

Comments on Tamar Kushnir & Melissa Koenig, “Children's testimonial learning: Is ignorance an epistemic sin?”

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Kushnir and Koenig's studies are fascinating, and exemplify how much epistemologists and philosophers of mind (like me) stand to learn from emerging research on the incredible nuance and sophistication of very young minds. When it comes to responses to testimony, we definitely need to abandon the still “common notion... that children are credulous sponges who unreflectively assent to whatever they are told” (Koenig and Woodward 2010). Yet it seems that we have just scratched the surface of the underlying mechanisms and trajectories of social-cognitive development. I am going to invite the speakers to say more about a bunch of different issues (there surely won't be time to address them all, but I can't help but ask!).

Prior research on ignorance. Other studies, including some of the authors' own (e.g., Koenig and Harris 2005), have found that young children *do* treat ignorance as an epistemic sin. Here are a few possible ways (which are not mutually exclusive) of squaring the existing data with Kushnir and Koenig's findings. One explanation might be that in prior studies, the children were younger: mostly 2- and 3-year-olds, whereas these subjects were 4. Maybe children more fully appreciate that ignorance can sometimes be OK during their fourth year. A second explanation might be that children rank ignorance over inaccuracy, but also rank accurate knowledge over ignorance. In the current findings, children predicted that previously ignorant speakers were less likely than knowledgeable speakers to know the names of other familiar objects. So they are clearly differentiating knowledgeable from ignorant speakers in certain domains. A third explanation might be that there are specific contexts where ignorance is treated as an epistemic sin and contexts where it's not. For example, Krogh-Jespersen and Echols (2012) found that when 2-year-olds already know *one* label for an object, they are more likely to

accept testimony that the object has a *second* label when the speaker was previously accurate than when the speaker was previously ignorant. However, when the object is novel, and the children don't already know a label for it, they adopt the label regardless whether the speaker was accurate or ignorant. This pattern of findings seems broadly consistent with Kushnir and Koenig's, such that children make the domain-specific prediction that speakers who are ignorant of the names of *some* familiar objects will also be ignorant of the names of *other* familiar objects, but children are still willing to learn from these speakers when it comes to novel objects. (However, in Krogh-Jespersen and Echols, 2-year-olds did not seem to differentiate between ignorant and inaccurate speakers regarding novel objects, as they did in the current findings. If anything, the children seemed to be marginally less trusting of ignorant than inaccurate speakers.¹)

Reductionism vs. anti-reductionism. Kushnir and Koenig frame their research as congenial to both reductionist and anti-reductionist approaches to testimony. The reductionism debate regards whether the justification for believing testimony can be reduced to other beliefs (e.g., past experience about when adults tend to make true statements) or whether the justification for testimony is basic, and can't be reduced to other beliefs. Without necessarily weighing in on this normative debate, I wonder if Kushnir and Koenig might speculate a bit about whether children *act* more like reductionists or anti-reductionists. That is, to what extent do children have a basic disposition to trust testimony, and to what extent do children believe (or

¹ Krogh-Jespersen and Echols (2012) also failed to find that children's learning from inaccurate speakers was "fragile" and "short-lived" in the way that Koenig and Woodward (2010) found. Relatedly, I wonder what Kushnir and Koenig might say about the possibility that the current findings might in part reflect the "weak encoding" of ignorant speakers described by Sabbagh and Shafman (2009). Maybe children just don't form strong memories of ignorant speakers (and their messages) in the way that they form strong memories of *incompetent* speakers' identities (Corriveau and Harris 2009). One could test this perhaps by replicating these studies but specifically comparing previously ignorant and inaccurate speakers to purely novel speakers (similar to Corriveau, Meints, & Harris, 2009)? Or testing whether children's patterns of responses to ignorant/accurate/inaccurate speakers persist after a delay.

disbelieve) testimony on the basis of experience and other beliefs? Some have suggested that children seem to have a highly specific and robust default trust in spoken testimony, especially when a novel speaker gives uncontroverted testimony about a novel subject matter (Jaswal et al. 2010; Vanderbilt, Heyman, and Liu 2014), and Koenig has also at times endorsed a somewhat similar view (Koenig and Harris 2005). Insofar as this default trust is not based on experience, children would seem to act like anti-reductionists.

But there is also substantial evidence that children exert a great deal of “epistemic vigilance” and filter out untrustworthy testimony. Children take all sorts of factors into account in deciding whether to believe testimony, suggesting a suite of acquired and rationally fine-tuned dispositions based on experience and other beliefs. All this evidence for the complexity of testimonial cognition, however, might ultimately be consistent with anti-reductionism. It could be that children both have a basic, irreducible default of trust, but that they learn—on top of that, as it were—that there are many factors that can undermine the trustworthiness of testimony. As Stephens, Suarez, and Koenig (2015) sum up the difference, “Reductionists require listeners to entertain positive reasons for their beliefs, whereas antireductionists require counterfactual sensitivity to negative evidence against testimony.” So do children act more like the former or the latter?

Kushnir and Koenig might actually disagree about this. While Stephens, Suarez, and Koenig (2015) write that, “it may be that children generally accept novel information from speakers *unless* they have reasons not to,”² Sobel and Kushnir (2013) argue that much of the

² In email correspondence about my comments, Koenig writes, “To keep it simple, I would just say that neither reductionist nor anti-reductionist views can handle all cases of testimonial knowledge well, neither normatively nor descriptively. In the particular studies that Tamar and I did, children show that they care about the competence of speakers, and monitor not just rates of error or truth, but also might monitor good calibration – learning from those speakers who make claims when they know, and who clarify their doubt when they don’t know. Given that the claims concern object labels, properties and functions and are thus pretty low-stakes claims, it’s interesting that children are monitoring speakers to this extent even when claims would seem to allow for an indiscriminate trust. In

apparent evidence for “default trust” can be explained in terms of inductively rational inferences that a particular speaker in a particular context is likely to be reliable about a particular domain of facts.³

It’s also possible that automatic System 1 acts like an anti-reductionist and effortful System 2 acts like a reductionist, but there may be some automatic-skeptical processes as well (Koenig and Echols 2003). This leads to my first set of questions about potential avenues for further research.

Further research. Developmental psychologists frequently poke fun at Gilbert’s (1991) claim that children believe everything they are told, but Gilbert’s theory of the mechanisms of belief applied to adults as well as children. He proposed that even *adults* have a default response of credulity, which is only overcome by effortful, System-2 processing. Gilbert’s methodology depended primarily on taxing adults’ cognitive resources while they entertained false claims.⁴ I wonder if there might be ways of exploring the interactions of children’s cognitive resources with their trust in testimony (although I can imagine that this sort of research would be extremely difficult with young children!).⁵ For example, what might happen if children engaged in a cognitively demanding task before or after participating in an experiment like Kushnir and Koenig’s? Might children become less discriminating in their reactions to accurate, inaccurate,

other words, children monitor speakers even when considering the common, garden-variety claims that you might think should pass under the radar. What this suggests about reductionism isn't clear, but it does show that children are sometimes doing more than you might think they need to.”

³ Ultimately, it might be really difficult to disentangle the “default trust” view from the rational-inference view when it comes to the fundamental diagnostic cases of, e.g., trusting a novel, uncontroverted speaker about a novel subject matter, or even trusting a previously inaccurate speaker. The rational-inference theory can argue that children have *learned* that it’s a reliable rule of thumb to trust people when there’s no reason to think otherwise, or when there’s no other potential source of information, even if the speaker was previously inaccurate, lacks situational access, has “weak evidence,” etc. (The common paradigm of choosing between two speakers, for example, doesn’t seem well-poised to address this question.)

⁴ For the record, I’m skeptical of Gilbert’s Spinozan theory, and the inferences he draws from his studies, but that’s another story.

⁵ I wasn’t able to find research on this, but Scofield and Behrend (2008) consider the effects of cognitive demand on performance in studies like Koenig and Harris (2005). Tenney et al. (2011) also found that adults under cognitive load acted more like children in that they had more difficulty calibrating confidence and accuracy.

and ignorant speakers when they are cognitively depleted? After children successfully discount an inaccurate speaker's testimony, might they be more likely to "eat the marshmallow"? Such findings might speak to the hypothesis that credulity is the automatic default response and that discounting problematic testimony requires effort.

Another question: what if the learning phase about Elaine mixed and matched accurate, inaccurate, and ignorant statements, with varying degrees of frequency (building on, e.g., Pasquini, Corriveau, Koenig, & Harris, 2007)? Here are some potential learning phases:

- 1) Elaine is always accurate
- 2) Always ignorant
- 3) Always inaccurate
- 4) Sometimes Elaine is accurate, sometimes inaccurate
- 5) Sometimes accurate, sometimes ignorant
- 6) Sometimes inaccurate, sometimes ignorant
- 7) Sometimes accurate, sometimes inaccurate, sometimes ignorant

Would Kushnir and Koenig predict (5) (accurate/ignorant Elaine) would be more trusted than (4) (accurate/inaccurate Elaine)? Would (7) be more endorsed than (4) or (3)? How would (4)-(7) compare with (1)-(3)? Would the information-processing in (4)-(7) just be too demanding?

Picking up the possibility that responses to ignorance might be context-sensitive, are there any specific features of this experimental context that might make children more likely to be OK with previously ignorant speakers? Kushnir and Koenig hold fixed across conditions that the speaker, Elaine, is confident (and presumably friendly, with a familiar accent, etc.). Might children be more forgiving of past ignorance from Elaine than from, say, a member of an outgroup, or someone with a weird accent (Corriveau, Kinzler, & Harris 2013)?⁶ What if the speaker always *lacked* confidence? More broadly, what might the data look like if, instead of

⁶ Might children even treat, say, a confident, previously *inaccurate* white man as more knowledgeable than a confident, previously *ignorant* black man? In Reyes-Jaquez and Echols (2013), 5-year-olds' epistemic judgments were still influenced by their similarity to the speaker even when the speaker had previously been inaccurate (they were more influenced by similarity to the speaker than the 3-year-olds!).

holding constant that all these other variables are epistemically ideal (or most conducive to trust), we held them constant so that they were epistemically suboptimal (or more conducive to distrust, e.g., a non-confident outgroup member, etc.)?⁷

One explanation that Kushnir and Koenig consider for children's differential responses to ignorance and inaccuracy is "that children think of ignorance as a *situational* influence on testimony, but inaccuracy as a more *dispositional* one." Children might infer that inaccurate speakers are generally incompetent or deceitful but that ignorant speakers are just not knowledgeable about a specific domain. It is also possible that their inferences about dispositional vs. situational causes partly depend on other factors. In keeping with research on the "ultimate attribution error" (Pettigrew 1979), children might be more likely to attribute the ignorance of an ingroup member to a situational cause, but treat the ignorance of an outgroup member to a stable dispositional trait.

It might also be that children infer that ignorant speakers have the dispositional trait of *honesty*. Speakers have no obvious reason to lie and say they are ignorant when they actually know, in this case. If children think being knowledgeable is good, might they have some sense that it can be difficult to admit that one doesn't know? Children are constantly asked questions about names of things, what sound does this animal make, and so on, and they are praised when they know the answer. Might they have any understanding of a norm or social pressure toward being knowledgeable? Maybe they even think a person who admits ignorance in the face of the

⁷ Other possible studies: what if Elaine confidently mislabels a familiar object in the *testing* phase? Do children treat previously accurate speakers as more knowledgeable than ignorant and inaccurate speakers about subsequently *inaccurate* claims? Or are all speakers treated as not knowledgeable because they're inaccurate? Also, what if the learning phase involved unfamiliar objects? Would children predict that a speaker who was ignorant of unfamiliar object labels would also be ignorant of familiar object labels?

pressure to be knowledgeable is *courageous*. Perhaps this might be tested by asking children questions like, “Is this person honest/smart/brave?”⁸

I suspect there are lots of contexts where adults are actually more likely than 4-year-olds to treat ignorance as an epistemic sin. Might politicians be more penalized for expressing ignorance about complex issues than they would be for expressing inaccurate confidence? If so, then it might be that adults to some extent *unlearn* what these children have figured out, which is that ignorance can often be OK. Might there might be some contexts where children are *more rational* than adults insofar as they are appropriately forgiving toward previously ignorant speakers?

⁸ I have no familiarity with research on how children attribute such traits, so that is a stab in the dark. One relevant study might be Li, Heyman, Xu, and Lee (2014). In Koenig and Harris (2005), when asked “Why was [the ignorant speaker] not good at answering questions?”, some said “She didn’t know anything” but others apparently said “She wasn’t too smart.” None of them suggested she was merely pretending to be ignorant.

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