verbal testimony of trusted others to learn about the world, and mounting evidence suggests that even young children demonstrate an early and robust sensitivity to problematic speakers. Infants look longer at speakers who mislabel familiar objects they point or gaze at (Gliga & Csibra, 2009; Koenig & Echols, 2003), 24-month-olds block long-term learning from previously inaccurate labelers (Koenig & Woodward, 2010) and older preschoolers avoid learning from those who make even a small number of semantic or 'naming' errors (Corriveau, Meints & Harris, 2009; Jaswal & Neely, 2006; Koenig & Woodward, 2010; Koenig, Clément, & Harris, 2004; Koenig & Jaswal, 2011; Pasquini, Corriveau, Koenig, & Harris, 2007). On the view that competence or knowledge of a speaker is inferred rather than assumed (Koenig & Stephens, 2014; Shafto, Eaves, Navarro, & Perfors, 2012; Sobel & Kushnir, 2013), we hypothesized that children would make different inferences about speakers' unreliability depending on the content of their errors. We investigated the possibility that children treat language errors as particularly severe or significant, leading to broad generalizations about the incompetence of an informant.

The first motivation behind this hypothesis derives from a conflict apparent in the literature. In contrast to children's responsiveness to errors involving semantic or conventional information, they demonstrate strikingly credulity after exposure to speakers who prove inaccurate for other types of information. For example, speakers' overt errors regarding the contents of a box (Mascaro & Sperber,

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2009), a sticker's location (Vanderbilt, Liu, & Heyman, 2011), or an object's location (Jaswal, 2010; Jaswal, Croft, Setia, & Cole, 2010) did not alter children's readiness to learn and accept subsequent claims from such speakers, leading Jaswal et al. (2010) to suggest that preschoolers have a specific bias to *trust* testimony.

The second motivation behind our hypothesis stems from a priori or intuitive reasons to distinguish semantic from episodic errors. Recent conceptions of testimony caution against overly general characterizations of selective learning, stressing that different kinds of communicative acts serve as unique sources of information about speakers and their relation to the world (e.g., Koenig & Stephens, 2014; Lackey, 2008; McMyler, 2007; Mills, 2013). Episodic statements differ intuitively from semantic ones in that they tend to refer to information that is self-evident, idiosyncratic, constrained to specific transient events, and verifiable through first-hand observation (see Coady, 1992; McMyler, 2007), whereas conventional or semantic statements refer to information that is often generalizable, culturally-shared, prescriptive, and transmittable solely through testimony (see Coady, 1992; Diesendruck & Markson, 2011; Koenig & Stephens, 2014). Because language ceases to be informative when people fail to make accurate semantic claims, we expect that speakers who violate conventional meaning signal a kind of deviation that is deeply problematic for interpreting their future testimony. Given these considerations, the current study sought to investigate the hypothesis that preschoolers would treat semantic errors as more significant or informative to their later learning decisions than episodic errors by directly comparing their selective learning decisions after exposure to errors in these two domains.

Our experimental approach was simple: we first exposed 3- and 4-year-olds (given that the conflicting literature centers around this age group) to 2 speakers who were consistently accurate or inaccurate regarding object labels (Semantic condition) or regarding object locations (Episodic condition). In the Semantic condition, we chose to present contrasting object labels given that such information (1) is generalizable, culturally-shared, prescriptive, and transmittable solely through testimony and (2) features prominently in research reporting selective learning. In the Episodic condition, children were presented with contrasting object locations given that such information (1) is self-evident, idiosyncratic, transient and verifiable through first-hand observation and (2) features prominently in research reporting credulity in the face of error. Across both conditions, we measured children's responses to error in three ways: First, we examined whether preschoolers would be more likely to monitor speakers' histories of accuracy for semantic relative to episodic information. Second, we explored whether preschoolers would be more avoidant of speakers who erred for semantic as opposed to episodic information. Finally, we assessed whether young children would be more likely to generalize their mistrust of a previously inaccurate speaker who committed semantic violations when subsequently learning unrelated episodic information.

2. Method

2.1. Participants

Participants were 48 preschoolers, 24 3-year-olds (mean age 3 years 7 months, range 3;1–3;11, 12 female) and 24 4-year-olds (mean age 4 years 5 months, range 4;0–4;11, 9 female). All were randomly selected from a database of children in a large midwestern city. They were predominantly Caucasian and from families of middle to high socioeconomic status, though a range of ethnicities and socioeconomic statuses were represented.

2.2. Procedure

All children received either *Episodic* or *Semantic* Familiarization trials, depending on condition, followed by Explicit Judgment questions and *Episodic* and *Semantic* test trials.

2.2.1. Familiarization

A video featured 2 female informants and 1 female interviewer. The experimenter introduced the task by saying, "You're going to see 2 of my friends tell you where to find some stickers" (in the Episodic condition) or, "show you some things and tell you what they're called" (in the Semantic condition). In each of the following 4 trials, children watched the interviewer ask an informant, "Can you tell me where the sticker is?" or, "Can you tell me what this is called?" The informant then directed her gaze toward one of the bowls or, alternatively, to the single object and replied, for example, "It's in the blue bowl!" or, "That's a shoe!" The interviewer then repeated her question to the other informant, who provided a conflicting response. The sticker was revealed by the informant who had accurately indicated its location. The position of the bowl containing the sticker, either contralateral or ipsilateral to the accurate informant, varied. The accurate informant was always accurate and the inaccurate informant was always inaccurate. The identity of the accurate informant was counterbalanced. See Table 1 for a complete description of the Episodic and Semantic conditions.

2.2.2. Explicit Judgment questions

In both conditions, immediately after the familiarization trials, the experimenter requested that children indicate whether each speaker was *very good* or *not very good*, and which speaker was *better*.

2.2.3. Test

To assess the scope of children's generalizations, all children received 1 block of 3 *Episodic* test trials and 1 block of 3 *Semantic* test trials in counterbalanced order. On each test trial, participants saw two colored bags on the table or a single novel object. After the child indicated that they did not know where the sticker was or, alternatively, the name of the novel object, the experimenter administered an *Ask* question, requesting that children identify which speaker they would like to ask for help. Next, children observed the interviewer ask each informant in turn, "Can you tell