

Matthew B. Jané

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Bio

Current PhD student interested in developing statistical methods and software for meta-analyses and primary studies. Specifically, my current research projects focus on correcting bias in effect size estimates caused by statistical artifacts (see my open-access textbook on the topic at matthewbjane.quarto.pub). I am affiliated with the Systematic Health Action Research Program (SHARP) at the University of Connecticut where I am advised by Dr. Blair T. Johnson. I am also on the editorial board for *Psychological Bulletin* as a methodological reviewer.

Education

- 2022–Present | **Ph.D. *Quantitative Psychology***, University of Connecticut, Storrs, Connecticut
 - Research involves developing statistical methods and software for meta-analysis and evidence synthesis. Primarily focusing on correcting bias in effect size estimates induced by statistical artifacts.
- 2021–2022 | **M.S. *Behavioral Neuroscience***, University of Connecticut, Storrs, Connecticut
- 2018–2020 | **B.S. *Computational Neuroscience***, University of Connecticut, Storrs, Connecticut

Textbooks

- Jané, Matthew B. (2023) **Artifact Corrections for Effect Sizes: Applications Meta-Analysis and Implementation in R**, by *Matthew B. Jané*. An open-source book for correcting bias in effect size estimates contaminated by statistical artifacts. <https://matthewbjane.quarto.pub/artifact-corrections-for-effect-sizes/>
- Jané, M. B., Xiao, Q., Yeung, S. K., Caldwell, A. R., Dunleavy, D. J., ... (2023) **Guide to Effect Sizes and Confidence Intervals**, by *Matthew B. Jané*. A collaborative guide to calculating, interpreting, and reporting effect sizes and confidence intervals. Contains examples in R. <https://matthewbjane.quarto.pub/effect-size-and-confidence-intervals-guide/>

Software

- R Package **ThemePark**, Generating popular culture styled ggplot themes. github.com/MatthewBJane/theme_park. Featured on rweekly.org and flowingdata.com
- R Package **POSC** An R Package for generating Probability of Outcome Superiority Curves (POSCs). github.com/MatthewBJane/ThemePark
- Database **OpenSynthesis**, website cataloging publicly available meta-analytic databases. matthewbjane.com/opensynthesis
- Shiny App **Artifact Simulator**, A Shiny App for Visualizing Statistical Artifacts. matthewbjane.shinyapps.io/effect_size_artifact_bias
- Webpage **Artifact Corrections for Effect Sizes**, A webpage documenting equations and code for effect size artifact corrections. matthewbjane.com/ArtifactCorrections
- Project Data & Code **Primary Study Data and Code**, Repository of data and code for all primary study projects. <https://github.com/MatthewBJane/primary-project-data-code>.
- Project Data & Code **Meta-Analysis Data and Code**, Repository of data and code for all meta-analytic projects. <https://github.com/MatthewBJane/meta-analysis-project-data-code>.

Publications

Johnson, B. T., **Jané, M. B.**, Curley, C. (2023). Methodological Quality in Research in Health Psychology. *Under review at Sage Journal of Health Psychology*.

Jané, M. B., Johnson, B. T. (2023). Correcting for Measurement Error in Repeated Measures Standardized Mean Differences. *Manuscript in Preparation*.

Champion, G., **Jané, M. B.**, Johnson, B. T., and colleagues (2023). Efficacy of Mindfulness Based Stress Reduction Interventions on Anxiety and Depression in the United States: A Meta-Analysis. *Data being collected*.

Harlow*, T. J., **Jané*, M. B.**, Read, H. L., & Chrobak, J. J. (2023). Memory retention following acoustic stimulation in slow-wave sleep: a meta-analytic review of replicability and measurement quality. *Frontiers in Sleep*.

Jané, M. B., Pisupati, S., Smith, K. E., Castro-Tonelli, L., Melo-Thomas, L., Schwarting, R. K., ... & Read, H. L. (2022). Correlations across timing cues in natural vocalizations predict biases in judging synthetic sound burst durations. *bioRxiv*.

Jané, M. B., Harlow, T. J., Martinez-Berman, L., Johnson, B. T. (2023). Cognitive Ability Moderates the Accuracy of Self-Reported Perfect Pitch. *Manuscript in Preparation*.

Jané, M. B., Harlow, T. J., Johnson, B. T. (2023). Temporal and Non-Temporal Sensory Discrimination and Fluid Intelligence: Artifact Correction Meta-Analysis. *Manuscript in preparation*.