



The moral, epistemic, and mindreading components of children's vigilance towards deception

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ABSTRACT

Vigilance towards deception is investigated in 3- to 5-year-old children: (i) In Study 1, children as young as 3 years of age prefer the testimony of a benevolent rather than of a malevolent communicator. (ii) In Study 2, only at the age of four do children show understanding of the falsity of a lie uttered by a communicator described as a liar. (iii) In Study 3, the ability to recognize a lie when the communicator is described as intending to deceive the child emerges around four and improves throughout the fifth and sixth year of life. On the basis of this evidence, we suggest that preference for the testimony of a benevolent communicator, understanding of the epistemic aspects of deception, and understanding of its intentional aspects are three functionally and developmentally distinct components of epistemic vigilance.

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1. Vigilance towards deception: part of human communicative abilities

Communication gives access to a vast amount of information, much wider than what could have ever been acquired through direct individual learning. While providing extraordinary benefits, communication is also a source of vulnerability to misinformation.

Competent communicators must exert what we propose to call “epistemic vigilance”, that is, an ability aimed at filtering out misinformation from communicated contents. How does epistemic vigilance develop in childhood? Our goal here is to help answer this question with special reference to vigilance towards deception.

One way for avoiding misinformation is to trust informants neither blindly nor randomly, but in a way that is sensitive to their knowledge and honesty. Generally, humans rely heavily on two dimensions to characterize other people and predict their behavior: benevolence – their perceived good or ill intentions – and competence – their per-

ceived ability to execute those intentions (for reviews, see Fiske, Cuddy, & Glick, 2007; Wojciszke, 2005). These two dimensions can be seen as critical in identifying good cooperators, that is, people who are willing and able to help. In the case of communication, competent informants are those able to provide relevant information, while benevolent informants are those willing to provide it (Sperber, 1994). Incompetence produces accidental misinformation; i.e. mistakes, whereas malevolence produces intentional misinformation, i.e. deception.

Honest communicators and their audience share a preference for true information. Deception, on the other hand, is intentional and is normally advantageous to the deceiver and costly to the audience. From the point of view of speakers, the possibility of deceiving one's audience and manipulating their beliefs can be seen as an integral part of what makes communication advantageous. From the point of view of the audience, the risk of deception—much more than that of honest mistakes—jeopardizes the advantageousness of communication. The resulting evolutionary paradox is well known: communicating populations face the risk of being invaded by deceivers, leading to the disappearance of communication itself (Dawkins & Krebs,

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1978; Krebs & Dawkins, 1984). Just as one can infer from the ongoing existence of cooperation among humans that there must exist psychological and/or social mechanisms that thwart cheating to an extent sufficient to keep cooperation advantageous, one can infer from the ongoing existence of communication that there must exist mechanisms that thwart deception and keep communication advantageous (see Bergstrom, Moehlmann, & Boyer, 2006; Sperber, 2001; for animal communication, see Searcy & Novicky, 2006). Epistemic vigilance exerted by the addressees of communication is, we suggest, such a mechanism.

2. A three step model for vigilance towards deception

Despite its theoretical relevance, young children's ability to be vigilant towards lying, as opposed to their ability to lie themselves, has hardly ever been studied. There are studies that are indirectly relevant to the issue and on which we have drawn in designing our own experiments (Couillard & Woodward, 1999; Freire, Eskritt, & Lee, 2004; Lee & Cameron, 2000; Shultz & Cloghesy, 1981); and recent researches have targeted 6- to 10-year-olds' sensitivity to honesty in a particular domain: self-reports (Gee & Heyman, 2007; Heyman, Fu, & Lee, 2007; Heyman & Legare, 2005; Mills & Keil, 2005). Still, the development of the basic mechanisms allowing one to resist deception as such remains to be explored.

Liars have three characteristic features. They are malevolent, that is, willing to harm others. They do so by communicating false information. They are moved in doing so by the intention to deceive their audience. A fully-fledged capacity to be vigilant towards lying should have, then, has three aspects: a moral/affective aspect involved in attending to malevolence; an epistemic aspect involved in attending to falsity; and a mindreading aspect involved in attending to the liar's intention to deceive. Some epistemic vigilance can nevertheless be exerted on the basis of just the first or the first two of these three aspects. In a rudimentary form, vigilance might be based on nothing more than a preference for the testimony of a benevolent informant over that of a malevolent one, without any understanding of the distinctive intentional and epistemic features of deception. In a less rudimentary form, it might also involve the ability to process the testimony of a malevolent informant as false, without however understanding the intention to deceive. Fully-fledged vigilance toward lying involves a grasp of its moral, epistemic and intentional features.

2.1. The moral component

Little is known regarding children's sensitivity to benevolence and malevolence in communication. Only a few experiments on epistemic trust have targeted variables that may affect the assessment of benevolence, such as familiarity (Corriveau & Harris, 2009; Harris, Pasquini, Corriveau, Koenig, & Clement, *in press*) or attachment relationship to the mother (Corriveau et al., 2009). However, there is good evidence that infants and young children

possess an early capacity to distinguish benevolence from malevolence in general. Infants may be sensitive to the difference between an intention to help versus hinder (Kuhlmeier, Wynn, & Bloom, 2003; Premack & Premack, 1997) and have been claimed to use this sensitivity to guide their preferences for interaction by the age of 6 months (Hamlin, Wynn, & Bloom, 2007). 28-month-olds use words referring to goodness and badness (Bretherton & Beeghly, 1982). Around 4 years of age, children have been shown to use such type of broad assessment in verbal tasks to predict behavior (Boseovski & Lee, 2006; Cain, Heyman, & Walker, 1997; Liu, Gelman, & Wellman, 2007), to infer people's emotional states (Heyman & Gelman, 1999), preferences (Heyman & Gelman, 2000) and to evaluate the appropriateness of aggressive behavior (Gilles & Heyman, 2005). It is quite conceivable therefore that young children might use benevolence to adjust their level of trust in testimony from an early age.

2.2. The epistemic component

A more refined stage of vigilance towards deception involves not only the ability to mistrust malevolent people, but also the capacity to treat lies as false (even if, when the beliefs of the liar happen to be false, a lie may be true; see Adler, 1997).

Work done on vigilance towards incompetence throws some light on children's understanding of the epistemic status of communicated information. Around 3 to 4 years of age, children display sensitivity to epistemic modalities (Jaswal & Malone, 2007; Matsui, Miura, & McCagg, 2006) and expression of ignorance (Koenig & Harris, 2005; Sabbagh & Baldwin, 2001; Sabbagh, Wdowiak, & Ottaway, 2003). Preschoolers' level of trust is affected by informants' level of accuracy in labeling objects and functions (e.g. Birch, Vauthier, & Bloom, 2008; Koenig, Clément, & Harris, 2004; Koenig & Harris, 2005; Pasquini, Corriveau, Koenig & Harris, 2007; Scofield & Behrend, 2008), in demonstrating games rules (Rakoczy, Warneken, & Tomasello, *in press*) or in reporting episodic information (Clément, Koenig, & Harris, 2004; Eskritt, Whalen, & Lee, 2008; Jaswal & Neely, 2006, "quality" condition). Preschoolers trust more testimonies coming from communicators who are more relevant (Eskritt et al., 2008, "relation" and "quantity" condition), better informed (Nurmsoo & Robinson, 2009; Robinson, Champion, & Mitchell, 1998; Robinson & Whitcombe, 2003; Welch-Ross, 1999; Whitcombe & Robinson, 2000) or who are presented as more competent (Fusaro & Harris, 2008; Lampinen & Smith, 1995).

These results suggest precocious abilities to adjust trust according to informant's competence. However, the naïve epistemology underpinning these abilities remains to be explored. In these studies, children are weighing information coming from two different sources, either from two different informants or from one informant and from themselves. They may merely be ignoring or discarding the information provided by the incompetent testifier, or, in a more sophisticated manner, they may judge it to be false. Investigating children's ability to understand the falsity of lies should increase our knowledge of the naïve epistemology involved in early epistemic vigilance.

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