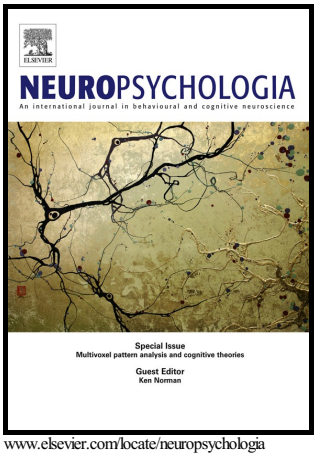

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Musical rhythm and pitch: a differential effect on auditory dynamics as revealed by the N1/MMN/P3a complex

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ABSTRACT

Music represents a complex form of human cognition. To what extent our auditory system is attuned to music is yet to be clearly understood. Our principal aim was to determine whether the neurophysiological operations underlying pre-attentive auditory change detection (N1enhancement (N1e)/Mismatch Negativity (MMN)) and the subsequent involuntary attentional reallocation (P3a) towards infrequent sound omissions, are influenced by differences in musical content. Specifically, we intended to explore any interaction effects that rhythmic and pitch dimensions of musical organization may have over these processes. Results showed that both the N1e and MMN amplitudes were differentially influenced by rhythm and pitch dimensions. MMN latencies were shorter for musical structures containing both domains. This suggests some neurocognitive independence between pitch and rhythm domains, but also calls for further address on