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► **To cite this version:**

Elisa Gavard, Valérie C Chanoine, Franziska Geringswald, Yufei Tan, Eddy C Cavalli, et al.. Semantic and syntactic prediction in reading and statistical learning: an fMRI study in dyslexia. Society for the Neurobiology of Language 15th Annual Meeting, Oct 2023, Marseille (13), France. hal-04292818

HAL Id: hal-04292818

<https://hal.science/hal-04292818v1>

Submitted on 20 Nov 2023

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SEMANTIC AND SYNTACTIC PREDICTION IN READING AND STATISTICAL LEARNING: AN fMRI STUDY IN DYSLEXIA



Elisa Gavard, Valérie Chanoine, Franziska Geringswald, Yufei Tan, Eddy Cavalli, Jean-Luc Anton & Johannes C. Ziegler

✉ elisa.gavard@univ-amu.fr



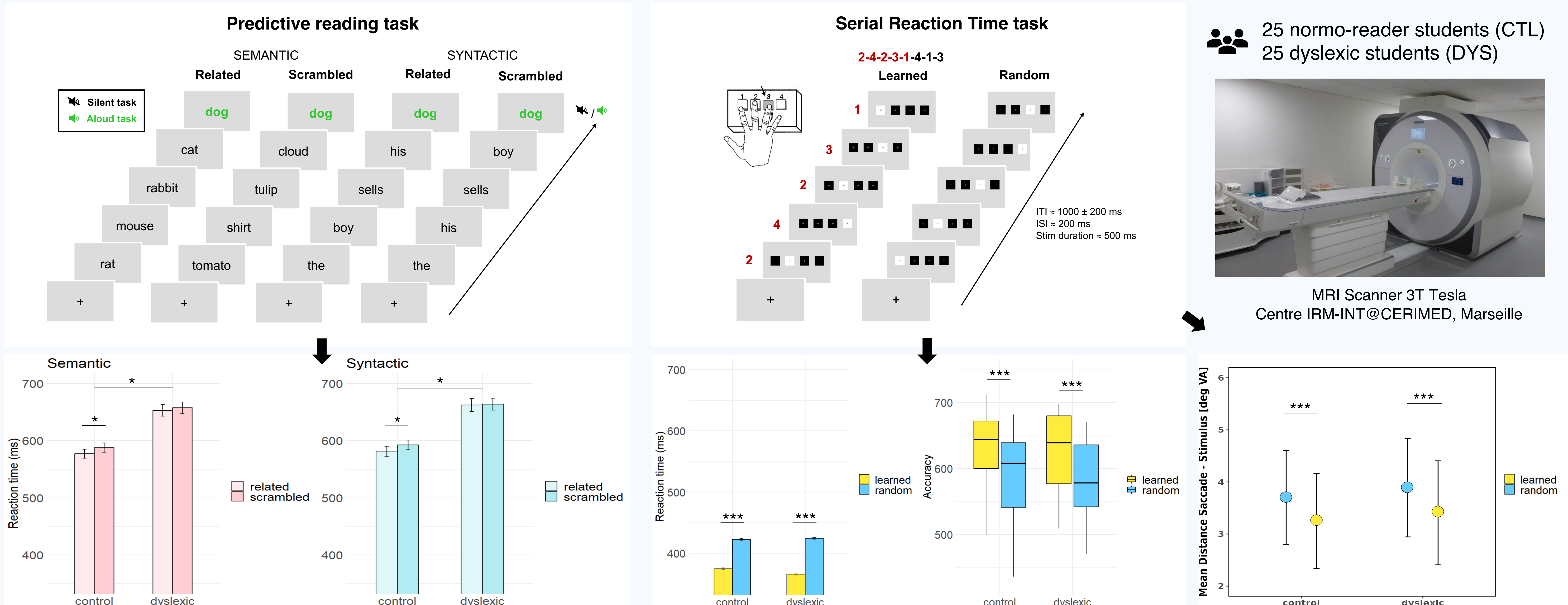
BACKGROUND

- The predictive brain has become a key concept in language research and a dominant theoretical framework for understanding how the brain works. Psycholinguistic and neuroimaging research highlights the importance of anticipatory mechanisms in language comprehension, language production, and reading.
- In addition, a growing number of studies have used statistical learning (SL) paradigms to investigate whether SL abilities can explain inter-individual differences in language processing and reading abilities.

- To focus specifically on the neural network underlying semantic and syntactic predictive processing in reading
- To understand whether making semantic and syntactic predictions in reading relies on domain-general SL abilities AND whether people with reading impairments (dyslexia) show deficits in these domains.

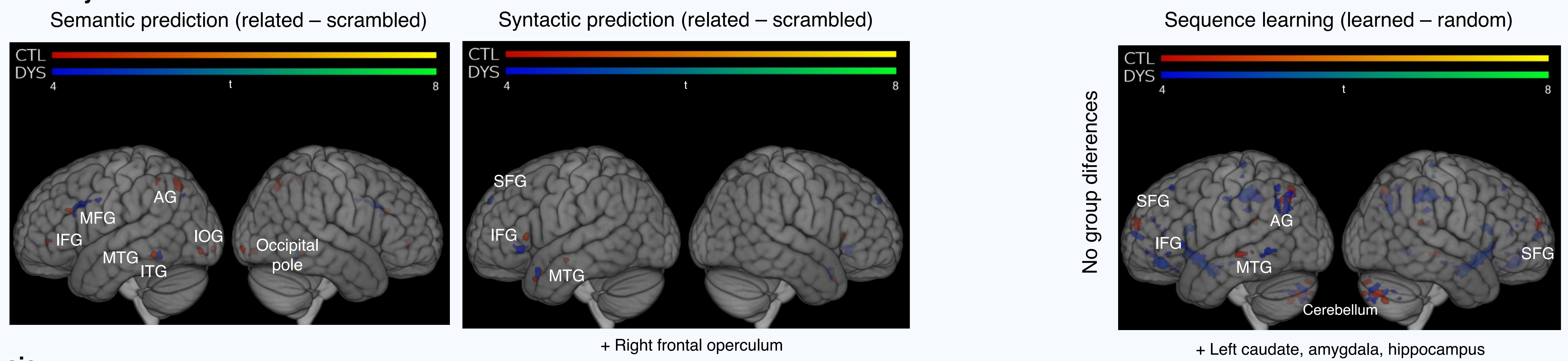
METHODS

BEHAVIORAL RESULTS

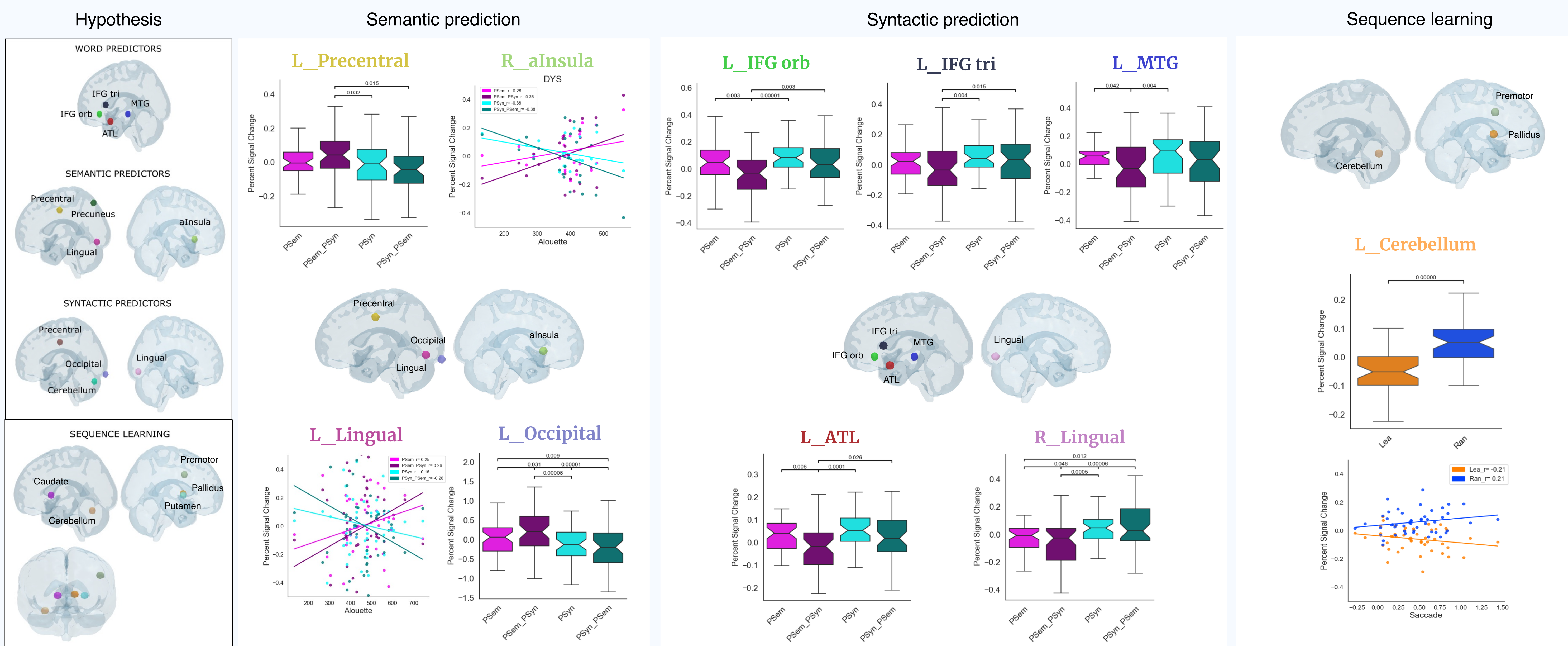


fMRI (PRELIMINARY) RESULTS

1 Whole brain analysis



2 ROI analysis



- Different neural networks underlying semantic and syntactic predictive processing in reading.
 - Dyslexic students seem to be as good predictors as control students in predictive reading and in the SL task.
- ❓ Making semantic and syntactic predictions in reading relies on domain-general SL abilities?

Fundings

This research was supported by the French National Research Agency, Grant ANR-18-CE28-0006 DYSUCCESS (Pi: Cavalli, E), the Institute of Convergence ILCB (ANR-16-CONV-0002) and the Excellence Initiative of Aix-Marseille University A*MIDEX (ANR-11-IDEX-0001-02). The work that led to this poster was also supported by AMPIRIC, a center of excellence on research in education and teacher training.

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