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Adults construct their representation of pain in babies cries with experience

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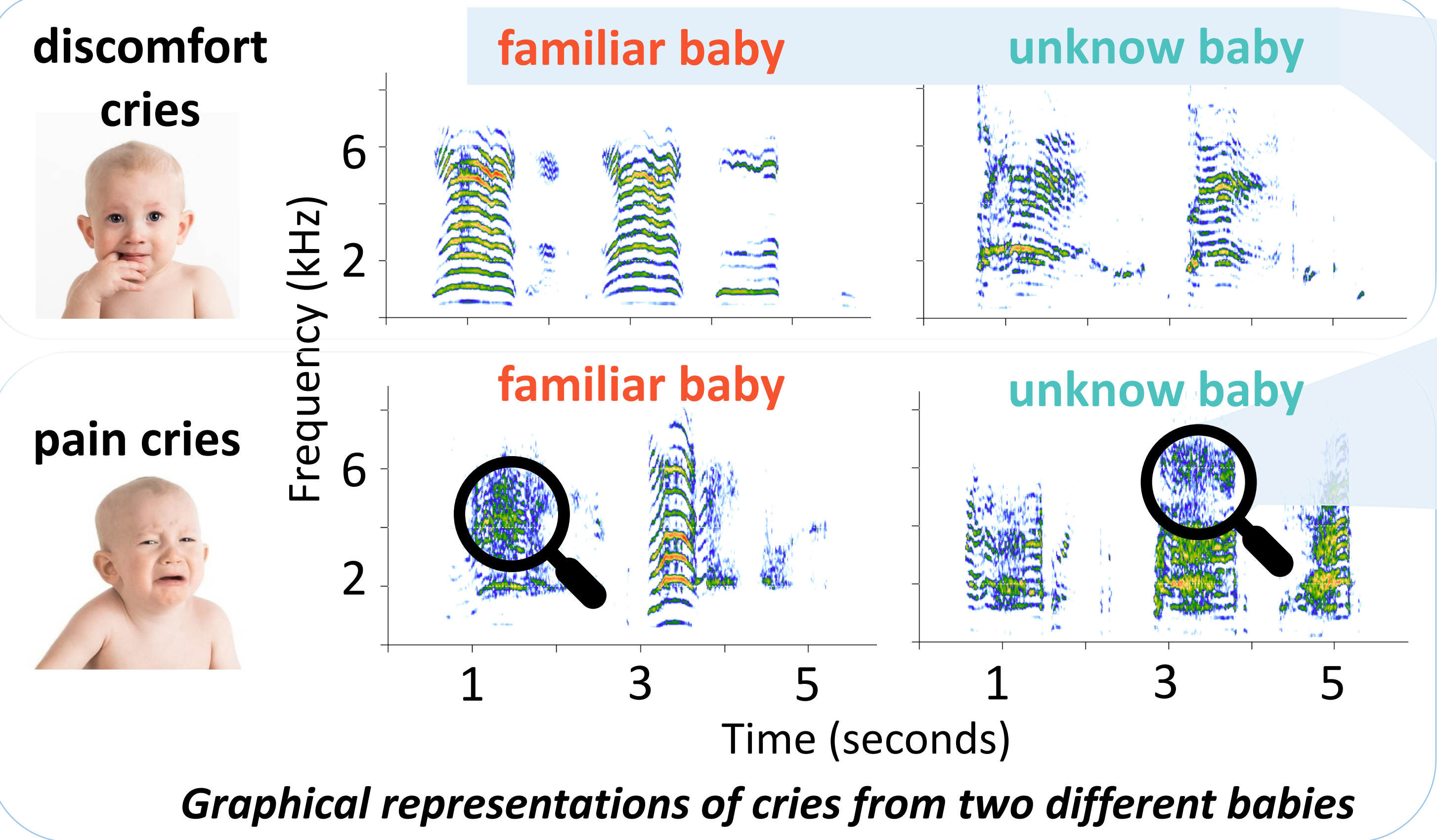
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Background: babies cries convey information through acoustic differences



Individual characteristics
Familiar babies are recognized by parents¹ and non-parents²
Experience and exposure improve this ability

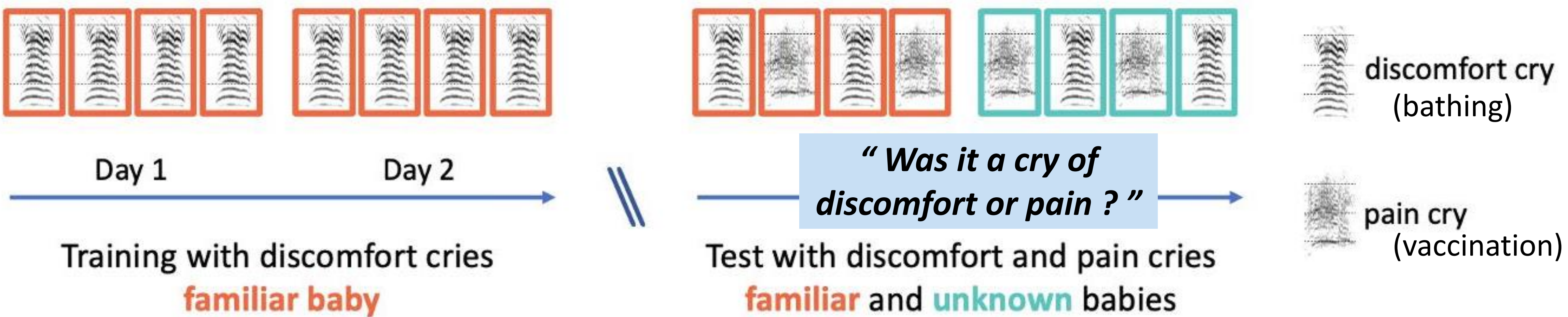
Emotional and physiological state
Pain cries are longer, louder, harsher and rougher
Parents identify a pain state by listening to their baby's cries³

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)

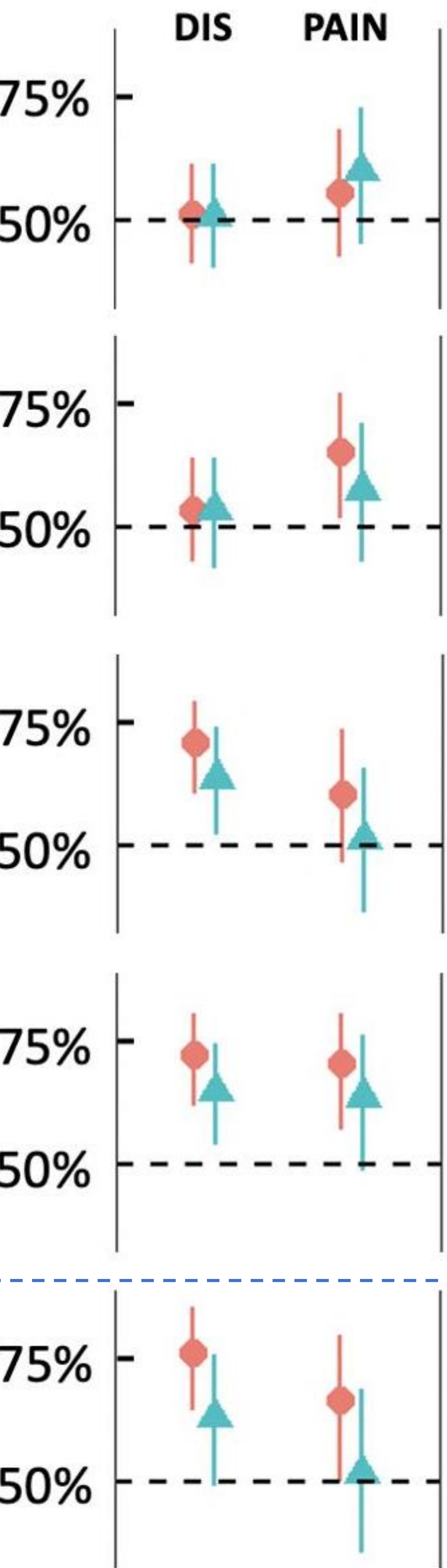
Moderate experience (babysitting, younger siblings; N = 51)

Strong experience parents (with > 5 years-old baby; N = 50)

Strong experience parents (with < 2 years-old baby; N = 52)

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
PAIN pain cry

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*

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