

THE COUNTLESS POSSIBILITIES OF THE CHILD'S BRAIN ON THE AUTISM SPECTRUM: FOCUS, INTELLIGENCE, AND PATHWAYS TO HIGH PERFORMANCE

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Abstract: This article revisits the literature on the cognitive profile of children with Autism Spectrum Disorder (ASD), with special attention to focus abilities, processing speed, rule-based learning, and high performance in specific tasks. It examines how neuropsychological differences – sometimes called “hyperfocus,” high levels of systematization, or exceptional talents – can contribute to high-performance profiles, as well as the underlying brain mechanisms and environmental/interventional factors that favor the flourishing of these potentialities. The discussion also addresses implications for educational and therapeutic interventions, emphasizing an integrative approach that values strengths and neuroplasticity in the context of ASD.

Keywords: autism, childhood, high performance

INTRODUCTION

Autism Spectrum Disorder (ASD) is characterized by differences in communication, social interaction, and behavioral patterns. Despite the widely recognized challenges, there is a growing movement in the scientific literature that seeks to understand the cognitive potential, specific intelligence, and high-performance possibilities of these children. This article explores the

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neuropsychological basis of autistic children's hyperfocused, intelligent brains and its implications for integrative development and intervention (DEMETRIUS, 2017).

THEORETICAL FOUNDATION AND LITERATURE REVIEW

Several studies indicate that children with ASD may exhibit exceptional abilities in areas such as memory, logical reasoning, pattern recognition, and attentional focus. Recent research points out that brain hyperconnectivity may be associated with more selective and deep attention, while the rule-based learning style favors performance in structured and systematized tasks. Neuroplasticity plays a fundamental role, allowing the improvement of cognitive functions through targeted therapeutic interventions (SUPEKAR 2013).

NEUROPSYCHOLOGICAL MECHANISMS OF THE HYPERFOCUSED BRAIN

Hyperfocus is one of the most striking characteristics observed in individuals with ASD. It reflects an unusual ability to maintain sustained attention on a stimulus or task for long periods, usually on topics of specific interest. Neuroimaging studies show an increased activation of prefrontal and parietal regions during sensing and learning tasks, suggesting that the autistic brain operates in a more intense and detailed manner in contexts of interest (WANG 2024).

POSSIBILITIES FOR HIGH PERFORMANCE

Autistic children can achieve high performance when their learning conditions are adapted to their cognitive and emotional styles. Predictable environments, structured interventions, and adequate emotional support are crucial for the flourishing of skills. The recognition of individual strengths and the personalization of cognitive strategies enhance attention span, memory, and reasoning capacity,



promoting high performance (QUIAN 2022).

IMPLICATIONS FOR INTEGRATIVE NEUROPSYCHOLOGY

The integrative approach must understand both the challenges and the potentialities of the autistic brain. Therapeutic strategies that stimulate neuroplasticity, associated with the promotion of emotional well-being, can transform hyperfocus and differentiated intelligence into resources for learning and autonomy. Interdisciplinary work between therapists, educators, and families is essential to develop skills and sustain high-performance trajectories (HUGHES 2025).

CONCLUSION

The autistic brain, when understood in its uniqueness, reveals extraordinary possibilities for focus and performance. The integration between science, education, and neuropsychology-based therapies allows these children to fully express their capabilities, promoting inclusion, autonomy, and quality of life. The future of research and clinical practice must focus on models that recognize and enhance these unique intelligences.

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