

John E. Scofield, Ph.D.

Columbia, Missouri

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An **online version** of this CV can be viewed at: <https://jscofield.org/>

Education

University of Missouri

PH.D. - COGNITION & NEUROSCIENCE

- Advisors: Jeffrey Johnson, Ph.D. - David Geary, Ph.D.

Columbia, MO

Fall 17 - Fall 20

Missouri State University

M.S. - EXPERIMENTAL PSYCHOLOGY

- Advisor: Bogdan Kostic, Ph.D.

Springfield, MO

Fall 15 - Spring 17

Missouri State University

GRADUATE CERTIFICATE - STATISTICS AND RESEARCH DESIGN

- A supplementary certificate in tandem with a Master of Science degree
- targeting advanced statistical techniques and applied research areas. Advisor: Erin Buchanan, Ph.D.

Springfield, MO

Fall 15 - Spring 17

Truman State University

B.S. - PSYCHOLOGY

- Advisor: Professor Salvatore Costa

Kirksville, MO

Fall 13 - Spring 15

Professional Positions

Data Scientist

TERACRUNCH

- Full-stack data scientist specializing in machine learning engineering.

Kansas City, MO

Fall 20 - Current

Graduate Instructor

UNIVERSITY OF MISSOURI

- Sole instructor for courses in research methods and cognitive neuroscience, teaching both in person and online/remote

Columbia, MO

Fall 18 - Fall 20

Graduate Research Assistant

UNIVERSITY OF MISSOURI

- Graduate research manager across Dr.s Jeffrey Johnson and Dave Geary's cognitive laboratories

Columbia, MO

Fall 17 - Fall 20

Graduate Instructor

MISSOURI STATE UNIVERSITY

- Sole instructor for courses in research methods.

Springfield, Missouri

Fall 15 - Fall 17

Data Science Intern

SKYFACTOR

- Internship working with statistical modeling for an educational testing and research company.

Springfield, Missouri

Spring 17 - Summer 17

Teaching

A copy of my teaching philosophy is accessible online at: <https://jscofield.org/>

Experience with teaching applied and interactive courses targeted with teaching students to utilize newly acquired statistical and research methods skills in research-oriented projects.

Experience in teaching both smaller in-person courses, as well as effective delivery in an online/remote environment at scale.

PSYCH2820: Minds, Brains, & Machines

INSTRUCTOR

- cognitive neuroscience and its relation to the developing field of artificial intelligence

University of Missouri

Fall 20

PSYCH3010: Research Methods

INSTRUCTOR

- Online instruction following fundamentals of research in psychology

University of Missouri

Summer 19

PSYCH3010: Research Methods

GUEST LECTURE

- Overviews of neuroscientific tools in neuroscience
- measurement, reliability, validity (EEG, fMRI, TMS, MEG)

University of Missouri

Summer 18

PSY302: Experimental Psychology

INSTRUCTOR

- Laboratory course with a strong lecture component.
- Demonstrations and discussions of classic experiments
- Oversaw research projects (from data collection to manuscript writeups)

PSYCH3010: Research Methods

TEACHER'S ASSISTANT

- distribution of course content and grading

PSYCH2410: Developmental Psychology

TEACHER'S ASSISTANT

- distribution of course content and grading

PSYCH3420: Cognitive Development in Childhood

TEACHER'S ASSISTANT

- distribution of course content and grading

Missouri State University

Fall 15 - Spring 17

University of Missouri

Spring 18 - Fall 19

University of Missouri

Fall 17

University of Missouri

Fall 17

Publications

Extensive Experience in publishing peer-reviewed articles utilizing advanced statistical analyses and methods in focused and applied academic journals.

UNDER REVIEW

Scofield, J. E., & Johnson, J. D. (*Revise & Resubmit*). The diminishing precision of memory for time.

Geary, D. C., **Scofield, J. E.**, Hoard, M. K., & Nugent, L. (*Revise & Resubmit*). Cognitive, attitudinal, and classroom contributions to variation in the pattern of adolescents' mathematical competencies.

PEER-REVIEWED

2020

Geary, D. C., **Scofield, J. E.**, Hoard, M. K., & Nugent, L. (2020). Boys' advantage on the fractions number line is mediated by visuospatial attention: Evidence for a parietal-spatial contribution to number line learning. *Developmental Science*. <https://doi.org/10.1111/desc.13063>

Geary, D. C., Hoard, M. K., Nugent, L., Unal, Z. E., & **Scofield, J. E.** (2020). Comorbid learning difficulties in reading and mathematics: The role of intelligence and in-class attentive behavior. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2020.572099>

Hone, L. S. E., **Scofield, J. E.**, Bartholow, B. D., & Geary, D. C. (*In Press*). Binge drinking is associated with sex-specific cognitive deficits. *Evolutionary Psychology*. doi:10.1177/1474704920954445 preprint: <https://psyarxiv.com/m3xa8>

Geary, D. C., Hoard, M. K., Nugent, L., & **Scofield, J. E.** (2020). In-class attention, spatial ability, and mathematics anxiety predict across-grade gains in adolescents' mathematics achievement. *Journal of Educational Psychology*. doi:10.1037/edu0000487

Scofield, J. E., Price, M. H., Flores, A., Merkle, E. C., & Johnson, J. D. (2020). Repetition attenuates the influence of recency on recognition memory: Behavioral and electrophysiological evidence. *Psychophysiology*, 57(9), e13601. doi:10.1111/PSYP.13601. <https://osf.io/572jt/>

2019

Hone, L. S. E., **Scofield, J. E.**, Bartholow, B. D., & Geary, D. C. (2019). Tutorial on designing, implementing, and analyzing a degraded image paradigm: A facial expression-decoding task example. *The Quantitative Methods for Psychology*, 15(3), 200-213. doi: 10.20982/tqmp.15.3.p200. <https://osf.io/ntmah/>

Cowan, N., Adams, E. J., Bhangal, S., Corcoran, M., Decker, R., Dockter, C. E., ... **Scofield, J. E.**, ... & Watts, A. L. (2019). Foundations of arrogance: A broad survey and framework for research. *Review of General Psychology*, 23(4), 425-443. doi:10.1177/1089268019877138.

Chu, F. W., vanMarle, K., Hoard, M. K., Nugent, L., **Scofield, J. E.**, & Geary, D. C. (2019). Preschool deficits in cardinal knowledge and executive function contribute to longer-term mathematical learning disabilities. *Journal of Experimental Child Psychology*, 188, 104668. doi: 10.1016/j.jecp.2019.104668. <https://osf.io/phtxm/>

Scofield, J. E., Johnson, J. D., Wood, P. K., & Geary, D. C. (2019). Latent resting-state network dynamics in boys and girls with attention-deficit/hyperactive disorder. *PLOS ONE*, 14(6), e0128891. doi:10.1371/journal.pone.0218891. <https://osf.io/xqewf/>

Geary, D. C., Hoard, M. K., Nugent, L., Chu, F., **Scofield, J. E.**, & Hibbard, D. F. (2019). Sex differences in mathematics anxiety and attitudes: Concurrent and longitudinal relations to mathematical competence. *Journal of Educational Psychology*. doi:10.1037/edu0000355.

Valentine, K. D., Buchanan, E. M., **Scofield, J. E.**, & Beauchamp, M. T. (2019). Beyond p-values: Utilizing multiple estimates to evaluate evidence. *Behaviormetrika*. doi:10.1007/s41237-019-00078-4.

Buchanan E., Gillenwaters A., **Scofield J. E.**, Valentine K. (2019). MOTE: Measure of the Effect: Package to assist in effect size calculations and their confidence intervals. R package version 1.0.1, <https://cran.r-project.org/web/packages/MOTE/index.html>

2018 —————

Buchanan, E. M., & **Scofield, J. E.** (2018). Methods to detect low quality data and its implication for psychological research. *Behavior Research Methods*, 50(6), 2586-2596. doi:10.3758/s13428-018-1035-6.

Scofield, J. E., Buchanan, E. M., & Kostic, B. (2018). A meta-analysis of the survival processing advantage in memory. *Psychonomic Bulletin and Review*, 25(3), 997-1012. doi:10.3758/s13423-017-1346-0.

2017 —————

Derringer, C. J., **Scofield, J. E.**, & Kostic, B. (2017). Investigations of a reproductive processing advantage in memory. *Memory and Cognition*, 45(6), 983-1001. doi: 10.3758/s13421-017-0709-0.

PRE-PRINTS/REPLICATIONS —————

Sumner, C., **Scofield, J. E.**, Buchanan, E. M., Evans, M., & Shearing, M. (2019). The role of personality, authoritarianism and cognition in the United Kingdom's 2016 referendum on European union membership. <https://osf.io/n5r67/>

Buchanan, E. M., **Scofield, J. E.**, & Nunley, N. (2018). The N400's 3 As: Association, automaticity, attenuation (and some semantics too). <https://osf.io/6w2se/>

Buchanan, E. M., & **Scofield, J. E.** (2018). Bulletproof bias? Considering the type of data in common proportion of variance effect sizes. <https://osf.io/cs4vy/>

Scofield, J. E. & Kostic, B. (2016, April 05). Eye movements and handedness in memory. Retrieved from <http://www.PsychFileDrawer.org/replication.php?attempt=MjQ2>

Presentations

Clocksins, H. E., **Scofield, J. E.**, Beversdorf, D. Q., Riecken, C., Christ, S. E., & Johnson, J. D. (2020, May). *Resting-state functional connectivity differences in memory networks of autism spectrum disorder*. Poster presented at the Cognitive Neuroscience Society Annual Meeting, Virtual (Boston, MA).

Scofield, J. E., & Johnson, J. D. (2020, May). *The diminishing precision of temporal information in episodic memory retrieval*. Poster presented at the Cognitive Neuroscience Society Annual Meeting, Virtual (Boston, MA).

Scofield, J. E., & Johnson, J. D. (2019, November). *The precision of retrieving temporal information associated with episodic memories*. Poster presented at the Psychonomic Society Annual Meeting, Montreal, Canada.

Hone, L. S. E., **Scofield, J. E.**, Bartholow, B. D., & Geary, D. C. (2019, June). *Development of a timed facial expression decoding task*. Talk presented at the NorthEastern Evolutionary Psychology Society, Boston, MA.

Scofield, J. E., Price, M. H., Flores, A., Merkle, E. C., & Johnson, J. D. (2019, March). *Behavioral and electrophysiological correlates of the memory search process during continuous recognition*. Poster presented at the Cognitive Neuroscience Society, San Francisco, CA.

Scofield, J. E., Price, M. H., Flores, A., Merkle, E.C., & Johnson, J.D. (2018, November). *Scanning through memory along a compressed timeline: A continuous recognition task with multiple repetitions*. Poster presented at the Psychonomic Society Annual Meeting, New Orleans, LA.

Scofield, J. E. & Geary, D. C. (2018, August). *Sex differences in brain network dynamics across time*. Oral talk presented at the Heterodox Psychology Workshop, Orange, CA.

Scofield, J. E. (2018, May). *The contribution of handedness to hippocampal functional connectivity*. Data blitz presented at the Show Me State Conference on Cognition, St. Louis, MO.

Scofield, J. E., & Johnson, Jeffrey D. (2018, March). *Resting-state hippocampal functional connectivity depends on handedness*. Poster presented at the Cognitive Neuroscience Society, Boston, MA.

Scofield, J. E., & Buchanan, E. M. (2017, November). *Survey automation detection methods and its implications on psychological research*. Oral talk presented at the Society for Computers in Psychology Conference, Vancouver, BC, Canada.

Buchanan, E. M., **Scofield, J. E.,** & Marshall, C. Z. (2017, November). *Distributions and Sampling Variance for Five Effect Size Measures of Variance Overlap*. Poster presented at the Psychonomic Society Annual Meeting, Vancouver, BC, Canada.

Scofield, J. E., Buchanan, E. M., & Kostic, B. (2016, November). *A meta-analysis of the survival processing advantage in memory*. Poster presented at the Psychonomic Society Annual Meeting, Boston, MA.

Research Experience

Memory and Neuroimaging Lab

UNIVERSITY OF MISSOURI

Columbia, MO

Fall 17 - Fall 20

- co-investigator and research assistant to Dr. Jeffrey Johnson.
- Investigates Episodic Memory using fMRI & EEG.
- Incorporating both univariate (GLM) and multivariate (MVPA; machine learning) approaches

Evolution and Cognitive Development Lab

UNIVERSITY OF MISSOURI

Columbia, MO

Fall 17 - Fall 20

- co-investigator and research assistant to Dr. David Geary
- Incorporates sexual selection theory to investigate human cognitive sex differences

DOOM Research Lab

MISSOURI STATE UNIVERSITY

Springfield, MO

Spring 16 - Fall 18

- Research assistant to Dr. Erin Buchanan.
- Statistical techniques including simulations, effect sizes, and traditional parametric vs. Bayesian techniques

Cognitive Research Lab

MISSOURI STATE UNIVERSITY

Springfield, MO

Fall 15 - Spring 17

- co-investigator and assistant to Dr. Bogdan Kostic
- Investigated common cognitive phenomena as well as human sex differences

Cognition Lab

TRUMAN STATE UNIVERSITY

Kirkville, MO

Fall 13 - Spring 15

- research assistant to Dr. Terry Palmer
- investigating the role of consciousness in multisensory integration

Psychological Testing Lab

TRUMAN STATE UNIVERSITY

Kirkville, MO

Fall 14 - Spring 15

- research assistant to professor Salvatore Costa

Statistical Analysis Skills

ANALYSES

- Machine learning
 - Deep learning: CNN, RNN/LSTM, GAN
 - MVPA: SVM, Ridge, Lasso, Naive Bayes, Neural Networks/MLP
- Bayesian Statistics
 - regression, model-building/comparison, bayes factors
- Multilevel/mixed effects modeling
- Structural Equation Modeling
 - EFA, single/multi-group CFA, path, latent growth, IRT
- meta-analytic techniques
 - traditional RE/FE, bayesian multilevel estimation, p-value distribution analysis
- GLM

– simultaneous/hierarchical/mediation/moderation/logistic regression, AN/ANC/MAN/MANCOVA

LANGUAGES AND SOFTWARE FOR STATISTICAL ANALYSIS

- Statistical Analyses: Python, R, MATLAB, JASP
- Neuroimaging processing: Python, FSL, AFNI, ANTs
- Software package development: MOTE (<https://cran.r-project.org/web/packages/MOTE/index.html>)

LANGUAGES AND SOFTWARE FOR STIMULUS PRESENTATION

- Python (*Psychopy*), MATLAB (*Cogent*)

Service and Associations

Web & Scholarly Communications Committee (08/01/2018 - 05/15/2021)

Ad-hoc Reviewer: *Memory; Brain & Behavior; Journal of Integrative Neuroscience; Cognition and Emotion; Psychology & Aging; Psychiatry Research; Journal of Child Psychology & Psychiatry; Evolutionary Psychological Science; The Social Sciences Journal*

Associations: *Psychonomic Society; Cognitive Neuroscience Society; Southwestern Psychological Association*