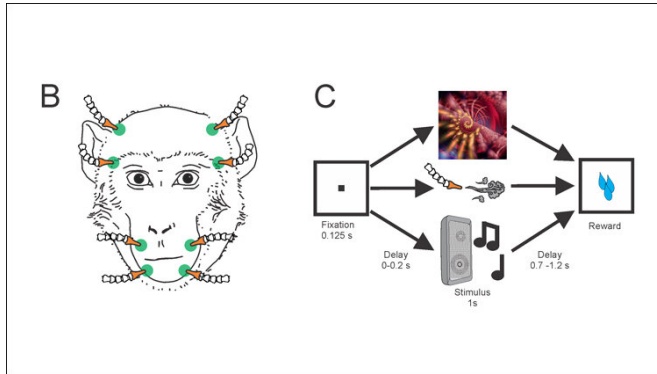


# Multitasking amygdala neurons respond to sights, sounds, and touch

11 March 2019



firing rates.

As the stimuli were unfamiliar and lacked social or emotional significance to the monkeys, this finding suggests the amygdala processes neutral sensory information in addition to more meaningful information. The research also challenges assumptions that the amygdala responds mainly to visual stimuli.

**More information:** Multisensory Neurons in the Primate Amygdala, *JNeurosci* (2019). [DOI: 10.1523/JNEUROSCI.2903-18.2019](https://doi.org/10.1523/JNEUROSCI.2903-18.2019)

Frontal view of the Loc-line hoses for tactile stimulation locations (green). All hoses were placed orthogonal to the surface of the skin at ~2 cm distance and directed toward non-sensitive areas (i.e., away from the eyes and ears). C. Task design. The monkey fixates a target cue on the monitor that is followed by either a visual, tactile, or auditory stimulus drawn at random from a stimulus set. Stimulus delivery is followed by a small juice reward. Credit: Morrow et al., *JNeurosci* (2019)

Provided by Society for Neuroscience

Individual neurons in the monkey amygdala that respond to touch also respond to imagery and sounds, according to new research published in *JNeurosci*. These cells may provide the building blocks needed to process multisensory social and emotional information.

Previous studies of the amygdala have identified populations of neurons responsive to different types of sensory information. To investigate the response of these neurons to randomly chosen visual, tactile, and [auditory stimuli](#)—as animals might encounter in their natural environment—Katalin Gothard and colleagues recorded the activity of single amygdala neurons from two male macaques. The researchers found most of the responsive cells they recorded across the amygdala responded to multiple types of stimuli, which could be differentiated by cellular

APA citation: Multitasking amygdala neurons respond to sights, sounds, and touch (2019, March 11) retrieved 4 May 2021 from <https://medicalxpress.com/news/2019-03-multitasking-amygdala-neurons-sights.html>

*This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.*