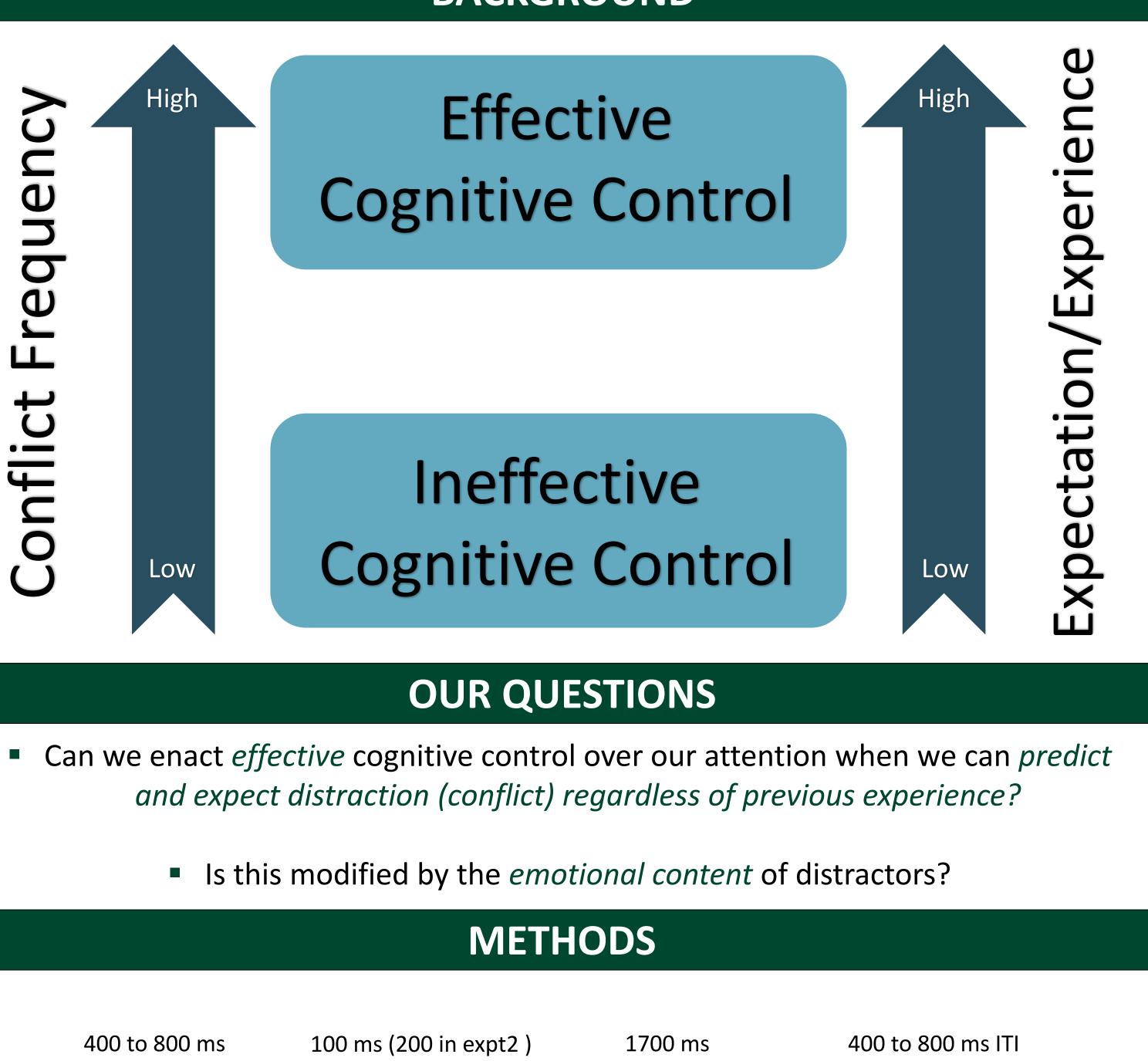
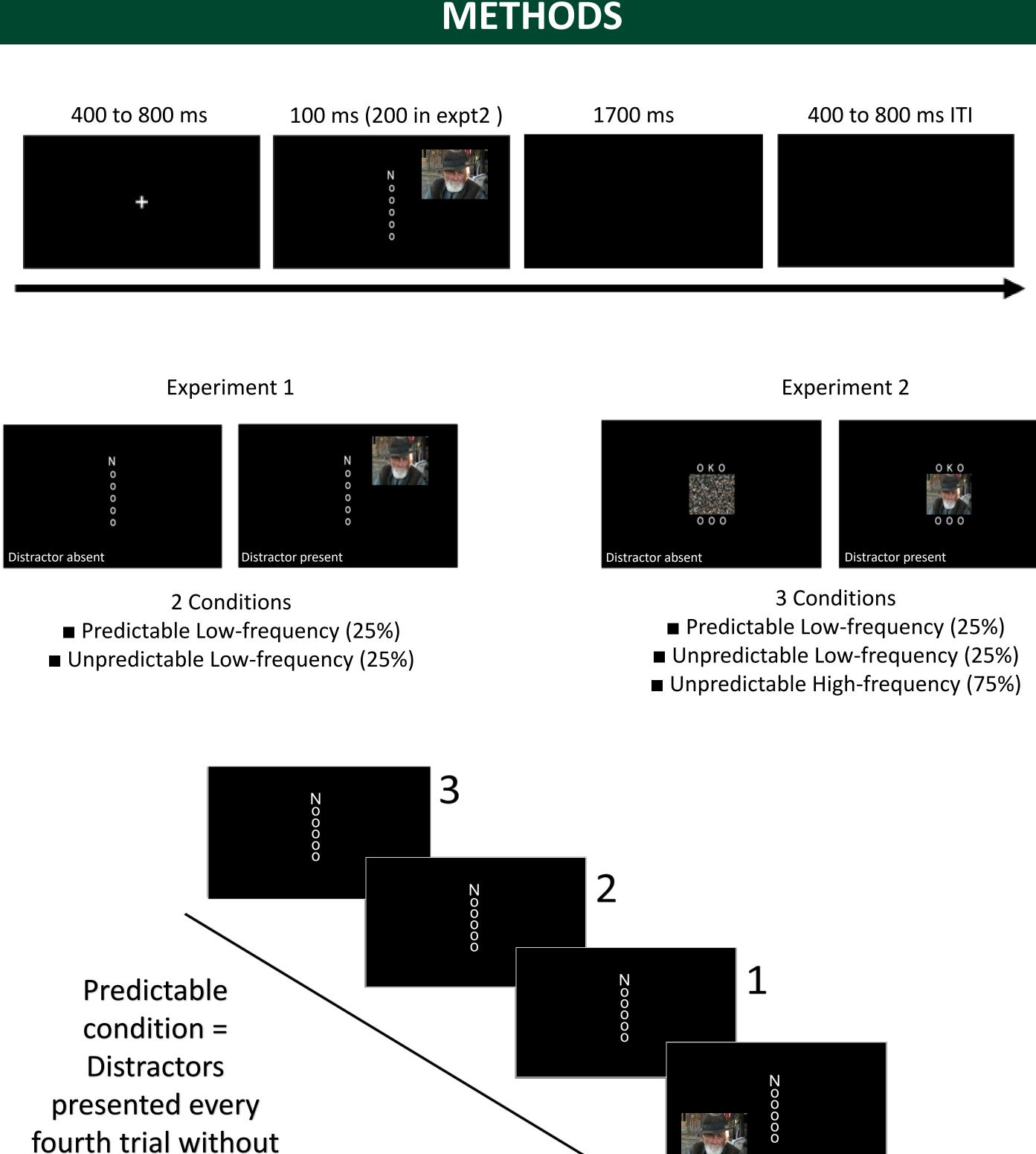




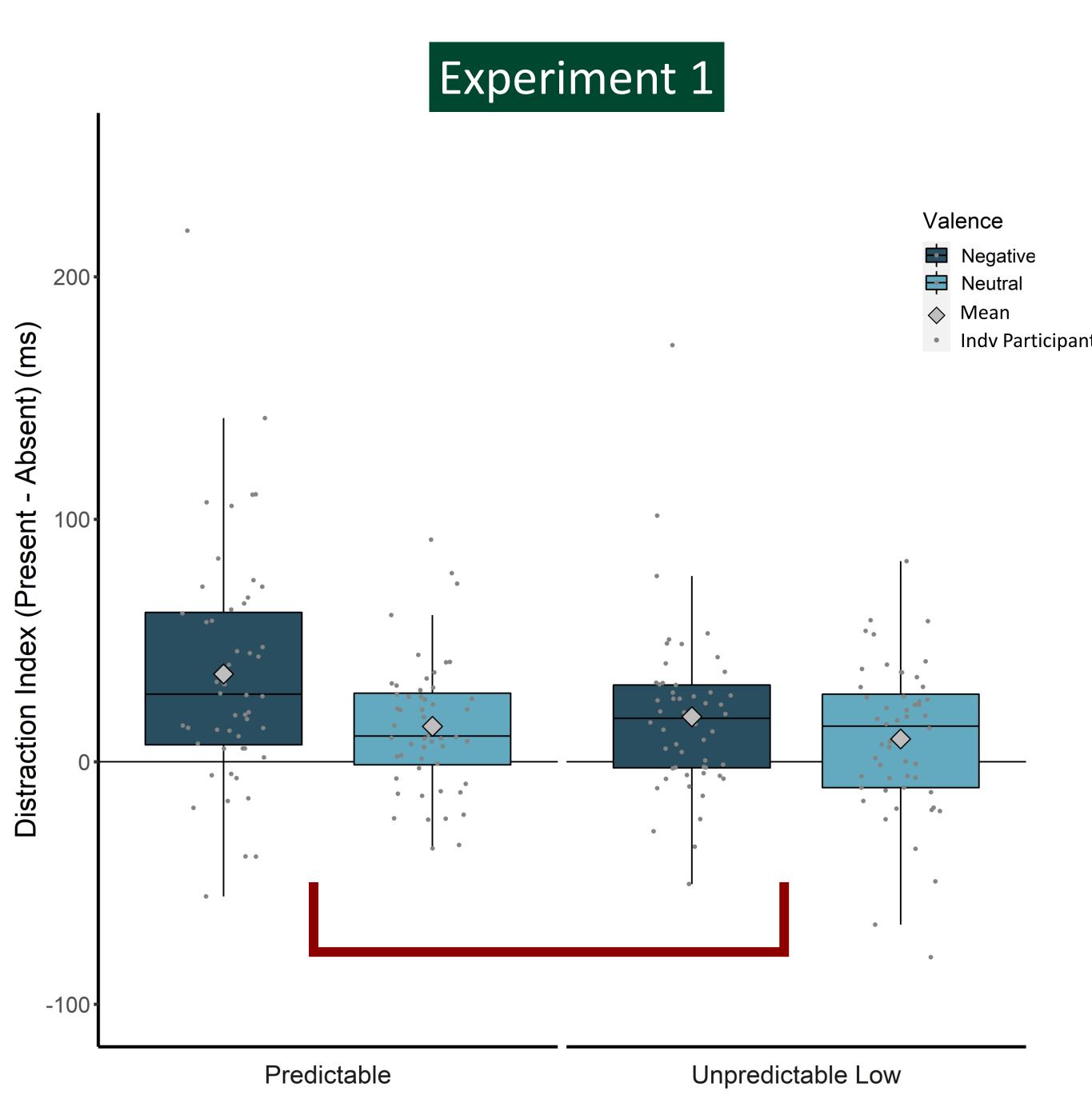
BACKGROUND





exception.

Learning to Predict the Expected Andre Botes (andre.botes@vuw.ac.nz), Gina Grimshaw (gina.grimshaw@vuw.ac.nz)



Predictability

- Distraction is significantly increased when distractors are negative Distraction was not significantly reduced when distractors were predictable relative to being
- unpredictable and equally frequent.
- In fact, distraction is significantly *increased* when distractors occurred in a predictable order

Expectation alone *did not* reduce distraction, but increased distractor frequency did.

Perhaps then, effective proactive control is *not driven solely by* expectation or experience.

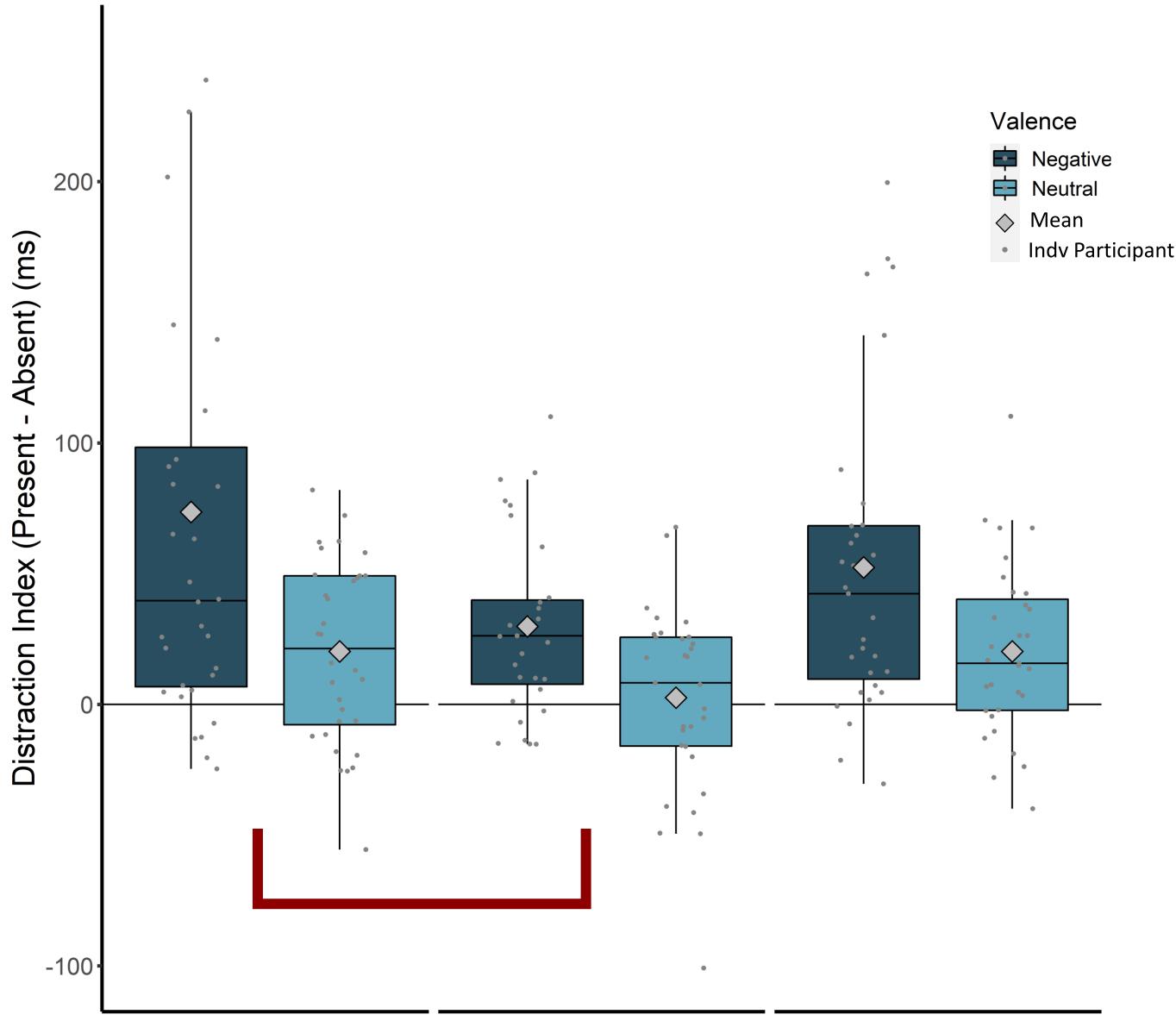
Are we seeing a *paradoxical expectation effect?*

Are we seeing evidence of *selection history or conflict* adaptation?

ACKNOWLEDGEMENTS

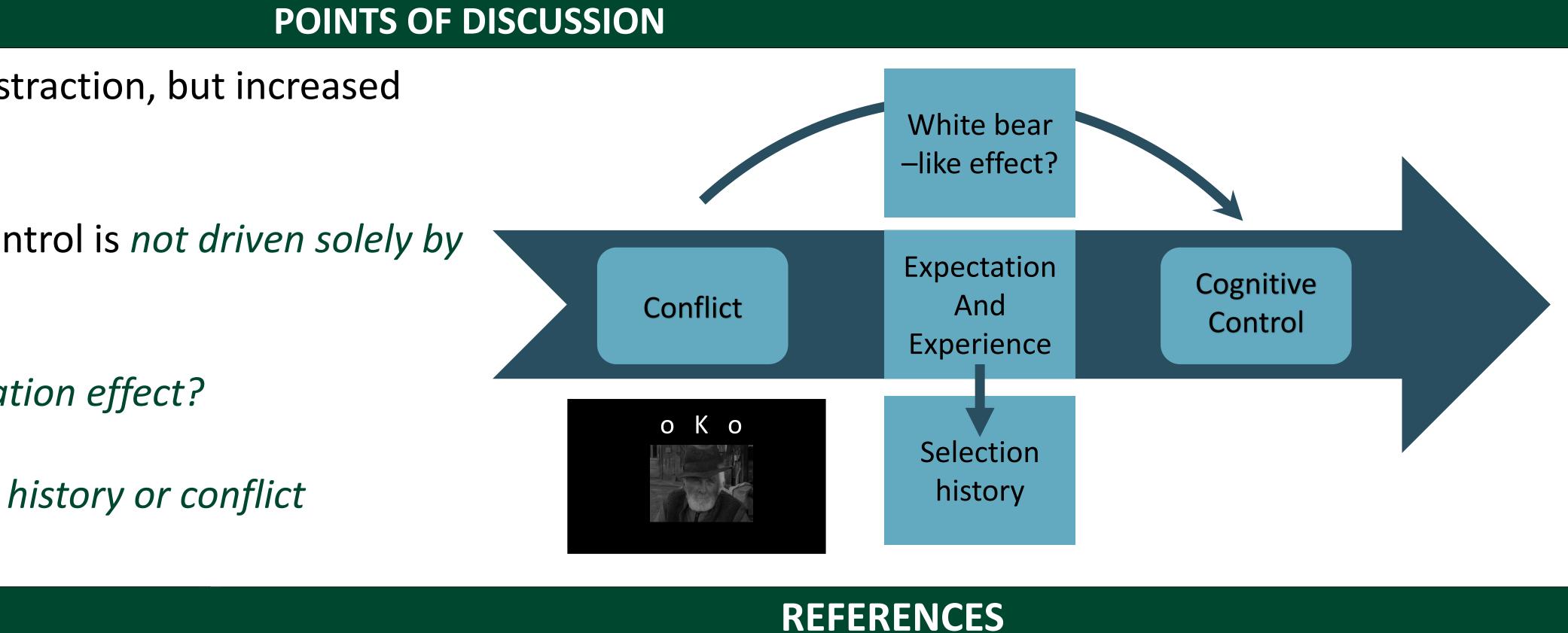
Thank you to Gina Grimshaw for her guidance on this project. Thank you also to all those who participated and those who helped get this project up and running in the VUW CBNS cohort and VUW CANlab.

RESULTS



Predictable

- Replicated increased distraction by negative distractors
- unpredictable high frequency condition
- unpredictable distractors occurring equally as often.



Aarts, E., & Roelofs, A. (2010). Attentional Control in Anterior Cingulate Cortex Based on Probabilistic Cueing. Journal of Cognitive Neuroscience, 23(3), 716–727. Braver, T. S. (2012). The variable nature of cognitive control: A dual-mechanisms framework. Trends in Cognitive Sciences, 16(2), 106–113. Bugg, J. M., Diede, N. T., Cohen-Shikora, E. R., & Selmeczy, D. (2015). Expectations and experience: Dissociable bases for cognitive control? Journal of Experimental Psychology: Learning, *Memory, and Cognition, 41*(5), 1349–1373.

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Experiment 2

Unpredictable High Predictability Condition

Unpredictable Low

• The only significant difference based on predictability was between the predictable and

Participants were still numerically slower in response to predictable distractors as compared to