

Commentary on: The Effect of Task Cognitive Difficulty on Perceptual-Cognitive Indicators: Evidence on the Relationship Between Challenge Point Framework (CPF) and Cognitive Development in Table Tennis Beginners [Letter]

Arghya Mondal, Sudhamoy Maity

Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India

Correspondence: Arghya Mondal, Email arghyamondal1809@gmail.com

Dear editor

We read with great interest the study by Taghi et al¹ on the effects of cognitive task difficulty on perceptual-cognitive indicators in table tennis beginners. While the study provides valuable insights into the application of the Challenge Point Framework (CPF) in cognitive-motor learning, there are several methodological and interpretational aspects that warrant further discussion.

Firstly, the study claims to investigate the role of different levels of cognitive difficulty in motor learning. However, the results indicate no significant differences between difficulty groups, suggesting that either the intervention period (eight sessions of 30 minutes) was insufficient to induce measurable differences or that the manipulation of task difficulty was not substantial enough. The authors acknowledge this as a limitation but do not discuss whether alternative training durations or cognitive training paradigms could yield different outcomes.

Secondly, while the study attempts to align with the CPF, it does not clearly define how cognitive difficulty interacts with nominal and functional task difficulty within this framework. The CPF is primarily designed to explain motor learning processes, and its extension to cognitive difficulty needs stronger theoretical justification. Additionally, the lack of significant differences between groups questions whether the CPF is a suitable model for cognitive-perceptual learning.

Another methodological concern is the use of the Attention Network Test (ANT) and cognitive effort measures. While the ANT is a valid tool for assessing attentional components, the authors report no significant improvement in the alerting and orienting networks, only in executive control. This suggests that the training may have primarily targeted executive functions rather than perceptual-cognitive integration in motor learning. Furthermore, the cognitive effort test results were inconclusive, raising concerns about whether the selected assessment tools were appropriate for capturing the intended constructs.

Additionally, the authors claim that cognitive training improved working memory performance, but since there were no significant differences between task difficulty groups, it remains unclear whether these improvements were due to training or general practice effects. The study could have benefited from a more rigorous control condition, such as an alternative cognitive training intervention, to isolate the effects of task difficulty.

We think that answering the questions posed in this letter will improve comprehension of the study's conclusions. We appreciate the authors' thoughtful work and acknowledge the difficulties associated with experimental research.

Funding

The authors received no financial support for the research and/or authorship of this communication.

Disclosure

The authors declared no conflicts of interest in this communication.

Reference

1. Taghi MM, Aghdaei M, Farsi A, et al. The effect of task cognitive difficulty on perceptual-cognitive indicators: evidence on the relationship between Challenge Point Framework (CPF) and cognitive development in table tennis beginners. *J Multidiscip Healthc*. 2025;31:407–419. doi:10.2147/JMDH.S472671

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Journal of Multidisciplinary Healthcare 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Journal of Multidisciplinary Healthcare editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

Journal of Multidisciplinary Healthcare

Publish your work in this journal

Dovepress
Taylor & Francis Group

The Journal of Multidisciplinary Healthcare is an international, peer-reviewed open-access journal that aims to represent and publish research in healthcare areas delivered by practitioners of different disciplines. This includes studies and reviews conducted by multidisciplinary teams as well as research which evaluates the results or conduct of such teams or healthcare processes in general. The journal covers a very wide range of areas and welcomes submissions from practitioners at all levels, from all over the world. The manuscript management system is completely online and includes a very quick and fair peer-review system. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/journal-of-multidisciplinary-healthcare-journal>

<https://doi.org/10.2147/JMDH.S520641>