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## **Motor skills and imitation in children with autism**

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One of the first social skills to be acquired by toddlers is imitation. (Meltzoff & Moore, 1989). At the most basic level, imitation starts off as social smiling and mimicking facial expressions of their caregivers. As a child grows, they begin to imitate gestures that require greater scales of motor development, such as fine motor skills. For a typically developing child, imitation and social learning skills are rather easy to acquire and develop. However, children with autism (ASD) appear to have serious deficits in imitation ability, which may lead to further problems in their development (Young et al., 2011). In addition, this failure to imitate has been used as one of the identifiable symptoms of autism diagnosis (Cardon, 2012).

The primary goal of this study is to investigate what underlies the difficulties children with autism have imitating. One possibility is that it is due to poor gross and fine motor skills, which are known to be impaired in children with autism (Vanvuchelen, Roeyers, & De Weerd, 2007). A second possibility is that this imitative deficit is the product of social and communicative impairments, which are characteristic features of autism (Rogers et al., 2003). To test these two possibilities, we will measure the motor skills used on an imitation task by three groups of children (typically-developing, ASD, and non-autistic developmental disabilities of mixed etiology).

Children (N = 35, Age = 30.1 months, SD = 7.6 months) saw an adult model manipulate six objects using both gross and fine motor skills. The children were then allowed to play with the toys. Our analyses will determine if typically developing children have a better-defined set of motor skill on these tasks, allowing them to imitate better than the ASD group. We expect that motor failures alone will not account for low imitation performance in the ASD group. However, motor problems may be responsible for impaired imitation in children with non-autistic developmental disabilities (DD). These children's disorders do not typically reflect the specific social impairments found in autism. Therefore, motor ability and imitation performance will be more closely linked in this group.

**Keywords:** Psychology, Child development, Imitation, Autism, Motor development, Toddlers, Developmental Delays, Goals, Theory of mind, Social cognition