

Infants Fine-Tune Their Visual and Auditory Skills in First Year of Life, Psychologist Says

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Infants refine and narrow their ability to discriminate between things they see and hear in their first year, revealing what appears to be a decline in ability at a time when most other skills and functions are dramatically increasing, says Lisa S. Scott, assistant professor of psychology at the University of Massachusetts Amherst.

The observed process, however, may be an important recalibration of developing brain functions in infants that prepares them for later life, researchers say. The findings were published in a recent issue of *Current Directions in Psychological Science*, a journal of the Association for Psychological Science.

Scott and her colleagues report that between age 6 months and one year, infants undergo what is known as perceptual narrowing where the discrimination of perceptual information is broadly tuned at first and then declines to more selective levels with experience.

For example, in one study, 6-month-old infants were able to differentiate between two human faces as easily as two monkey faces, but 9-month-olds could only differentiate between two human faces. It was also shown that if infants are familiarized with monkey faces from age 6 months to 9 months they maintain the ability to tell the difference between two monkey faces.

Scott and her colleagues, Olivier Pascalis of the University of Sheffield in England, and Charles A. Nelson of Harvard Medical School and

Children's Hospital in Boston, say this process also takes place in other perceptual systems. In one test examining speech, 6-month-old infants could discriminate one sound from another from virtually every language, but by 9 months, this ability declines – unless the child receives experience with such sounds.

Scott says the research suggests that infants aren't undergoing a developmental regression, but rather a move toward greater efficiency in perceiving and processing "salient rather than less salient environmental input."

During development the human brain goes through a series of changes that are never again replicated throughout the lifespan, Scott says. "During this time the brain is sensitive and responsive to the surrounding environment. A dominant theme of this research is to understand how both typical and atypical experience influences the course of development and the organization of the brain.

She says her research examines "how we fine-tune our brains in an ever-changing world and how specific early experiences influence later abilities.

Source: University of Massachusetts Amherst

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