Reviewer's report

**Title:** Improving cognition in schizophrenia: explicit or implicit training? A review.

**Version:** 1  **Date:** 16 September 2013

**Reviewer:** Jimmy Choi

**Reviewer's report:**

**Major Compulsory Revisions**

The primary concern for this review centers on the integrity of the literature search and selection, which appears both incomplete in the literature search and inconsistent.

1. **Literature Search:** There are a number of cognitive remediation therapy (CRT) studies that were missed in the literature search for unknown reasons. For example, Wykes et al. (2007a) was included, but Wykes et al. (2007b) appears to have been either missed or mistakenly excluded, as well as Wykes et al. (2003), and Penadés et al. (2006).

2. **Inclusion/Exclusion Criteria:** The authors state that they have excluded studies that target other difficulties besides neurocognition and social cognition, such as social skills, the improvement of symptoms, and metacognitive awareness. However, it is unclear whether the authors intended to exclude studies that only target these other areas, or that they meant to exclude studies that target these areas as well as neurocognition and social cognition. If the authors intended to exclude studies that only target these other areas then they seem to have mistakenly included some studies (e.g., Veltro et al., 2011; which is a study on social skills and CBT intervention, rather than CRT), and missed a number of others that combine CRT with other interventions (Bell et al., 2005, 2007; Kern et al., 2003; McGurk et al., 2009). On the other hand, if the authors intended the former, then they seem to have mistakenly included some studies that combine CRT with another treatment modality (e.g., Galderisi et al., 2010; Penadés et al., 2003). We recommend rerunning the literature search, using the additional keywords (e.g., “rehabilitation”) and also using the reference section of published meta-analyses and other reviews to help insure the thoroughness of the search.

3. The dichotomous division of implicit/explicit training is problematic, as most cognitive remediation paradigms tap some combination of implicit and explicit processes. A more careful operationalization of implicit and explicit interventions may help clarify this ambiguity, or perhaps shifting terminology to ‘drill and practice’ versus ‘drill plus strategy’ based interventions as other authors have done (e.g., Wykes et al., 2011).

**Minor Essential Revisions**

1. The authors state that the aim of the review is to analyze whether implicit or explicit CRT paradigms were most utilized and which yielded greater
improvements. While stating which type of paradigm is used most is within the scope of a qualitative review, analyzing which yields the greatest improvements is a task that is only achievable with a review that employs quantitative methods.

2. The authors discuss the number of studies that use CRT versus Neuropsychological Educational Approach to Remediation (NEAR). However, NEAR is a type of CRT, not a contrasting therapy.

In summary, it is difficult to fully review this manuscript because of the incomplete and inconsistent study selection. However, the review does fill an existing gap in the literature, and could be an excellent resource for those interested in cognitive remediation, if adequately revised.

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests