

Comparison of Processing Speed and Working Memory in Students with Dyscalculia, Dyslexia, and Typical Development

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E d i t o r	R e v i e w e r s
Leila Youzbashi  Department of sport science, Faculty of Humanities, University of Zanjan, Zanjan, Iran l.youzbashi@znu.ac.ir	Reviewer 1: Masoud Mirmoezi  Department of Physical Education and Sport Sciences, Islamic Azad University, Central Tehran Branch, Tehran, Iran. Email: massoudmirmoezi@live.com Reviewer 2: Mohammad Reza Khodabakhsh  Department of Psychology, Neyshabour Branch, Islamic Azad University, Neyshabour, Iran. Email :hodabakhsh@ut.ac.ir

1. Round 1

1.1 Reviewer 1

Reviewer:

In the paragraph beginning “Specific learning disorders are characterized by persistent difficulties...”, the authors summarize prevalence research but do not report approximate prevalence ranges. Including numerical prevalence estimates would strengthen empirical grounding and demonstrate the educational relevance of the research problem.

The paragraph introducing working memory defines the construct appropriately; however, the manuscript does not specify which theoretical model of working memory (e.g., Baddeley’s multicomponent model) underlies the operationalization. The theoretical framework should be explicitly identified because the WISC-IV subtests implicitly rely on a specific cognitive architecture.

The final paragraph of the Introduction effectively identifies a research gap; however, the transition to the aim statement could be strengthened by explicitly stating the novelty of examining both disorders simultaneously within an Iranian educational context.

In Methods – Study Design, the sentence “because the differences and characteristics of the groups were inherent...” should be rewritten more concisely and supported with methodological citation defining causal–comparative research standards. The current explanation is conceptually correct but stylistically verbose.

The participant description lacks explicit inclusion and exclusion criteria. For example, it is unclear whether students with comorbid ADHD, sensory impairments, neurological conditions, or psychiatric diagnoses were excluded. This omission limits interpretability of cognitive results.

Authors revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

In the paragraph stating “Evidence suggests that working memory limitations are not restricted to a single academic domain...”, the authors synthesize literature effectively but should clarify whether prior findings support domain-general or domain-specific deficit models. This distinction is central to interpreting the comparative design of the present study.

The paragraph discussing processing speed would benefit from a clearer conceptual separation between processing speed and executive functioning. The manuscript currently risks conceptual overlap, particularly where executive regulation is discussed without operational measurement in the study.

In the paragraph addressing comorbidity with ADHD, the manuscript introduces constructs (attention regulation and behavioral difficulties) that are not measured in the current study. The authors should explicitly acknowledge that these variables are contextual rather than analyzed variables to prevent construct overextension.

The paragraph beginning “A growing body of research emphasizes the heterogeneity of cognitive profiles...” is theoretically important, yet the study itself uses group comparison rather than cognitive profiling methodology. The authors should reconcile this mismatch by explaining how group comparisons still contribute to understanding heterogeneity.

Authors revised the manuscript and uploaded the updated document.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.