

Temporal preparation in aging: a dissociation between automatic and controlled processes ?

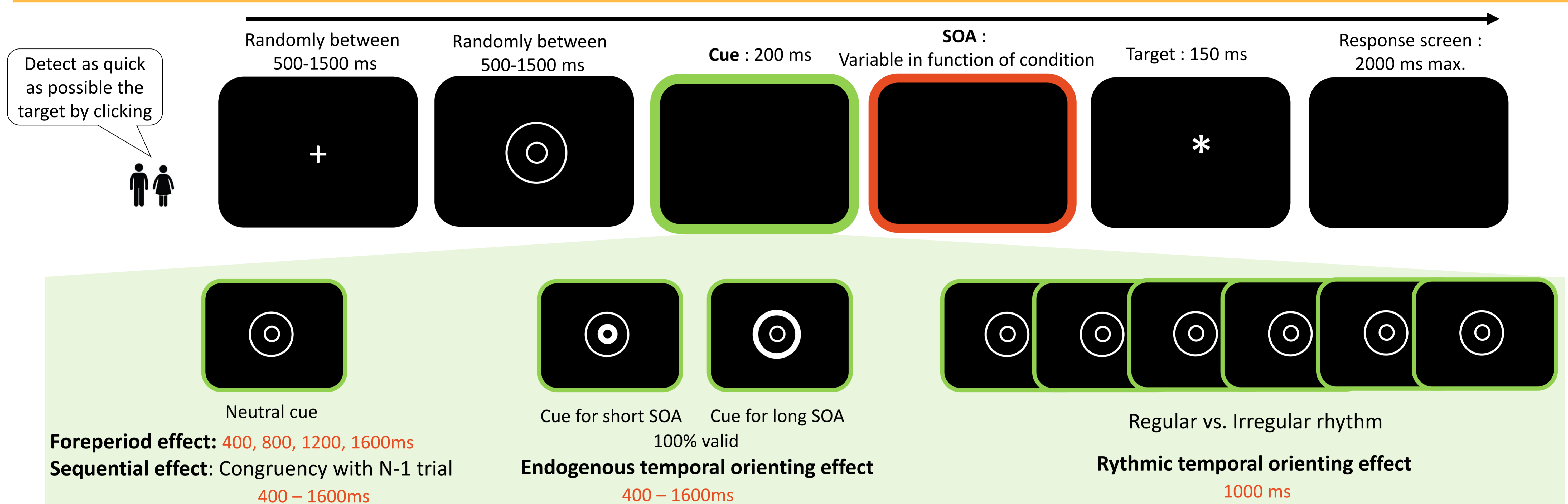
Introduction

Temporal preparation enables us to focus on specific moments in time to enhance sensory and motor processing during a brief period. Four different components, requiring more or less controlled processes, have been reported in the literature BUT are usually studied separately in healthy young adults but also in aging.

Aim

1. To assess the four components of temporal preparation at the same time.
2. To test the trajectories of these components in aging.

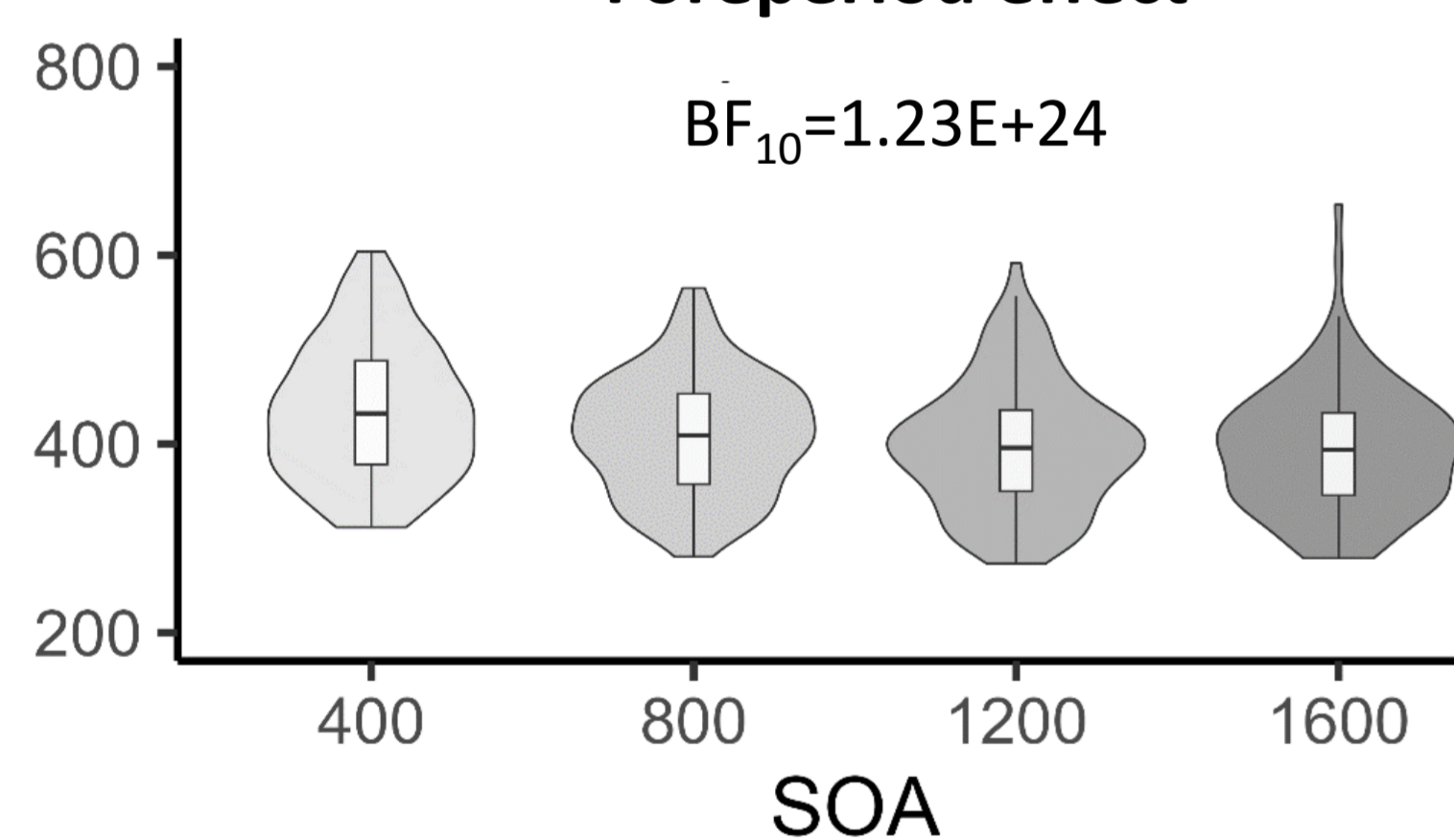
Method : A single paradigm



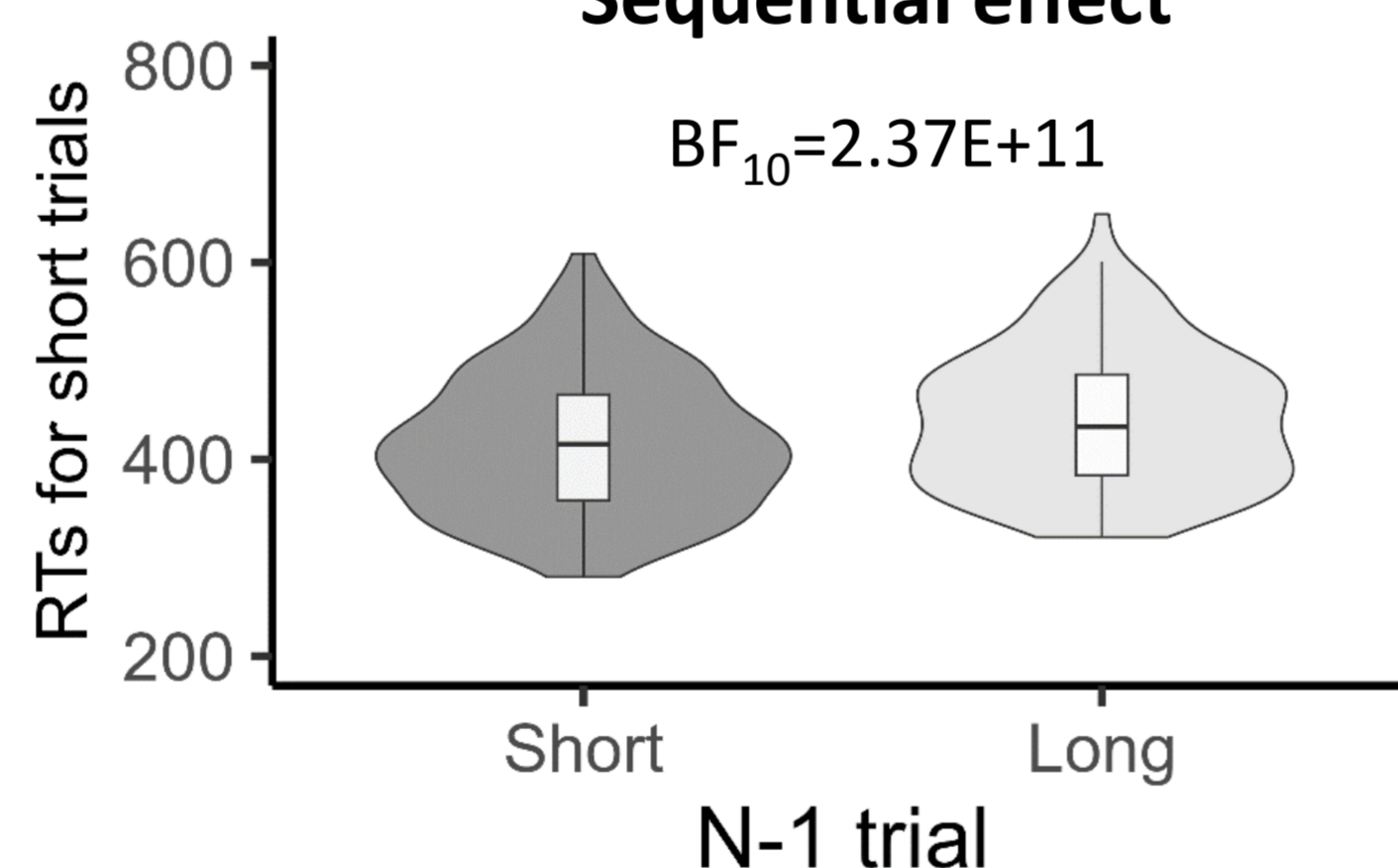
Validation in young adults

Participants: 119 young adults (20 y.o.; range: 17-45)

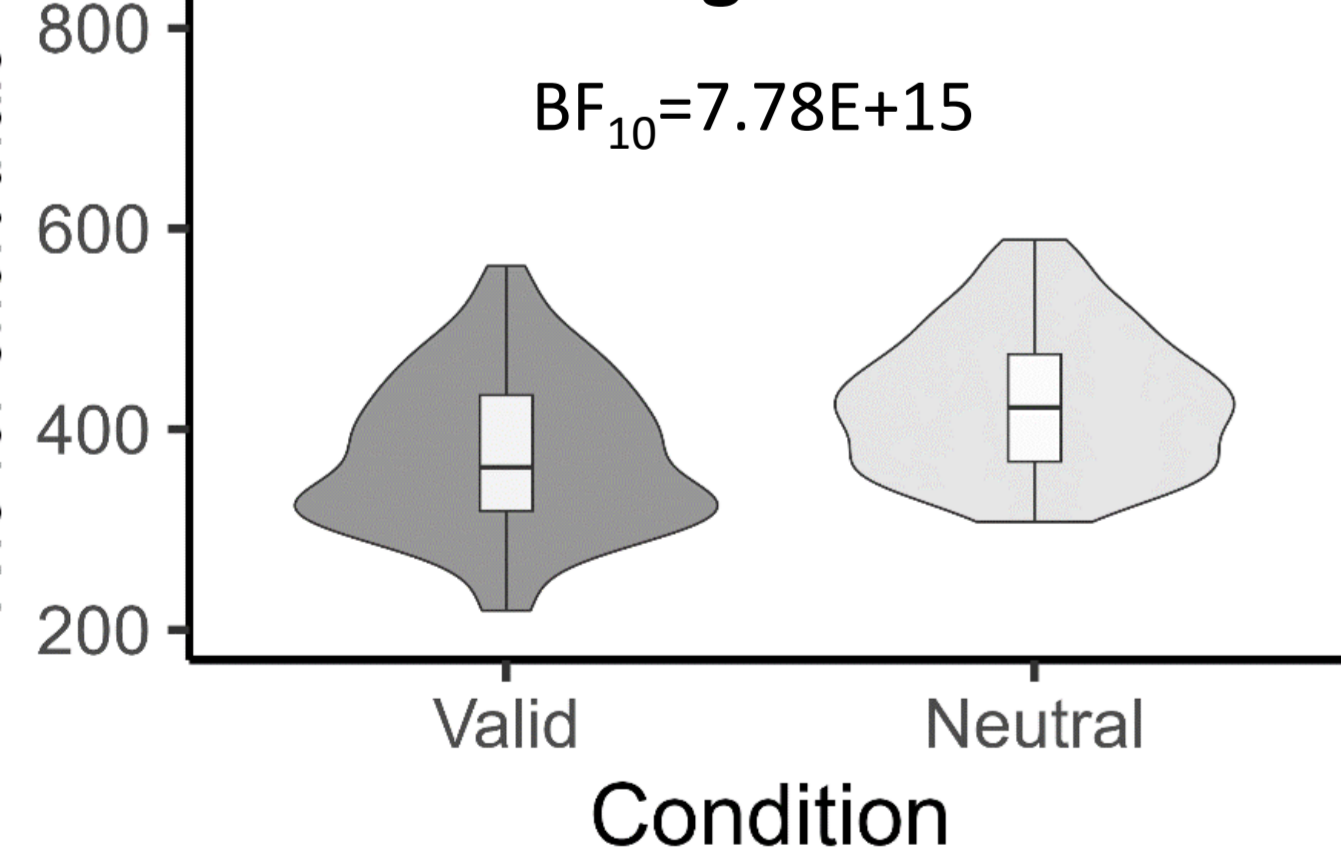
Foreperiod effect



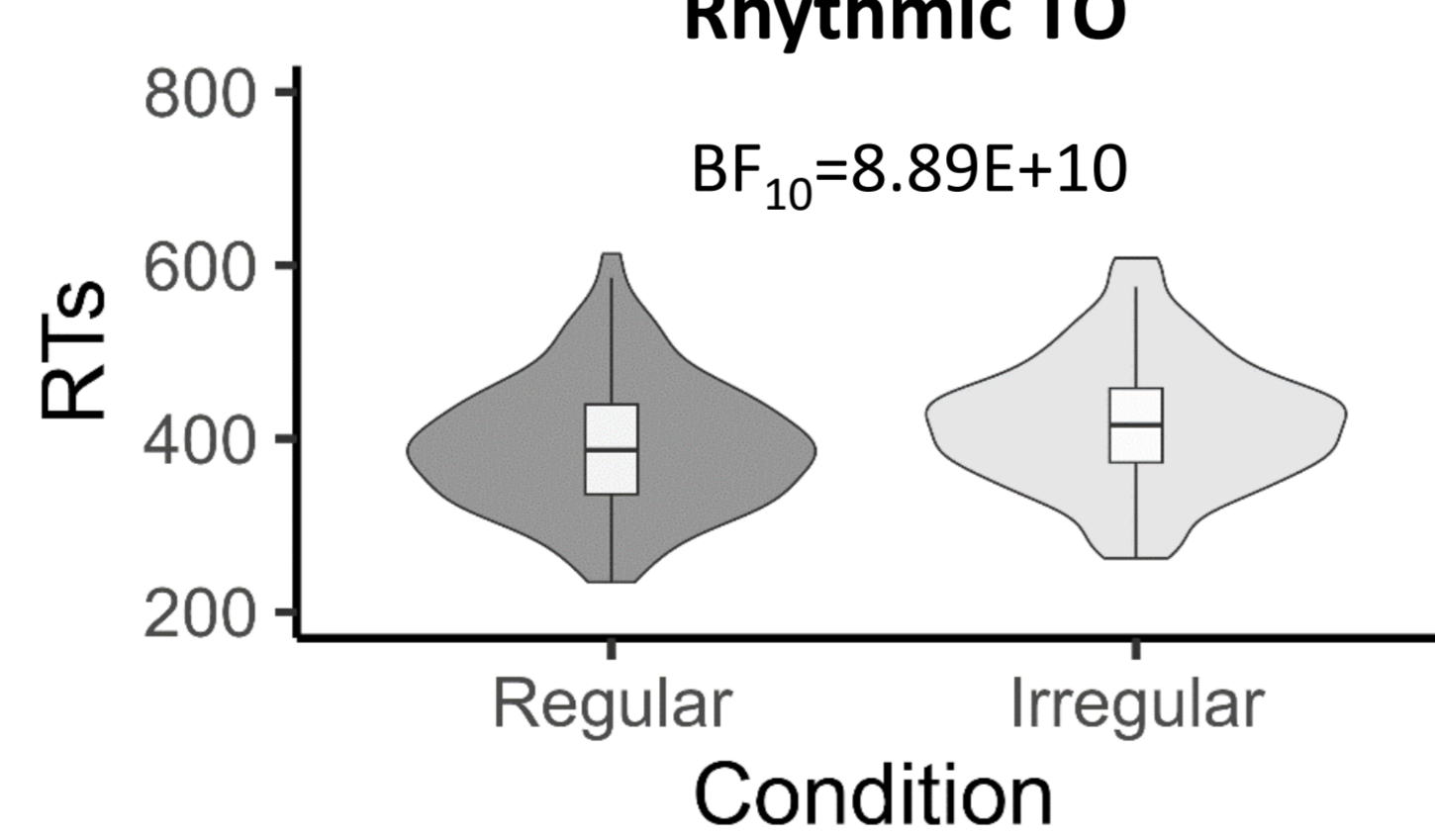
Sequential effect



Endogenous TO



Rhythmic TO



Aging



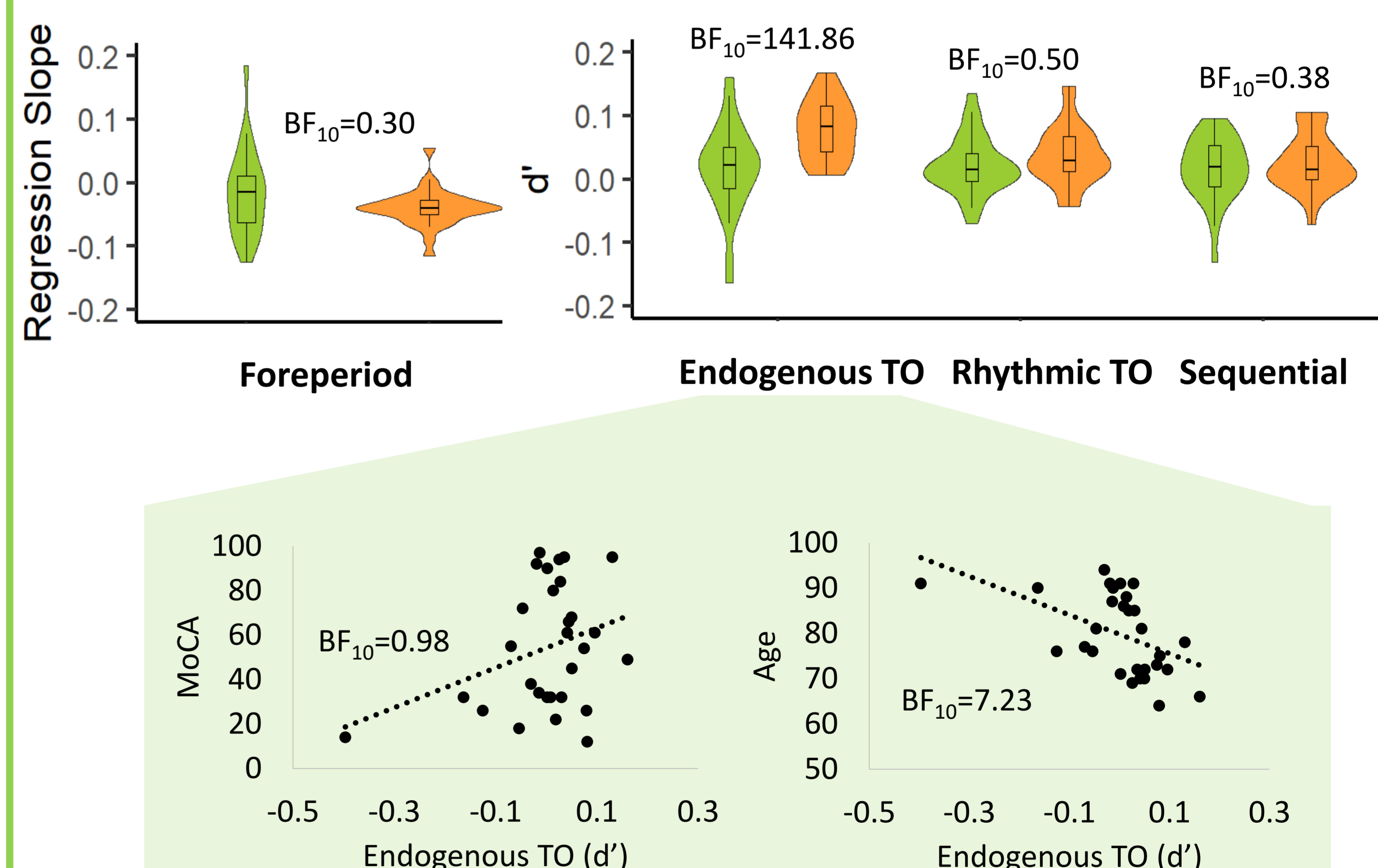
30 Old adults (79 ± 8 y.o.)

Education : 10 ± 3;

MoCA: P55 ± 28 (12-98) (>P10)



30 Young adults (20 ± 2 y.o.)



Discussion

- Suitable design to study all temporal preparation components at the same time.
- More controlled temporal preparation impaired in aging: no facilitation from the cueing for valid condition.
- Endogeneous TO linked to age (not necessarily to cognitive abilities : MoCA) → // explicit processes (Capizzi et al., 2022).
- Very easy task and very short maintenance delay → WM or flexibility in the anticipation ko?
- More implicit temporal processes : preserved.

References

Capizzi et al. (2022) Explicit and implicit timing in older adults: Dissociable associations with age and cognitive decline. *PLoS ONE*
 Chauvin et al. (2016). Temporal orienting of attention can be preserved in normal aging. *Psychology and Aging*
 Zanto et al. (2011). Age-Related Changes in Orienting Attention in Time. *JoN*

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