Reviewer’s report

**Title:** Cognitive deficits in schizophrenia: an updated meta-analysis of the scientific evidence

**Version:** 1  **Date:** 26 July 2011

**Reviewer:** John Hughes

**Reviewer’s report:**

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A lot of hard work went into this review which analysed a total of 247 papers. One hundred and seventeen had been analysed in their earlier review (Fioravanti et al. 2005) to which were added 130 new papers selected form 1219 published since 2005.

The methods used to find and select papers that met the selection criteria are clear and well described.

The aim of the review was to identify the sources of heterogeneity between studies.

Discretionary Revisions

1. Have the authors considered including a flow diagram to describe the collection, inclusion or exclusion of papers in the methodology section?

2. In Table 1 there is duplication of author and year of publication. To solve this problem could the authors consider presenting Table 1 as follows:

   **Cognitive Function**
   
   Memory Digit Global
   Efficiency Span LTM STM ... Cog. Func. ... Attention

   **Author**
   
   Altshuler 2004
   Achim 2007 2007
   ...
   Zuffante 2001 2001

   This would eliminate duplication and also show how many papers contributed to more than one cognitive variable. At present the authors themselves do not appear to know how many this is.
3. The random effects model assumes that the studies are a representative sample from a population of possible studies. But only the number of cases and the number of studies within each cognitive function are presented.

Without a suitable graph presenting these data important information on the distribution of the size of studies is omitted. If forest plots were presented these would also show how much each study contributed to the size of the overall effect. Forest plots would make Table 1 unnecessary. Funnel plots would reveal any publication/selection bias. Other graphs are possible [1].

Can the authors please consider including appropriate graphs to show individual study sizes and effect sizes because without them the picture they present appears to be incomplete?

4. Please correct the spelling of schizofrenia [sic] in the title.


**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests.