

Personality matters, even for squirrels

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Golden-mantled ground squirrels do indeed have personality, a UC Davis study confirms. Credit: Jaclyn Aliperti, UC Davis

Humans acknowledge that personality goes a long way, at least for our species. But scientists have been more hesitant to ascribe personality—defined as consistent behavior over time—to other animals.

A study from the University of California, Davis is the first to document [personality](#) in golden-mantled [ground squirrels](#), which are common across the western U.S. and parts of Canada. The study, published in the journal *Animal Behaviour*, found the squirrels show personality for four main traits: boldness, aggressiveness, activity level and sociability.

While the golden-mantled ground [squirrel](#) is under no conservation threat, the findings suggest that understanding how an animal's personality influences use of space is important for [wildlife conservation](#).

'Individuals matter'

To see them chitter and skitter, stop and then scurry, the fact that ground squirrels have personalities may not seem surprising. But the scientific field of animal personality is relatively young, as is the recognition that there are ecological consequences of animal personality. For instance, bolder, more aggressive squirrels may find more food or defend a larger territory, but their risky behavior may also make them vulnerable to predation or accidents.

"This adds to the small but growing number of studies showing that individuals matter," said lead author Jaclyn Aliperti, who conducted the study while earning her Ph.D. in ecology at UC Davis. "Accounting for personality in wildlife management may be especially important when predicting wildlife responses to new conditions, such as changes or destruction of habitat due to human activity."

Personality tests

Scientists have been studying golden-mantled ground squirrels at the Rocky Mountain Biological Laboratory in Gothic, Colorado for decades.

It was established as a long-term study site more than 30 years ago by Aliperti's advisor, Dirk Van Vuren, a professor in the UC Davis Department of Wildlife, Fish and Conservation Biology.



A golden-mantled ground squirrel looks at its reflection in a mirror simulation experiment by UC Davis. Credit: Jaclyn Aliperti, UC Davis

Aliperti drew from this powerful data set for her study, while also

initiating a series of experiments there over the course of three summers to observe and quantify the squirrels' personalities.

She notes that while there are no Meyers-Briggs tests for [animals](#), there are standardized approaches to quantifying animal personalities. She observed and recorded squirrel responses to four tests:

- Novel environment: Squirrels were placed in an enclosed box with gridded lines and holes.
- Mirror: Squirrels are presented with their mirror image, which they do not recognize as their own.
- Flight initiative: Squirrels were approached slowly in the wild to see how long they wait before running away.
- Behavior-in-trap: Squirrels were caught, unharmed, in a simple trap and their behavior briefly observed.

The social squirrel's advantage

Overall, the study found that bolder squirrels had larger core areas where they concentrated their activity. Bold, active squirrels moved faster. Also, squirrels that were bolder, more aggressive and more active had greater access to perches, such as rocks. Perch access is important because it can provide a better vantage point for seeing and evading predators. Interestingly, perch access was also associated with sociability.

Golden-mantled ground squirrels are considered an asocial species. They are relatively small, giving them little opportunity to form the tighter social bonds common in larger ground squirrels, which typically spend more time in family units while reaching maturity. However, the study said that "within this asocial species, individuals that tend to be relatively more social seem to have an advantage."

In such cases, being more social could save an individual's life. Such personality differences can influence a squirrel's ability to survive and reproduce, which could scale up to the population or community level.

Squirrels of Davis

UC Davis is home to many squirrels, which have become an honorary mascot of sorts on campus.

"The squirrels of UC Davis are something else," said Aliperti.

She means it literally. They are tree squirrels and very different from the ground squirrels Aliperti studied. Yet she says her work has changed how she views the squirrels of Davis.

"I view them more as individuals," Aliperti said. "I view them as, 'Who are you? Where are you going? What are up to?' versus on a species level."

Noticing such individuality brings a more personal angle to viewing wildlife.

"Animal personality is a hard science, but if it makes you relate to animals more, maybe people will be more interested in conserving them," said Aliperti.

In addition to Aliperti and Van Vuren, the study's coauthors include Brittany Davis, Nann Fangue, and Anne Todgham of UC Davis.

More information: Bridging animal personality with space- and resource use in a free-ranging population of an asocial ground squirrel, *Animal Behaviour* (2021).

Provided by UC Davis

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