

Combining information

Citation for published version (APA):

Cinar, O. (2021). *Combining information: model selection in meta-analysis and methods for combining correlated p-values*. [Doctoral Thesis, Maastricht University]. Ipskamp Printing BV.
<https://doi.org/10.26481/dis.20210519oc>

Document status and date:

Published: 01/01/2021

DOI:

[10.26481/dis.20210519oc](https://doi.org/10.26481/dis.20210519oc)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Propositions accompanying this dissertation

Combining Information: Model Selection in Meta-Analysis and Methods for Combining Correlated P-Values

Ozan Çınar, Maastricht, 19 May 2021

1. Information-theoretic methods should be considered as an alternative to conventional techniques to detect the true moderators in meta-analyses. (this thesis)
2. Model selection via information criteria computed based on the REML function appears to be a valid strategy even when comparing models with different fixed effects. (this thesis)
3. Meta-analysts in ecology and evolution should consider the phylogenetic multi-level meta-analysis model as the de facto standard when analyzing multi-species datasets. (this thesis)
4. Incorporating the dependence among the items being tested into the step of combining information from the tests can control the Type I error rate and increase the power of the global test. (this test)
5. The two-sided version of Brown's method is a potentially attractive alternative to the use of the Bonferroni correction and other methods when combining information from two-sided tests. (this thesis)
6. Mimicking 'proper' permutation tests by using pseudo replicates of the p -values can greatly reduce the computation time and produce results that are quite similar to those of conventional permutation techniques even when the raw data are not available. (this thesis)
7. [In meta-analyses] We aren't publishing 'studies'; rather, we are contributing to data archives. *Gene V. Glass*
8. But we had a hundred miles still to cover, and could only look longingly at the heights which others must scale. *Arthur C. Clarke*