OPINION

Candid camera

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Home videos of first birthdays, first steps and other early milestones are helping scientists pick out early signs of autism, which may lead to the development of early diagnostic tools.

The concept isn't a new one — researchers have been **analyzing home videos** of children with autism for nearly a decade.

A study published in the September issue of the *American Journal of Occupational Therapy* found that home videos reveal **unusual sensory behavior** in infants later diagnosed with autism. These infants don't react to sensory stimuli, such as bubbles blown in their faces, as much as typically developing controls, according to the study.

A second study, published 30 July in the *American Journal of Speech and Language Pathology*, found that infants who are later diagnosed with autism use **different gestures** than typically developing infants and those diagnosed with other types of developmental delay. If confirmed, the findings might provide another tool for early detection of the disorder.

Typically developing babies start to gesture to adults at 7 to 9 months, pointing at toys they want, for example, or calling attention to a dog.

Different gestures have different functions. Babies use so-called social-interaction gestures, such as waving, to direct attention to themselves. Behavior-regulation gestures, such as shaking the head to indicate no, are used to direct another person's behavior. Joint-attention gestures, such as pointing to the moon, direct another person's attention to an event or object.

Studies have shown that children with autism **use fewer gestures** and **in different patterns** than controls do. Most notably, they are less likely to use joint-attention gestures but are relatively adept

at behavior-regulation gestures.

The new study focused on 43 children with autism, 30 children with other developmental disorders and 36 typically developing children, all aged 2 to 7. Researchers analyzed home videos of the children at two different age ranges — 9 to 12 months and 15 to 18 months — looking for instances of gestures.

They found that at the earlier age range, infants later diagnosed with autism are less likely to use joint-attention gestures than are typically developing infants and those with other developmental disorders. They are also less likely to use behavior-regulation gestures than typically developing infants are. At the later age, 15 to 18 months, infants with autism are less likely than infants with other developmental disorders to use social-interaction or joint-attention gestures. They are also less likely than typically developing infants to use any gestures.

The study is notable in that it compares children who have autism with those who have other developmental disorders, which is essential if gestures are to be used for early detection of autism. (Many studies compare children with or at risk for autism with typically developing controls alone, a much easier distinction to make.) Results from two different age ranges also give a sense of how gesture use in these groups varies over time.

The study confirms previous findings that infants who go on to develop autism use fewer joint-attention gestures than their peers. However, the observation that they don’t differ from the other groups in the early age range in their use of social gestures conflicts with previous results.

The researchers say this may be because parents of these babies work harder than others to elicit the gestures from their children, playing peek-a-boo, for example, or waving bye-bye. They also note that even though infants with autism gesture less frequently than controls do, they still do gesture. So early detection efforts should focus on the frequency of joint-attention gestures, not on their presence or absence.