

# Frederik Aust

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## Education

**Ph.D. in Psychology** (summa cum laude) 12/2013–1/2021  
UNIVERSITY OF COLOGNE Cologne, DE

- Thesis: Exemplars as least-committed alternative to dual representations in learning and memory

**Diploma in Psychology** (1.0) 10/2006–3/2012  
HEINRICH-HEINE-UNIVERSITY Düsseldorf, DE

## Employment

**University of Amsterdam** 9/2020–current  
Psychological Methods Amsterdam, NL  
POSTDOCTORAL RESEARCHER

**University of Cologne** 12/2013–8/2020  
Research Methods and Experimental Psychology Cologne, DE  
POSTDOCTORAL RESEARCHER, RESEARCH ASSOCIATE

**University of Missouri** 1–2/2017  
Perception and Cognition Lab Columbia, MO  
VISITING RESEARCHER

**Leibniz Research Centre for Working Environment and Human Factors** 7/2012–11/2013  
Dortmund, DE  
Perceptual Cybernetics  
RESEARCH ASSOCIATE

## Selected publications

Sarafoglou, A., Kuhlmann, B. G., **Aust, F.**, & Haaf, J. M. (2022). Theory-informed refinement of bayesian hierarchical mpt modeling. <https://psyarxiv.com/kvyt5/>

**Aust, F.**, & Stahl, C. (2020). The enhancing effect of 200 mg caffeine on mnemonic discrimination is at best small. *Memory*, 28(7), 858–869. <https://doi.org/10.1080/09658211.2020.1781899>

Heycke†, T., **Aust†, F.**, Banaji, M. R., Cone, J., Dessel, P. V., Ferguson, M., Hu, X., Jiang, E. C., Kurdi, B., Rydell, R., Spitzer, L., Stahl, C., Vitiello, C., & Houwer, J. D. (2020). Of two minds: A registered replication [Accepted in principle at *Psychological Science*]. <https://psyarxiv.com/v674w/>

**Aust, F.**, Haaf, J. M., & Stahl, C. (2019). A memory-based judgment account of expectancy-liking dissociations in evaluative conditioning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 45(3). <https://doi.org/10.1037/xlm0000600>

Stahl, C., & **Aust, F.** (2018). Evaluative conditioning as memory-based judgment. *Social Psychological Bulletin*, 13(3), 1–30. <https://doi.org/10.5964/spb.v13i3.28589>

† indicates shared first authorship. For complete list of publications see below.

## Awards and grants

Amsterdam Brain and Cognition Talent 2022  
Grant for "Informative and efficient

Bayesian hypothesis tests for lesion studies" with principle investigators Eric-Jan Wagenmakers and Edward de Haan 125.000€

Society for the Improvement of Psychological Science (SIPS) Mission 2019  
Award for the creation and maintenance of the R package **papaJa** \$500

Center for Open Science (COS) 2018  
Preregistration Challenge Award for Aust, Haaf, & Stahl (2018) \$1.000

University of Cologne Graduate School 2017  
travel awards 1.680€

University of Cologne Graduate School 2016  
travel awards 930€

University of Cologne Graduate School 2015  
travel awards 668€

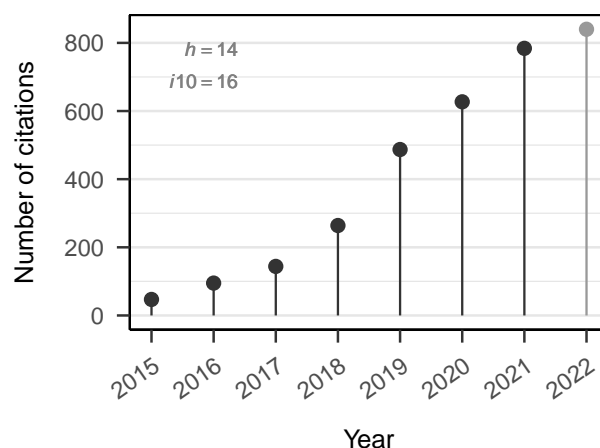
German Psychological Society travel award 2014  
381€

Ruhr-University Bochum Graduate School 2014  
travel award 1.300€

## Professional service

Editorial assistant at *Experimental Psychology* 4/2014–6/2018

Member of W3 Social Psychology chair appointments committee at the University of Cologne Psychology Department 2–7/2017



## Organizational activities

Together with František Bartoš, Lukas Lengersdorff, Alexandra Sarafoglou, Jonas Petter, Šimon Kucharský, Angelika Stefan, Don van den Bergh, Eric-Jan Wagenmakers, and Richard Morey, part of the organizing committee for the eighth annual two-day JASP workshop "Theory and Practice of Bayesian Hypothesis Testing" at the University of Amsterdam, the Netherlands, and online	<b>29–30/8/2022</b> 55 participants
Together with František Bartoš, Lukas Lengersdorff, Alexandra Sarafoglou, Manuel Villarreal, Lauren Montgomery, Jonas Petter, Šimon Kucharský, Angelika Stefan, Johnny van Doorn, Eric-Jan Wagenmakers, and Michael Lee, part of the organizing committee for the one-week "Tenth Annual JAGS and Stan Workshop: Bayesian Modeling for Cognitive Science" at the University of Amsterdam, the Netherlands	<b>22–26/8/2022</b> 25 participants
Together with Angelika Stefan, Richard Morey, and Eric-Jan Wagenmakers part of the organizing committee for the seventh annual two-day JASP online workshop "Theory and Practice of Bayesian Hypothesis Testing"	<b>26–27/8/2021</b> 73 participants
Together with Christoph Stahl, Christian Unkelbach, and Jan Crusius founded the Open Science Working Group at the University of Cologne Psychology Department	<b>2/2017–8/2021</b>
Together with Tobias Heycke organized a doctoral student colloquium at the University of Cologne Psychology Department	<b>3/2014–9/2016</b>
Together with Tobias Heycke organized a one-day workshop "An Introduction to Bayesian Statistics: The Philosophy, Bayesian Linear Models, and Practical Data Analysis" for the graduate school at University of Cologne Faculty of Human Sciences	<b>23/10/2015</b> 25 participants

## Adhoc reviewing

- Advances in Methods and Practices in Psychological Science (1)
- Behavior Research Methods (5)
- Cognition & Emotion (1)
- Collabra Psychology (2)
- Computational Brain & Behavior (2)
- Experimental Psychology (2)
- Journal of Cognitive Psychology (1)
- Journal of Experimental Psychology: General (2)
- Journal of Experimental Psychology: Human Perception and Performance (2)
- Journal of Experimental Psychology: Learning Memory and Cognition (5)
- Journal of Individual Differences (1)
- Journal of Mathematical Psychology (1)
- Neuroscience & Biobehavioral Reviews (2)
- PeerJ Computer Science (2)
- Perspectives on Psychological Science (1)
- Proceedings of the Human Factors and Ergonomics Society Annual Meeting (1)
- Psychological Methods (4)
- Social Psychological Bulletin (1)

## Invited presentations

- Aust, F.** (2022). *Friends don't let friends copy-paste: Computationally reproducible apa-style manuscripts with the r package papaja* [Invited talk at Faculty of Psychology, University of Basel, Basel, Switzerland].
- Aust, F.** (2019). *An alternative to copy-paste reporting: Create dynamic, submission-ready, apa-style manuscripts in r with papaja* [Invited talk at Psychological Methods Lab, Ruhr-University, Bochum, Germany].
- Aust, F.** (2017b). *A global-matching account of verbatim and gist processes in false recognition* [Invited talk at Quantitative Colloquium, Department of Psychological Sciences, University of Missouri, Columbia, MO].
- Aust, F.** (2015). *Incremental validity of useful field of view subtests for the prediction of instrumental activities of daily living* [Invited talk at Psychological Assessment and Differential Psychology Colloquium, Department of Experimental Psychology, Heinrich-Heine-University, Düsseldorf, Germany].

## Publications

† indicates shared first authorship.

### PREPRINTS

- Aust, F.,** Van Doorn, J., & Haaf, J. M. (2022). Translating default priors from linear mixed models to repeated-measures anova and paired t-tests. <https://psyarxiv.com/by2d9/>
- Pawel, S., **Aust, F.,** Held, L., & Wagenmakers, E. J. (2022a). Power priors for replication studies. <https://arxiv.org/abs/2207.14720>
- Pawel, S., **Aust, F.,** Held, L., & Wagenmakers, E. J. (2022b). Normalized power priors always discount historical data. <https://arxiv.org/abs/2206.04379>

- Sarafoglou, A., Kuhlmann, B. G., **Aust, F.**, & Haaf, J. M. (2022). Theory-informed refinement of bayesian hierarchical mpt modeling. <https://psyarxiv.com/kvyt5/>
- Stahl, C., **Aust, F.**, Bena, J., Mierop, A., & Corneille, O. (2022). Introducing a two buttons sets procedure for advancing the study of retrieval awareness in evaluative conditioning effects. <https://psyarxiv.com/rtqnx/>
- Van Den Bergh, D., Wagenmakers, E. J., & **Aust, F.** (2022). Bayesian repeated-measures anova: An updated methodology implemented in jasp. <https://psyarxiv.com/fb8zn/>
- Van Doorn<sup>†</sup>, J., **Aust<sup>†</sup>, F.**, Haaf, J. M., Stefan, A., & Wagenmakers, E. J. (2022). Bayes factors for mixed models: Perspective on responses. <https://psyarxiv.com/98sb7/>
- Sarafoglou, A., **Aust, F.**, Marsman, M., Wagenmakers, E. J., & Haaf, J. M. (2021). Multibridge: An r package to evaluate informed hypotheses in binomial and multinomial models. <https://psyarxiv.com/qk4cy>
- Heycke<sup>†</sup>, T., **Aust<sup>†</sup>, F.**, Banaji, M. R., Cone, J., Dessel, P. V., Ferguson, M., Hu, X., Jiang, E. C., Kurdi, B., Rydell, R., Spitzer, L., Stahl, C., Vitiello, C., & Houwer, J. D. (2020). Of two minds: A registered replication [Accepted in principle at *Psychological Science*]. <https://psyarxiv.com/v674w/>
- Stahl, C., & **Aust, F.** (2016). False memory for perceptually similar but conceptually distinct line drawings. <https://psyarxiv.com/zr7m8/>

## JOURNAL ARTICLES

- Bartoš, F., **Aust, F.**, & Haaf, J. M. (2022). Informed bayesian survival analysis. *BMC Medical Research Methodology*, 22(1), 1–22. <https://doi.org/10.1186/s12874-022-01676-9>
- Kovacs, M., Holcombe, A., **Aust, F.**, & Aczel, B. (2021). Tenzing and the importance of tool development for research efficiency. *Information Services & Use*, 1, 1–9. <https://doi.org/10.3233/ISU-210109>
- Van Doorn, J., **Aust, F.**, Haaf, J. M., Stefan, A. M., & Wagenmakers, E. J. (2021). Bayes factors for mixed models. *Computational Brain & Behavior*, 1, 1–13. <https://doi.org/10.1007/s42113-021-00113-2>
- Aust, F.**, & Stahl, C. (2020). The enhancing effect of 200 mg caffeine on mnemonic discrimination is at best small. *Memory*, 28(7), 858–869. <https://doi.org/10.1080/09658211.2020.1781899>
- Holcombe, A. O., Kovacs, M., **Aust, F.**, & Aczel, B. (2020). Documenting contributions to scholarly articles using credit and tenzing. *PLOS ONE*, 15(12). <https://doi.org/10.1371/journal.pone.0244611>
- Moran, T., Hughes, S., Hussey, I., Vadillo, M. A., Olson, M. A., **Aust, F.**, & Bading, K. (2020). Incidental attitude formation via the surveillance task: A preregistered replication of the olson and fazio (2001) study. *Psychological Science*, 0956797620968526. <https://doi.org/10.1177/0956797620968526>
- Aust, F.**, Haaf, J. M., & Stahl, C. (2019). A memory-based judgment account of expectancy-liking dissociations in evaluative conditioning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 45(3). <https://doi.org/10.1037/xlm0000600>
- Klein, O., Hardwicke, T. E., **Aust, F.**, Breuer, J., Danielsson, H., & Mohr, A. H. (2018). A practical guide for transparency in psychological science. *Collabra: Psychology*, 4(1). <https://doi.org/10.1525/collabra.158>
- Silberzahn, R., Uhlmann, E. L., Martin, D., Anselmi, P., **Aust, F.**, & Awtrey, E. C. (2018). Many analysts, one data set: Making transparent how variations in analytic choices affect results. *Advances in Methods and Practices in Psychological Science*, 1(3), 337–356. <https://doi.org/10.1177/2515245917747646>
- Stahl, C., & **Aust, F.** (2018). Evaluative conditioning as memory-based judgment. *Social Psychological Bulletin*, 13(3), 1–30. <https://doi.org/10.5964/spb.v13i3.28589>
- Heycke, T., **Aust, F.**, & Stahl, C. (2017). Subliminal influence on preferences? a test of evaluative conditioning for brief visual conditioned stimuli using auditory unconditioned stimuli. *Royal Society Open Science*, 4(9). <https://doi.org/10.1098/rsos.160935>
- Rouder, J. N., Haaf, J. M., & **Aust, F.** (2017). From theories to models to predictions: A bayesian model comparison approach. *Communication Monographs*, 1, 1–16. <https://doi.org/10.1080/03637751.2017.1394581>
- Aust, F.**, & Edwards, J. D. (2016). Incremental validity of useful field of view subtests for the prediction of instrumental activities of daily living. *Journal of clinical and experimental neuropsychology*, 38(5), 497–515. <https://doi.org/10.1080/13803395.2015.1125453>
- Aust<sup>†</sup>, F.**, Diedenhofen<sup>†</sup>, B., Ullrich, S., & Musch, J. (2013). Seriousness checks are useful to improve data validity in online research. *Behavior research methods*, 45(2), 527–535. <https://doi.org/10.3758/s13428-012-0265-2>
- Aust, F.**, Moehlenbrink, C., & Jipp, M. (2011). Operationalization of learned carelessness an experimental approach. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 55. <https://doi.org/10.1177/1071181311551360>

## ONLINE BOOKS

- Caldwell, A. R., Lakens, D., Parlett-Pelleriti, C. M., Prochilo, G., & **Aust, F.** (2022). *Power Analysis with Superpower*. Retrieved November 12, 2022, from <https://aaroncaldwell.us/SuperpowerBook/>

## MISCELLANEOUS SCIENTIFIC WRITINGS

- Aust, F.** (2017a, August 28). *A conceptual introduction to mathematical modeling of cognition*. JEPS Bulletin. Retrieved November 9, 2022, from <https://blog.efpsa.org/2017/08/28/a-conceptual-introduction-to-mathematical-modelling-of-cognition/>

# R packages

<b>afex</b> Analysis of Factorial Experiments Henrik Singmann, Ben Bolker, Jake Westfall, Frederik Aust, & Mattan S. Ben-Shachar	<b>106 GitHub stars</b> 7,849 dl/mo	<b>papaja</b> Prepare American Psychological Association Journal Articles with R Markdown Frederik Aust & Marius Barth	<b>551 GitHub stars</b> 1,048 dl/mo
<b>citr</b> RStudio Addin to Insert Markdown Citations Frederik Aust	<b>387 GitHub stars</b> Not yet on CRAN	<b>prereg</b> R Markdown Templates to Preregister Scientific Studies Frederik Aust & Lisa Spitzer	<b>46 GitHub stars</b> 395 dl/mo
<b>indiedown</b> Individual R Markdown Templates Christoph Sax, Kirill Müller, Angelica Becerra, & Frederik Aust	<b>25 GitHub stars</b> 629 dl/mo	<b>retractcheck</b> Retraction Scanner Chris Hartgerink & Frederik Aust	<b>22 GitHub stars</b> 306 dl/mo
<b>multibridge</b> Evaluating Multinomial Order Restrictions with Bridge Sampling Alexandra Sarafoglou, Frederik Aust, Julia M. Haaf, Joris Goosen, Quentin F. Gronau, & Maarten Marsman	<b>0 GitHub stars</b> 286 dl/mo	<b>rmdfiltr</b> 'Lua'-Filters for R Markdown Frederik Aust	<b>39 GitHub stars</b> 1,036 dl/mo

Contributed code to the following packages: **bookdown**, **broom**, **ggeffects**, **MPTmultiverse**, **rmarkdown**, **Superpower**

# Teaching and mentoring

## UNIVERSITY COURSES

<b>Bayesian Statistics Practical</b> B.Sc. Psychology, University of Amsterdam, 8 students	<b>2022</b> 2×2 hrs/wk	<b>Multivariate Statistics Practical</b> M.Sc. Psychology, University of Cologne, 47 students	<b>2016–2017</b> 2×2 hrs/wk
<b>Computational reproducibility: A minimum necessary condition for credibility</b> Guest lecture in <i>Good Research Practices</i> course at University of Amsterdam	<b>17/11/2020</b> 2 hrs	<b>Statistics 1 Practical</b> B.Sc. Psychology, University of Cologne, 53 students	<b>2015–2016</b> 2×2 hrs/wk
<b>Mathematical Modeling in Psychology</b> B.Sc. Psychology, University of Amsterdam, 14 students, with Julia M. Haaf	<b>2020</b> 4 hrs/wk	<b>Statistics 1 Practical</b> B.Sc. Psychology, University of Cologne, 95 students	<b>2014–2015</b> 3×2 hrs/wk
<b>Statistics 2 Practical</b> B.Sc. Psychology, University of Cologne, 69 students	<b>2020</b> 2×2 hrs/wk	<b>Practical Experimenting</b> B.Sc. Psychology, University of Cologne, 10 students	<b>2014</b> 2 hrs/wk
<b>Statistics 2 Practical</b> B.Sc. Psychology, University of Cologne, 62 students	<b>2019</b> 2×2 hrs/wk	<b>Statistics 2 Practical</b> B.Sc. Psychology, University of Cologne, 85 students	<b>2014</b> 3×2 hrs/wk
<b>Multivariate Statistics Practical</b> M.Sc. Psychology, University of Cologne, 36 students	<b>2017–2018</b> 2×2 hrs/wk	<b>Statistics 1 Practical</b> B.Sc. Psychology, University of Cologne, 32 students	<b>2013–2014</b> 2 hrs/wk
<b>Statistics 2 Practical</b> B.Sc. Psychology, University of Cologne, 67 students	<b>2017</b> 2×2 hrs/wk		

## INTERNATIONAL WORKSHOPS

<b>Friends don't let friends copy-paste: How to create computationally reproducible APA-style manuscripts with the R package papaja</b> As part of the lecture series <i>Practices and Tools of Open Science</i> , Leibniz Institute of Psychology, Trier, Germany	16/11/2022 3 hrs	<b>An alternative to copy-paste reporting: Create computationally reproducible, submission-ready, APA-style manuscripts in R with papaja</b> European Conference on Visual Perception, Leuven, Belgium, with Marius Barth	25/8/2019 1 day
<b>Friends don't let friends copy-paste: How to create computationally reproducible APA-style manuscripts with the R package papaja</b> University of Hagen, Hagen, Germany	4/11/2022 1 days	<b>Developing your personal workflow for transparent and reproducible research</b> Society for Improving Psychological Science 2019 conference, Rotterdam, Netherlands, with Johannes Breuer	9/7/2019 5 hrs
<b>Friends don't let friends copy-paste: How to create computationally reproducible APA-style manuscripts with the R package papaja</b> Linköping University, Linköping, Sweden	24–26/10/2022 3 days	<b>papaja: Prepare APA journal articles reproducibly with R Markdown</b> Behavioral Science Institute, Radboud University, Nijmegen, The Netherlands	19–20/11/2018 2 days
<b>Reproducible research practices for psychologists</b> KU Leuven, Leuven, Belgium, with Johannes Breuer	27–28/4/2022 2 days	<b>A practical primer on transparent research workflows</b> EASP Solid Science Training Workshop, Bordeaux, France	7/9/2018 5 hrs
<b>An alternative to copy-paste reporting: Create computationally reproducible, submission-ready, APA-style manuscripts in R with papaja</b> Conference of Experimental Psychologists (TeaP) 2022, Cologne, Germany, with Marius Barth	19/3/2022 3 hrs	<b>A practical primer on transparent research workflows</b> ESCON Transfer of Knowledge Conference, Cologne, Germany, with Johannes Breuer	4/9/2018 5 hrs
<b>A fully reproducible publication workflow: Analysis, report, and revision</b> Linköping University, Linköping, Sweden	9–10/11/2021 3 days	<b>papaja: Prepare APA journal articles reproducibly with R Markdown</b> Linköping University, Linköping, Sweden	13–14/8/2018 2 days
<b>An alternative to copy-paste reporting: Create computationally reproducible, submission-ready, APA-style manuscripts in R with papaja</b> Laboratoire Inter-universitaire de Psychologie, France	5/6/2020 1 day	<b>papaja: Prepare APA journal articles reproducibly with R Markdown</b> Peer Mentoring Project Methods and Statistics, University of Zürich, Zürich, Switzerland	30/11–1/12/2017 2 days
<b>An alternative to copy-paste reporting: Create computationally reproducible, submission-ready, APA-style manuscripts in R with papaja</b> Max Planck School of Cognition Academy, Berlin, Germany	17/1/2020 1 day	<b>Data Visualization in R</b> Society for Personality and Social Psychology's Annual Convention 2017, San Antonio, TX	20/1/2017 3 hrs
<b>SUPERVISION</b>			
		<b>Research internships</b> Martin Papenberg (B.Sc, 2012), Philipp Musfeld (B.Sc, 2015), Axel Gehlen (B.Sc, 2018), Sebastiaan de Vries (M.Sc, 2021)	4 students
		<b>B.Sc. theses psychology</b> Philipp Musfeld (2017)	1 student
		<b>M.Sc. theses psychology</b> František Bartoš (2021)	1 student