Author’s response to reviews

Title: Enhanced cognitive processing by viewing snakes in children with autism spectrum disorder. A preliminary study

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Author’s response to reviews:

Dear Editor,

We would like to thank you for the opportunity to resubmit a revised copy of our manuscript.

We would also like to take this opportunity to express our thanks to the editor and reviewers for the feedback and helpful comments for correction or modification. The manuscript has benefited from these insightful revision suggestions. To help the reading of the revised text, all of the modifications in the text were highlighted in yellow. Our point-by-point responses to the comments raised by the reviewers are given below.

We hope this revised manuscript will now be suitable for publication in BMC Psychology.

Yours sincerely,

M. GRANDGEORGE & N. MASATAKA

Responses to editor’s and reviewer’s comments

Editor Comments:

Dear Dr Grandgeorge,
I have looked through the revised MS and the comments of reviewer 1. Overall I am happy to accept subject to addressing the minor corrections suggested by the reviewer.

Thank you.

I had two further comments in relation to statistical issues.
First, I do think the correct analysis is to include a random factor for items. These models can be tricky to fit and require data in the correct format (long format in R) as well as some experience handling convergence issues. However, in this case your conclusions rely primarily on a non-significant result and therefore treating items as a random effect would not alter that main finding. It would be sufficient to add a note or footnote to that effect, I think. Second, a nonsignificant effect doesn't provide strong evidence for a null effect, so I do recommend you reconsider looking at a Bayes factor or equivalence test approach (but I will not require this for the revised MS).

A footnote had been added

Reviewer reports:

Lai-Sang Iao (Reviewer 1):

Most of my comments have been addressed except that the rationale of the study, explanation of unexpected finding and how the limitations of the study may have affected the findings are still not clear.

We believe that the most crucial limitation is the fact that only a limited number of children with ASD were investigated with a limited set of stimuli. We clarified this in the limitation part.

Now that it is clear individuals with ASD are more likely to experience anxiety or fear than individuals without ASD but why is it important to know whether more extreme fear responses in ASD would enhance cognitive processing?

In the case of an emergency, it would be adaptive if the cognitive processing would work effectively in NT children. And if such an emergency is experienced with more anxiety in ASD children, their more extreme fear response would enhance adaptive cognitive processing in them. We added this information at the end of the Introduction.

Regarding the explanation of unexpected finding, why would using "snake images and flower images as biologically-relevant threatening stimuli and biologically-attracting stimuli" lead to "results in ASD children equivalent to those in TD children"? What is "the question of survival advantage"?

According to the neurodiversity hypothesis, ASD is not pathological but rather a part of normal human variation. If so, it would not be surprising that ASD children are as adaptively predisposed as NT children. We added such information in the Discussion section.
The fact that children with and without ASD were not matched on neither verbal nor non-verbal IQ may suggest that children without ASD have higher verbal IQ or better cognitive processing. Assuming fear response enhanced 1 unit of cognitive processing in children without ASD, fear response may have enhanced 2 units of cognitive processing in children with ASD hence the equivalent findings in the current study. In this sense, fear may have had a higher effect on cognitive processing in ASD - i.e., the original hypothesis of the study. This may be a better explanation of the unexpected finding and a clear speculation on how the limitation might have affected the findings.

We are very grateful to the Reviewer for giving us a clearer and better explanation of the unexpected finding and on how the limitation might have affected our findings. We added this information in the limitations section.

I think all of these need to be spelled out clearly so that readers can understand without difficulties.

It has been done.

Also, careful proofreading and language corrections are needed.

It has been done.

Thank you for considering this resubmission,

Yours sincerely,

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