

# 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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Jan 2019 - Present	<b>Postdoctoral researcher at the department of Methodology and Statistics, Tilburg University</b> Postdoc position funded by the European Research Council (ERC) Consolidator grant of Prof. Dr. J. M. Wicherts
Feb 2018 - Dec 2018	<b>Postdoctoral researcher at the department of Methodology and Statistics, Tilburg University</b> Postdoc position partially funded by a Berkeley Initiative for Transparency in the Social Science (BITSS) SSMART Grant
Jan - Mar 2017	<b>Research visit MRC Biostatistics Unit, University of Cambridge, UK</b> 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> Project title: <i>Meta-analysis in the presence of publication bias and researcher degrees of freedom</i> Promoters: Prof. Dr. M. A. L. M. van Assen and Prof. Dr. J. M. Wicherts
Feb 2014 - June 2015	<b>The Reproducibility Project: Psychology</b> 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	<b>Research Internship</b> 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	<b>Research Internship</b> 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	<b>Research Internship</b> 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	<b>Research Internship</b> Developing a questionnaire about culture, health, and sports and supervising data collection. 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> Tilburg University, the Netherlands. Thesis title: <i>Meta-analysis: Shortcomings and potential</i> . Promoters: Prof. Dr. M. A. L. M. van Assen and Prof. Dr. J. M. Wicherts
2015 - 2018	<b>University Teaching Qualification: Modules START, TEACH, SUPERVISE, COURSE, and ASSESSMENT</b> Courses for improving my teaching and supervising skills.
2011 - 2013	<b>Msc, Research Master in Social and Behavioral Sciences (with distinction)</b> Tilburg University, the Netherlands. Minors: Methodology and Statistics and 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> High level course on writing, listening, speaking, and reading in English.
2008 - 2011	<b>Bsc, Human Resource Management (with distinction)</b> Tilburg University, the Netherlands

## TEACHING

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Jan 2019 - Present	<b>Experimental Research and Meta-Analysis</b> Research Master's course in which I teach the lectures on meta-analysis methods. Roles: Lecturer.
Sep 2017 - Present	<b>Public Administration Research 3: Quantitative Research</b> An introduction to statistics course taught at Tilburg University. Roles: Coordinator and lecturer.
Sep 2017 - 2019	<b>Research Methodology for International Students and Introduction to Research Methodology</b> 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> 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> 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> 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 of SPSS Helpdesk Tilburg University</b> Advising master's students of Tilburg University on using statistical methods in their theses.
Sep 2012 - May 2013	<b>Teaching Assistant</b> Teaching bachelor's students an introductory methodology course and supervising practicals.

## SUPERVISION

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Mar - June 2020	<b>Supervisor Martijn Schoenmakers</b> Project title: <i>Can two wrongs make a right? The effect of reliability and publication bias on effect sizes found in meta-analyses</i> .
May - Aug 2018	<b>Supervisor Gabriela Veleva</b> Project title: <i>Simulating data in statistical software R</i> .

May - Aug 2017	<b>Supervisor Renée Zonneveld</b> Project title: <i>Application of meta-analysis.</i>
Oct 2016 - Apr 2017	<b>Supervisor Rita Jiao</b> Project title: <i>Reproducing the meta-analysis of Weingarten et al. on the behavioral effects of incidentally presented words.</i>
Jun - May 2014	<b>Supervisor Esther Maassen</b> Project title: <i>Estimating effect size in meta-analysis in the presence of publication bias and questionable research practices.</i>

## GRANTS & AWARDS

Total grants received: €208,858 (\$247,403)

Jun 2020	<b>Herbert Simon Research Institute Grant: € 10,000</b> Grant from the Herbert Simon Research Institute of Tilburg University. Project title: <i>Employing meta-research to enrich COVID-19 preprints and study the impact of time pressure on research quality.</i> I am the PI together with Dr. M. B. Nuijten
Jun 2019	<b>IOPS Best Paper Award 2019: € 600</b> Winner of the 2019 Interuniversity Graduate School of Psychometrics and Sociometrics (IOPS) Best Paper Award for my paper "Examining reproducibility in psychology: A hybrid method for combining a statistically significant original study and a replication"
Mar 2019	<b>Willem R. van Zwet Award: € 1,000</b> Winner of the 2018 Willem R. van Zwet Award for the best dissertation in the field of statistics and/or operations research awarded by the Netherlands Society for Statistics and Operations Research (VVSOR)
Nov 2018	<b>Nominated for the Tilburg University Dissertation Prize 2018</b> Nominated as one of the two best dissertations of the faculty of Social and Behavioural Sciences of Tilburg University
Mar 2017	<b>IMPS Travel Award: \$ 500</b> Travel award to present at International Meeting of the Psychometric Society (IMPS) 2017
Sep 2016	<b>MAER-Net Travel Grant: € 1,000</b> Travel grant to present at the Meta-Analysis of Economics Research Network (MAER-Net) Colloquium 2016
Nov 2015	<b>BITSS SSMART Grant: \$ 30,000</b> 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: <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: € 168,363</b> Grant from Netherlands Organisation for Scientific Research (NWO) Project title: <i>Meta-Analysis in the Presence of Publication Bias and Researcher Degrees of Freedom</i>

## PUBLICATIONS

Submitted	van Aert, R. C. M. (2020). Analyzing data of a multi-lab replication project with individual participant data meta-analysis: A tutorial. doi: 10.31222/osf.io/9tmua
	van Aert, R. C. M. & van Assen, M. A. L. M. (2020). Correcting for publication bias in a meta-analysis with the <i>p</i> -uniform* method. doi: 10.31222/osf.io/zqjr9

- van Aert, R. C. M., Schmid, C. H., Svensson, D., & Jackson, D. (2020). Study specific prediction intervals for random-effects meta-analysis.
- van Assen, M. A. L. M., van den Akker, O. R., Augusteijn, H. E. M., Bakker, M., Nuijten, M. B., Olsson-Collentine, A., Stoevenbelt, A. H., Wicherts, J. M., & van Aert, R. C. M. (2020). The meta-plot: A graphical tool for interpreting the results of a meta-analysis.
- Ross, R. R., van Aert, R. C. M., van den Akker, O. R., & van Elk, M. (2020). How robust is the evidence for cleansing effects?
- Schweinsberg, M., ..., van Aert, R. C. M., ..., Uhlmann, E. L. (2020). Same data, different conclusions: Radical dispersion in empirical results when independent analysts operationalize and test the same hypothesis.
- Accepted  
Niemeyer, H., van Aert, R. C. M., Schmid, S., Uelsmann, D., & Schulte-Herbrueggen, O. (2020). Publication bias in meta-analyses of the efficacy of psychotherapeutic interventions for posttraumatic stress disorder. *Meta-Psychology*. doi: 10.31234/osf.io/38a7y
- 2020  
van der Meulen, E., van der Velden, P. G., van Aert, R. C. M., & van Veldhoven, M. J. P. M. (2020). Longitudinal associations of psychological resilience with mental health and functioning among military personnel: A meta-analysis. *Social Science & Medicine*, 255, 112824. doi: 10.1016/j.socscimed.2020.112814
- Havránek, T., Stanley, T. D., Doucouliagos, H., Bom, P., Geyer-Klingenberg, J., Iwasaki, I., Reed, W. R., Rost, K. van Aert, R. C. M. (2020). Reporting guidelines for meta-analysis in economics. *Journal of Economic Surveys*. doi: 10.1111/joes.12363
- 2019  
van Aert, R. C. M., Wicherts, J. M., & van Assen, M. A. L. M. (2019). Publication bias examined in meta-analyses from psychology and medicine: A meta-meta-analysis. *PLoS ONE*, 14(4): e0215052. doi: 10.1371/journal.pone.0215052
- van Aert, R. C. M. & Jackson, D. (2019). A new justification of the Hartung-Knapp method for random-effects meta-analysis based on weighted least squares regression. *Research Synthesis Methods*. doi: 10.1002/jrsm.1356
- van Aert, R. C. M., van Assen, M. A. L. M., & Viechtbauer, W. (2019). Statistical properties of methods based on the  $Q$ -statistic for constructing a confidence interval for the between-study variance in meta-analysis. *Research Synthesis Methods*, 10(2), 225-239. doi: 10.1002/jrsm.1336
- Augusteijn, H. E. M., van Aert, R. C. M., & van Assen, M. A. L. M. (2019). The effect of publication bias on the assessment of heterogeneity. *Psychological Methods*, 24(1), 116-134. doi: 10.1037/met0000197
- 2018  
Klein, R. A., ..., van Aert, R. C. M., ..., & Nosek, B. A. (2018). Many Labs 2: Investigating variation in replicability across sample and setting. *Advances in Methods and Practices in Psychological Science*, 1(4), 443-490. doi: 10.1177/2515245918810225

- 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 is 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](#), [snapshot method](#), and [p-uniform\\*](#)

## POPULAR PRESS

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2019	May 20. <i>Retraction Watch</i> , author: B. Mazer. Just how common is positive publication bias? Here's one researcher who's trying to figure that out
2018	September 6. <i>Psychonomic Society Featured Content</i> , author: Prof. Dr. S. Lewandowsky. From replication to reproducible knowledge: A hybrid method to combine evidence across studies  September 18. <i>Science News</i> , author: J. de Vrieze. Meta-analyses were supposed to end scientific debates. Often, they only cause more controversy  September 21. <i>Science News</i> , author: E. Stokstad. The truth squad
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 the paper "Why publishing everything..."

## REVIEWING EXPERIENCE

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- Reviewer for the Ethics Review Board of Tilburg University (2017 - 2019)
- Reviewer for grant applications of the Netherlands Organisation for Health Research and Development (ZonMw, 2019)
- Editorial Board member of *Neuropsychology Review*
- *PLoS ONE*
- *Methodology*
- *Psychonomic Bulletin & Review*
- *Behavior Research Methods*
- *Bioinformatics*
- *PLoS Biology*
- *Emotion*

- Meta-Psychology
- Research Synthesis Methods
- Studies in Educational Evaluation
- Basic and Applied Social Psychology
- Zeitschrift für Psychologie
- Journal of the Royal Statistical Society: Series A
- Psychological Methods
- Language Learning
- BMC Genomics
- Statistical Methods in Medical Research
- F1000Research
- Royal Society Open Science
- British Journal of Mathematical and Statistical Psychology
- International Journal of Epidemiology
- Perspectives on Psychological Science
- Educational Research Review
- BMJ Open

## ACADEMIC MEMBERSHIPS

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Aug 2017 - Present	<p><b>BITSS Catalyst</b> 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>
Oct 2018 - Present	<p><b>Staff member of IOPS</b> Staff member of the Interuniversity Graduate School of Psychometrics and Sociometrics (IOPS).</p>

## PRESENTATIONS

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<p><u>Oral presentations:</u> 2020</p>	<p>Invited presentation at the symposium on "Uncertainty" organized by Studium Generale, Tilburg University, the Netherlands. Title: <i>Uncertainty in research and its consequences</i></p>
2019	<p>Invited presentation at the 29<sup>th</sup> IOPS Winter Conference, Leiden University, the Netherlands. Title: <i>Meta-analyzing an original study and replication</i></p> <p>MAER-Net (Meta-Analysis of Economics Research Network) Colloquium, Greenwich, UK. Title: <i>P-uniform*: A new meta-analytic method to correct for publication bias</i> (Plenary session)</p> <p>Web lecture at Princeton University on experimental methods and statistics, Princeton, USA. Title: <i>Questionable research practices and publication bias</i></p> <p>Workshop at the 3<sup>rd</sup> Annual Meeting of the Society for the Improvement of Psychological Science (SIPS), Rotterdam, the Netherlands. Title: <i>Dealing with publication bias in a meta-analysis</i></p> <p>Invited presentation at the Annual Meeting of the Netherlands Society for Statistics and Operations Research (VVSOR), Utrecht, the Netherlands. Title: <i>Meta-analysis: Shortcomings and potential</i></p>

- 3<sup>rd</sup> International Convention of Psychological Science, Paris, France. Title: *P-uniform\*: A new meta-analytic method to correct for publication bias*
- 2018 Presentation at the Department of Psychological Methods, University of Amsterdam, the Netherlands. Title: *Correcting for publication bias in meta-analysis*
- 83<sup>rd</sup> 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 82<sup>nd</sup> 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*
- 32<sup>th</sup> IOPS Summer Conference, KU Leuven, Belgium. Title: *Estimating replicability of science by taking statistical significance into account*
- Invited workshop at the 9<sup>th</sup> 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 Invited 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*
- 5<sup>th</sup> 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)*
- 28<sup>th</sup> Annual Convention of the Association for Psychological Science, Chicago, USA. Title: *Conducting meta-analyses based on p-values: Reservations and recommendations for applying p-uniform and p-curve (Chair and presenter)*



2015	<p>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</p> <p>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></p> <p>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></p> <p>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></p>
2014	<p>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></p> <p>26<sup>th</sup> Annual Convention of the Association for Psychological Science, San Francisco, USA. Title: <i>Evaluation of replication</i></p> <p>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></p>
Poster presentations:	
2014	<p>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></p> <p>24<sup>th</sup> IOPS Winter Conference, Amsterdam, the Netherlands. Title: <i>Unbiased effect estimation in the presence of publication bias</i></p>

## OTHER ACTIVITIES

Feb 2016 - Present	<p><b>Sports Ambassador Tilburg University</b> Motivating colleagues to take part in sports activities organized for employees of Tilburg University by the Sports Center</p>
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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/RStudio, C++, WinBugs, and Jags
<u>Languages:</u>	Dutch (mother tongue) and English (fluent in speaking and writing)

Updated on September 14, 2020