

Lizard learning ability not affected by home environment

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Credit: Julia Riley

In a first-of-its-kind study, researchers have found that the learning ability of a social, family-oriented lizard, the Australian tree skink, is not affected by the environment they were raised in.

Previous behavioural studies have shown that for social animals, such as humans, rats and chickens, being removed from [social contact](#) during early [development](#) negatively affects development – in particular, it hinders learning ability.

In their study, the researchers, Julia Riley and Associate Professor Martin Whiting from the Department of Biological Sciences, presented each lizard with a complex spatial maze – each lizard had to navigate a set of five ladders and three ledges to access a food reward.

In results published in *Animal Cognition*, the researchers found almost the exact same number of skinks – whether raised alone or with other skinks – were able to learn the complex task and appeared to be unaffected by their early social environment.

"Because these [lizards](#) are social, we predicted that skinks raised in social isolation would have reduced learning ability compared to skinks raised socially. However, this is not the case. These lizards were able to learn to navigate this complex spatial maze whether they lived by themselves or with a 'roommate,'" said Riley.

"These are unexpected results. Despite being family-oriented, the Australian Tree Skink's learning ability is not linked to growing up with others. This unique study looking at how social factors affect development in less-obviously [social animals](#), for the first time in a reptile, increases our understanding of the consequences of being social across diverse social systems."

Australian tree skinks (*Egernia striolata*) are a common lizard found throughout southeastern Australia. In the wild, these lizards are often found in family groups – most often parents and offspring are found together.

However, each lizard varies in sociability – there are both loners and social butterflies and their variable social nature make the Australian tree skink an ideal species to study how a social environment can affect their behaviour during development.

"Tree skinks naturally vary in their individual personalities or need for social contact, so growing up alone may be a normal option in the wild and is less stressful for them. Alternatively, the presence of a parent while growing up may be what affects development of tree skink [learning ability](#)," said Associate Professor Whiting.

More information: Julia L. Riley et al. Does social environment influence learning ability in a family-living lizard?, *Animal Cognition* (2016). [DOI: 10.1007/s10071-016-1068-0](https://doi.org/10.1007/s10071-016-1068-0)

Provided by Macquarie University

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