In his letter Coory\(^1\) discusses some of the relative advantages and disadvantages of \(I^2\). One the advantages is claimed to be the independence of \(I^2\) from the effect measure used in the respective meta-analysis. However, \(I^2\) does change with different effect measures. In our database of 1011 meta-analyses\(^2\) of binary outcomes, the Pearson’s correlation coefficient of \(I^2\) calculated for different effects measures [odds ratio (OR), risk ratio (RR) and risk difference (RD)] are: OR vs RR: 0.87, OR vs RD: 0.80, RR vs RD: 0.82. Figure 1 illustrates data for meta-analyses that have \(I^2 = 0\) when calculated based on OR: sometimes quite high values for \(I^2\) are seen when the same data are analyzed on a RR or RD scale. \(I^2\), like almost all tests or measures of heterogeneity, is related to Cochran’s \(Q\) and thus inherits much of its disadvantages, e.g. dependence from effect size and low power with few studies.\(^3,4\) Coory also mentions that \(I^2\) depends on the size (precision) of the individual studies, which was recently illustrated by Rucker et al.\(^5\) Since, \(I^2\) depends on the between-study variance and the within-study variance (precision), this is also expected.\(^6\)

Any test, metric or index of heterogeneity is due to have disadvantages. The question posed by Coory is whether we stop reporting heterogeneity with quantitative, statistical means and simply refer to forest plots. We do not agree with this proposal. Simple inspection of the forest plot is useful to give an overall impression of the data, but it is not a test for heterogeneity and it is open to subjective interpretation without any rules. Evaluating forest plots or any other kind of plots can be extremely dangerous and misleading and depends on the reader’s experience and/or prior beliefs, as has been illustrated in an empirical evaluation of funnel plots for the detection of publication bias.\(^7\) Quantitative measures of heterogeneity are very useful, provided one appreciates what they mean and what are their advantages and their limitations.

References
\(^1\) Coory M. Comment on: heterogeneity in meta-analysis should be expected and appropriately quantified by higgins. *Int J Epidemiol* 2010;39:932.

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