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## Little Liars: Development of Verbal Deception in Children

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### Abstract

Lying is common among adults and a more complex issue in children. In this article, I review two decades of empirical evidence about lying in children from the perspective of speech act theory. Children begin to tell lies in the preschool years for anti- and prosocial purposes, and their tendency to lie changes as a function of age and the type of lies being told. In addition, children's ability to tell convincing lies improves with age. In the article, I highlight the central roles that children's understanding of mental states and social conventions play in the development of lying. I also identify areas for research to be done to develop a more comprehensive picture of the typical and atypical developmental courses of verbal deception in children.

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Research on lying in children dates back to the dawn of developmental psychology. Founders of our discipline such as Darwin, Hall, Binet, and Piaget commented, discussed, and conducted studies on the issue. In fact, the first scientific paper on lying was published by Darwin in 1877. Two landmark works followed, one by Piaget (1932/1965), who studied children's moral understanding of lying, and the other by Hartshorne and May (1928) on children's dishonest behavior. No research on lying was conducted between the early 1900s until 1980 (Lewis, Stanger, & Sullivan, 1989).

Since the late 1980s, research on lying in children has increased, mainly due to three advancements in developmental psychology. One was research on children's theory of mind (ToM), or the notion that individuals have intentions, desires, and beliefs, and will act accordingly (Wellman, 1992). Lying in essence is ToM in action, because to lie and lie successfully, individuals must understand their mental state and their listener's mental state. The second advancement was the increased recognition that culture-specific social conventions play an important role in the development of moral reasoning and behavior (Turiel, 1983). Lying, like any other moral or immoral behavior, increasingly is thought to be influenced not only by universal moral principles, but by social conventions (Lee, 2000). The third advancement was the rapid rise in research on eyewitness testimony by children (Goodman, 2006) as a result of an increase in the number of legal cases involving children (Lyon & Dorado, 2008).

### The Speech Act Perspective of Lying

The perspective of speech act theory (Austin, 1962) provides the best framework for understanding and integrating findings on children's lying. Speech act theory posits that verbal statements are not merely descriptions of some states of affairs, but actions carried out intentionally to serve social functions. Thus, like actions with tools such as hammers, speech acts involve doing things with words serving as tools (Austin, 1962). Thus, lying is considered to be doing deceptive things with words (Lee, 2000).

Like any form of speech act, lying is governed by the intentionality and conventionality components (Figure 1). The former concerns various mental states (e.g., intentions, beliefs) involved in speech, while the latter concerns the social rules governing conversation (e.g., being polite when receiving a gift). To lie and do so successfully, individuals must represent and differentiate the mental states of themselves and the listener, and make appropriate statements to conceal the truth while instilling false beliefs into the mind of the listener (the intentionality component). Also, individuals must understand whether the specific social-cultural context in which they lie prohibits or permits lying (the conventionality component). For example, most societies eschew lying to conceal transgressions for personal gain. However, some societies encourage white lies that spare the feelings of the person being lied to. To make appropriate decisions about whether to tell a lie, the speaker must determine the social context in which the truth or a lie is called for, as well as the specific social rule that motivates it. Failure to discriminate appropriately may lead to negative consequences.

To tell a lie and lie successfully, individuals must consider both components. However, acquiring knowledge about various social norms and how to represent mental states of themselves and others takes most of childhood. During development, because children either lack knowledge about a specific social convention or the ability to represent a certain mental state, or both, they may decide incorrectly whether to lie or tell the truth, and they may also lie unsuccessfully. For example, children may tell the blunt truth when receiving an undesirable gift because they fail to recognize that in their culture, social norms for the situation permit lying. Furthermore, children may decide to lie about breaking a glass but their inability to represent their parents' mental state may lead them to claim that a ghost did it. Thus, the development of lying is a process of acquiring the two components of speech acts, integrating them to make appropriate decisions to lie or tell the truth, and ensuring that lying is successful. The two components develop in tandem but, depending on the social context and children's age, one of the components may drive children's lying more than the other.

## The Intentionality Component

Much of the evidence on intentionality comes from studies of children's attempts to conceal their transgressions. These studies typically use a temptation resistance paradigm in which children are told by an experimenter not to peek at or play with a toy when the adult leaves the room (Lewis et al., 1989; Polak & Harris, 1999; Talwar & Lee, 2002a). Many children violate the experimenter's instruction, allowing examination of whether children admit or deny their transgression when directly asked about their action during the experimenter's absence. In studies worldwide using this paradigm, most 2- and 3-year-olds confess their transgression, but after 4 to 5 years of age, most children lie and this high rate continues until mid-childhood (Figure 2).

Children's denials are thought to be false statements told to deceive the experimenter. First, children's denials occur specifically in the situation when rules have been violated. When children abide by the experimenter's instruction, they do not falsely admit to transgressing. Second, when young children in a control condition have previously received permission to play with a toy, they do not deny playing with it (Polak & Harris, 1999). Third, young children are more likely to confess their transgression when they sense that an experimenter may know about it than when they sense that he or she doesn't know (Fu et al., 2012). Furthermore, when compared to those who confess, children who lie tend to better understand false belief, the idea that people may have an erroneous belief of reality and thus act inappropriately (Evans et al., 2011; Talwar & Lee, 2008).

The important role of intentionality in children's lying also manifests itself in how children lie, which has been examined by comparing the nonverbal behaviors of liars with those of nonliars. Such behaviors cannot be distinguished accurately by naive adults (Crossman & Lewis, 2006; Leach et al., 2004; Talwar & Lee, 2002a), including parents, child protection lawyers, social workers, police, customs officers, and judges. In-depth analyses of the videos of children's nonverbal behaviors (Talwar & Lee, 2002a) reveal that those who deliberately tell lies attempt to mimic the behaviors of people who tell the truth (e.g., making direct eye contact with the listener when lying). When the situation calls for children to avert their gaze when telling the truth (because children have to ponder the answer to a question), they also deliberately avert their gaze when lying (McCarthy & Lee, 2009).

Children's statements after they have told an initial lie further reveal the role of intentionality. In the temptation resistance paradigm, after children denied transgressing, the experimenter asked follow-up questions. For example, when children peeked at a toy (e.g., Barney) and lied about peeking, the experimenter asked, "What do you think it is?" Children's answers reveal a marked developmental change between 2 and 7 years of age: Most 2- to 3-year-olds blurt out "Barney!" without hesitation, thus revealing that they not only transgressed, but lied (Figure 3; Evans et al., 2011; Polak & Harris, 1999; Talwar & Lee, 2002a, 2008). With increased age, children try to avoid making such blatantly inconsistent statements. Initially, their efforts may be a little clumsy and inconsistent (i.e., semantic leakage): For example, a 5-year-old girl said, "I didn't peek at it. I touched it and it felt purple. So, I think it is Barney." As children grow older, such leakages become less frequent. Many older children often feign complete ignorance or devise highly plausible explanations for their knowledge (Evans & Lee, 2011; Talwar et al., 2007; Talwar & Lee, 2002a & 2008).

It has been proposed (Polak & Harris, 1999; Talwar & Lee, 2002a, 2008) that while telling an initial lie involves first-order ToM understanding (ToM1 hypothesis), ensuring consistencies between an initial lie and subsequent statements requires more sophisticated understanding of intentionality, or second-order ToM (ToM2 hypothesis). For example, after having peeked at a forbidden toy and been asked to identify it, children must infer what belief they should have (i.e., not knowing the true identity of the toy: a false belief), since they claim not to have peeked (another false belief). Thus, controlling semantic leakage requires children to create a false belief based on another false belief (a second-order false belief). Consistent with the ToM2 hypothesis, liars with greater ToM2 scores controlled semantic leakages better than those with lesser scores (Talwar et al., 2007; Talwar & Lee, 2008).

## The Conventuality Component

From age 3, most children understand that lying to conceal one's transgression is inappropriate and that they should tell the truth instead (Lyon & Dorado, 2008; Talwar & Lee, 2008). However, children's knowledge about social norms against lying is entirely unrelated to their actual lying behavior in similar situations (Talwar & Lee, 2008; Talwar, Lee et al., 2002). Children often consider lying morally wrong but lie anyway. But children's knowledge about social norms regarding promises affects their decisions about lying. Children who promise to tell the truth are more likely to confess their transgression than those who do not (Evans & Lee, 2010; Lyon & Dorado, 2008; Talwar et al., 2002 & 2004).

Some studies have examined how children learn to tell lies in situations in which social conventions require them to refrain from being completely honest, such as a situation involving politeness. Preschoolers tend to view white lies in such situations negatively,

although they perceive white lies less negatively than malicious lies (Bussey, 1999). Children's views of white lies become gradually less negative until adolescence, when they are viewed positively.

Two studies provide insights into preschoolers' telling of white lies. When 3- to 7-year-olds were asked to take a photograph of an experimenter who had a large red mark on his or her nose, the experimenter asked, "Do I look okay for the photo?" (Talwar & Lee, 2002b) Most children lied, telling the experimenter that he or she looked okay, but later told someone else that the experimenter actually did not look okay. Similarly, when 3- to 7-year-olds discovered that the experimenter had given them an undesirable gift (a bar of soap), many spontaneously told the experimenter that they liked the gift even though their behavior when opening the gift showed they disliked it (Talwar, Murphy, & Lee, 2007). Apparently, even preschoolers can tell white lies. However, when asked why they told a lie, few cited politeness as the reason and many said they did not know, calling into question whether their lies were indeed white lies.

Over the elementary school years, children are progressively more willing to tell a white lie at a personal cost (i.e., losing a desirable gift: Popliger, Talwar, & Crossman, 2011) and increasingly use politeness to justify telling white lies (Xu et al., 2010). Furthermore, children who understand the prosocial reasons underlying white lies tend to tell white lies themselves when encountering a situation involving politeness (Xu et al., 2010). These developmental changes suggest that children become increasingly socialized to the norms of politeness and consequently become capable of acting accordingly.

In some cultures, socialization leads to telling a different kind of lie. In China, group harmony and collective interests are considered paramount for individuals and the group to which they belong (Fu et al., 2008). Chinese children ages 7 and up judge truths against their own group negatively and endorse lies that help it (i.e., "blue lies": Barnes, 1994) (e.g., Fu et al., 2008). In a test of whether 7- and 11-year-old Chinese children tell blue lies, children were placed in a situation in which their class decided to violate the school district rule when selecting team members to represent their school in a chess competition (Fu et al., 2008). The class's decision to cheat put their school at a competitive advantage. When children were interviewed individually by a referee, they became more inclined with age to lie to conceal their class's cheating to protect their school's interests. Furthermore, children's moral judgments of telling the truth or a lie in similar situations predicted their tendency to tell a blue lie themselves, suggesting that socialization to the rules of one's culture influences children's willingness to lie accordingly.

Do children consider intentionality when telling socially sanctioned lies? No one has directly examined the relationship between children's first- and second-order theory of mind understanding and their telling of white or blue lies. Nevertheless, examination of children's nonverbal behaviors when telling a white lie reveals that children deliberately dissembled their facial and body movements as if their statements were true to an extent that naive adults could not differentiate their lies from their truths (Talwar & Lee, 2002a; Talwar et al., 2006). In the soap-giving study, after telling a white lie that they liked the bar of soap, children were asked why (Talwar et al., 2006). The older they got, the more elaborate the lies the children told, such as "I like it because I collect soaps" or "we ran out of soaps at home." Such verbal and nonverbal dissemblance suggests that children's telling of socially sanctioned lies is not merely an over-learned automated response to the specific demands of the social situation, but an attempt to ensure that their lies are convincing to the listener.

## Next Steps

Although we have learned a great deal about the development of lying in children over the last two decades, many questions remain.

First, the role of both intentionality and conventionality components has been examined only in terms of children lying to conceal transgressions. ToM plays an important role, but children's knowledge about the morality of lying has not been linked to their actual behaviors. Because research in this area has focused mainly on younger children, the role of both components in adolescents' lying is not clear. Adolescents are less likely to lie about their transgressions than younger children (Evans & Lee, 2011), perhaps because of adolescents' increased autonomy at this age (Zimmer-Gembeck & Collins, 2008). For adolescents, social rules against lying about transgressions, like many other social rules, are increasingly internalized, which may enable them to more consistently apply their social knowledge to regulate their behaviors and reduce their propensity to lie. Also, adolescents may have developed a more sophisticated theory of mind that considers multiple mental states (e.g., beliefs, emotions) from multiple people (Kuhn, 2000). If this hypothesis is true, research should find close ties among adolescents' knowledge about the morality of lying, theory of mind, and actual honest and dishonest behaviors.

Second, research on socially sanctioned lies has focused almost exclusively on the role of the conventionality component. For example, the role of ToM understanding has hardly been factored into the study of children's telling of white and blue lies. Research needs to assess children's ToM and social-moral understanding concurrently to reveal how the intentionality and conventionality components interact to influence the development of prosocial lying.

Third, almost all prior research has examined one type of lying exclusively without considering its relation to other types in the same children. Studies need to examine concurrently children's telling of different types of lies, which may answer the question of whether honesty is a constant trait or depends on social contexts, as advocated by Hartshorne and May's "Doctrine of Specificity" (1928). This work can also provide insights about whether and how the two speech act components contribute differentially to children's decisions and success in lying in different social contexts.

Fourth, various sociocognitive factors are known to relate to the development of either the intentionality or conventionality component, but only recently have researchers begun to explore the roles of these factors in the development of lying. For example, children's executive functioning has been consistently linked to preschoolers' decisions to lie (Carlson, Moses, & Hix, 1998; Evans et al., 2011; Talwar & Lee, 2008) and to control semantic leakage (Evans & Lee, 2011; Talwar & Lee, 2008). The role of many other factors (e.g., temperament, family background, developmental history) is largely unknown (for exceptions, see Lyon et al., 2008; Popliger et al., 2011; Talwar & Lee, 2011). Also, most studies have failed to directly compare lying in children from different cultural backgrounds, although research on children's moral judgments of lying has revealed marked cross-cultural differences (Lee, 2000), leaving open a question of whether children's tendency to lie depends on not only context but also culture.

Finally, the experimental evidence reviewed here mainly shows the normative development of verbal deception. Parents and teachers have reported heightened antisocial lying among children and adolescents with behavioral problems (Loeber & Schmalting, 1985). Two recent studies have found different patterns of lying behaviors among children with and without developmental disorders (Li et al., 2011; Rasmussen et al., 2008). Research needs to determine whether deficits in understanding the intentionality and conventionality

components play any significant role in atypical development of lying. Such research will not only provide invaluable theoretical insights about the speech act model of lying, but have significant practical implications for professionals who work with children with developmental problems.

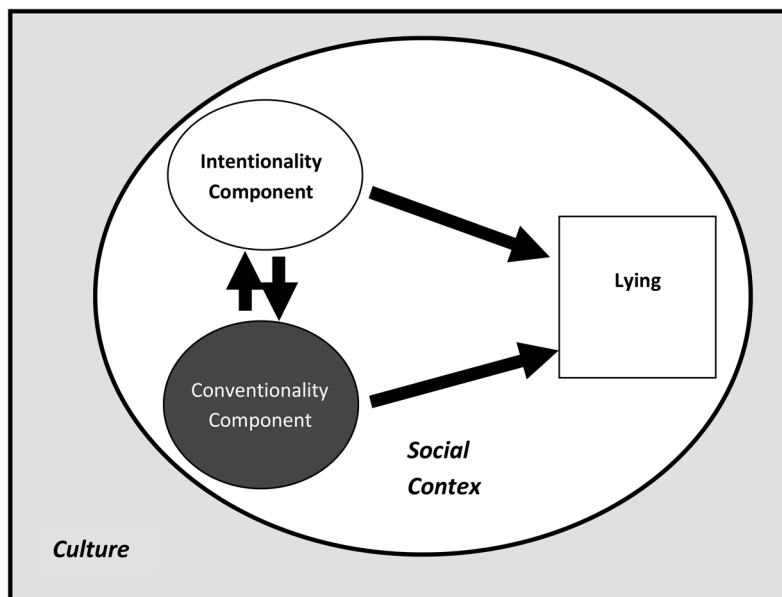
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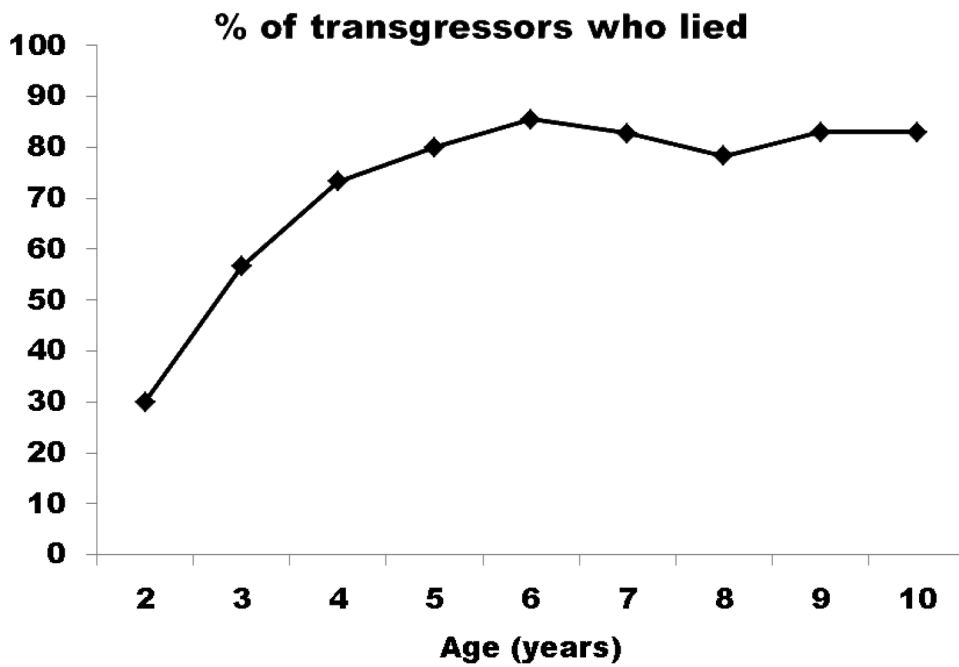
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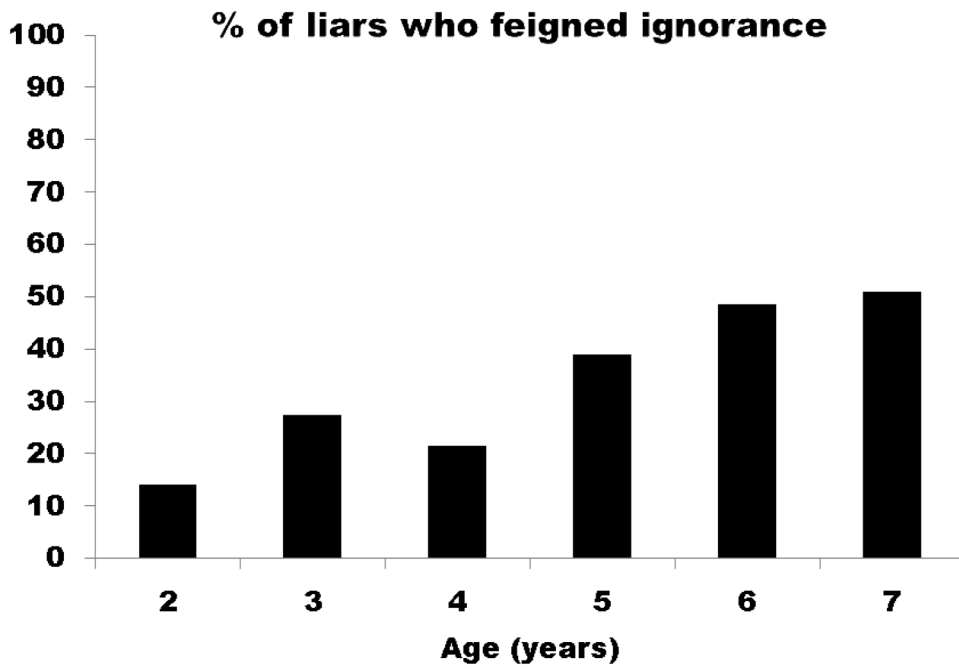
**Figure 1.**

A schematic model of the speech act perspective of lying. Both the intentionality and conventionality components play an important role in lying in a specific social context within a specific culture. Understandably, in a different social context of the same culture or the same social context in a different culture, both components may affect lying differently.





**Figure 2.** Age-related changes in lying to conceal one's own transgression. Data derived from the following studies using similar temptation resistance paradigms: Evans and Lee (2011, under review), Lewis et al. (1989), Li et al. (2011), Polak and Harris (1999), and Talwar and Lee (2002a, 2008a, 2011).



**Figure 3.** Age-related changes in children's attempts at ensuring consistencies between their initial lie and subsequent statements. Data derived from the following studies that asked similar follow-up questions: Evans and Lee (under review), Evans et al. (2011), Polak and Harris (1999), and Talwar and Lee (2002a, 2011).