

# Infants Know Plants Provide Food, but Need to See They're Safe to Eat

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Infants as young as six months old tend to expect that plants are food sources, but only after an adult shows them that the food is safe to eat, according to new research published in [\*Psychological Science\*](#), a journal of the [Association for Psychological Science](#).

The findings show that, after watching an adult put part of a plant and part of a man-made object in her mouth, infants at 6- and 18-months of age preferentially identify the plant as the food source.

“Plants are often peripheral to modern life, but they were central to fundamental problems of determining what is food and what is fatal across evolutionary time,” says psychological scientist and study author Annie Wertz of Yale University. “Humans relied on gathered plant resources for food, but many plants are toxic and potentially deadly.”

So how do babies learn what’s good to eat and what’s not?

“Young children’s decisions about what to eat are, famously, not determined by simply copying adult behavior,” Wertz and co-author Karen Wynn note.

Wertz and Wynn hypothesized that, instead of imitating an adult’s behavior outright, children tend to go for specific types of entities — in this case, plants — but only when an adult does so first. They tested their hypothesis in four experiments.

Full-term 18-month-olds were presented with a realistic-looking artificial plant and an obviously man-made artifact, each of which had dried fruits attached. The infants watched an experimenter take one fruit off each object — the plant and the artifact — and place it in her mouth as if eating it.

The fruits were then taken off the plant and the artifact and the infants were asked, “Which one can you eat?”

The infants showed a clear preference for the fruits that came from the plant, despite the fact that they saw the same social information — the experimenter “eating” the fruit — applied to both objects.

The experiments further showed that the eating action was crucial to this plant-based bias: When the experimenter placed the fruits behind the ear, or merely looked at the plant and artifact instead of performing an action, infants chose randomly.

Younger infants, who have little to no experience with solid food, also showed evidence of a plant-based bias: Six-month-old infants looked longer at in-mouth actions when they were performed with fruits from the artifact, suggesting that this violated their expectations for edibility.

“Together, these experiments show that infants use social information from adults to rapidly and selectively identify plants as food sources,” says Wertz. “More broadly, this suggests that humans, unlike some other non-human primates, don’t simply consider anything that goes into the mouth to be food. Instead, they also take the type of object into consideration.”

Wertz notes that this social learning mechanism works in concert with other mechanisms, including sensitive periods for learning about food and aversions to certain tastes such as bitterness, which can signal something is poisonous.

“Human food learning is complex, and we’re only just starting to scratch the surface of these important questions,” she says.

On a practical level, Wertz believes that parents of young children may be able to put these findings to use:

“Knowing that infants may be biased to learn that fruits plucked from leafy green plants are edible suggests strategies for getting young children interested in eating novel fruits and vegetables, such as taking them to a ‘pick-your-own’ fruits and vegetables farm.”