

Call of the Child

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Like a student in a foreign country or a young mother trying to decipher her baby's cries, we all encounter initially meaningless sounds that in fact carry meaning. With experience, we become better at detecting and discriminating between them.

But, how does this occur" Robert Liu and Christoph Schreiner at Emory University have found that with motherhood, the auditory cortex in female mice responds more quickly and robustly to the ultrasonic calls of mouse pups. Their work is published online this week in the open-access journal *PLoS Biology*.

Earlier studies demonstrated that mothers, but not virgin females, recognize pup calls as behaviorally significant. In the current study, Liu and Schreiner show that the timing and strength of the auditory cortical responses to these communicative sounds differ between these two groups of female mice: neurons in mother mice respond more quickly and robustly.

The authors further establish that this difference in neural response provides mothers with the capacity for detecting and discriminating pup calls. Their results demonstrate that behaviorally significant sounds, like the call of one's young, are associated with quantifiable functional improvements in the brain's representation of sound.

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