

# Busy city living makes some house finches more savvy than others

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House finches that frequent North American cities and towns are better at solving new problems than their rural counterparts. They are able to solve new problems even when humans are around, says Meghan Cook of Arizona State University in the US, lead author of a study in Springer's journal *Behavioral Ecology and Sociobiology*. The study investigated how increased urbanization and human presence affects the behavior and foraging habits of wildlife, and how birds, in particular, cope.

The house finch (*Haemorhous mexicanus*) is a songbird native to the desert areas of North America. It is found in urban and rural areas of Mexico and the southwestern parts of the United States. Since the 1940s, the house finch has also successfully adapted to city living in, for instance, New York. Its natural diet consists of seeds, fruits and buds, and in urban areas it also frequents bird feeders.

The research team captured and ringed 82 juvenile house finches from two sites in the Phoenix metropolitan area, and two other sites in nearby regional parks. The [birds](#) were then housed in captivity on the campus of the Arizona State University. About two weeks later the first trials were conducted in two identical animal-approved rooms, which were designed to minimize other disturbances. Each trial tested one bird at a time with no humans present. The second part of the experiment took place five weeks later after the birds had experienced different levels of human disturbance. All birds were presented with a small tin container covered with a sliding lid which was half-filled with sunflower seeds and

attached to an empty food dish. This was done to see if the birds would successfully attempt to open the tin container to feed.

Overall, finches solved the foraging problem with similar success in the pre- and the post disturbance trials, with 26 percent and 18 percent of them respectively being able to slide the lid open to find the food. Their increased age or previous experiences did not help the birds solve the conundrum better.

A bird's success was affected by the interplay between the level of human disturbance that was experienced, and where a bird was originally captured. In particular, rural birds that experienced high disturbance performed much worse on the problem-solving task.

"In fact, unlike urban birds, not a single rural bird tested solved the novel foraging problem after they were subjected to the high human-disturbance treatment," says Cook.

The research team also established that the ability to focus on a task at hand without being distracted increased a bird's chances of success. Focus was measured by looking at the average time that a bird inspected the dish in one go.

"The findings suggest that city birds have habituated and/or adapted to typically benign human presence, but rural birds (with less frequent interactions with humans) may still perceive humans as threatening, which then interferes with their ability to solve a problem," explains Cook.

**More information:** Meghan O. Cook et al, The effects of urbanization and human disturbance on problem solving in juvenile house finches (*Haemorrhous mexicanus*), *Behavioral Ecology and Sociobiology* (2017). [DOI: 10.1007/s00265-017-2304-6](https://doi.org/10.1007/s00265-017-2304-6)

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