

## CURRICULUM VITAE MARJAN BAKKER

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Department of Methodology and Statistics  
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## PERSONAL

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Born February 25, 1984, in Hengelo (O), The Netherlands.

## WORK EXPERIENCE

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2015-            Tilburg University, Department of Methodology and Statistics: Assistant Professor.  
2014            University of Amsterdam, Psychological Methods Department: Postdoc  
2009-2014      University of Amsterdam, Psychological Methods Department: PhD  
2006-2009      University of Amsterdam, Psychological Methods Department: Student Assistant

## EDUCATION

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2009-2014      PhD; Department of Psychological Methods, University of Amsterdam under supervision of dr. Jelte Wicherts (Tilburg University) and prof. dr. Han van der Maas. Thesis: Good Science, Bad Science; Questioning Research Practices in Psychological Research. Defended at April 24, 2014.  
2006-2009      Research master in Psychology, specialization in Psychological Methods, University of Amsterdam, graduated with honors (cum laude).  
2008            Visited prof. dr. Hua-Hua Chang at the University of Urbana-Champaign (IL, US) to write a research master's thesis: "Constrained item selection in computerized classification testing" (7 months).  
2007            Internship at the Rekentuin under supervision of prof. dr. Han van der Maas, drs. Marthe Straatemeier, and drs. Sharon Klinkenberg.

- 2003-2006 Bachelor in Psychology, specialization in Psychological Methods, University of Amsterdam, graduated with honors (cum laude).
- 2002 Started the Bachelor Architecture, Building and Planning at Eindhoven University of Technology.
- 1996-2002 VWO, GS Guido de Brès, Amersfoort. Nature and Health track.

## ADDITIONAL TRAINING

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- 2011 Summer school on Robust Statistics
- 2011 IOPS course Applied Bayesian statistics (1.5 ECTS)
- 2010 IOPS course Analysis of measurement instruments (3 ECTS)
- 2010 Flash Workshop
- 2010 PhD Course Teaching in Higher Education (6 ECTS)
- 2009 Master class "Analysis of Causal Effects with EffectLite, LISREL, and/or Mplus"

## TEACHING

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- 2016- Multivariate Analysis, including Multilevel Models (Research Master Social and Behavioral Sciences)
- 2015- Lecturer MTO-D-Psy (Correlational Research Methods; Second year Psychology)
- 2015- Lecturer Analysis of Multilevel and Longitudinal data (Research Master Social and Behavioral Sciences)
- 2014 Lecturer Modern Test Theory (Research Master Psychology)
- 2013-2014 Guest lecturer in the courses Onderzoekspracticum Basisdeel (second year Psychology), Wetenschappelijk en Statistisch Redeneren (second year Psychology), and Grondslagen van de Psychologie (third year Psychological Methods)
- 2012-2013 Lecturer and developer Good Science, Bad Science (Research Master Psychology)
- 2009-2014 Supervisor of several Bachelor's and Master's theses
- 2009-2013 Supervisor Research Practicum (second year Psychology)
- 2008-2010 Teaching assistant Programming in R (Research Master Psychology)
- 2009 Teaching assistant Explanatory IRT (Research Master Psychology)
- 2006-2008 Instructor study groups Methoden van Onderzoek 2A" (second year psychology)

## ACADEMIC ACTIVITIES AND MEMBERSHIP OF COMMITTEES

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- 2016- Member of Psychology Ethics Review Board at Tilburg University.
- 2015- Member of the Methodological Advisory Board of the Collaborative Replications and Education Project (CREP).
- 2014 Organizer of seminar "Human factors in science", Amsterdam
- 2010 Organizer of the 25<sup>th</sup> IOPS summer conference (10-11 June 2010, Amsterdam)

## PUBLICATIONS

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Wicherts, J. M., Veldkamp, C. L. S., Augusteijn, H. E. M., Bakker, M., van Aert, R. C. M., & van Assen, M. A. L. M. (submitted). Degrees of freedom in planning, running, analyzing, and reporting psychological studies. A checklist to avoid *p*-hacking.

Coomans, F., van Rijn, P., Bakker, M., van der Maas, H., & Maris, G. (submitted). What's the score? A psychometric evaluation of item-level scoring rules for educational tests.

Bakker, M., Hartgerink, C. H. J., Wicherts, J. M., & Van der Maas, H. L. J. (2016). Researchers' intuitions about power in psychological research. *Psychological Science*, *27*, 1069-1077. doi: 10.1177/0956797616647519. [Impact factor: 5.476, Times cited: 0]

Brinkhuis, M., Bakker, M., & Maris, G. (2015). Filtering data for detecting differential development. *Journal of Educational Measurement*, *52*, 319-338. doi: 10.1111/jedm.12078 [Impact factor: 0.922, Times cited: 0]

Bakker, M. (2015). Power problems:  $n > 138$ . *Cortex*, *73*, 367-368. doi: 10.1016/j.cortex.2015.07.006 [Impact factor: 5.128, Times cited: 1]

Bakker, M. (2014). *Good Science, Bad Science: Questioning Research Practices in Psychological Research* (dissertation).

Wagenmakers, E. J., Verhagen, J., Ly, A., Bakker, M., Lee, M. D., Matzke, D., Rouder, J. N., & Morey, R. D. (2014). A power fallacy. *Behavior Research Methods*, *47*, 913-917. doi: 10.3758/s13428-014-0517-4 [Impact factor: 2.458, Times cited: 6]

Bakker, M. & Wicherts, J. M. (2014). Outlier removal and the relation with reporting errors and quality of psychological research. *PLoS ONE*, *9*, e103360. doi: 10.1371/journal.pone.0103360 [Impact factor: 3.234, Times cited: 8]

Bakker, M., & Wicherts, J. M. (2014). Outlier removal, sum scores, and the inflation of the Type I error rate in t tests. The power of alternatives and recommendations. *Psychological Methods*, *19*, 409-427. doi: 10.1037/met0000014. [Impact factor: 7.338, Times cited: 10]

Wicherts, J. M., & Bakker, M. (2014). Broken windows, mediocre methods and substandard statistics. *Group Processes & Intergroup Relations*, *17*, 388-403. doi: 10.1177/1368430213502557 [Impact factor: 1.584, Times cited: 1]

De Groot, A. D. (1956/2014). The meaning of "significance" for different types of research. Translated and annotated by Eric-Jan Wagenmakers, Denny Borsboom, Josine Verhagen, Rogier Kievit, Marjan Bakker, Angelique Cramer, Dora Matzke, Don Mellenbergh, and Han L. J. van der Maas. *Acta Psychologica*, *148*, 188-194. doi: 10.1016/j.actpsy.2014.02.001 [Impact factor: 2.248, Times cited: 12]

Bakker, M., Wagenmakers, E. J., Borsboom, D., Wicherts, J. M., & Van der Maas, H. L. J. (2013). Spelregels in de psychologie: Over eerlijk en goed onderzoek. *De Psycholoog*, *48* (12), 68-76.

Bakker, M., Cramer, A. O. J., Matzke, D., Kievit, R. A., Van der Maas, H. L. J., Wagenmakers, E. J., & Borsboom, D. (2013). Dwelling on the past. *The European Journal of Personality*, *27*, 120-144, doi: 10.1002/per.1920. [Impact factor: 3.245, Times cited: 1]

Bakker, M., Van Dijk, A., & Wicherts, J. M. (2012). The Rules of the Game Called Psychological Science. *Perspectives on Psychological Science*, *7*, 543-554. doi: 10.1177/1745691612459060 [Impact factor: 9.546, Times cited: 128]

Wicherts, J.M. & Bakker, M. (2012). Publish (your data) or (let the data) perish! Why not publish your data too? *Intelligence*, *40*, 73-76. doi:10.1016/j.intell.2012.01.004 [Impact factor: 3.245, Times cited: 23]

Wicherts, J. M., Kievit, R. A., Bakker, M., & Borsboom, D. (2012). Letting the daylight in: Reviewing the reviewers and other ways to maximize transparency in science. *Frontiers in Computational Neuroscience*, *6*, 1-9. doi: 10.3389/fncom.2012.00020. [Impact factor: 2.201, Times cited: 19]

Wicherts, J. M., Bakker, M., & Molenaar, D. (2011). Willingness to share research data is related to the strength of the evidence and the quality of reporting of statistical results. *PLoS ONE*, *6*, e26828. doi:10.1371/journal.pone.0026828. [Impact factor: 3.245, Times cited: 90]

Bakker, M., & Wicherts, J. M. (2011). The (mis)reporting of statistical results in psychology journals. *Behavior Research Methods*, *43*, 666-678. doi:10.3758/s13428-011-0089-5. [Impact factor: 3.234, Times cited: 79]

De Boeck, P., Bakker, M., Zwitser, R., Nivard, M., Hofman, A., Tuerlinckx, F., et al. (2011). The Estimation of Item Response Models with the lmer Function from the lme4 Package in R. *Journal of Statistical Software*, *39*, 1-28. Retrieved from <http://www.jstatsoft.org/v39/i12/paper>. [Impact factor: 3.234, Times cited: 48]

Wicherts, J. M. & Bakker, M. (2009). Sharing: guidelines go one step forwards, two steps back. [Correspondence]. *Nature*, *461*, 1053. doi:10.1038/4611053c. [Impact factor: 41.456, Times cited: 2]

## PRESENTATIONS

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Bakker, M., Hartgerink, C. H. J., Wicherts, J. M., & van der Maas, H. L. J. (May 27, 2016). Flawed intuitions about power in psychological research. Paper presented at the 28th convention of the Association for Psychological Science (APS), Chicago, IL, US.

Bakker, M., Hartgerink, C. H. J., Wicherts, J. M., & van der Maas, H. L. J. (May, 25, 2016). Flawed intuitions about power in psychological research. Paper presented at the 1st Research Conference of the Netherlands Research Integrity Network (NRIN), Amsterdam, The Netherlands.

Bakker, M. (May, 24, 2016). Transparency and the peer review process. Invited talk given at the seminar "Transparency and Openness in Science" Vrije Universiteit Amsterdam, Amsterdam, The Netherlands.

Bakker, M. (July 15, 2015). Flawed power intuitions. Presented at the International Meeting of the Psychometric Society, Beijing.

Bakker, M. (July 7, 2015). Questioning research practices in psychology. Invited talk at the VIII Conference of the Spanish Society for Logic, Methodology and Philosophy of Science, Barcelona.

Bakker, M. (March 14, 2015). Flawed power intuitions. Presented at the International Convention of Psychological Science, Amsterdam.

Bakker, M. (March 26, 2014). Good Science, Bad Science. Invited talk at the Amsterdam School of Communication Research (ASCoR), Amsterdam.

Bakker, M. (May 24, 2013). Outlier removal and the inflation of the Type I error rate. Poster presentation at the 25<sup>th</sup> convention of the Association for Psychological Science, Washington, DC, US.

Bakker, M. (April 18, 2013). Wetenschap als spel. Invited talk at the acacia group (UvA), Amsterdam.

Bakker, M. (April 12, 2013). Wetenschap als spel. Invited talk at the UvA alumnikring Psychologie, Amsterdam.

Bakker, M. (December 19, 2012). What to do with outliers? Presented at the IOPS winter conference, Enschede, The Netherlands.

Bakker, M. (June 29, 2012). Questionable research practices. Forum discussion at the IOPS summer conference, Maastricht, The Netherlands.

Wicherts, J. M. & Bakker, M. (August 14, 2010). Statistical errors and the reluctance to share psychological research data. Paper presented at the 118th Annual Convention of the American Psychological Association, San Diego, CA, US.

Bakker, M. & Wicherts, J. M. (July, 9, 2010). The (mis)reporting of statistical results in psychology. Presented at the 75th Meeting of the Psychometric Society, Athens, GA, US.

Bakker, M. & Wicherts, J. M. (June, 11, 2010). The (mis)reporting of statistical results in psychology. Presented at the IOPS summer conference, Amsterdam, The Netherlands.

Bakker, M., & Chang, H.-H. (24 Juli 2009). Constrained item selection in computerized classification testing. Presented at the 74<sup>th</sup> Meeting of the Psychometric Society, Cambridge, UK.

## HONORS AND AWARDS

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Best Article of 2011 Award for the Journal Behavior Research Methods (\$ 1000,-).

## AD HOC REVIEWING

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Reviewed papers for the following journals:

- *European Journal of Social Psychology*
- *Frontiers in Cognition*
- *Frontiers in Psychology*
- *Journal of Behavioral Decision Making*
- *Journal of Experimental Social Psychology*
- *Journal of Neuroscience Methods*
- *Journal of Open Psychology Data*
- *Perspectives on Psychological Science*
- *Psychological Methods*
- *Psychoneuroendocrinology*
- *Psychonomic Bulletin & Review*
- *Quarterly Journal of Experimental psychology*