Journal of Experimental Child Psychology 162 (2017) 225–241

Contents lists available at ScienceDirect

Journal of Experimental Child Psychology

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

The honest truth about deception: Demographic, cognitive, and neural correlates of child repeated deceptive behavior

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ARTICLE INFO

Article history:
Received 15 August 2016
Revised 9 May 2017
Available online 14 June 2017

Keywords:
Deception
Executive functioning
Anterior cingulate cortex
Moral behavior
Child behavior

ABSTRACT

This study examined situational, psychological, and neurobiological factors associated with deceptive behavior in 8-year-old children. By assessing deception in low- and high-risk conditions, we differentiated between children displaying some dishonesty and children who deceived repeatedly, and we assessed the correlates of deception in 163 children. A large majority of the children were deceptive in the low-risk condition (n = 121, 74.2%), but most children refrained from deception when at risk for getting caught (69 of 121). Using an aggregate score, children who continued deceiving could be discriminated from other children based on gender, lower age, lower IQ, less effortful control, and lower educated mothers. Compared with honest children and high-risk deceivers, low-risk deceivers differed on an aggregate score, suggesting that

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http://dx.doi.org/10.1016/j.jecp.2017.05.009

they were more likely to be girls and to come from higher income families. Compared with the other children, high-risk deceivers showed decreased activation in the bilateral anterior cingulate cortex (ACC) and right frontal pole during the low-risk condition, suggesting decreased engagement in conflict monitoring and error detection during opportunities for deception. In high-risk deceivers, high-risk deception was associated with increased bilateral ACC and right paracingulate gyrus activation compared with low-risk deception. High-risk deceivers may require a higher level of risk to engage the ACC to the same degree as low-risk deceivers or honest children. Our results suggest that deceptive behavior in children seems to be largely dependent on the estimated likelihood of getting caught. High-risk deceivers form a distinct group with different cognitive and neurobiological characteristics compared with honest children and low-risk deceivers.

Introduction

Although honesty is considered fundamental to social relationships and societies, sometimes deceiving is more advantageous than being truthful. When able to maintain a concept of the self as honest, most individuals will deceive when deception provides profit (Mazar, Amir, & Ariely, 2008). Several studies have shown that children from 3 years of age onward will deceive to avoid punishment or to receive a reward (Peskin, 1992; Talwar & Lee, 2008). Although parents generally discourage deception, early deceptive behavior may be a normative aspect of development (Talwar & Crossman, 2011). Problems arise when deceptive behavior becomes habitual and damages the interests of others or compromises social relationships. The current study examined situational, psychological, and neurobiological factors associated with deceptive behavior when children were on average 8 years old. By assessing deceptive behavior in low- and high-risk conditions, we aimed to differentiate between children who deceive a little (low-risk deceivers), and children who deceive repeatedly (high-risk deceivers).

Because most children exhibit some deceptive behavior, deception may be an aspect of normative development. Indeed, the development of deceptive behavior seems to reflect children's emerging cognitive maturation (Carlson, Moses, & Hix, 1998; Talwar & Crossman, 2011). More specifically, deception has been related to the development of theory of mind and executive functions such as inhibitory control and working memory. To deceive, children must understand that their mental state is not evident to others. To deceive successfully, they must be capable of inhibiting the information they are trying to withhold while keeping the content of their lies in memory. Several studies have shown that the ability to falsely deny the occurrence of an event is related to inhibitory control and first-order belief understanding (the ability to understand another person's mental state), whereas more complex forms of lying are related to working memory and second-order belief understanding (the ability to understand another person's mental state about the mental state of someone else) (Lee, 2013; Talwar, Gordon, & Lee, 2007; Talwar & Lee, 2008).

As children mature, the likelihood of their deceptive behavior changes. Studies on early childhood have shown that the likelihood of children's deception increases with age (Talwar & Lee, 2002; Wilson, Smith, & Ross, 2003). However, in 6- to 11-year-old children, Talwar et al. (2007) found a developmental difference in sophistication of lie-telling in order to conceal a transgression but not in likelihood. Moreover, a study in 8- to 16-year-olds showed that the likelihood of deception decreased with age (Evans & Lee, 2011). Thus, whereas during early childhood the likelihood of antisocial lie-telling tends to increase, the antisocial lies of older children become more sophisticated but the likelihood of lie-telling decreases.