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Value-driven attentional capture under time constraints Clermont

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INTRODUCTION

We need to avoid distraction by irrelevant stimuli to maintain a good performance (e.g., while reading, driving, etc.).

✤ Our ability to avoid distraction by irrelevant salient stimuli could be influenced by the time constraints of the task (e.g. vehicle speed) :

> Less distraction under high temporal demands (Kiss et al., 2012)

Even when counterproductive for the task at hand, distractors associated with rewards receive high attentional priority because of their motivational significance (Le Pelley et al., 2016).

METHOD

(-)

Θ

Additional singleton paradigm (Theeuwes, 1992): give the orientation of the small bar contained in the moving target

Color-distractor red or green) : High (+10 pts) or Low (+1 pt) reward

- > "Value-driven attentional capture"
- > More distraction by high- rather than low-reward distractors

M	1

Auvergne

MORS3

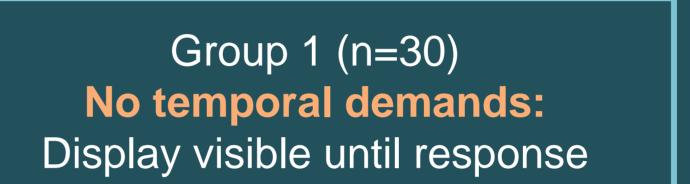
To replicate the temporal demands effect on distraction (i.e., less distraction under high temporal demands)



To investigate whether a reward-distractor would survive to this effect in virtue of its attentional priority.

AIM 3

To investigate whether distraction is modulated by the relative magnitude of reward-distractors under high temporal demands.



Group 2 (n=30) High temporal demands: Display visible only for 200 ms

VD: Distraction (RTs distractor absent vs RTs distractor present)

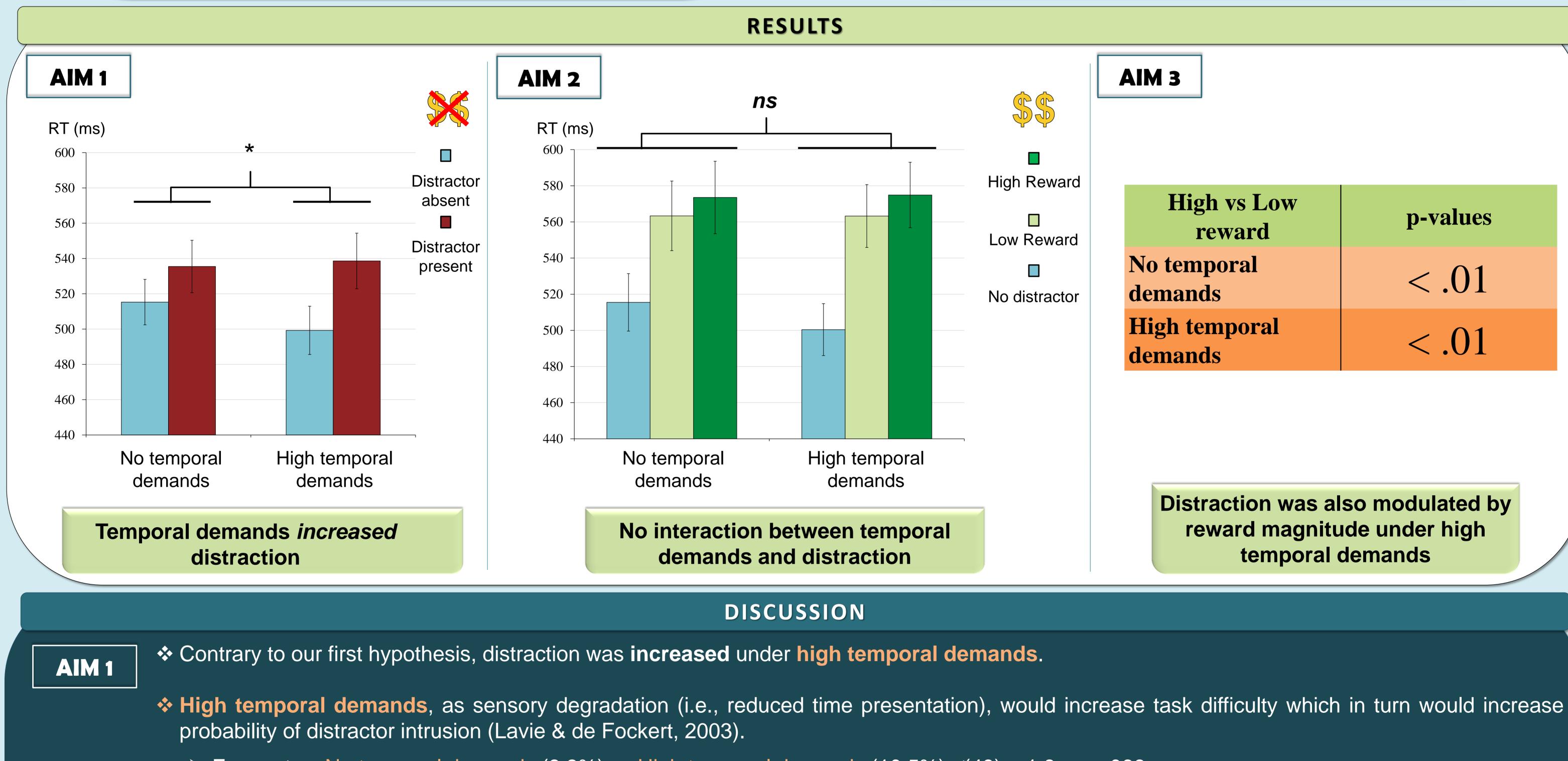
+ Control study: same experiment without reward-outcomes



erema

Moving-target

- or 1?



 \succ Error rates: No temporal demands (8.3%) vs High temporal demands (10.5%), t(49) = 1.8, p = .066



Temporal demands did not increased distraction by reward-distractors (as it was observed with threatening faces – Yao et al., 2013) \succ "Ceiling effect" due to large distraction by reward distractor?

> Error rates: (9.4%) vs (11.1%), t(98) = 1.9, p = .0.56



* Even when task was performed under high temporal demands, high-reward distractors produced stronger distraction than low-reward distractors.

The learning of distractor-values was not impaired under time constraints.

Value-driven attentional capture: automatic capture impervious to top-down control ? (Anderson, 2013; Hickey & van Zoest, 2013; Pearson et al., 2015)

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