

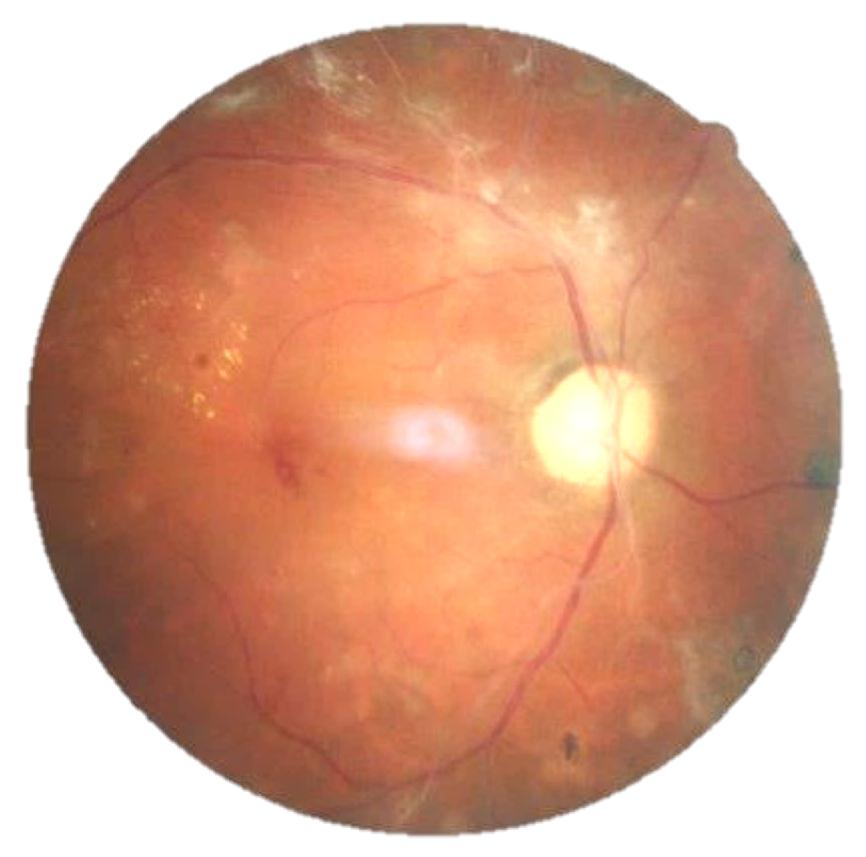
Frontal midline theta predicts diagnosis style in a medical similarity judgement task

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INTRODUCTION

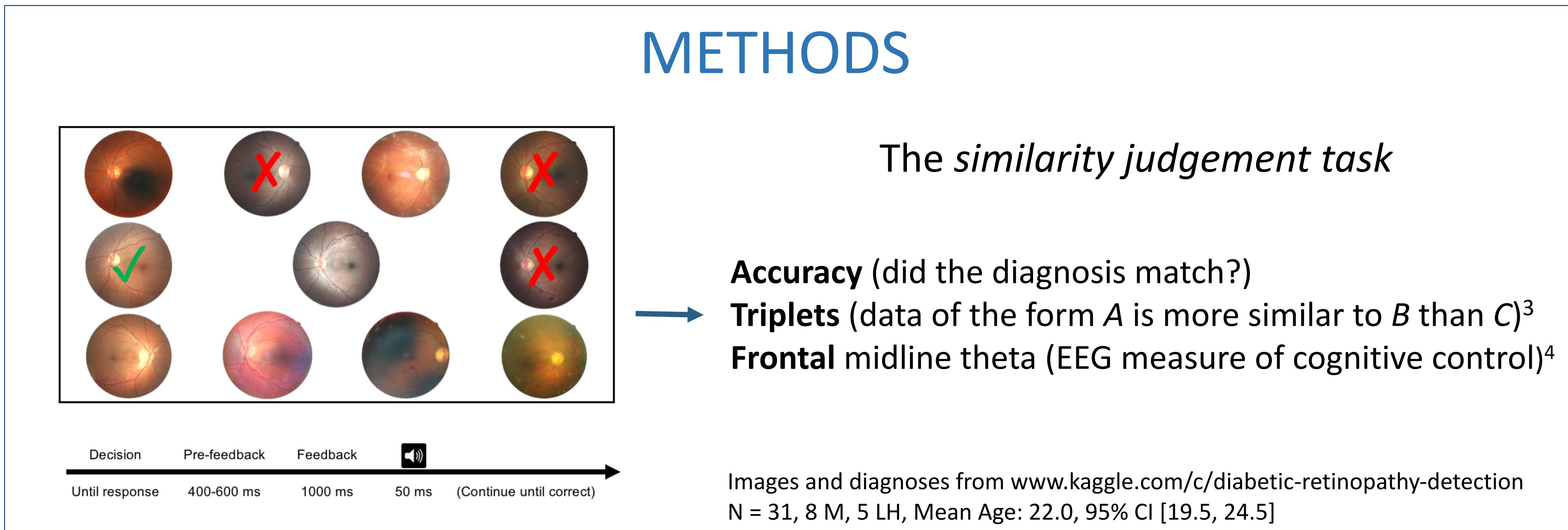


Diabetic retinopathy features¹

- Diabetic retinopathy is diagnosed via the examination of images
- Severity scale: none, mild, moderate, severe, proliferative
- Early-career MDs report low confidence in diagnosing diabetic retinopathy². Why?

Rule-based
learning
(severity scale)

Implicit
categorization
(perceptual space)

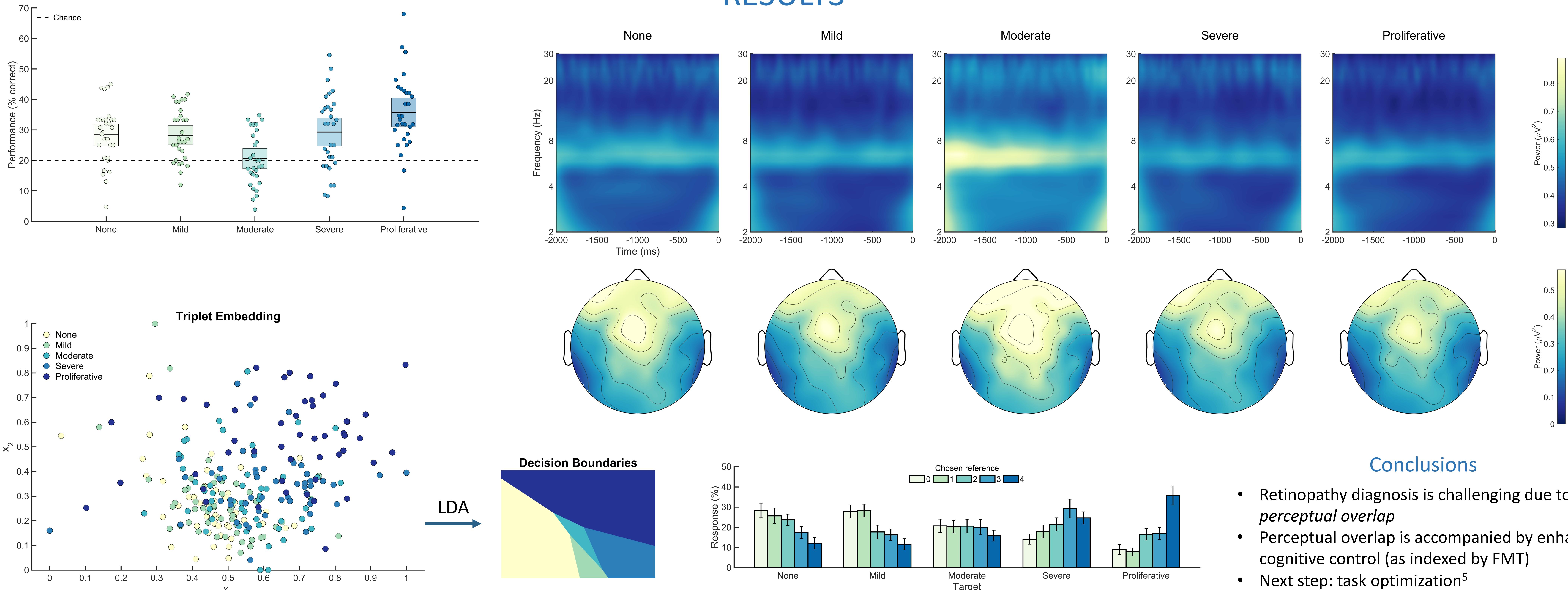


The similarity judgement task

- Accuracy (did the diagnosis match?)
- Triplets (data of the form A is more similar to B than C)³
- Frontal midline theta (EEG measure of cognitive control)⁴

Images and diagnoses from www.kaggle.com/c/diabetic-retinopathy-detection
N = 31, 8 M, 5 LH, Mean Age: 22.0, 95% CI [19.5, 24.5]

RESULTS



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4. Cavanagh, J. F., & Frank, M. J. (2014). Frontal theta as a mechanism for cognitive control. *Trends in Cognitive Sciences*, 18(8), 414–421.

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