

Decreased Cortical Thickness Associated With Higher Executive Functioning in Children as Seen Through Longitudinal Development

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Executive functioning and brain development are two interrelated measures that have been contrasted to understand neural networks and the diagnosis of psychopathologies. Multiple studies have found the significance of using working memory tasks and structural cortical thickness data when analyzing higher-order thinking and childhood anxiety. This review focuses on analyzing the connection between cortical thickness maturation and performance on the n-back task. The purpose of analyzing performance on the n-back task is to understand reaction time differences and their relation to working memory. Results show significant agreement regarding the density of the frontal and parietal lobes and advanced performance on the n-back task. This work has implications for further studies of working memory and retention, and more investigation may one day help solve the problem of limitations in diagnosing ADHD and other neurodevelopmental disorders.