

# John E. Scofield, M.S.

Columbia, Missouri

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

## Education

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### University of Missouri

PH.D. CANDIDATE - 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

Kirkville, MO

Fall 13 - Spring 15

## Teaching

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

### 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)

Missouri State University

Fall 15 - Spring 17

### PSYCH3010: Research Methods

TEACHER'S ASSISTANT

- distribution of course content and grading

University of Missouri

Spring 18 - Fall 19

### PSYCH2410: Developmental Psychology

TEACHER'S ASSISTANT

- distribution of course content and grading

University of Missouri

Fall 17

### PSYCH3420: Cognitive Development in Childhood

TEACHER'S ASSISTANT

- distribution of course content and grading

University of Missouri

Fall 17

## Publications

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### SUBMITTED

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Geary, D. C., **Scofield, J. E.**, Hoard, M. K., & Nugent, L. (*Revise & Resubmit*). Boys' advantage on the fractions number line is mediated by visuospatial attention: Evidence for a parietal-spatial contribution to number line learning.

**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.

2020 —————

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.

**Scofield, J. E.**, Kostic, B., & Buchanan, E. M. (2019). How the presence of others affects desirability judgments in heterosexual and homosexual participants. *Archives of Sexual Behavior*. doi:10.1007/s10508-019-01516-w. <https://osf.io/ej5kh/>

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/>

Kostic, B., & **Scofield, J. E.** (2019). Sex differences across sexual orientation and sexual identity. <https://osf.io/8tnd4/>

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>

**Scofield, J. E.** & Kostic, B. (2016, January 29). Sex and sexual orientation differences in mating. Retrieved from <http://www.psychfiledrawer.org/replication.php?attempt=MjM4>

## Presentations

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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.

Shenk, M., McAllister, L., **Scofield, J. E.**, Zoeller, M., & Jaeggi, A. (2019 June). *Are reproductive behaviors sensitive to priming? A bayesian multi-level meta-analysis*. Talk presented at the Human Behavior & Evolution Society Annual Meeting, 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.

Decker, R., **Scofield, J. E.**, Wekesser, M., Myers, A., & Palmer, T. (2016, May). *Flash suppression eliminates lip-movement influence in syllable identification*. Poster presented at the Midwestern Psychological Association Conference, Chicago, IL.

**Scofield, J. E.** (2016, April). *Sex differences in gender, orientation, and identity*. Poster presented at the Missouri State University Interdisciplinary Forum, Springfield, MO.

**Scofield, J. E., & Kostic, B.** (2016, April). *Sex differences in heterosexual, homosexual, and bisexual participants*. Oral Talk presented at the Southwestern Psychological Association Conference, Dallas, TX.

## Research Experience

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### Memory and Neuroimaging Lab

UNIVERSITY OF MISSOURI

- 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

Columbia, MO

Fall 17 - Current

### Evolution and Cognitive Development Lab

UNIVERSITY OF MISSOURI

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

Columbia, MO

Fall 17 - Current

### DOOM Research Lab

MISSOURI STATE UNIVERSITY

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

Springfield, MO

Spring 16 - Fall 18

### Cognitive Research Lab

MISSOURI STATE UNIVERSITY

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

Springfield, MO

Fall 15 - Spring 17

### Cognition Lab

TRUMAN STATE UNIVERSITY

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

Kirksville, MO

Fall 13 - Spring 15

### Psychological Testing Lab

TRUMAN STATE UNIVERSITY

- research assistant to professor Salvatore Costa

Kirksville, MO

Fall 14 - Spring 15

## Statistical Analysis Skills

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### 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/MANC-OVA*

### 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*)

## Relevant Work Experience

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## Research Assistant

UNIVERSITY OF MISSOURI

- Research Assistant under Dr. David Geary.
- data collection, individual cognitive testing in Columbia Public School System
- data analysis, manuscript preparation

Columbia, MO

Spring 17 - Current

## Teaching Assistantship

UNIVERSITY OF MISSOURI

- Teaching assistantship including grading, course content distribution, and course management

Columbia, MO

Fall 17 - Current

## Data Science Intern

SKYFACTOR

- data screening, cleaning, analysis, presentations for educational testing and research
- model building and data visualization

Springfield, MO

Spring 17 - Summer 17

## Teaching Assistantship

MISSOURI STATE UNIVERSITY

- teaching and management of Experimental Psychology lab courses

Springfield, MO

Fall 16 - Spring 17

## Graduate Assistantship

MISSOURI STATE UNIVERSITY

- management of online courses, course content management and distribution
- assisted in survey construction, data analysis, and literature reviews

Springfield, MO

Fall 15 - Spring 16

## Service

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Web & Scholarly Communications Committee (08/01/2018 - Present)

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

## Organizations / Associations

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Psychonomic Society

Cognitive Neuroscience Society

American Psychological Association

Southwestern Psychological Association

## Honors / Awards

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Research Travel Award, \$900 cumulative, University of Missouri

Graduate College Research Grant, \$300, Missouri State University

Cum Laude, Missouri State University / Truman State University

President's List, Missouri State University / Truman State University / Benedictine College

Varsity Collegiate Baseball, Truman State University, Benedictine College

GLVC Academic all-conference team 2013-2014 & 2014-2015, Truman State University

BCIA certification of HRV biofeedback, Truman State University