Cognitive processes are robust to early environmental conditions in two lizard species

Pablo Recio1, , Dalton C. Leibold1, Ondi L. Crino 1,2, Kristoffer H. Wild1,3, Christopher R. Friesen4, Basile Mauclaire1,5, Amelia Y. Peardon 1, Daniel W.A. Noble1

1 Division of Ecology and Evolution, Research School of Biology, The Australian National University, Canberra, ACT 2601, Australia  
2 Flinder’s University, College of Science and Engineering, Bedford Park, SA 5042, Australia  
3 Melbourne University, Melbourne, VIC 3000, Australia  
4 University of Wollongong, Wollongong, NSW 2500, Australia  
5 Université de Lille, Lille 59000, France  
 Corresponding author: pablo.reciosantiago@anu.edu.au

ORCID:

Pablo Recio ORCID: 0000-0002-5890-0218  
Dalton C. Leibold ORCID: 0000-0001-9645-2033  
Ondi L. Crino ORCID: 0000-0001-5700-1387  
Kristoffer H. Wild ORCID: 0000-0001-6714-3311  
Christopher R. Friesen ORCID: 0000-0001-5338-7454  
Basile Mauclaire ORCID:  
Amelia Y. Peardon ORCID: 0009-0005-6227-8379  
Daniel W.A. Noble ORCID: 0000-0001-9460-8743

## Acknowledgements

We thank the help and assistance of our lab technicians Benjamin Durant and Michelle Stephens for taking care of the lizards. We are also grateful to ACTHA for the grant for the 3D printed ramps, and we also thank ANU MakerSpace, where we designed and built the prototypes of the 3D printed ramps. Finally, we wish to acknowledge the anonymous reviewers for their valuable feedback on the manuscript.

## Funding

This work was supported by a National Australian University fellowship (PR), the Australian Research Council (grant no. DP210101152) to DN and CRF, and the ACT Herpetological Association grant to PR.

## Authors’ contributions

PR: conceptualization, methodology, data collection, data curation, formal analysis, writing—original draft, writing—review and editing; DCL: data collection, writing—review and editing; OC: conceptualization, methodology, writing—review and editing; KW: conceptualization, writing—review and editing; CRF: conceptualization, methodology, funding acquisition, writing—review and editing; BM: data collection, writing—review and editing; AP: data collection, writing—review and editing; DN: conceptualization, methodology, funding acquisition, project administration, resources, supervision, writing—review and editing. All authors gave final approval for publication and agreed to be held accountable for the work performed therein.

## Data accessibility

All data, data description, and R code are available in public repository <https://github.com/Pablo-Recio/CORT_Temp_learning>.

## 

## Satements and declarations

#### Competing Interests

We declare we have no competing interests

#### Conflict of Interest

We declare we have no conflict of interest

#### Ethical Approval

All experimental procedures and laboratory housing complied with Australian law and were approved by the Australian National University Animal Experimentation Ethics Committee (A2022\_33).