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TITLE: N170 Modulation to Information Distribution in Faces

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ABSTRACT

The N170 is a negative, event related potential (ERP) that is particularly responsive to face stimuli. The current study examined changes in the N170 recorded during a 2 alternative face discrimination task. Stimuli were faces containing different levels of information (defined by the ideal observer). Stimuli included the whole face and faces with only the top 30% of the information (containing the eye area only), middle 30% and bottom 30% (faces without eyes). The ERPs differed significantly in latency across the four conditions. Specifically, the N170 peaked earlier in the full face and bottom 30% conditions and was delayed for the top and middle 30% conditions. In terms of behavioural measures, participants' face discrimination was worst when stimuli contained only the bottom 30% of information. Thus, the information that elicited the earliest N170 response differed from the information that lead to the best performance, suggesting that the N170 is not primarily driven by discrimination mechanisms.