July XXth, 2024

Edmundo Kronmüller, PhD

Handling Editor

*Cognitive Processing*

Dear Dr. Kronmüller:

We have submitted a revised version of our manuscript COPR- D-23-00175 “Predictive Alternating Runs and Random Task-Switching Sequences Produce Dissociative Switch Costs in the Consonant-Vowel/Odd-Even Task” for your consideration. We appreciate the thorough examination provided by our reviewer and are pleased that our manuscript was well-received. Below, we list our responses to each comment and cite page numbers when referring to specific changes. To facilitate the review process, we have made all primary modifications to the manuscript in blue-colored font. We look forward to your response and hope that our revised manuscript is now suitable for publication in *Cognitive Processing*.

Sincerely,

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**Major points:**

**Comment:** The authors have addressed most of my points satisfactorily, and the article is now clearer. However, my major point 4 was not addressed adequately, and I will detail why I think it is important to consider this in order to recommend this article for publication.

Local cost is calculated as the difference between Switch and Non-Switch trials. The authors find that the RT local cost was higher in Random switching compared to Predictive. This leads them to interpret that "unpredictable switch trials are especially taxing when participants must reconfigure task-sets." However, the reason for a higher RT Local Cost in Random is not due to an increase in RT during Random switch trials (in fact, the RTs for switch trials are virtually the same between Random and Predictive). RT Local Cost is only higher in Random because the RTs for non-switch trials are higher in Predictive. Given that there are no differences in the switch trials, I believe the interpretation that "unpredictable switch trials are especially taxing when participants must reconfigure task-sets" is incorrect. In fact, there is no behavioral cost at the time of reconfiguration (which should be seen in the RTs of switch trials). In my opinion, this is a problem associated with the calculation of local cost itself, which should use another reference point as I specified in my previous review. Unfortunately, the authors do not address the criticism beyond adding a section on page 22 that does not properly address my point.  
Another example, on page 23 the authors talk about "task predictability benefits performance on switch trials" [...] "however, because random switching lacks a predictive pattern, this benefit only occurs for the predictive pattern." The RT data presented show no behavioral evidence of benefit on switch trials. In fact, the only difference in RT shows that the predictive non-switch is greater than random non-switch.

In conclusion, I believe the authors should abandon the interpretation of the local cost and refer only to the global cost. Additionally, it would be beneficial for the field if the authors could more explicitly specify the limitations and problems associated with the calculation of local cost for future research. This would not only clarify the current study but also guide upcoming studies in how they might address these issues more effectively.

***Response:*** [WORDS HERE]