

HOW
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LYING AND EXECUTIVE FUNCTION: CONNECTIONS TO MONTESSORI EDUCATION

By Tracey N. Sulak, PhD, Janet H. Bagby, PhD, and Rachel L. Renbarger

How often do you tell white lies? When the *New York Times* ran an article linking children's lying with their cognitive abilities (Stone, 2018), we decided to examine this phenomenon through the lens of Montessori philosophy. Consequently, we delved into the related research on lying, executive function, and prosocial behavior and followed up with interviews of Montessori educators, who added a personal view on how to address children's lying in a Montessori environment.

DEFINITION AND EVOLUTION OF LYING

Children as young as 3 years old have been found to deceive others (Lewis, Stanger & Sullivan, 1989; Polak & Harris, 1999); interestingly, young children deceive even when they know lying has moral implications (Bussey, 1992; Chandler, Fritz & Hala, 1989; Wimmer, Gruber & Perner, 1984). Children often receive explicit instruction in truth-telling, which is bolstered by implicit lessons taught by popular stories such as "Pinocchio." But we also teach children to utilize prosocial lies (or "white lies") as an appropriate behavior under some social conditions. Prosocial lying is differentiated from other types of lying because the intent is to protect or

to avoid hurting another person. All types of lying, even prosocial lying, involve a verbal statement that is false and created to deceive (Lee, 2000; Lee, 2013). Prosocial lies differ from other lies in that they are statements made to be polite or benefit others (Talwar & Crossman, 2011), such as when a child says he or she likes a gift but in reality has no interest in it (Talwar, Murphy & Lee, 2007). White lies, often expected of young children, may also be an important demonstration of a child's development (Talwar & Lee, 2008).

EXECUTIVE FUNCTION

According to the *New York Times* article (Stone, 2018), parents should be happy when their children are found to lie because this suggests they are developing stronger executive functioning skills. Executive function, an important component in academic and social success, is the process underlying effortful control of goal-directed behavior (Anderson, 2002; Gioia, Isquith, Guy & Kenworthy 2001). Researchers consider executive function to include self-regulation, attention, and social-emotional skills, which are important for planning, decision making, problem solving, and other

complex cognitive tasks. Executive function has been linked to student achievement and learning (Zelazo, Blair & Willoughby, 2016). Predictors of executive function may include aspects of the environment, such as consistency of schedules and rules in the home, chronic stress related to poverty, and exposure to environmental stressors (Raver, Blair & Willoughby, 2013). Prior

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research has shown students from low socioeconomic households often enter school with weaker executive functioning (Diamond & Lee, 2011), although school environments may help students strengthen these skills (Bagby, Barnard-Brak, Sulak, Jones & Walter, 2012).

In two previous issues of *Montessori Life*, we highlighted how Montessori teaching practices relate to executive functioning skills. In the first article, we described Montessori strategies that promote executive functioning, including planning, organization, and time management (Howell, Sulak, Bagby, Diaz & Thompson, 2013). The second article highlighted recent research that connects Montessori education and executive function (Bagby & Sulak, 2018). For example, studies by Lillard and Else-Quest (2006), Lillard (2011), Lillard (2012), and Lillard et al. (2017) have examined the influence of Montessori education on students' development of executive functioning skills.

Since evidence suggests that the Montessori environment promotes the development of executive function, these higher executive function skills may also contribute to a Montessori child's ability to tell lies, prosocial or otherwise. The mastery of goal-directed behavior, or executive function, allows children to establish a goal of protecting another's feelings, create and maintain the verbal aspects of the lie, and regulate all behavior associated with the lie. This includes anything the child says, but it also includes the child's nonverbal cues, such as body language and facial expressions (Talwar & Lee, 2002). To maintain the lie, children must inhibit any response

(whether verbal or nonverbal) that is inconsistent with the lie and remember the components of both the truth and the lie simultaneously (Carlson, Moses & Hix, 1998). In addition, convincing lies typically require extensive planning and consideration of even minor details. This level of vigilance requires strong executive function. Previous research has reported that executive function skills develop during the early childhood years, the same time lying skills increase, suggesting these skills are related (Talwar & Lee, 2008). Recent evidence indicated that preschool children's executive function skills significantly predicted their tendency to lie (Evans & Lee, 2013).

MONTESSORI EDUCATION AND PROSOCIAL BEHAVIOR

To understand how Montessori education may intersect with lying and executive function development, we need to examine the basis of the environment. Specifically, social environment aspects like punishment, trust, and courtesy may play a role in detecting and resolving the white lies of students. A 2011 study by Talwar and Lee compared two schools: one that employed corporal punishment and one that did not have physical punitive measures but instead used verbal punishment or removal from the classroom. Their findings indicated that students from the school with corporal punishment procedures were more likely to lie and were also better at telling lies. This harsh environment seemed to produce more dishonesty and continued concealment of the lie. However, these same researchers also found that environments with positive reinforcement through praise and



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verbal requests for the truth were more likely to produce the truth from students (Talwar & Lee, 2011).

Since Montessori educators do not use corporal punishment procedures, Montessori environments should be more likely to produce honest students. Dr. Gay Ward, a veteran teacher educator, shared how Montessori teacher education helps teachers promote honesty (April 2018):

I think our Montessori teacher education programs do give us some guidance on how to handle lying in teaching us how to observe and to value supporting children's autonomy [and their] ability to be responsible and make good choices—and creating a climate where the number one rule is respect for themselves, others, and the environment.

When students know they will not be severely punished for lying, they realize they can be honest. This safe environment, where truth telling and respect for others is reinforced, is likely to decrease student lying.

Another component of the Montessori curriculum that may promote prosocial behavior is the building of trust. Children have an innate ability to know who to trust. Research has found that 4-year-old children are able to distinguish between truth tellers and liars, and use

have regarding something they said or did. I present the issue as I know it and then ask them to give me an explanation, tell me what they said or did. I remain calm, gentle, and engaged. I am usually down on the child's level, either on my knees or sitting beside them at a table. I listen without interrupting. Then I repeat the child's response to make certain I fully understand. If what they say does not coincide with what I suspect, I explain my perspective. I tell the child I need to trust them at all times and they need to show me they are trustworthy. Children rarely want to disappoint me, so they almost always tell me the truth in the end with just a calm conversation.

Physical and verbal actions from Montessori teachers like this one can signal to these students that the teacher can be trusted. Young children, when presented with a trusting adult, will often decide to tell the truth.

One of Maria Montessori's goals was to help people interact in positive social ways. In *The Absorbent Mind* (1967, p. 225), Montessori stated, "What is social life if not the solving of social problems, behaving properly and pursuing aims acceptable to all?" In having this social life, though, students must be explicitly taught how to "behave with grace and courtesy" (Standing, 1998, p. 216). Montessori Grace and Courtesy lessons help students understand how to engage in positive behaviors with their classmates. To be effective, though, these lessons must spark student interest and students must be shown their importance (Standing, 1998).

In some cases, the teacher may not know the proper course of action for introducing the idea of lying into a Grace and Courtesy lesson. For example, Brenda Petta, who taught in Early Childhood classrooms for over 20 years, recounted a story of a child who repeatedly reported that pieces of a work were missing, which resulted in the other students looking for the items. The teacher soon recognized a pattern of behavior; the child who reported the pieces missing was the one consistently finding them. Ms. Petta stated:

When I talked with her, I said that she needed to apologize to her classmates because the other children used their time to look for items that she had hidden. In retrospect, I wish I had honored her dignity and allowed her to talk through the situation and decide what she could do to resolve the issue.

Grace and Courtesy lessons may be a valuable way to ensure students are telling the truth, but they may not always be easy to put into practice.

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this knowledge to trust those who are honest (Koenig & Harris, 2005; Shafto, Eaves, Navarro & Perfors, 2012). We spoke with ReNay Swartz, a Lower Elementary Montessori teacher who follows explicit steps to gain the trust of students and detect students who may not be telling the truth:

If I am uncertain, the first thing I do is take the child aside, removed from other classmates. I tell the child they are not in trouble but that I need clarification about a concern I

In Montessori environments, students are typically taught to work through their problems with the other children involved, rather than have the teacher adjudicate the issue. One of the Montessori teachers we interviewed shared that only when someone lies or steals does she typically get involved. In these situations, the students involved all tell their sides of the story; almost always, the issue is then resolved through an apology from one side. Because the students know that it is okay to make mistakes, they are more likely to then apologize to make up for what they did. In this way, Grace and Courtesy lessons allow for a chance to recover from the lie and make it right with the other children in the classroom.

CONCLUSION

Montessori classrooms, while promoting executive functioning skills that might increase the frequency of lying behavior, also offer environments where students can engage in honest behaviors. Teachers implement practices that promote trust and courtesy rather than harsh or unforgiving punishment. Children do need to understand the boundaries between prosocial lies that can be beneficial and more nefarious forms of lying that can hurt the community; the examples provided by the teachers who were interviewed suggest that students in Montessori classrooms are learning how to interact with others with prosocial behaviors. While writing this article, we became so intrigued with the topic that it inspired us to conduct a research study examining the relationship between prosocial verbal displays and the executive function of 4- and 5-year-olds. We hope to share results in a future issue.

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