

Unsupervised Clustering of Executive Function Patterns in Children with Exceptional Cognitive Abilities

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E d i t o r	R e v i e w e r s
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1. Round 1

1.1. Reviewer 1

Reviewer:

In the statement “emerging evidence challenges the assumption that high intellectual ability is necessarily accompanied by uniformly strong executive functioning,” please specify whether this “emerging evidence” primarily derives from clinical, educational, or neurocognitive studies, and briefly indicate how the present study extends this body of work.

The labels assigned to clusters (e.g., “Globally Advanced EF”) are intuitive; however, the manuscript should clarify whether these labels were theory-driven or derived post hoc based on observed centroids.

The sentence “suggesting potential contextual influences on the expression or support of executive functioning” would be strengthened by explicitly stating which contextual mechanisms (e.g., instructional support, classroom structure) are most plausible.

Please clarify whether differences in academic engagement and self-regulation were statistically tested across clusters or are reported descriptively, and provide relevant test statistics if inferential analyses were conducted.

Authors revised the manuscript and uploaded the document.

1.2. Reviewer 2

Reviewer:

The discussion of cognitive flexibility is well developed; however, in the sentence “cognitive flexibility has received particular scholarly attention due to its central role in adaptive behavior,” it would strengthen the argument to explicitly contrast cognitive flexibility with other executive components (e.g., inhibition, planning) in the context of giftedness.

The paragraph introducing person-centered approaches would benefit from an explicit justification for selecting unsupervised clustering over alternative person-centered methods such as latent profile analysis, particularly given the continuous nature of executive function variables.

The aim statement is clear, but the manuscript would benefit from a brief indication of the expected contribution (e.g., theoretical, methodological, or applied) immediately before the sentence “Accordingly, the aim of the present study was...”.

In the sentence “Eligibility criteria included an age range of 8 to 12 years,” please justify the selection of this developmental window and explain why younger or older children with exceptional cognitive abilities were excluded.

The introductory paragraph to the findings would benefit from explicitly stating the final sample size used in the clustering analyses to improve clarity and reproducibility.

In the paragraph interpreting Table 1, please clarify whether the observed variability in executive function scores reflects normative dispersion or clinically meaningful differences within the exceptional cognitive ability range.

Authors revised the manuscript and uploaded the document.

2. Revised

Editor’s decision: Accepted.

Editor in Chief’s decision: Accepted.