Reviewer’s report

Title: Immediate processing of erotic stimuli in paedophilia and controls: a case control study

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Reviewer: James Cantor

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The submitted manuscript, “Immediate processing of erotic stimuli in paedophilia and controls: A case study,” provides is an interesting one, generally well-written, and avoiding of common pitfalls in this emerging literature. There do exist several issues which need to be addressed, however.

Major Compulsory Revisions

The statistical analyses appear to have ignored an important point: One cannot conclude that there was no main effect when the interaction term is significant. (Only simple main effects can be tested.)

Minor Essential Revisions

The introduction lays out a clear argument for the study; however, two highly important recent studies are missing. Although the manuscript accurately conveys some of the existing (and partly contradictory) fMRI studies of pedophiles, it does not contain or consider the recent meta-analyses of these data (conducted by activation likelihood estimation or ALE). Because such meta-analyses quantitatively summarize the existing findings, their results would be a more relevant description than an qualitative review. At least, the ALE studies should appear prominently in the literature review.

The introduction refers to the DSM-IV definition of paedophilia. There was a change in definition between DSM-IV and DSM-IV-TR; the authors should attend to which was used. Also, the DSM-IV (and DSM-IV-TR) definitions are ambiguous. Although the criteria refer to prepubescent children, the text of the DSM suggests that puberty generally lasts until age 13, which is inaccurate. (Sexual preference for children in puberty is often called “hebephilia.”) The manuscript should indicate exactly how paedophilia was diagnosed.

A more detailed description of the pedophilic sample is warranted. Did they admit to their sexual interests in children? How many victims did they have? Comorbid paraphilias? Convictions for child pornography?

The visual stimuli also need to receive greater description. How artificial would they look to anyone else? How were the correct “ages” of the artificial stimuli ascertained? Nude or partly clothed? Solitary images? Doing what?

Relatedly, the introduction claims that “neuropsychological studies indicated
executive dysfunctions in paedophilia” (p. 3). This is a half-truth. There have indeed been studies that have found lower lesser executive functioning, there have also been very many failure to replicate that finding, and many other studies have reported deficits in many other cognitive domains. It would mislead readers to describe the frontal functioning levels as if they were a specific deficit rather than a reflection of a global neuropsychological deficit.

The parameters of the MRI acquisition sequence do not all appear to be provided and should be added. (TE? FoV? Etc.)

The manuscript repeatedly refers to a “sexual preference” factor. This should probably be called a “sex” factor, as it refers to the sex depicted in the stimuli and not the sexual preference of the study participant.

The IQs of the study participants were extremely high. Although this is matched (even exceeded) by the IQ of the control group, it is a potential limit to the generalizability of the findings and merits some comment.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.