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ABSTRACT

The investigation explored error processing mechanisms through EEG analysis across diverse populations. Notable differences in neural responses were observed, particularly in individuals with schizophrenia and learning disabilities. In individuals with schizophrenia, heightened negative suppression indicated underlying neurobiological dysregulation, potentially contributing to cognitive deficits. Conversely, subjects with learning disabilities exhibited higher negative peak in neural responses during error detection, suggesting altered cognitive processing dynamics. These findings underscore the intricate interplay between cognitive impairments and neural processing abnormalities in neurological disorders. Moreover, they emphasize the importance of understanding these mechanisms for developing targeted interventions aimed at improving cognitive functioning and error monitoring. By elucidating the underlying neural mechanisms, this research paves the way for more effective treatments and interventions tailored to the specific needs of individuals with schizophrenia and learning disabilities. Ultimately, this could lead to significant advancements in the management and treatment of these disorders, enhancing the overall well-being and quality of life for affected individuals.

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