Editorial

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NEUROPSYCHOLOGY REVIEW strives to publish the highest quality systematic reviews on topics relevant to clinicians, researchers, and educators. Systematic reviews help to delineate the knowledge-base of brain-behavior relationships, and to identify critical gaps in our knowledge to encourage focused research and new discoveries. Structured checklists to guide study design and reporting are increasingly being employed in the biomedical literature, including neuropsychology, to improve the transparency of research methods and findings (Lee, 2016; Loring & Bowden, 2014). As an endorser of the EQUATOR Network (<http://www.equator-network.org/>), NEUROPSYCHOLOGY REVIEW will continue to encourage better reporting transparency by requiring submissions to conform to the PRISMA guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses; Moher, Liberati, Tetzlaff, & Altman, 2009, see also <http://www.equator-network.org/reporting-guidelines/prisma/>). We anticipate transitioning to the mandatory requirement of PRISMA guidelines for reporting of systematic reviews in NEUROPSYCHOLOGY REVIEW during 2016.

Reporting of systematic reviews according to the PRISMA guidelines and performing meta-analyses, as a component of a

systematic review when appropriate, will be unfamiliar to many members of the neuropsychology community. However, authors familiar with the task of writing a conventional, narrative review of the kind that has been published often in journals such as NEUROPSYCHOLOGY REVIEW will notice that the PRISMA guidelines only require a systematic approach to the reporting of information that already forms the basis of many good narrative reviews. Thus, the PRISMA guidelines do not require so many differences in the approach necessary for conducting a thorough review, but rather, represents a systematic approach to reporting the structure and content.

To facilitate adoption of the PRISMA criteria, we have solicited two manuscripts to orient potential NEUROPSYCHOLOGY REVIEW authors to the process of constructing systematic reviews. In this issue, Gates and March describe how, despite the importance of systematic reviews as Level I or Class I research evidence (<http://www.cebim.net/ocebim-levels-of-evidence/>), the lack of formal reporting guidelines in some published systematic reviews potentially diminishes their contribution to synthesizing the literature and clarifying research findings. Gates and March describe the process of writing a systematic review (as distinct from narrative review) to ensure conformity to the PRISMA guidelines. These authors also illustrate how the PRISMA reporting checklist ensures maximum transparency in how the review was conducted and how potential bias or sources of methodological weakness, both in individual studies and across studies can be described and incorporated into a synthesis of findings. While there are other reports describing the utility of PRISMA in reporting results of systematic reviews, Gates and March describe relevant PRISMA components from the perspective of synthesizing neuropsychological intervention or diagnostic studies that may be of most interest to neuropsychologists.

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The second article in this issue, by Cheung and Vijayakumar, provides an introduction and overview for those who have never performed a meta-analysis. This article shows how a meta-analysis adds value to a systematic review. The meta-analytic component is a way of providing the best estimate of observed effects in the studies reviewed, when those studies address a consistent scientific question and provide the relevant effect statistics to make a meta-analysis feasible. In other words, the best systematic reviews will include meta-analysis. Authors of systematic reviews submitted to NEUROPSYCHOLOGY REVIEW will need to provide a clear justification if they choose not to include a meta-analysis. In their article, Cheung and Vijayakumar, provide a brief overview of the considerations that authors should evaluate to determine whether or not to include a meta-analysis as part of a systematic review. They also provide a brief introduction to some the technical aspects of undertaking a meta-analysis, including derivation of effect size estimates, discussion of the pros and cons of including un-published research in a systematic review, and a listing of readily available software to facilitate meta-analysis.

We anticipate that both of these articles will be a helpful resource for neuropsychologists less familiar with systematic reviews, meta-analysis and the PRISMA guidelines and will assist in writing these kinds of manuscripts. This pair of articles also assist clinicians and researchers to critically evaluate the systematic reviews and meta-analyses that appear in the neuropsychological literature. We look forward to helping advance clinical and experimental neuropsychology through rigorous review and reporting methods, and thank the authors of both papers for facilitating this process in NEUROPSYCHOLOGY REVIEW.

References

- Lee, G. P. (2016). New editor-in-chief introductory comments. *Archives of Clinical Neuropsychology*, 31(3), 195–196. doi:[10.1093/arclin/acw008](https://doi.org/10.1093/arclin/acw008).
- Loring, D. W., & Bowden, S. C. (2014). The STROBE statement and neuropsychology: lighting the way toward evidence-based practice. *The Clinical Neuropsychologist*, 28(4), 556–574. doi:[10.1080/13854046.2012.762552](https://doi.org/10.1080/13854046.2012.762552).
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ*, 339, b2535. doi:[10.1136/bmj.b2535](https://doi.org/10.1136/bmj.b2535).