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Child Development, Parenting

Staring into a baby's eyes puts her brain waves and yours in sync

Laura Sanders | 3:30pm, December 05, 2017



MIND MELD Gazing into each other's eyes makes baby and adult brain waves sync up, a new study finds.

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When you lock eyes with a baby, it's hard to look away. For one thing, babies are fun to look at. They're so tiny and cute and interesting. For another, babies love to stare back. I remember my babies staring at me so hard, with their eyebrows raised and unblinking eyes wide open. They would have killed in a staring contest.

This mutual adoration of staring may be for a good reason. When a baby and an adult make eye contact, their brain waves fall in sync, too, a new study finds. And those shared patterns of brain activity may actually pave the way for better communication between baby and adult: Babies make more sweet, little sounds when their eyes are locked onto an adult who is looking back. The scientists report the results online November 28 in the *Proceedings of the National Academy of Sciences*.

Psychologist Victoria Leong of the University of Cambridge and Nanyang Technological University in Singapore and colleagues invited infants into the lab for two experiments. In the first, the team outfitted 17 8-month-old babies with EEG caps, headwear covered with electrodes that measure the collective behavior of nerve cells across the brain. The infants watched a video in which an experimenter, also outfitted in an EEG

cap, sung a nursery rhyme while looking either straight ahead at the baby, at the baby but with her head turned at a 20-degree angle, or away from the baby and with her head turned at a 20-degree angle.

When the researcher looked at the baby (either facing the baby or with her head slightly turned), the babies' brains responded, showing activity patterns that started to closely resemble those of the researcher.

The second experiment moved the test into real life. The same researcher from the video sat near 19 different babies. Again, both the babies and the researcher wore EEG caps to record their brain activity. The real-life eye contact prompted brain patterns similar to those seen in the video experiment: When eyes met, brain activity fell in sync; when eyes wandered, brain activity didn't match as closely.

The baby's and the adult's brain activity appeared to get in sync by meeting in the middle. When gazes were shared, a baby's brain waves became more like the researcher's, and the researcher's more like the baby's. That finding is "giving new insights into infants' amazing abilities to connect to, and tune in with, their adult caregivers," Leong says.

What are simpatico brain waves actually good for, you might ask? Well, researchers don't know exactly, but they have some ideas. When high school students' brain waves were in sync with one another, the kids reported being more engaged in the classroom, a recent study found. And when two adults reach a mutual understanding, their brains synchronize, too, says another study. These findings hint that such synchronization lets signals flow easily between two brains, though Leong says that much more research needs to be done before scientists understand synchronization's relevance to babies' communication and learning.

That easy signal sending is something that happened between the babies and the adult, too. When the experimenter was looking at the babies, the babies made more vocalizations. And in turn, these sweet sounds seemed to have made the experimenter's brain waves even more similar to those of the babies.

It's a beautiful cycle, it seems, when eyes and brains meet. And that meeting spot is probably where some interesting learning happens, for both adult and baby.

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