

# A music intervention for children with reading disorders and its assessment method

Maria Ioanna Zavogianni<sup>1,2</sup>, Maja Kelić<sup>3</sup> & Ferenc Honbolygó<sup>1,4</sup>

<sup>1</sup> Brain Imaging Centre, Research Centre for Natural Sciences, Budapest, Hungary

<sup>2</sup> Faculty of Modern Philology and Social Sciences, Multilingualism Doctoral School, University of Pannonia, Veszprém, Hungary

<sup>3</sup> University of Rijeka, Rijeka, Croatia

<sup>4</sup> Institute of Psychology, ELTE Eötvös Loránd University, Budapest, Hungary

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## BACKGROUND

- music and speech share same networks (Kraus & Chandrasekaran, 2010)
- PATH & entrainment (Tierney & Kraus, 2014)
- music trainings can enhance linguistic processes (e.g., categorical perception, phonological awareness) & cognitive abilities (e.g., working memory) in children with reading disorders (Flaugnacco et al., 2015; Habib et al., 2016; Frey et al., 2019)

## AIM

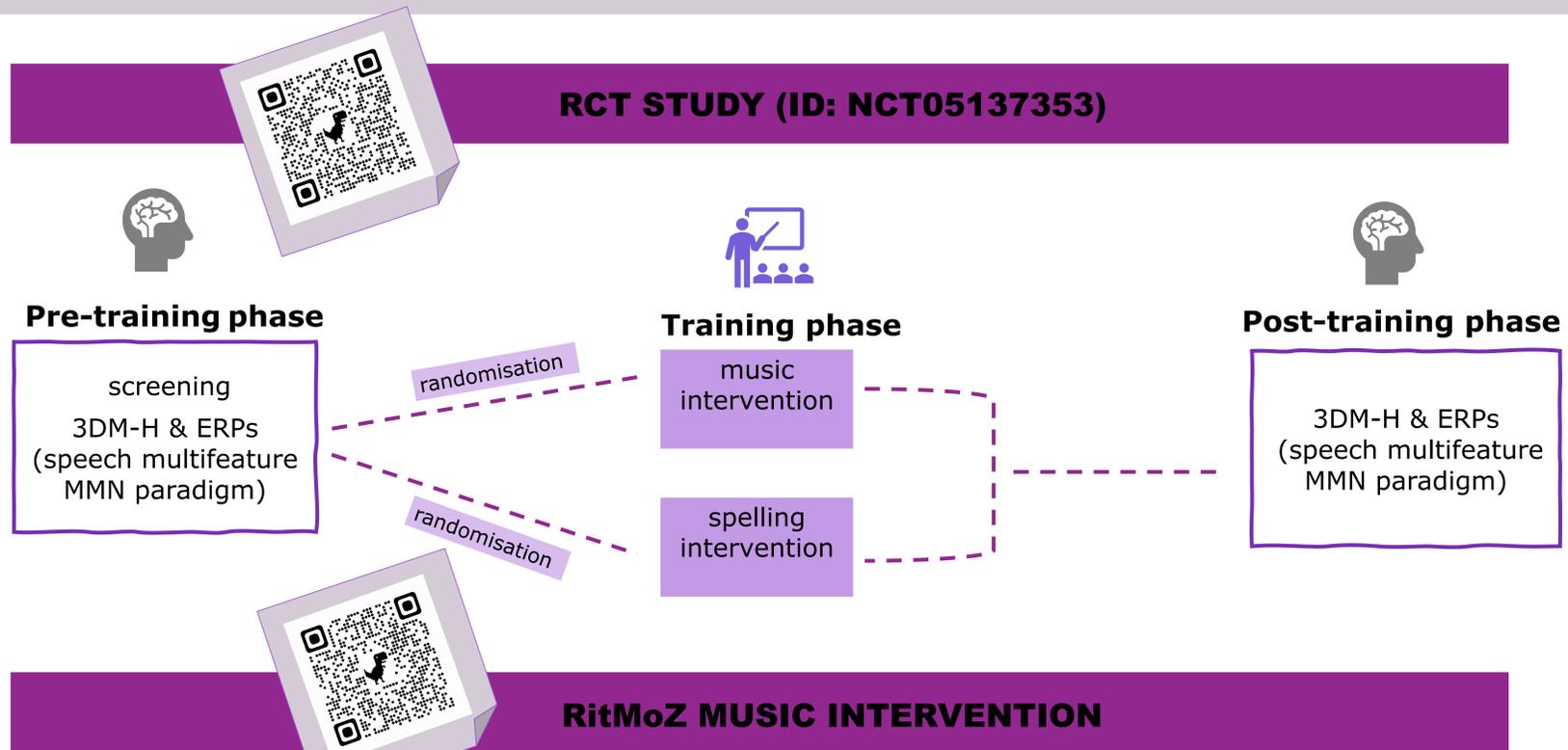
- to assess efficacy of a music intervention aimed at elementary school children with reading disorders
- to train underlying aspects of reading disorders

## RESULTS & DISCUSSION

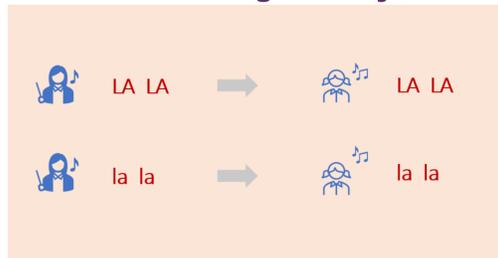
- In pre-training phase:
  - low scores in digit span task, reading fluency & pseudoword reading tasks
  - statistically non significant Mismatch Negativity responses during the Event-Related Potentials (ERPs) paradigm
- In post-training phase:
  - music intervention is expected to enhance phonological awareness, phonological working memory and auditory discrimination of phonological and acoustic changes within pseudowords

➔ Results will be discussed in the light of previous literature

## METHODS



### Matching Activity



### Nursery Rhymes

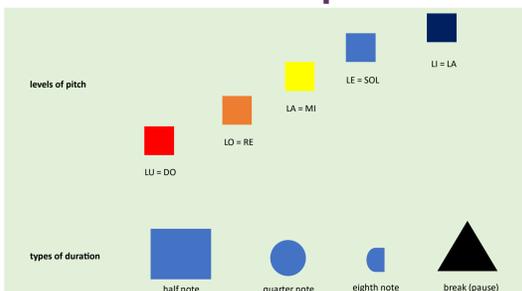


### Rhythmic Stimulations

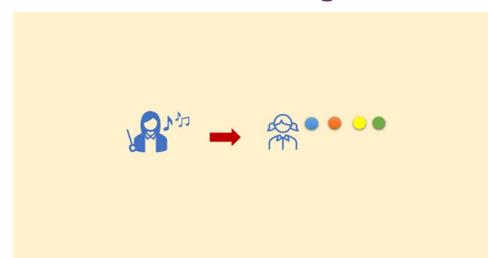


embodiment

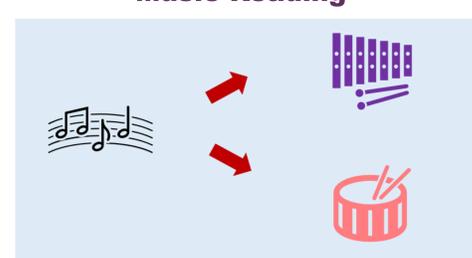
### Music Shapes



### Music Writing



### Music Reading



entrainment

### TRAINING TIMELINE

1.5 months  
90 mins/ session  
2 sessions/ week

6 weeks

### Acknowledgements

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### References

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