**Supplementary Material**

**Naturalistic Eye Movement Tasks in Parkinson’s Disease: A Systematic Review**

**Supplementary Material 3: Modified Downs and Black Risk of Bias Tool**

1. Is the hypothesis/aim/objective of the study clearly described?
   1. Yes (2)
   2. Partially (1)
   3. No (0)
2. Are the main outcomes to be measured clearly described in the Introduction or Methods section? If the main outcomes are first mentioned in the Results section, the question should be answered no.
   1. Yes (2)
   2. Partially (1)
   3. No (0)
3. Are the characteristics of the participants included in the study clearly described? Inclusion and/or exclusion criteria should be given.
   1. Yes (2)
   2. Partially (1)
   3. No (0)
4. Are the stimuli clearly described?
   1. Yes (2)
   2. Partially (1)
   3. No (0)
5. Are the distributions of principal confounders in each group of subjects to be compared clearly described? A list of principal confounders is provided in between-subjects studies, such as baseline cognitive scores.
   1. Yes (2)
   2. Partially (1)
   3. No (0)
   4. Not applicable (2)
6. Are the main findings of the study clearly described? Simple outcome data should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).
   1. Yes (2)
   2. Partially (1)
   3. No (0)
   4. Not applicable (2)
7. Does the study provide estimates of the random variability in the data for the main outcomes? In non-normally distributed data the inter-quartile range of results should be reported. In normally distributed data the standard error, standard deviation, or confidence intervals should be reported. If the distribution of the data is not described, it must be assumed that the estimates used were appropriate and the questions should be answered ‘Yes’.
   1. Yes (2)
   2. No (0)
8. Have the characteristics of participants lost to drop-out or exclusion been described? This should be answered ‘Yes’ where there were no losses to drop-out or exclusion or where losses were so small that findings would be unaffected by their inclusion. This should be answered ‘No’ where a study does not report the number of participants lost to drop-out or exclusion.
   1. Yes (2)
   2. Partially (1)
   3. No (0)
9. Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001?
   1. Yes (2)
   2. Partially (1)
   3. No (0)
10. Were the participants in the study representative of the entire population they belong to?
    1. Yes (2)
    2. Partially (1)
    3. No (0)
    4. Unclear (0)
11. If any of the results of the study were based on ‘data dredging’, was this made clear? Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then the answer is ‘Yes’.
    1. Yes (2)
    2. No (0)
    3. Unclear (0)
12. Were the statistical tests used the assess the main outcomes appropriate? The statistical techniques must be appropriate to the data. For example, non-parametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered ‘Yes’. If the distribution of the data (normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered ‘Yes’.
    1. Yes (2)
    2. No (0)
13. Were the main outcome measures used accurate (valid and reliable)? For studies where the outcome measures are clearly described, the question should be answered ‘Yes’. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered ‘Yes’.
    1. Yes (2)
    2. Partially (1)
    3. No (0)
    4. Unclear (0)
14. In the case of between-subjects studies, were participants randomised to different conditions? Studies which state that subjects were randomised should be answered ‘Yes’ expect where the method of randomisation would not ensure random allocation. For example, alternate allocation would score ‘No’ because it is predictable.
    1. Yes (2)
    2. No (0)
    3. Unclear (0)
    4. Not applicable (2)
15. Was there adequate adjustment for confounding in the analyses for which the main findings were drawn? This question should be answered ‘No’ for between-subjects studies if: the distribution of known confounders in the different groups were not described or if the distribution of known confounders differed between groups but was not taken into account in the analyses.
    1. Yes (2)
    2. Partial (1)
    3. No (0)
    4. Unclear (0)
    5. Not applicable (2)
16. Were losses of participants to drop-out or exclusion taken into account? If the numbers of participants lost to drop-out or exclusion are not reported, the question should be answered as unclear. If the proportion lost to drop-out or exclusion was too small to affect the main findings, the question should be answered ‘Yes’.
    1. Yes (2)
    2. Partial (1)
    3. No (0)
    4. Unclear (0)
17. Did the authors justify their sample size? Select ‘Yes’ if a power analysis was conducted to determine the number of participants needed to ensure their study was sufficiently powered (where the probability value for a difference being due to chance is less than 5%).
    1. Yes (2)
    2. Partial (1)
    3. No (0)