

Curriculum Vitae

David William Braithwaite

Florida State University
1107 W. Call St.
Tallahassee, Florida 32306-4301

Phone: (850) 644-3409
Email: braithwaite@psy.fsu.edu
Website: psy.fsu.edu/~braithwaite

Education and Employment

- 2018–present Assistant Professor, Psychology, Florida State University.
- 2014–2018 Postdoctoral Research Fellow, Department of Psychology, Carnegie Mellon University, Pittsburgh, PA.
- 2009–2014 Ph.D., Indiana University, Bloomington. Major: Psychology and Cognitive Science. Supervisor: Robert L. Goldstone. Outstanding Dissertation Award, Cognitive Science Program. Dissertation: *Grounding Mathematics Learning*.
- 2004–2009 Research Director and Deputy General Manager, Consumer Insight Research
- 1997–2004 Research Executive/Manager/Director, Consumer Behavior Research
- 1993–1997 B.A., The University of Chicago. Major: Mathematics. Phi Beta Kappa, Sigma Xi.
- 1993–1995 St. John's College, Annapolis, MD.

Funding

Contracts and Grants Pending

Braithwaite, D. W., & Siegler, R. S. (Jul 2018). *Creating a Theory of Decimal Arithmetic Learning*. Submitted to National Science Foundation.

Publications

Refereed Journal Articles

1. **Braithwaite, D. W.**, Leib, E. R., Siegler, R. S., & McMullen, J. (2019). Individual differences in fraction arithmetic learning. *Cognitive Psychology*, 81-98.
2. **Braithwaite, D. W.**, Tian, J., & Siegler, R. S. (2018). Do children understand fraction addition? *Developmental Science*, 21(4), e12601. doi:10.1111/desc.12601
3. **Braithwaite, D. W.**, & Siegler, R. S. (2018). Developmental changes in the whole number bias. *Developmental Science*, 21(2), e12541. doi:10.1111/desc.12541
4. **Braithwaite, D. W.**, & Siegler, R. S. (2018). Children learn spurious associations in their math textbooks: Examples from fraction arithmetic. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 44(11), 1765-1777. doi:10.1037/xlm0000546
5. **Braithwaite, D. W.**, Pyke, A. A., & Siegler, R. S. (2017). A computational model of fraction arithmetic. *Psychological Review*, 124(5), 603-625. doi:10.1037/rev0000072
6. **Braithwaite, D. W.**, Goldstone, R. L., van der Maas, H. L. J., & Landy, D. H. (2016). Non-formal mechanisms in mathematical cognitive development: The case of arithmetic. *Cognition*, 149, 40-55. doi:10.1016/j.cognition.2016.01.004
7. Carvalho, P. F., **Braithwaite, D. W.**, de Leeuw, J. R., Motz, B. A., & Goldstone, R. L. (2016). An in-vivo study of self-regulated study sequencing in introductory psychology courses. *PLoS ONE*, 11(3), e0152115. doi:10.1371/journal.pone.0152115
* First two authors contributed equally
8. **Braithwaite, D. W.**, & Goldstone, R. L. (2015). Effects of variation and prior knowledge on abstract concept learning. *Cognition and Instruction*, 33(3), 226-256. doi:10.1080/07370008.2015.1067215
9. **Braithwaite, D. W.**, & Goldstone, R. L. (2013). Flexibility in data interpretation: Effects of representational format. *Frontiers in Psychology*, 4(December), 1-16. doi:10.3389/fpsyg.2013.00980
10. **Braithwaite, D. W.**, & Goldstone, R. L. (2013). Integrating formal and grounded representations in combinatorics learning. *Journal of Educational Psychology*, 105(2), 666-682. doi:10.1037/a0032095

Invited Journal Articles

1. Siegler, R. S., & **Braithwaite, D. W.** (2016). Numerical development. *Annual Review of Psychology*, 68, 187-213. doi:10.1146/annurev-psych-010416-044101

Invited Book Chapters

1. Goldstone, R. L., **Braithwaite, D. W.**, & Byrge, L. A. (2012). Perceptual learning. In *Encyclopedia of the Sciences of Learning*. Heidelberg, Germany: Springer Verlag GmbH.

Refereed Proceedings

1. Carvalho, P. F., **Braithwaite, D. W.**, de Leeuw, J. R., Motz, B. A., & Goldstone, R. L. (2015). Effectiveness of Learner-Regulated Study Sequence: An in-vivo study in Introductory Psychology course. In Noelle, D. C., Dale, R., Warlaumont, A. S., Yoshimi, J., Matlock, T., Jennings, C. D., & Maglio, P. P. (Eds.), *37th Annual Conference of the Cognitive Science Society* (pp. 1189-1194). Austin, TX: Cognitive Science Society.
2. **Braithwaite, D. W.**, & Goldstone, R. L. (2014). Benefits of Variation Increase with Preparation. In Bello, P., Guarini, M., McShane, M., & Scassellati, B. (Eds.), *36th Annual Conference of the Cognitive Science Society* (pp. 230-235). Austin, TX: Cognitive Science Society.
3. **Braithwaite, D. W.**, & Goldstone, R. L. (2014). Spatial Organization and Presentation Mode in the Representation of Complex Data. In Bello, P., Guarini, M., McShane, M., & Scassellati, B. (Eds.), *36th Annual Conference of the Cognitive Science Society* (pp. 1940-1945). Austin, TX: Cognitive Science Society.
4. **Braithwaite, D. W.**, & Goldstone, R. L. (2013). Benefits of Graphical and Symbolic Representations for Learning and Transfer of Statistical Concepts. In Knauff, M., Pauen, M., Sebanz, N., & Wachsmuth, I. (Eds.), *35th Annual Conference of the Cognitive Science Society* (pp. 1928-1933). Austin, TX: Cognitive Science Society.
5. **Braithwaite, D. W.**, & Goldstone, R. L. (2012). Inducing Mathematical Concepts from Specific Examples: The Role of Schema-Level Variation. In Miyake, N., Peebles, D., & Cooper, R. P. (Eds.), *34th Annual Conference of the Cognitive Science Society* (pp. 138-143). Austin, TX: Cognitive Science Society.
6. **Braithwaite, D. W.**, & Goldstone, R. L. (2011). Effects of Grounded and Formal Representations on Combinatorics Learning. In Carlson, L., Hölscher, C., & Shipley, T. (Eds.), *33rd Annual Conference of the Cognitive Science Society* (pp. 3431-3436). Austin, TX: Cognitive Science Society.

Presentations

Refereed Presentations at Conferences

- Leib, E. R., **Braithwaite, D. W.**, Siegler, R. S., & McMullen, J. (2019, April). *Performance Profiles in Fraction Arithmetic*. Poster presentation to be given at Biennial Meeting, Society for Research in Child Development, Baltimore, MD. (National)
- Braithwaite, D. W.**, Leib, E. R., McMullen, J., & Siegler, R. S. (2018, November). *Individual Differences in Fraction Arithmetic Learning*. Poster presentation at 59th Annual Meeting, Psychonomics Society, New Orleans, LA.
- Braithwaite, D. W.**, & Siegler, R. S. (2018, January). *Improving Children's Understanding of Fraction Arithmetic*. Poster presentation at 2017-2018 Principal Investigators Meeting, IES NCER/NCSE, Arlington, VA.
- Braithwaite, D. W.**, & Siegler, R. S. (2017). *Improving Children's Understanding of Fraction Arithmetic*. Poster presentation at Tenth Biennial Meeting, Cognitive Development Society, Portland, OR.
- Braithwaite, D. W.**, Zhou, X., & Siegler, R. S. (2017). *Associative Knowledge in Rational Arithmetic*. Poster presentation at Tenth Biennial Meeting, Cognitive Development Society, Portland, OR.
- Braithwaite, D. W.**, & Siegler, R. S. (2016). *A Cognitive Model of Fraction Arithmetic*. Poster presentation at 38th Annual Conference, Cognitive Science Society, Philadelphia, PA.
- Braithwaite, D. W.**, Tian, J., & Siegler, R. S. (2016). *Conceptual Understanding of Fraction Arithmetic*. Poster presentation at 57th Annual Meeting, Psychonomics Society, Boston, MA.
- Braithwaite, D. W.**, & Siegler, R. S. (2015). *A Cognitive Model of Fraction Arithmetic*. Poster presentation at 2015 Principal Investigators Meeting, IES NCER/NCSE, Washington, D.C.
- Braithwaite, D. W.**, & Siegler, R. S. (2015). *Whole Number Bias Impedes Understanding of Fraction Equivalence*. Poster presentation at 56th Annual Meeting, Psychonomics Society, Chicago, IL.
- Braithwaite, D. W.**, & Siegler, R. S. (2015). *Whole Number Bias Impedes Understanding of Fraction Equivalence*. Poster presentation at Ninth Biennial Meeting, Cognitive Development Society, Columbus, OH.

Carvalho, P. F., **Braithwaite, D. W.**, & Goldstone, R. L. (2015). *The Right Sequence for the Right Learning: Blocked and Interleaved Study Differences in the Study of Mathematical Concepts*. Poster presentation at 56th Annual Meeting, Psychonomics Society, Chicago, IL.

Braithwaite, D. W., & Goldstone, R. L. (2014). *Interactions of Variation and Prior Knowledge in Abstract Concept Learning*. Poster presentation at Annual Conference, American Educational Research Association, Philadelphia, PA.

Braithwaite, D. W., & Goldstone, R. L. (2013). *Effects of Superficial Variation and Prior Knowledge on Learning Abstract Concepts*. Poster presentation at the meeting of Psychonomics Society Meeting, Toronto, Canada.

Invited Lectures and Readings of Original Work

Braithwaite, D. W. (2018, June). *A Theory of Fraction Arithmetic Learning*. Delivered at Carnegie Learning, Inc, Pittsburgh, PA.

Braithwaite, D. W. (2017). *A Theory of Fraction Arithmetic Learning*. Delivered at Department of Psychology, University of Kentucky, Louisville, KY.

Braithwaite, D. W. (2017). *A Theory of Fraction Arithmetic Learning*. Delivered at Department of Psychology, Florida State University, Tallahassee, FL.

Braithwaite, D. W. (2017). *A Theory of Fraction Arithmetic Learning*. Delivered at School of Education, University of California, Irvine, Irvine, CA.

Braithwaite, D. W. (2017). *A Theory of Fraction Arithmetic Learning*. Delivered at Faculty of Education, University of Western Ontario, London, Ontario, CA.

Braithwaite, D. W. (2017). *Finding the Angel in the Marble: The Challenge of Learning Mathematics*. Delivered at Department of Psychology, University of East Anglia, Norwich, UK.

Teaching

Courses Taught

Child Psychology (DEP3103)
Research Topics (PSY4920)
Experimental Methods in Psychology
Cognitive Psychology
Computer and Statistical Methods in Psychology

Master's Committee Member

Sorenson, P. A., student.

Service

Guest Reviewer for Refereed Journals

Child Development (2017–present).
Journal of Experimental Psychology: General (2019–present).
Monographs of the Society for Research on Child Development (2019–present).
Developmental Psychology (2018–present).
Journal of Experimental Psychology: Learning, Memory, and Cognition (2018–present).
Mathematical Thinking and Learning (2018–present).
Journal of Educational Psychology (2017–present).
Learning and Individual Differences (2017–present).
Memory and Cognition (2017–present).
Cognitive Science (2016–present).
Cognitive Psychology (2017).
Journal of Cognition and Development (2017).
Thinking and Reasoning (2017).
Applied Cognitive Psychology (2016–17).
Cognitive Research: Principles and Implications (2016).
Developmental Science (2016).
Frontiers in Psychology (2016).
Journal of the Royal Society (2016).
Developmental Psychology (2015–16).
PloS ONE (2015–16).
Journal of Artificial Societies and Social Simulation (2014).
Journal of Experimental Psychology: Learning, Memory, and Cognition (2014).
Journal of Applied Research in Memory and Cognition (2013).

Reviewer or Panelist for Grant Applications

National Science Foundation (2019).

Service to Professional Associations

Ad-hoc Conference Reviewer, Cognitive Science Society (2016–2018).

Ad-hoc Grant Reviewer, National Science Foundation (2017).

Ad-hoc Conference Reviewer, Society for Research in Child Development (2017).

Honors, Awards, and Prizes

First Year Assistant Professor Award, The Florida State University (2019). (\$20,000)

College of Arts and Sciences Dean's Faculty Travel Award, The Florida State University (2018).
(\$1,500).

Young Scientist Travel Award, Indiana University (2016). (\$1,500).

Outstanding Dissertation Award, Cognitive Science Program, Indiana University (2015).

College of Arts and Sciences Travel Award, Indiana University (2013).

NSF Conference Grant for Annual Meeting of the Cognitive Science Society (2013).

NSF Conference Grant for Annual Meeting of the Cognitive Science Society (2012).

Phi Beta Kappa, University of Chicago (1997).

Sigma Xi, University of Chicago (1997).