

LFK Stata package for the Doi plot and LFK index

Rationale

In a meta-analysis in which there are two or more studies with the exact same effect size and standard error, these studies should overlap in the Doi plot. We noticed that there is a glitch in MetaXL version 5.3 that prevents this from happening due to an error in the ranking calculation that occurs only when the same effect size and standard error are seen in multiple studies. This of course will usually only happen when a simulation is contemplated and is otherwise very rare in actual practice.

To illustrate this glitch, a meta-analysis with 12 studies had the Doi plot and LFK index generated in MetaXL (Figure 1A). When these 12 studies are duplicated, the meta-analysis with 24 studies contained two sets of similar studies and the Doi plot and LFK index should not have changed, but the change in Figure 1B occurred with LFK index increasing slightly to 1.94 from 1.74.

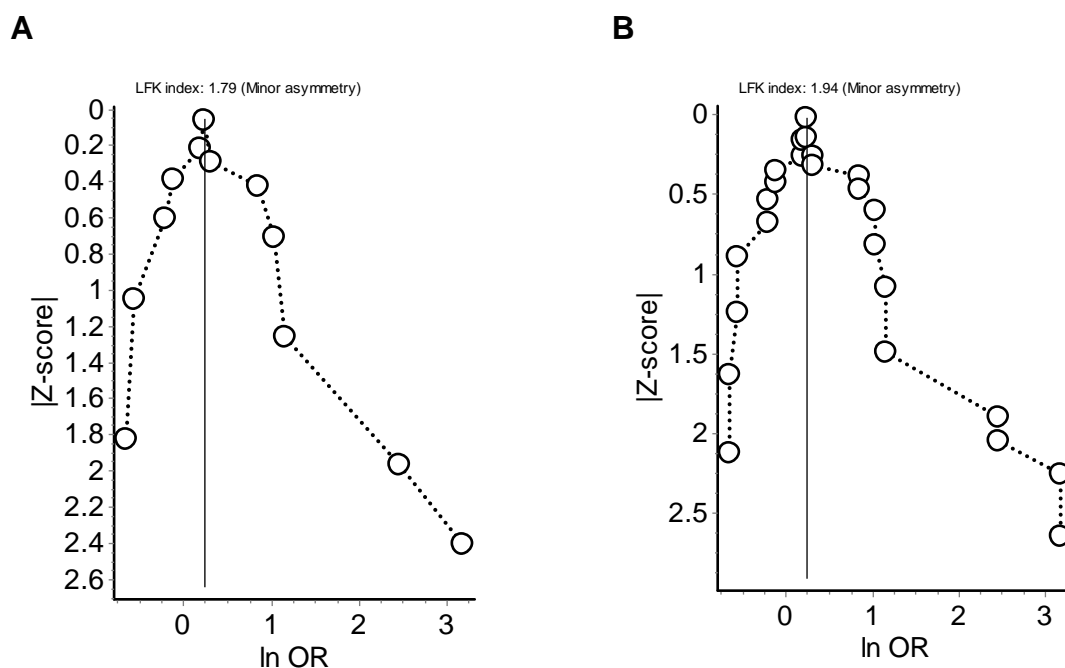


Figure 1. Doi plots generated in MetaXL using a) 12 and b) 24 studies.

While we attempt to provide a fix to the MetaXL bug, this problem has been fixed in the Stata package and when the data from the meta-analysis was duplicated, studies with similar effect size and standard error overlapped in the Doi plot and the LFK index did not change (Figure 2A and 2B). We would like to emphasize that having two or more studies with the exact same effect size and standard error in a meta-analysis is not likely and therefore this does not represent a major issue for standard MetaXL users.

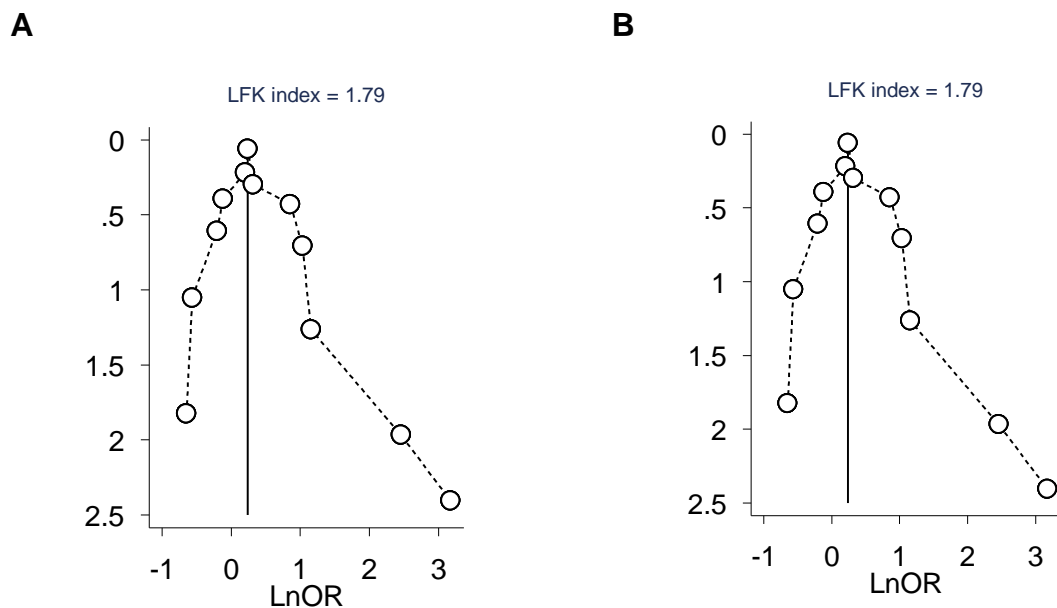


Figure 2. Doi plots generated via the Stata lfk package using a) 12 and b) 24 studies.

Installation of the LFK Stata package

1. Download the lfk.ado and lfk.sthlp file
2. Copy and paste the lfk.ado and lfk.sthlp files in "C:\ado\plus\l"
3. When Stata is opened, the lfk package is ready to be used
4. The help lfk command will access the help menu