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COGNITIVE CONTROL OF AUDITORY DISTRACTION: DOES A PROACTIVE ENCODING MODE ATTENUATE ATTENTIONAL CAPTURE BY AN AUDITORY DEVIANT?

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Background: One account of the tempering of the disruption produced by a task-irrelevant auditory deviant by cognitive control holds that high task-set activation permits a blocking of the switch of attention to the deviant following its detection.

Aims: The present research examines whether the disruption to the recall of a visually-presented sequence due to attentional capture by an auditory deviant is reduced if a high task-set activation is achieved through promotion of a proactive encoding mode.

Method: Proactive encoding—specifically the pre-activation of the representations of the possible upcoming visual items—was engendered by presenting the same to-be-remembered items (in different orders) across all trials within a block. This was contrasted with a block of trials wherein the to-be-remembered set changes from trial-to-trial thereby promoting a more reactive encoding mode. Behavioural and electroencephalographic data were recorded.

Preliminary results: The behavioural data demonstrated attenuation of the deviation effect in the proactive encoding condition which supports the notion that such encoding plays a key role in the cognitive control of auditory attentional capture. Analysis of event-related potentials (p3a and mismatch negativity) will inform us of the underlying neural underpinnings of the above processes.

Keywords: Auditory attentional capture; Proactive encoding mode; Reactive encoding mode; Cognitive control

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