Infants with blind parents pay less attention to eyes

19 November 2015

Blind study participant and her baby. Credit: The Babylab, Birkbeck, University of London

For parents of young children, there are few milestones more memorable than that first word. But people communicate an awful lot to each other without ever saying anything at all. That raises an intriguing question: how do infants learn to communicate with the people around them nonverbally, through eye contact? Researchers reporting in the Cell Press journal *Current Biology* on November 19 have some new insight into this silent form of communication from an unlikely source: the sighted children of blind parents.

"Infants of blind parents allocated less attention to adults' eye gaze," says Atsushi Senju of Birkbeck, University of London. "It suggests that infants are actively learning from communicating with their parents and adjusting how best to interact with them."

Senju says it's important to note that those infants developed typical overall social communication abilities, suggesting that the patterns of difference the researchers observed were limited specifically to the babies' attention to adults' eye gaze.

Eye gaze is an important channel for communication, and human infants show an amazing ability to recognize and react to adults' gaze. Senju and his colleagues wondered how infants develop their attention to the eyes when their primary caregiver can't make eye contact or react to infants' gaze because they can't see.

To find out, the researchers used eye-tracking technology to assess face scanning and gaze following in 14 sighted infants of blind parents at 6 to 10 months and then again at 12 to 16 months of age. They also watched as the infants interacted with their blind parent and with an unfamiliar sighted adult.

In comparison to a group of infants with sighted parents, infants whose parents were blind paid less attention to adults' eyes, the researchers report. The children with blind parents were otherwise typical in their development. In fact, in some ways, they even excelled.

"Infants of blind parents showed advanced visual attention and memory skills when they are 8 months old, which we did not expect when we started this project," Senju says.

He says it's possible that the need to switch communication modes between blind parents and other sighted adults might boost infants' early development of visual attention and memory.

Senju says they don't yet know how long lasting the differences in the infants born to blind parents will be. It's possible they might diminish as children interact more with peers and other sighted adults. They are now following up these children at the age of three to study their longer-term development. In the near future, they also want to explore development in another interesting group of babies—the hearing infants of deaf parents.

More information: *Current Biology*, Senju et al.:

"Early social experience affects the development of eye gaze processing"
dx.doi.org/10.1016/j.cub.2015.10.019

Provided by Cell Press