

Samuel Pawel

PhD Candidate in Biostatistics

Epidemiology, Biostatistics and Prevention Institute, University of Zurich

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Education

University of Zurich

PhD Program in Epidemiology and Biostatistics

Supervisor: Prof. Dr. Leonhard Held

Thesis: Reverse-Bayes Methods for Replication Studies

Zurich, CH

10/2019 – present

University of Zurich

Master of Science in Biostatistics; Grade: 5.9/6.0

Thesis: Predictive evaluation of replication studies

Zurich, CH

08/2017 – 08/2019

University of Zurich

Bachelor of Science in Psychology; Grade: 5.7/6.0; Minor: Biology

Thesis: Questionable research practices in psychological research and recommendations to overcome the current replicability crisis

Zurich, CH

08/2014 – 01/2018

Work Experience

University of Amsterdam; Department of Psychological Methods

Visiting PhD Student

Amsterdam, NL

02/2022 – 08/2022

University of Zurich; Epidemiology, Biostatistics and Prevention Institute

PhD Candidate

Zurich, CH

10/2019 – present

University of Zurich; Chair for Psychological Methods, Evaluation, and Statistics

Student Assistant

Zurich, CH

10/2018 – 12/2018

Stiftung Forelhaus Zürich

Night Watch

Zurich, CH

02/2016 – 10/2018

University of Zurich; Cognitive Psychology Unit

Student Assistant

Zurich, CH

08/2016 – 01/2018

Psychiatric Clinic Wil

Alternative Civilian Service

Wil, CH

01/2013 – 07/2014

Teaching

Biostatistics Journal Club (MSc in Biostatistics)

Teaching Assistant

Spring 2021

Longitudinal Data Analysis (MSc in Biostatistics)

Teaching Assistant

Spring 2020

Clinical Biostatistics (MSc in Biostatistics)

Teaching Assistant

Fall 2019

Research Interests

Biostatistics	Bayesian statistics	Meta-science
Statistical inference	Replication studies methodology	Computational reproducibility

Memberships and other Roles

Member of the International Society for Bayesian Analysis

Fellow of the Center for Reproducible Science from the University of Zurich

Founding member of the Swiss Reproducibility Network Academy

Co-Organizer of the Zurich R User Group

Reviewer for Journals

Journal of the American Statistical Association	The Annals of Applied Statistics
Statistical Papers	Biometrical Journal
Biometrics	Meta-Psychology

Skills

Languages	English (fluent), German (native), French (basic), Japanese (beginner)
Computer	R (advanced), \LaTeX (intermediate), Linux/shell/git/Docker/Make (intermediate), Python (basic)

Awards and Prizes

Master Thesis: *Predictive Evaluation of Replication Studies* – UZH Semester award for outstanding scholarly work

Software

R package BayesRepDesign	https://github.com/SamCH93/BayesRepDesign	Role: Creator
R package ppRep	https://github.com/SamCH93/ppRep	Role: Creator
R package ciCalibrate	https://github.com/SamCH93/ciCalibrate	Role: Creator
R package ReplicationSuccess	https://cran.r-project.org/web/packages/ReplicationSuccess/	Role: Contributor
R package BayesRep	https://gitlab.uzh.ch/samuel.pawel/BayesRep	Role: Creator

Conference Talks and Posters

Pawel, S., Ly, A., Wagenmakers, E.-J. (2022, May). *Evidential Calibration of Confidence Intervals*. Workshop: “Safe, Anytime-Valid Inference (SAVI) and Game-theoretic Statistics”, Eindhoven, NL

Pawel, S. (2020, September). *The sceptical Bayes factor for the evidential assessment of replication success*. GMDS & CEN-IBS 2020, Berlin, DE

Pawel, S. (2019, May). *Predictive evaluation of replication studies*. BAYES2019 Bayesian Biostatistics, Lyon, FR

Publications and Preprints

- 16) **Pawel, S.**, Consonni, G., Held, L. (2022). Bayesian approaches to designing replication studies. Preprint:10.48550/arXiv.2211.02552. Code:<https://github.com/SamCH93/BAtDRS>
- 15) Drude, N., Martinez-Gamboa, L., Danziger, M., Collazo, A., Kniffert, S., Wiebach, J., Nilsonne, G., Konietzke, F., Piper, S., **Pawel, S.**, . . . , Toelch, U. (2022). Planning preclinical confirmatory multicenter trials to strengthen translation from basic to clinical research – a multi-stakeholder workshop report. *Translational Medicine Communications*. 7(24). Publication:10.1186/s41231-022-00130-8. Preprint:10.21203/rs.3.rs-1855244/v1
- 14) **Pawel, S.**, Aust, F., Held, L., Wagenmakers, E.-J. (2022). Power Priors for Replication Studies. Preprint:10.48550/arXiv.2207.14720. Code:<https://github.com/SamCH93/ppReplication>
- 13) **Pawel, S.**, Ly, A., Wagenmakers, E.-J. (2022). Evidential Calibration of Confidence Intervals. Preprint:10.48550/ARXIV.2206.12290. Code:<https://github.com/SamCH93/ECoCI>
- 12) **Pawel, S.**, Aust, F., Held, L., Wagenmakers, E.-J. (2022). Normalized power priors always discount historical data. Preprint:10.48550/ARXIV.2206.04379. Code:<https://github.com/SamCH93/ppPooling>
- 11) Bartoš, F., **Pawel, S.**, Wagenmakers, E.-J. (2022). When Evidence and Significance Collide. Preprint:10.48550/arXiv.2206.04435. Code:<https://osf.io/hvmkc/>
- 10) Debelak, R., **Pawel, S.**, Strobl, C., Merkle, E. C. (2022). Score-based measurement invariance checks for Bayesian maximum-a-posteriori estimates in item response theory. *British Journal of Mathematical and Statistical Psychology*. 75(3), 728–752. Publication:10.1111/bmsp.12275. Preprint:10.31234/osf.io/24a9g
- 9) **Pawel, S.**, Matthews, R., Held, L. (2022). Comment on “Bayesian additional evidence for decision making under small sample uncertainty”. *BMC Medical Research Methodology*. 22(149). Publication:10.1186/s12874-022-01635-4. Code:<https://github.com/SamCH93/BAEcomment>
- 8) **Pawel, S.**, Kook, L., Reeve, K. (2022). Pitfalls and Potentials in Simulation Studies. Preprint:10.48550/arXiv.2203.13076. Code:<https://github.com/SamCH93/SimPaper>
- 7) **Pawel, S.**, Held, L. (2022). The sceptical Bayes factor for the assessment of replication success. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*. 84(3). 879–911. Publication:10.1111/rssb.12491. Preprint:10.48550/arXiv.2009.01520. Code:<https://gitlab.uzh.ch/samuel.pawel/BFScode>
- 6) Held, L., Micheloud, C., **Pawel, S.** (2022). The assessment of replication success based on relative effect size. *The Annals of Applied Statistics*, 16(2), 706–720. Publication:10.1214/21-AOAS1502. Preprint:10.48550/arXiv.2009.07782. Code:<https://github.com/SamCH93/RSGolden>
- 5) Held, L., Matthews, R., Ott, M., **Pawel, S.** (2022). Reverse-Bayes methods for evidence assessment and research synthesis. *Research Synthesis Methods*, 13(3), 295–314. Publication:10.1002/jrsm.1538. Preprint:10.48550/arXiv.2102.13443. Code:<https://gitlab.uzh.ch/samuel.pawel/Reverse-Bayes-Code>

- 4) Lenggenhager, D., **Pawel, S.**, Honcharova-Biletska, H., Evert, K., Wenzel, J. J., Montani, M., Furrer, E., Fraga, M., Moradpour, D., Sempoux, C., Weber, A. (2021). The histologic presentation of hepatitis E reflects patients' immune status and pre-existing liver condition. *Modern Pathology*. 34, 233–248. Publication:10.1038/s41379-020-0593-1
- 3) Held, L., **Pawel, S.**, Schwab S. (2020). Replication power and regression to the mean. *Significance*, 17(6), 10–11. Publication:10.1111/1740-9713.01462
- 2) Held, L., **Pawel, S.** (2020). Comment on “The Role of p -Values in Judging the Strength of Evidence and Realistic Replication Expectations”. *Statistics in Biopharmaceutical Research*, 13(1), 46–48. Publication:10.1080/19466315.2020.1828161
- 1) **Pawel, S.**, Held, L. (2020). Probabilistic forecasting of replication studies. *PLOS ONE*, 15(4), e0231416. Publication:10.1371/journal.pone.0231416. Preprint:10.31234/osf.io/fhwb7. Code:<https://github.com/SamCH93/PFoRS>