

Respiratory and Cardiac Interoceptive Sensitivity in 9-month-old infants

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Introduction

Recent theoretical approaches have highlighted the importance of **interoception** for early development in infancy.¹

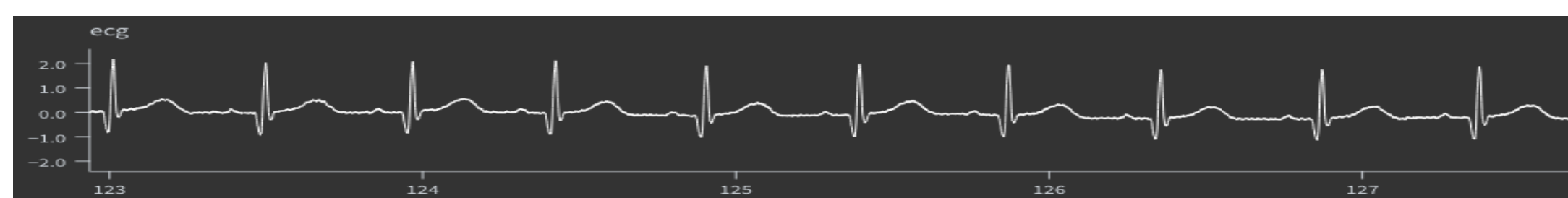
However, **empirical results** regarding the development of interoception in infancy **are lacking**. In fact, to date only one published study has investigated cardiac interoceptive sensitivity in 5-month-old infants.²

Here we aim at providing insights into early interoceptive sensitivity by reporting preliminary results of a study investigating **cardiac-** and **respiratory** interoceptive sensitivity in 9-month-old infants.

iBeat: cardiac interoceptive sensitivity

- we **replicated** the iBeat paradigm²: Infants are presented with stimuli pulsating either synchronously or asynchronously with their own heartbeat, while looking time is measured using eyetracking.

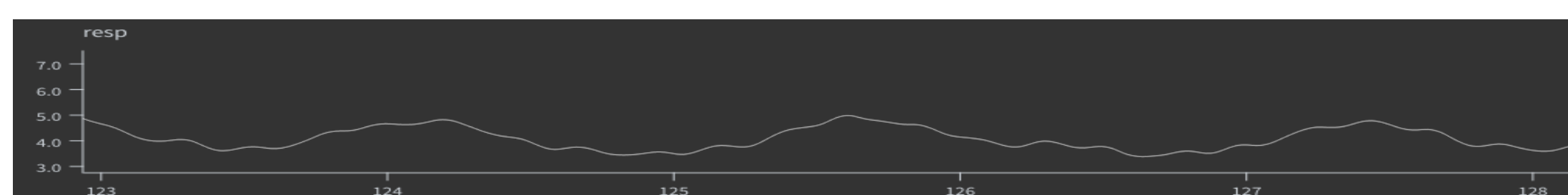
- Example trials: <https://youtu.be/PD0nu04E-Tg>



iBreath: respiratory interoceptive sensitivity

- we created the **novel** iBreath paradigm: Infants are presented with stimuli expanding either synchronously or asynchronously with their own breathing, while looking time is measured using eyetracking.

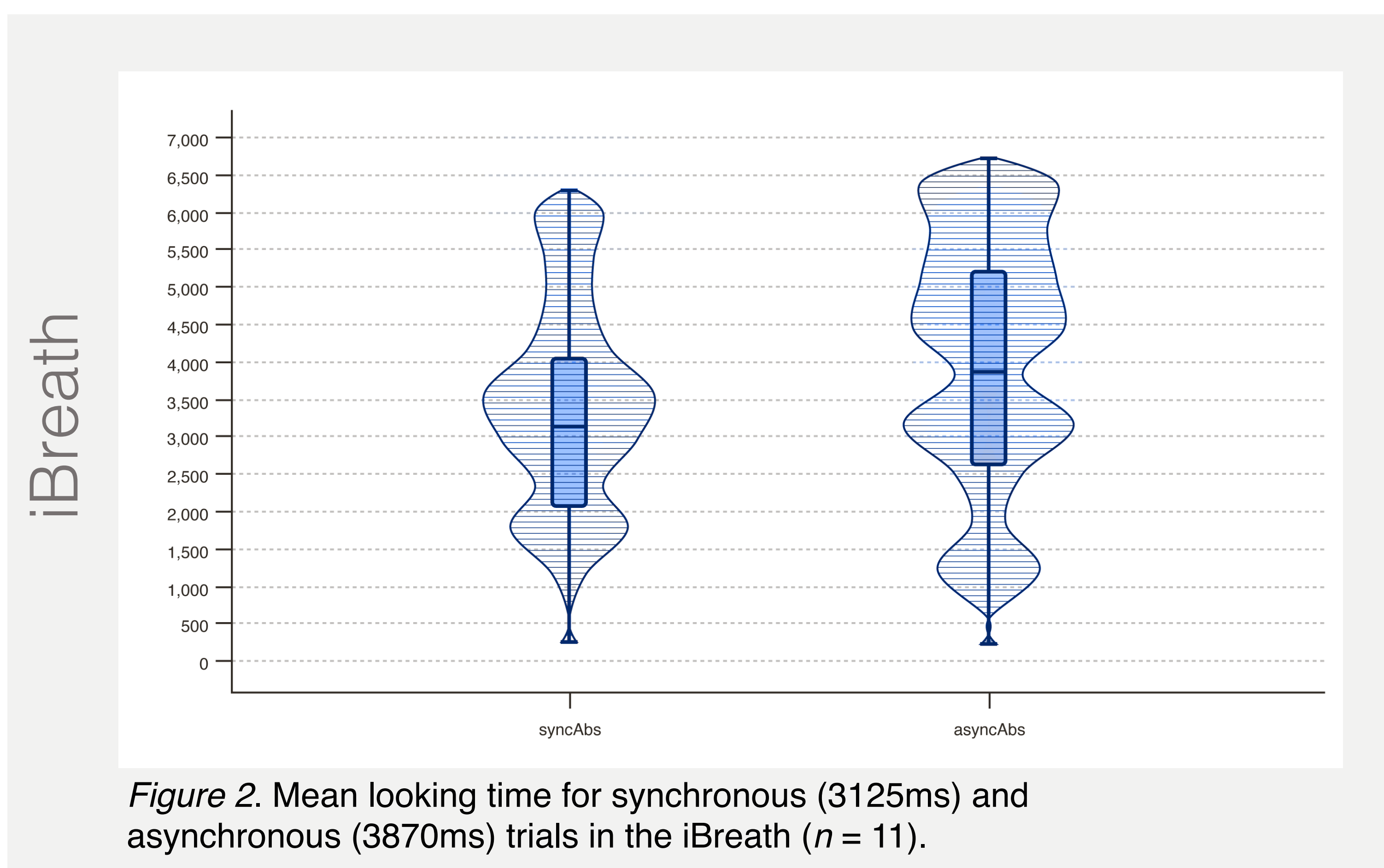
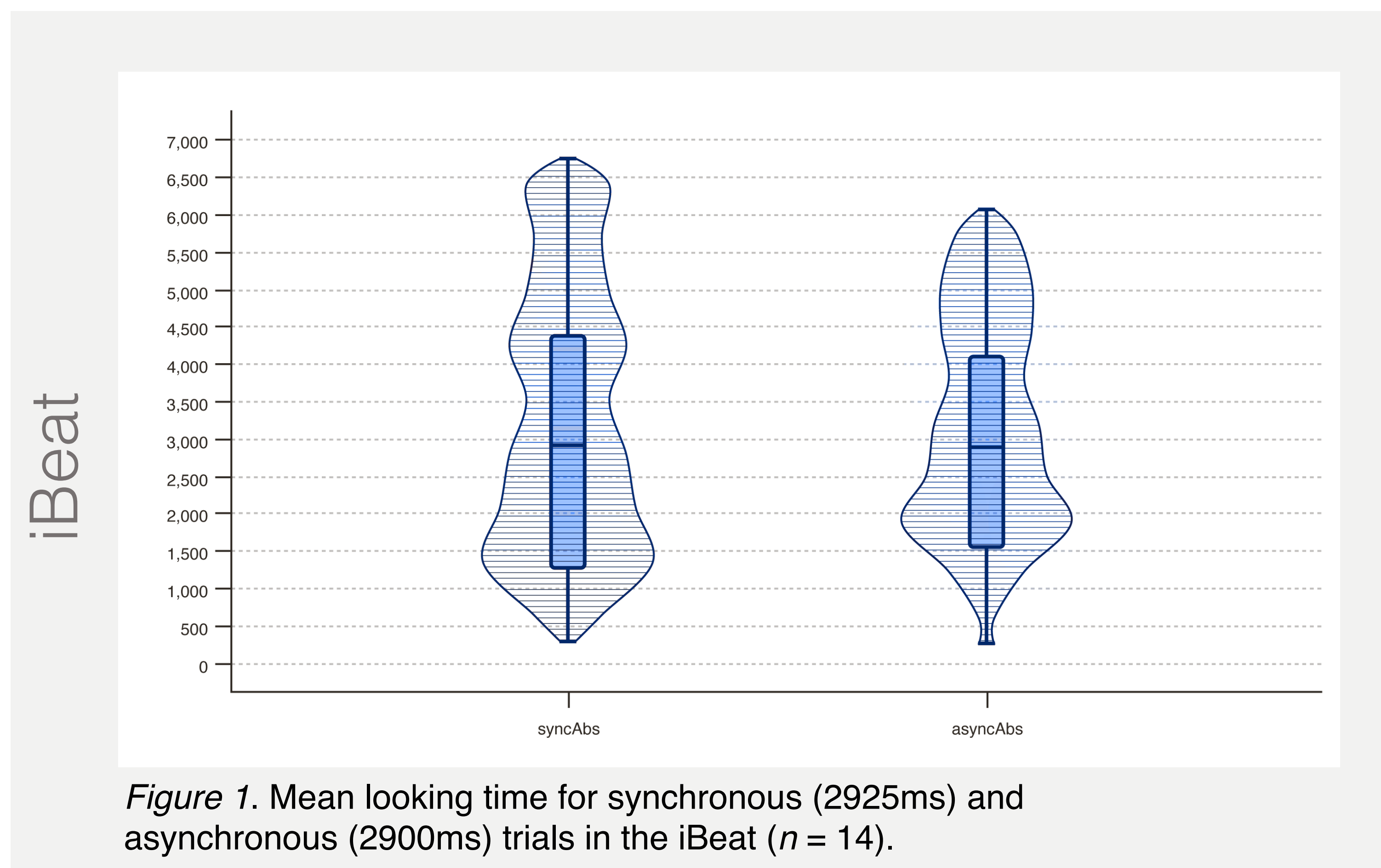
- Example trials: <https://youtu.be/vTnqrzNqRDk>



Methods

Interactive dashboard: www.ibxx.at

- To visualize our results, we created an interactive dashboard that can be accessed via the link above.



Discussion

Descriptive results indicate that infants were able to distinguish between synchronous and asynchronous stimuli in the iBreath. For the iBeat differences between both conditions remain small.

As the next step, we will continue the data collection and analyses based on our **preregistered protocol**. We will further characterize the development of interoceptive sensitivity in infancy and its relation to the development of social cognitive abilities.

Interoception = perception of internal bodily signals

Interoceptive sensitivity = individual differences to interoceptive input

iBeat = experimental paradigm to measure cardiac interoceptive sensitivity in infants

iBreath = experimental paradigm to measure respiratory interoceptive sensitivity in infants

Key Terms

¹ Fotopolou & Tsakiris (2017). Mentalizing homeostasis: The social origins of interoceptive inference. *Neuropsychanalysis*. doi.org/10.1080/15294145.2017.1294031

² Maister, Tang, & Tsakiris (2017). Neurobehavioral evidence of interoceptive sensitivity in early infancy. *eLife*. doi:10.7554/eLife.25318

References

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