

Curriculum Vitae

Robbie C. M. van Aert

Personal Information

Name: Robbie C. M. van Aert
Date and Place of Birth: April 26th 1990, Roosendaal en Nispen, the Netherlands
Work Address: Tilburg University, Department of Methodology and Statistics,
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Research Experience

Feb 2018 - Present	Postdoctoral researcher at the department of Methodology and Statistics, Tilburg University
Jan - Mar 2017	Research visit MRC Biostatistics Unit, University of Cambridge, UK Visiting Dr. D. Jackson, who is an expert on meta-analysis methods, for three months
Sep 2013 - Jan 2018	PhD Candidate in Methodology and Statistics, Tilburg University Project title: <i>Meta-analysis in the presence of publication bias and researcher degrees of freedom</i> Promotors: Prof. Dr. M. A. L. M. van Assen and Prof. Dr. J. M. Wicherts
Feb 2014 - June 2015	The Reproducibility Project: Psychology Member of the analysis committee evaluating publication bias and questionable research practices in the psychological literature Project coordinator: Prof. Dr. B. A. Nosek
Sep 2012 - Aug 2013	Research Internship Programming a simulation study and writing a paper on the robustness of confidence intervals around heterogeneity estimates in a meta-analysis. Supervised by Dr. W. Viechtbauer, Maastricht University
Jan - Jun 2013	Research Internship Programming a simulation study in R for examining confidence intervals around Goodman and Kruskal's gamma coefficient. Supervised by Prof. Dr. L. A. van der Ark, Tilburg University
Sep 2012 - Jan 2013	Research Internship Developing R code in order to compute z-values for event transitions in event sequence analysis. Supervised by Dr. J. van Dijk and Dr. B. Meyer, Tilburg University
Jan - Apr 2012	Research Internship Developing a questionnaire about culture, health, and sports and supervising data collection. Supervised by Dr. A. R. C. M. Luijkx, Tilburg University

Education

2013 - 2018	PhD in Methodology and Statistics (cum laude) Tilburg University, the Netherlands. Thesis title: <i>Meta-analysis: Shortcomings and potential</i> . Promotors: Prof. Dr. M. A. L. M. van Assen and Prof. Dr. J. M. Wicherts
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2015 - 2018	University Teaching Qualification: Modules START, TEACH, SUPER-VISE, COURSE, and ASSESSMENT Courses for improving my teaching and supervising skills.
2011 - 2013	Msc, Research Master in Social and Behavioral Sciences (with distinction) Tilburg University, the Netherlands. Minor: Methodology and Statistics/Social Sciences. Thesis title: <i>Examining publication bias in meta-analysis: Comparison of existing techniques with the new p-uniform method.</i>
Sep - Dec 2011	English Advanced (Cambridge Proficiency Level) High level course on writing, listening, speaking, and reading in English.
2008 - 2011	Bsc, Human Resource Management (with distinction) Tilburg University, the Netherlands

Teaching

Sep 2017 - Present	Public Administration Research 3: Quantitative Research An introduction to statistics course taught at Tilburg University. Roles: coordinator and lecturer.
Sep 2017 - Present	Research Methodology for International Students and Introduction to Research Methodology Courses taught at Tilburg University on measurement errors, validity, reliability, sampling, experiments, survey research, and generating research questions and hypotheses. Roles: co-coordinator, lecturer, and tutorial instructor.
Jan 2015 - 2016	Research Methodology for International Students Course taught at Tilburg University on measurement errors, validity, reliability, sampling, experiments, survey research, and generating research questions and hypotheses. Role: Tutorial instructor.
Sep 2013 - 2016	Experimental Research Methods Course taught at Tilburg University on AN(C)OVA, repeated measures ANOVA, and within- and between-subjects designs. Role: Tutorial instructor.
Jan 2013 - May 2015	Introduction to Statistics Course taught at Tilburg University on probability theory, hypothesis testing, power analysis, and measures of association. Roles: Coordinator of practicals and tutorials and tutorial instructor.
Sep 2013 - Jan 2015	Statistical Consultant at SPSS Helpdesk Advising master's students of Tilburg University on using statistical methods in their theses.
Sep 2012 - May 2013	Teaching Assistant Teaching bachelor's students an introductory methodology course and supervising practicals.

Supervision

May - Aug 2018	Supervisor Research Internship Supervising research internship of Gabriela Veleva (research master's student) Project title: <i>Simulating data in statistical software R.</i>
May - Aug 2017	Supervisor Research Internship Supervising research internship of Renée Zonneveld (research master's student) Project title: <i>Application of meta-analysis.</i>
Oct 2016 - Apr 2017	Supervisor Research Internship Supervising research internship of Rita Jiao (research master's student) Project title: <i>Reproducing the meta-analysis of Weingarten et al. on the behavioral effects of incidentally presented words.</i>

Jun - May 2014

Supervisor Research Internship

Supervising research internship of Esther Maassen (research master's student)
Project title: *Estimating effect size in meta-analysis in the presence of publication bias and questionable research practices.*

Grants

Total grants received: €197,258 (\$ 214,923)

Mar 2017

IMPS Travel Award: \$ 500

Travel award to present at International Meeting of the Psychometric Society (IMPS) 2017

Sep 2016

MAER-Net Travel Grant: € 1,000

Travel grant to present at the Meta-Analysis of Economics Research Network (MAER-Net) Colloquium 2016

Nov 2015

BITSS SSMART Grant: \$ 30,000

Grant from the Berkeley Initiative for Transparency in the Social Science, supported by Center for Effective Global Action (CEGA) and partially funded by the Laura and John Arnold Foundation

Project title: *Getting it Right with Meta-Analysis: Correcting Effect Size for Publication Bias in Meta-Analyses from Psychology and Medicine*

Sep 2013

Research Talent Grant: € 168,363

Grant from Netherlands Organisation for Scientific Research (NWO)

Project title: *Meta-Analysis in the Presence of Publication Bias and Researcher Degrees of Freedom*

Publications

Under review

van Aert, R. C. M. & Jackson, D. (2018). A new justification of the Hartung-Knapp method for random-effects meta-analysis based on weighted least squares regression.

van Aert, R. C. M., van Assen, M. A. L. M., & Viechtbauer, W. (2018). Statistical properties of methods based on the Q -statistic for constructing a confidence interval for the between-study variance in meta-analysis.

van Aert, R. C. M., Wicherts, J. M., & van Assen, M. A. L. M. (2018). Publication bias examined in meta-analyses from psychology and medicine: A meta-meta-analysis.

Niemeyer, H., van Aert, R. C. M., Schmid, S., Uelsmann, D., & Schulte-Herbrueggen, O. (2018). Publication bias in meta-analyses of the efficacy of psychotherapeutic interventions for posttraumatic stress disorder.

van der Meulen, E., van der Velden, P. G., van Aert, R. C. M., & van Veldhoven, M. J. P. M. (2018). Longitudinal associations of psychological resilience with mental health and functioning among military personnel: A meta-analysis.

Klein, R. A., ..., van Aert, R. C. M., ..., & Nosek, B. A. (2018). Many Labs 2: Investigating variation in replicability across sample and setting.

- 2018 Augusteijn, E. M., van Aert, R. C. M., & van Assen, M. A. L. M. (in press). The effect of publication bias on the assessment of heterogeneity. *Psychological Methods*. doi: 10.1002/sim.7665
- van Aert, R. C. M. (2018). *Meta-analysis: Shortcomings and potential*. Doctoral dissertation. doi: 10.17605/OSF.IO/EQHJD
- van Aert, R. C. M. & Jackson, D. (2018). Multistep estimators of the between-study variance: The relationship with the Paule-Mandel estimator. *Statistics in Medicine*, 37(17), 2616-2629. doi: 10.31219/osf.io/gv25c
- van Aert, R. C. M. & van Assen, M. A. L. M. (2018). Examining reproducibility in psychology: A hybrid method for combining a statistically significant original study and a replication. *Behavior Research Methods*, 50(4), 1515-1539. doi: 10.3758/s13428-017-0967-6
- 2017 van Aert, R. C. M. & van Assen, M. A. L. M. (2017). Bayesian evaluation of effect size after replicating an original study. *PLoS ONE*, 12(4): e0175302. doi: 10.1371/journal.pone.0175302
- 2016 Wicherts, J. M., Veldkamp, C. L. S., Augusteijn, H. E. M., Bakker, M., van Aert, R. C. M., & van Assen, M. A. L. M. (2016). Degrees of freedom in planning, running, analyzing, and reporting psychological studies: A checklist to avoid *p*-hacking. *Frontiers in Psychology*, 7(1832). doi: 10.3389/fpsyg.2016.01832
- van Aert, R. C. M., Wicherts, J. M., & van Assen, M. A. L. M. (2016). Conducting meta-analyses based on *p*-values: Reservations and recommendations for applying *p*-uniform and *p*-curve. *Perspectives on Psychological Science*, 11(5), 713-729. doi: 10.1177/1745691616650874
- Anderson, C. J. , ..., van Aert, R. C. M., ..., & Zuni, K. (2016). Response to comment on "Estimating the reproducibility of psychological science". *Science*, 351(6277), 1037-1037. doi: 10.1126/science.aad9163
- Hartgerink, C. H. J., van Aert, R. C. M., Nuijten, M. B., Wicherts, J. M., & van Assen, M. A. L. M. (2016). Distributions of *p*-values smaller than .05 in psychology: What is going on? *PeerJ*, 4: e1935. doi: 10.7717/peerj.1935
- 2015 van Assen, M. A. L. M., van Aert, R. C. M., & Wicherts, J. M. (2015). Meta-analysis using effect size distributions of only significant studies. *Psychological Methods*, 20(3), 293-309. doi: 10.1037/met0000025
- Open Science Collaboration (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251). doi: 10.1126/science.aac4716
- van der Ark, L. A. & van Aert, R. C. M. (2015). Comparing confidence intervals for Goodman and Kruskal's gamma coefficient. *Journal of Statistical Computation and Simulation*, 85(12). doi: 10.1080/00949655.2014.932791
- 2014 van Assen, M. A. L. M., van Aert, R. C. M., Nuijten, M. B., & Wicherts, J. M. (2014). Why publishing everything is more effective than selective publishing of only statistically significant results. *PLoS ONE*, 9(1): e84896. doi: 10.1371/journal.pone.0084896

Nuijten, M. B., van Assen, M. A. L. M., van Aert, R. C. M., & Wicherts, J. M. (2014). Standard analyses fail to show that US studies overestimate effect sizes in softer research. *Proc Natl Acad Sci USA*. doi: 10.1073/pnas.1322149111

Software

R package puniform

R package for applying meta-analysis methods while taking into account publication bias. The puniform package is available on [CRAN](#) and a development version of the package on [GitHub](#)

Web applications

Shiny web applications for applying meta-analysis methods while taking into account publication bias for researchers who are not proficient with programming in R: [p-uniform](#), [hybrid method](#), and [snapshot method](#)

Popular Press

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| 2016 | November. <i>De Osteopaat Magazine</i> , Vol. 17, No. 2, author: P. Bakker. Osteopathie na darmoperatie: Doen of niet? |
| 2015 | August, 27. <i>Washington Post</i> , author: J. Achenbach. Many scientific studies can't be replicated. Coverage on Reproducibility Project: Psychology

August, 27. <i>New York Times</i> , author: B. Carey. Many psychology findings not as strong as claimed, study says. Coverage on Reproducibility Project: Psychology

August, 27. <i>Nature</i> , author: M. Baker. Over half psychology studies fail reproducibility test. Coverage on Reproducibility Project: Psychology |
| 2014 | January, 22. <i>De Volkskrant</i> , author: M. van Calmthout. Publication bias. Geen effect is ook best. Coverage on our paper "Why publishing everything..." |

Reviewing Experience

Reviewer for the Ethics Review Board of Tilburg University (2017 - Present)
PLoS ONE
Methodology
Psychonomic Bulletin & Review
Behavior Research Methods
Bioinformatics
PLoS Biology
Emotion
Meta-Psychology
Research Synthesis Methods
Studies in Educational Evaluation

Academic Memberships

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| Aug 2017 - Present | BITSS Catalyst
Educating economists, psychologists, and other social scientists on transparency tools and practices. This catalyst program is initiated by the Berkeley Initiative for Transparency in the Social Sciences (BITSS). |
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Oct 2013 - Present

Member of IOPS

Member of the Interuniversity Graduate School of Psychometrics and Sociometrics (IOPS).

Presentations

Oral presentations:

2018

83nd Annual Meeting of the Psychometric Society, New York, USA. Title: *Correcting for publication bias in a meta-analysis with p-uniform**

Invited workshop at the Research Transparency and Reproducibility Training (RT2) organized by the Berkeley Initiative for Transparency in the Social Sciences (BITSS), Amsterdam, the Netherlands. Title: *Meta-analysis and publication bias*

2017

82nd Annual Meeting of the Psychometric Society, Zurich, Switzerland. Title: *Estimating replicability of science by taking statistical significance into account*

Invited workshop at the Research Transparency and Reproducibility Training (RT2) organized by the Berkeley Initiative for Transparency in the Social Sciences (BITSS), London, United Kingdom. Title: *Meta-analysis and publication bias*

Presentation at the workshop "Perspectives on Scientific Error", Tilburg University, the Netherlands. Title: *Estimating replicability of science by taking statistical significance into account*

27th IOPS Summer Conference, KU Leuven, Belgium. Title: *Estimating replicability of science by taking statistical significance into account*

Invited workshop at the 9th Interuniversitair Centrum voor Onderwijswetenschappen (ICO), Utrecht University, the Netherlands. Title: *The consequences of publication bias and questionable research practices*

Presentation at the MRC Biostatistics Unit, University of Cambridge, United Kingdom. Title: *Correcting for publication bias in meta-analysis*

2016

Presentation at the Department of Psychology and Pedagogy, Erasmus University, the Netherlands. Title: *Estimating the replicability of science: Accounting for statistical significance of the original study*

5th Annual Meeting of Berkeley Initiative for Transparency in the Social Science, Berkeley, USA. Title: *Getting it right with meta-analysis: Correcting effect size for publication bias in meta-analyses from psychology and medicine*

MAER-Net (Meta-Analysis of Economics Research Network) 2016 Colloquium, Conway, USA. Title: *Conducting meta-analyses based on p-values: Reservations and recommendations for applying p-uniform and p-curve (Plenary session)*

2015	28 th Annual Convention of the Association for Psychological Science, Chicago, USA. Title: <i>Conducting meta-analyses based on p-values: Reservations and recommendations for applying p-uniform and p-curve</i> (Chair and presenter)
	4 th Annual Meeting of Berkeley Initiative for Transparency in the Social Science, Berkeley, USA. Invited member of a panel of SSMART grant recipients discussing transparency in research
	Presentation at the Department of Methodology and Statistics, Tilburg University, the Netherlands. Title: <i>Estimating effect size using original study and replication: A hybrid method</i>
	27 th Annual Convention of the Association for Psychological Science, New York, USA. Title: <i>Performance of meta-analysis methods in case of questionable research practices and publication bias</i>
2014	1 th International Convention of Psychological Science, Amsterdam, the Netherlands. Title: <i>Harmful effects of questionable research practices and publication bias on the results of meta-analysis</i>
	6 th European Congress of Methodology, Utrecht, the Netherlands. Title: <i>Unbiased effect estimation in the presence of publication bias: A new method for meta-analysis and assessing publication bias</i>
	26 th Annual Convention of the Association for Psychological Science, San Francisco, USA. Title: <i>Evaluation of replication</i>
	Presentation at the Department of Methodology and Statistics, Tilburg University, the Netherlands. Title: <i>Unbiased effect estimation in the presence of publication bias: A new method for meta-analysis and assessing publication bias</i>
<u>Poster presentations:</u> 2014	Invited poster presentation at the seminar ‘Improving Scientific Practice: Dealing with the Human Factors’, Amsterdam, the Netherlands. Title: <i>Unbiased effect estimation in the presence of publication bias</i>

Other Activities

Feb 2016 - Present	Sports Ambassador Tilburg University Motivating colleagues to take part in sports activities organized for employees of Tilburg University by the Sports Center
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Acquired Skills

<u>Applications:</u>	Microsoft Office, SPSS Amos, G*Power, Latent GOLD, LaTeX, and Git
<u>Programming:</u>	IBM SPSS Statistics, R CRAN/R Studio, C++, WinBugs, and Jags
<u>Languages:</u>	Dutch (mother tongue) and English (fluent in speaking and writing)