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► **To cite this version:**

Siloé Corvin, Alexis Koutseff, David Reby, Roland Peyron, Nicolas Mathevon, et al.. Adults construct their representation of pain in babies cries with experience. 12th Congress of the European Pain Federation EFIC, Apr 2022, Dublin, Ireland. hal-04719265

**HAL Id: hal-04719265**

**<https://hal.science/hal-04719265v1>**

Submitted on 3 Oct 2024

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# Adults construct their representation of pain in babies cries with experience

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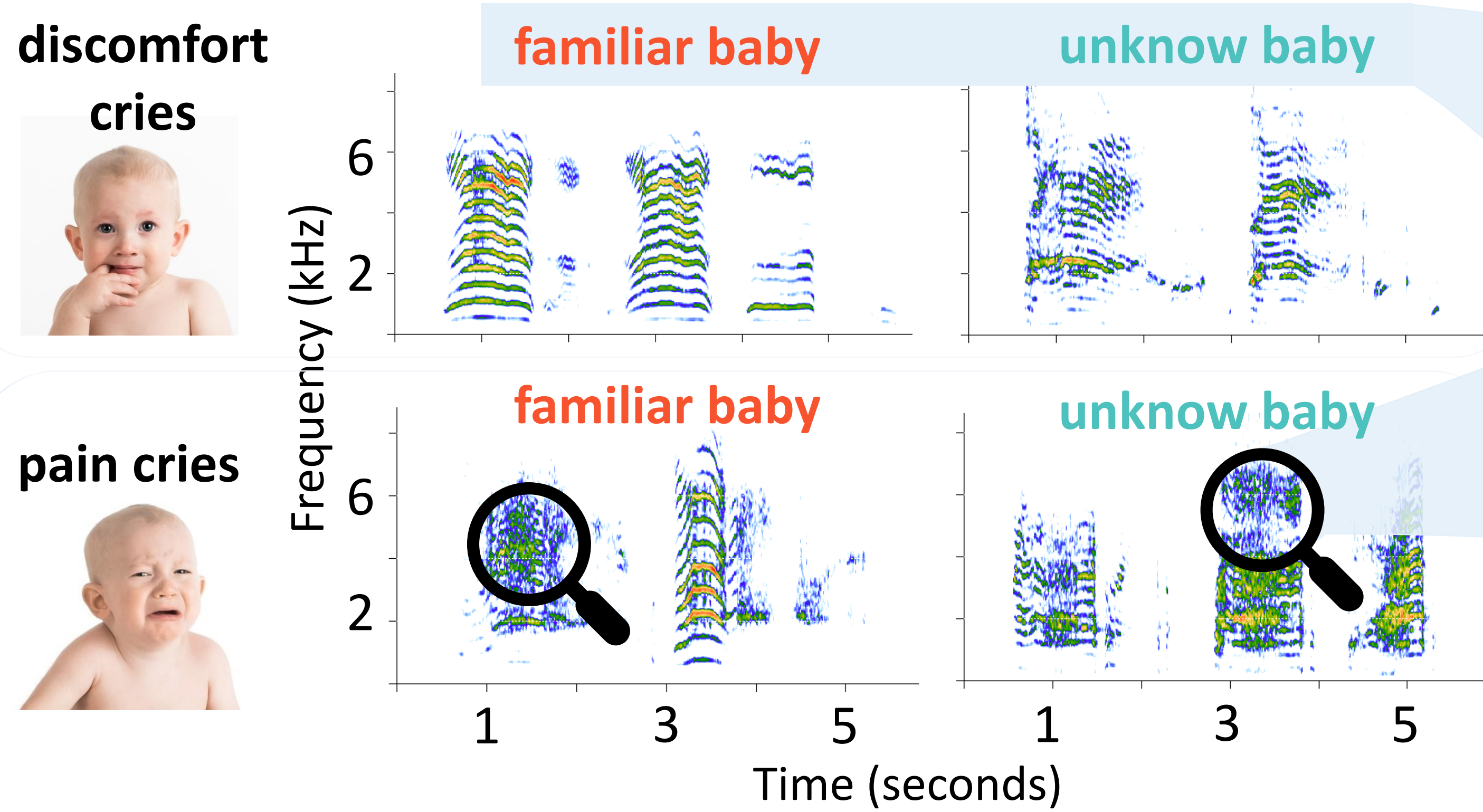
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P360

## Background: babies cries convey information through acoustic differences



Graphical representations of cries from two different babies

### Individual characteristics

**Familiar babies** are recognized by parents<sup>1</sup> and non-parents<sup>2</sup>  
Experience and exposure improve this ability

### Emotional and physiological state

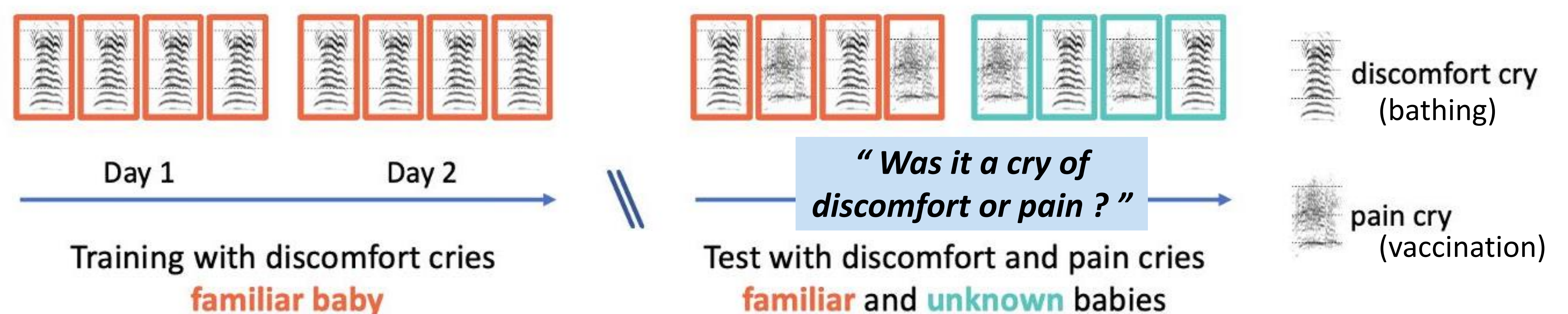
Pain cries are longer, louder, harsher and rougher  
Parents identify a pain state by listening to their baby's cries<sup>3</sup>

Does an *individual's* experience to take care of babies and familiarity with a given baby improve caregivers' ability to recognize pain in cries ?

## Experimental design

Online experiment

234 participants (133 women) with various experience in babies care

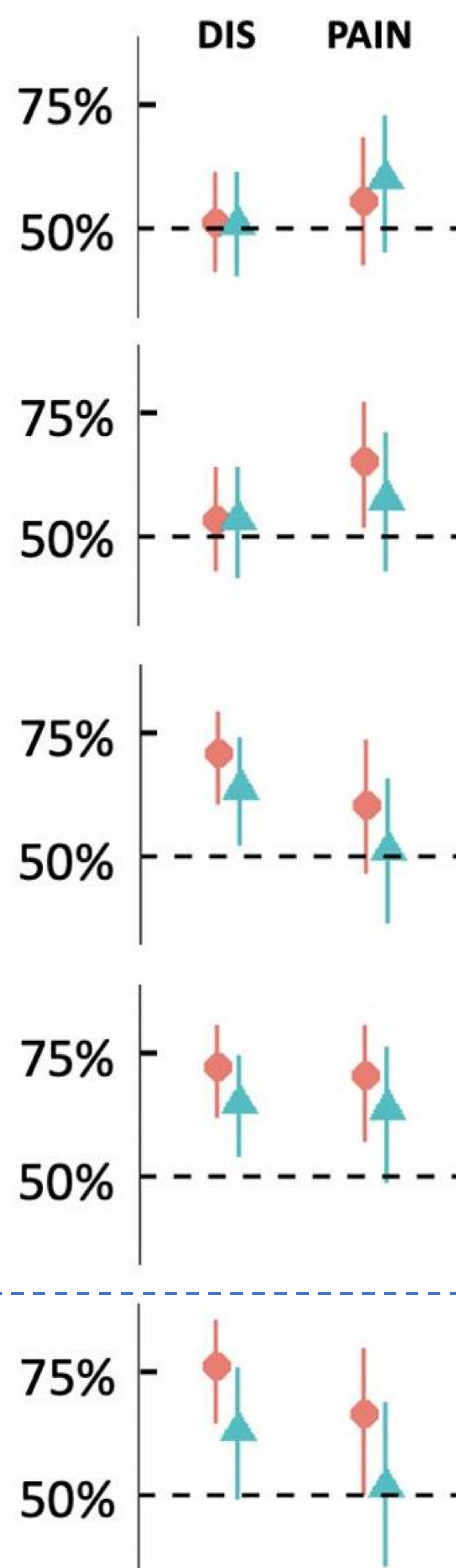


### Five levels of experience

- No experience (no previous contact with babies; N = 50)
- Moderate experience (babysitting, younger siblings; N = 51)
- Strong experience parents (with > 5 years-old baby; N = 50)
- Strong experience parents (with < 2 years-old baby; N = 52)
- Strong experience non parents (professional caregivers; N = 31)

### Context recognition accuracy

Bayesian mixed model



### Ability to identify cries context

- Poor recognition of cries context
- Effective recognition of pain cries for a familiar baby
- Effective recognition of cries context for a familiar baby and of bath context for an unknown baby
- Effective recognition of cries context for both a familiar and an unknown baby
- Effective recognition of cries context for a familiar baby and of bath context for an unknown baby

DIS discomfort cry (familiar baby)  
PAIN pain cry (unknown baby)  
50 % = chance level for context recognition (discomfort or pain)

### Conclusion

Previous **experience** with babies **facilitates** the correct **identification** of acoustic features coding for pain in baby cries.

Only **parents with younger babies** were able to **generalize** and identify crying contexts for an unknown baby, even professional caregivers were not.

Want to give it a try ?

Scan the QR code to test a short version of the experiment.



References: 1 Gustafsson et al., 2013, *Nat. Commun.* ; 2 Bouchet et al., 2020, *Proc. Biol. Sci.* ; 3 Koutseff et al., 2017, *Bioacoustics*

This work was supported by the "Fondation pour la Recherche Médicale" (grant ECO202006011648 to Siloé Corvin) and by the "Agence Nationale de la Recherche" (grant ANR-19-CE28-0014-01).