

# Evidence synthesis methods for continuous outcomes Papadimitropoulou, A.

#### Citation

Papadimitropoulou, A. (2022, January 11). Evidence synthesis methods for continuous outcomes. Retrieved from https://hdl.handle.net/1887/3249309

Version: Publisher's Version

License: License agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden

Downloaded from: <a href="https://hdl.handle.net/1887/3249309">https://hdl.handle.net/1887/3249309</a>

**Note:** To cite this publication please use the final published version (if applicable).

# LIST OF PUBLICATIONS

- **K. Papadimitropoulou**, C. Vossen, A. Karabis, C. Donatti and N. Kubitz (2017). Comparative efficacy and tolerability of pharmacological and somatic interventions in adult patients with treatment-resistant depression: a systematic review and network meta-analysis. *Current Medical Research and Opinion* 33(4), 701-711.
- **K. Papadimitropoulou**, T. Stijnen, O.M. Dekkers and S. le Cessie (2019). One-stage random effects meta-analysis using linear mixed models for aggregate continuous outcome data. *Research Synthesis Methods* 10(3), 360-375.
- **K. Papadimitropoulou**, T. Stijnen, R.D. Riley, O.M. Dekkers and S. le Cessie (2020). Meta-analysis of continuous outcomes: using pseudo IPD created from aggregate data to adjust for baseline imbalance and assess treatment-by-baseline modification. *Research Synthesis Methods* 11(6), 780-794.
- **K. Papadimitropoulou**, R.D. Riley, O.M. Dekkers, T. Stijnen, and S. le Cessie (2021). Meta-analysis of randomised trials with continuous outcomes: methods that adjust for baseline should be used. *Manuscript submitted for publication*.
- **K. Papadimitropoulou**, R.D. Riley, O.M. Dekkers, T. Stijnen, and S. le Cessie (2021). MA-cont:pre/post effect size An interactive tool for the meta-analysis of continuous outcomes using R Shiny. *Manuscript in preparation*.
- L.M Spineli, C. Kalyvas and **K. Papadimitropoulou** (2021). Continuous(ly) missing outcome data in network meta-analysis: a one-stage pattern-mixture model approach. *Statistical Methods in Medical Research* 30 (4), 958-975.

## **ACKNOWLEDGEMENTS**

This thesis could not have been realised without the unwavering support from my supervisors, colleagues, friends and family and hereby I dedicate a few words as a sign of gratitude towards them.

Firstly, I would like to express my heartfelt gratitude to my main supervisor, Prof. dr. Saskia le Cessie for her trust and guidance in the last 5 years. Given the part-time nature of this research, it is not an understatement that I might have not completed this journey under a different main promotor: I feel very fortunate and honored to be your student. The academia is a richer place with supervisors and researchers like yourself, Saskia. I am also very thankful to my promotor Prof. dr. Theo Stijnen for his pivotal contribution and support since the beginning of this project, his eagerness in providing feedback and corrections to my work and for always being accessible. I would also like to thank my promotor Prof. dr. Olaf Dekkers for our energizing meetings to discuss my progress and for always putting nice ideas on the table.

During this research I am grateful for the opportunity to collaborate with Prof. dr. Richard Riley, who is an inspiring academic to work with and often provided me with words of encouragement and career advice.

I am thankful to Carla Vossen for endorsing and following through my clear interest in pursuing this PhD research while she was my manager at Mapi. Also big thanks to Andreas Karabis and my Mapi colleagues for their support during my early days.

Special thanks are extended to Sophie Swinkels for hiring me in Danone while allowing me to continue my research and for looking out for possibilities of projects for this thesis. Big thank you to my Data Science colleagues and particularly to my fellow Statisticians for kindly caring about my progress.

I would like to thank my colleagues at the Epi department and those I shared office with during these five years. Special thanks to the C7-81 roomies who made my last months at the department real fun.

This work led also to a great collaboration with two very hardworking statisticians. Loukia and Maki, Maki and Loukia, it is truly energizing working with both of you and I only hope and wish we can continue our fruitful collaboration in the future.

I wouldn't have embarked upon this journey which included long evening and weekend hours if I wasn't passionate about statistics which I owe it to my bachelor's and master's teachers. I am particularly thankful to Prof. dr. Dimitris Karlis and Prof. dr. Ioannis Ntzoufras for instilling their passion for this science and for always pushing me further.

Even though not directly linked to the realisation of this thesis, I've met people in the Netherlands (statisticians or not) that have in one way or another supported me in this endeavor. Big thanks to the Leiden Foreigners: Flávio, Manos, Razieh, Shane and my paranymph Teddy. Also thankful to cross paths with: Agni, Alexia, Andreas, Bruna, Camila, Daniela, Floor (who also kindly helped in drafting the Dutch summary) Maarten, Panos, Sofia, Stavros, Stefanos, Suzette. Adriana, I could not

be happier that Athens University of Economics and Business sends MSc students abroad for their theses; you have been such a supportive, true friend and part of this thesis. I am also thankful to my Greek girls: Maria, Nicolina and Zoe for making a friendship since the bachelor's ripe beautifully and for always being there for me. I would like to mention my closest Greek friends, Alexandros, Pela, Anastasios, Maria, Nikos and Stefi: you are all so driven and hardworking, you've been an inspiration for me to push forward with these studies. I hope that you will read the summary so that I don't have to explain my topic again.

Finally, I would like to thank my partner and my family for their unwavering support and love, particularly more so in the last steps of this thesis. Seb, you have helped typesetting part of this book, worked on the cover with me on the practical side; most of all you have been my strength in the last years of the PhD and my biggest fan: thank you for your selfless support. To my parents and my sister: Μαμά, μπαμπά και Γεωργία σας ευχαριστώ για την ανιδιοτελή αγάπη και υποστήριξη όλα αυτά τα χρόνια, ξέρω πως είστε στο πλευρό μου έστω και από απόσταση και εύχομαι και ελπίζω να σας κάνω μόνο και πάντα περήφανους. Σας αφιερώνω αυτό το βιβλίο γιατί το ότι το κρατάτε στα χέρια σας το οφείλω σε σας.

### CURRICULUM VITÆ

Katerina Papadimitropoulou was born on the 23rd of September 1988 in Athens, Greece. She completed her secondary studies in 2006 at  $1\sigma$  Γενιχό Λύχειο Παλλήνης in Athens. She obtained a BSc from the Statistics department of Athens University of Economics and Business in 2011, graduating at top 5% of her class. During the last year of the studies she worked as a junior consultant in the field of Official statistics on projects with EUROSTAT and OECD.

In August 2011 she moved to the Netherlands to pursue a master's degree in Statistical Science for the Life and Behavioural Sciences (now Statistics & Data Science) from Leiden University, where she graduated with merit (met genoegen) in 2013. During her master's she worked as a teaching assistant and served in the first board of Young Statisticians Netherlands. Upon completing the master's, she joined Mapi consulting (now ICON) as a Research Associate, where she first got acquainted with the world of evidence synthesis. In 2016, her clear academic interest in this field led her into pursuing a part-time PhD programme at the department of Clinical Epidemiology at Leiden University Medical Center under the main supervision of Prof. dr. Saskia le Cessie.

In 2017, she joined Danone Nutricia Research in Utrecht in a Statistician's role while maintaining the opportunity to continue her PhD work. Her research focused on developing and applying statistical methodology for synthesising continuous outcomes while providing solutions to individual participant data unavailability and missing outcome data issues. For the latter, she fostered a collaboration with international experts in handling missing outcome data in Bayesian (network) meta-analysis and contributed in the development version of the R package rnmamod. She is a reviewer for Research Synthesis Methods, Statistics in Medicine and BMC Medical Research Methodology.