

# Curriculum Vitae

Robbie C. M. van Aert

## Personal Information

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

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

## Education

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| 2013 - 2018 | <b>PhD in Methodology and Statistics (cum laude)</b><br>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    | <b>University Teaching Qualification: Modules START, TEACH, SUPER-<br/>VISE, COURSE, and ASSESSMENT</b><br>Courses for improving my teaching and supervising skills.   |
| 2011 - 2013    | <b>Msc, Research Master in Social and Behavioral Sciences (with distinction)</b><br>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 | <b>English Advanced (Cambridge Proficiency Level)</b><br>High level course on writing, listening, speaking, and reading in English.  |
| 2008 - 2011    | <b>Bsc, Human Resource Management (with distinction)</b><br>Tilburg University, the Netherlands  |

## Teaching

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| Sep 2017 - Present  | <b>Public Administration Research 3: Quantitative Research</b><br>An introduction to statistics course taught at Tilburg University. Roles: coordinator and lecturer.   |
| Sep 2017 - Present  | <b>Research Methodology for International Students and Introduction to Research Methodology</b><br>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     | <b>Research Methodology for International Students</b><br>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     | <b>Experimental Research Methods</b><br>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 | <b>Introduction to Statistics</b><br>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 | <b>Statistical Consultant at SPSS Helpdesk</b><br>Advising master's students of Tilburg University on using statistical methods in their theses.  |
| Sep 2012 - May 2013 | <b>Teaching Assistant</b><br>Teaching bachelor's students an introductory methodology course and supervising practicals.  |

## Supervision

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| May - Aug 2018      | <b>Supervisor Research Internship</b><br>Supervising research internship of Gabriela Veleva (research master's student) Project title: <i>Simulating data in statistical software R.</i>  |
| May - Aug 2017      | <b>Supervisor Research Internship</b><br>Supervising research internship of Renée Zonneveld (research master's student) Project title: <i>Application of meta-analysis.</i>   |
| Oct 2016 - Apr 2017 | <b>Supervisor Research Internship</b><br>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> |

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| Jun - May 2014 | <b>Supervisor Research Internship</b><br>Supervising research internship of Esther Maassen (research master's student)<br>Project title: <i>Estimating effect size in meta-analysis in the presence of publication bias and questionable research practices.</i> |
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## Grants

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

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| Mar 2017 | <b>IMPS Travel Award:</b> \$ 500<br>Travel award to present at International Meeting of the Psychometric Society (IMPS) 2017   |
| Sep 2016 | <b>MAER-Net Travel Grant:</b> € 1,000<br>Travel grant to present at the Meta-Analysis of Economics Research Network (MAER-Net) Colloquium 2016   |
| Nov 2015 | <b>BITSS SSMART Grant:</b> \$ 30,000<br>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<br>Project title: <i>Getting it Right with Meta-Analysis: Correcting Effect Size for Publication Bias in Meta-Analyses from Psychology and Medicine</i> |
| Sep 2013 | <b>Research Talent Grant:</b> € 168,363<br>Grant from Netherlands Organisation for Scientific Research (NWO)<br>Project title: <i>Meta-Analysis in the Presence of Publication Bias and Researcher Degrees of Freedom</i>  |

## Publications

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| Under review | <p>van Aert, R. C. M. &amp; Jackson, D. (2018). A new justification of the Hartung-Knapp method for random-effects meta-analysis based on weighted least squares regression.</p> <p>van Aert, R. C. M., van Assen, M. A. L. M., &amp; Viechtbauer, W. (2018). Statistical properties of methods based on the <math>Q</math>-statistic for constructing a confidence interval for the between-study variance in meta-analysis.</p> <p>van Aert, R. C. M., Wicherts, J. M., &amp; van Assen, M. A. L. M. (2018). Publication bias examined in meta-analyses from psychology and medicine: A meta-meta-analysis.</p> <p>Niemeyer, H., van Aert, R. C. M., Schmid, S., Uelsmann, D., &amp; Schulte-Herbruggen, O. (2018). Publication bias in meta-analyses of the efficacy of psychotherapeutic interventions for posttraumatic stress disorder.</p> <p>van der Meulen, E., van der Velden, P. G., van Aert, R. C. M., &amp; van Veldhoven, M. J. P. M. (2018). Longitudinal associations of psychological resilience with mental health and functioning among military personnel: A meta-analysis.</p> <p>Klein, R. A., ..., van Aert, R. C. M., ..., &amp; Nosek, B. A. (2018). Many Labs 2: Investigating variation in replicability across sample and setting.</p> |
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- 2018 Augusteijn, H. 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: 10.1002/sim.7665
- 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

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### **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 | <p>August, 27. <i>Washington Post</i>, author: J. Achenbach. Many scientific studies can't be replicated. Coverage on Reproducibility Project: Psychology</p> <p>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</p> <p>August, 27. <i>Nature</i>, author: M. Baker. Over half psychology studies fail reproducibility test. Coverage on Reproducibility Project: Psychology</p> |
| 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

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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 | <p><b>BITSS Catalyst</b></p> <p>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).</p> |
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| Oct 2013 - Present | <b>Member of IOPS</b><br>Member of the Interuniversity Graduate School of Psychometrics and Sociometrics (IOPS). |
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## Presentations

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| Oral presentations: |  |
| 2018                | <p>83<sup>rd</sup> Annual Meeting of the Psychometric Society, New York, USA. Title: <i>Correcting for publication bias in a meta-analysis with p-uniform*</i></p> <p>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: <i>Meta-analysis and publication bias</i></p>  |
| 2017                | <p>82<sup>nd</sup> Annual Meeting of the Psychometric Society, Zurich, Switzerland. Title: <i>Estimating replicability of science by taking statistical significance into account</i></p> <p>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: <i>Meta-analysis and publication bias</i></p> <p>Presentation at the workshop "Perspectives on Scientific Error", Tilburg University, the Netherlands. Title: <i>Estimating replicability of science by taking statistical significance into account</i></p> <p>27<sup>th</sup> IOPS Summer Conference, KU Leuven, Belgium. Title: <i>Estimating replicability of science by taking statistical significance into account</i></p> <p>Invited workshop at the 9<sup>th</sup> Interuniversitair Centrum voor Onderwijswetenschappen (ICO), Utrecht University, the Netherlands. Title: <i>The consequences of publication bias and questionable research practices</i></p> <p>Presentation at the MRC Biostatistics Unit, University of Cambridge, United Kingdom. Title: <i>Correcting for publication bias in meta-analysis</i></p> |
| 2016                | <p>Presentation at the Department of Psychology and Pedagogy, Erasmus University, the Netherlands. Title: <i>Estimating the replicability of science: Accounting for statistical significance of the original study</i></p> <p>5<sup>th</sup> Annual Meeting of Berkeley Initiative for Transparency in the Social Science, Berkeley, USA. Title: <i>Getting it right with meta-analysis: Correcting effect size for publication bias in meta-analyses from psychology and medicine</i></p> <p>MAER-Net (Meta-Analysis of Economics Research Network) 2016 Colloquium, Conway, USA. Title: <i>Conducting meta-analyses based on p-values: Reservations and recommendations for applying p-uniform and p-curve</i> (Plenary session)</p>  |

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|                       | 28 <sup>th</sup> 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) |
| 2015                  | 4 <sup>th</sup> 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 <sup>th</sup> 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>                                 |
|                       | 1 <sup>th</sup> 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>                               |
| 2014                  | 6 <sup>th</sup> 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 <sup>th</sup> 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>     |
| Poster presentations: |  |
| 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

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| Feb 2016 - Present | <b>Sports Ambassador Tilburg University</b><br>Motivating colleagues to take part in sports activities organized for employees of Tilburg University by the Sports Center |
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## Acquired Skills

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| <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) |