

Cody A. Mashburn

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CONTACT

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EDUCATION

Georgia Institute of Technology - Atlanta, GA

Ph.D., Cognition and Brain Science 2025
Minor in Quantitative Psychology (expected)
Advisor: Dr. Randall W. Engle

M.S., Cognition and Brain Science 2023
Advisor: Dr. Randall W. Engle

Young Harris College - Young Harris, GA

B.S., Psychology, *magna cum laude* 2017
Minor in Philosophy
Advisor: Dr. Amy L. Boggan

RESEARCH INTERESTS

- Processing speed and its relation to higher order cognition
- Individual differences in executive attention, working memory, and fluid intelligence
- Psychometrics and test development

MANUSCRIPTS (in reverse chronological order)

Peer-reviewed journal articles: 9

Burgoyne, A. P., Mashburn, C. A., Tsukahara, J. S., Pak, R., & Engle, R. W. (in press). The nature and measurement of attention control. *Journal of Experimental Psychology: General*.

Burgoyne, A. P., Mashburn, C. A., Tsukahara, J. S., & Engle, R. W. (2022). Attention control and Process Overlap Theory: Searching for cognitive processes underpinning the positive manifold. *Intelligence*, 91, 101629. <https://doi.org/10.1016/j.intell.2022.101629>

Burgoyne, A. P., Mashburn, C. A., Tsukahara, Hambrick, D. Z., & Engle, R. W. (2021). Understanding the relationship between rationality and intelligence: A latent variable approach. *Thinking and Reasoning*. <https://doi.org/10.1080/13546783.2021.2008003>

Burgoyne, A. P., Mashburn, C. A., & Engle, R. W. (2021). Reducing adverse impact in high-stakes testing. *Intelligence*, 87, 101561. <https://doi.org/10.1016/j.intell.2021.101561>

- Martin, J. D., Tsukahara, J. S., Draheim, C., Shipstead, Z., **Mashburn, C. A.**, Vogel, E. K., & Engle, R. W. (2021). The visual arrays task: Visual storage capacity or attention control? *Journal of Experimental Psychology: General*, 150(12), 2525-2551. <https://doi.org/10.1037/xge0001048>
- Draheim, C., Tsukahara, J. S., Martin, J. D., **Mashburn, C. A.**, & Engle, R. W. (2021). A toolbox approach to improving the measurement of attention control. *Journal of Experimental Psychology: General*, 150(2), 242-275. <https://doi.org/10.1037/xge0000783>
- Martin, J. D., **Mashburn, C. A.**, & Engle, R. W. (2020). Improving the validity of the Armed Services Vocational Aptitude Battery with measures of attention control. *Journal of Applied Research in Memory and Cognition*, 9(3), 323-335. <https://doi.org/10.1016/j.jarmac.2020.04.002>
- Draheim, C., **Mashburn, C. A.**, Martin, J. D., & Engle, R. W. (2019). Reaction time in differential and developmental research: A review and commentary on problems and alternatives. *Psychological Bulletin*, 145(5), 508-535. <https://doi.org/10.1037/bul0000192>
- Mutter, S. A., Holder, J. M., **Mashburn, C. A.**, & Luna, C. M. (2019). Aging and the role of attention in associative learning. *Psychology and Aging*, 34(2), 215-227. <https://doi.org/10.1037/pag0000277>

Book chapters: 3

- Mashburn, C. A.**, Burgoyne, A. P., & Engle, R. W. (2023). Working memory, intelligence, and life success. In R. H. Logie, N. Cowan, S. E. Gathercole, R. W. Engle, & Z. Wen (Eds.), *Memory in science for society: There is nothing as practical as a good theory*. Oxford University Press.
- Burgoyne, A. P., Martin, J. D., **Mashburn, C. A.**, Tsukahara, J.S., Draheim, C., & Engle, R. W. (2022). Working memory and attention control measures for adults. In J. W. Schwieter & Z. Wen (Eds.), *The Cambridge handbook of working memory and language*. Cambridge University Press. <https://doi.org/10.1017/9781108955638>
- Mashburn, C. A.**, Tsukahara, J. S., & Engle, R. W. (2021). Individual differences in attention control: Implications for the relationship between working memory capacity and fluid intelligence. In R. H. Logie, V. Camos, & N. Cowan (Eds.), *Working memory: The state of the science*. Oxford University Press. <https://doi.org/10.1093/oso/9780198842286.003.0007>

Submitted and in preparation: 4

- Mashburn, C. A.**, Barnett, M. K., & Engle, R. W. (under revision). Processing speed and executive attention as causal factors in intelligence.
- Mashburn, C. A.**, & Engle, R. W. (under review). Using the antisaccade task to measure attention control.
- Mashburn, C. A.**, Burgoyne, A. P., Tsukahara, J. S., Pak, R. P., Coyne, J. T., Foroughi, C., Sibley, C., & Engle, R. W. (in prep). Knowledge, psychomotor skill, and attention: An experimental approach to explaining individual differences in complex task performance.
- Burgoyne, A. P., **Mashburn, C. A.**, Tsukahara, J. S., Pak, R. P., Coyne, J. T., Foroughi, C., Sibley, C., & Engle, R. W. (under review). Attention control measures improve the prediction of performance in Navy trainees.

CONFERENCE PRESENTATIONS (in reverse chronological order)

- Engle, R. W., Burgoyne, A. P., Tsukahara, J. S., **Mashburn, C. A.**, Draheim, C., Pak, R., Coyne, J., Foroughi, C., & Sibley, C. (2022, November). *Attention control: Transition from theory to application*. Talk presented at the 63rd annual meeting of the Psychonomic Society, Boston, MA.
- Mashburn, C. A.**, & Engle, R. W. (2022, November). *Attention control predicts fluid intelligence after controlling for processing speed*. Poster presented at the 63rd annual meeting of the Psychonomic Society, Boston, MA.
- Burgoyne, A.P, Tsukahara, J.S., **Mashburn, C.A.**, Engle, R.W. (2022). *Three-minute tests of attention control: Reliable and valid predictors of complex task performance*. Poster presented at the 63rd annual meeting of the Psychonomic Society, Boston, MA, USA.
- Barnett, M. K., **Mashburn, C. A.**, Burgoyne, A. P., & Engle, R. W. (2022, November). *Acquired knowledge or fluid ability? An examination of identity, adverse impact, and equity in high-stakes testing*. Poster presented at the 63rd annual meeting of the Psychonomic Society, Boston, MA.
- Mashburn, C. A.** (2022, March). *Adaptive procedures may increase working memory demands*. Talk presented at the 113th annual meeting of the Southern Society for Philosophy and Psychology.
- Mashburn, C. A.**, & Engle, R. W. (2021, November). *Better prediction of cognitive abilities with increased control demands?* Poster presented at the 62nd annual meeting of the Psychonomic Society.
- Mashburn, C. A.**, Martin, J. D., & Engle, R. W. (2019, November). *Attention control improves the ASVAB's prediction of multitasking*. Poster presented at the 60th annual meeting of the Psychonomic Society, Montreal, Quebec, Canada.
- Draheim, C., Tsukahara, J. S., Martin, J. D. **Mashburn, C. A.**, Engle, R. W. (2019, November). *Attention control is a unitary concept when measured with accuracy-based tasks*. Poster presented at the 60th annual meeting of the Psychonomic Society, Montreal, Quebec, Canada.
- Draheim, C., Martin, J. D., Tsukahara, J. S., **Mashburn, C. A.**, & Engle, R. W. (2018, November). *Measurement of attention control*. Talk presented at the 59th annual meeting of the Psychonomic Society, New Orleans, LA.
- Brooks, R. Boggan, A. L., & **Mashburn, C. A.** (2018, November). *Positive valence versus emotional congruence in memory performance: Which effects matter when?* Poster presented at the 59th annual meeting of the Psychonomic Society, New Orleans, LA.
- Draheim, C., **Mashburn, C. A.**, & Engle, R. W. (2018, November). *Reaction times do not reliably measure individual differences in cognition: The problem and solutions*. Poster presented at the 59th annual meeting of the Psychonomic Society, New Orleans, LA.
- Mashburn, C. A.**, Mutter, S. A., Luna, C. M., & Lawrence, K. (2017, November). *Learned predictiveness and rapid attentional capture in younger and older adults*. Poster presented at the 58th Psychonomic Society Conference, Vancouver, British Columbia, Canada.

Mashburn, C. A., & Boggan, A. L. (2017, July). *The impact of expertise-related cross-modal associations on the vividness of auditory imagery*. Poster presented at the biennial meeting of the Society for Music Perception and Cognition, San Diego, CA.

TEACHING

Guest Lecturer (Attention and Consciousness; Operant Conditioning), Introduction to Psychology (Main lecture instructor: Dr. Diane Leader), Georgia Institute of Technology, Atlanta, GA (Fall, 2022)

Lab Instructor, Graduate Statistical Analysis II (Main lecture instructor: Dr. James S. Roberts), Georgia Institute of Technology, Atlanta, GA (Spring, 2022; Student evaluation rating; 4.9/5.0)

Lab Instructor, Undergraduate Research Methods (Main lecture instructor: Dr. Meghan J. Babcock), Georgia Institute of Technology, Atlanta, GA (Fall, 2020; Student evaluation rating: 4.29/5.0)

GRADUATE COURSEWORK

General

1. Cognitive Psychology
2. Responsible Conduct of Research
3. Human Neuroanatomy
4. Psychological Testing
5. fMRI in Human Cognitive Neuroscience (seminar)
6. Human Problem Solving (seminar)
7. History and Systems of Psychology
8. Human and Machine Learning
9. Teaching Practicum

Quantitative/Methods

1. Research Methods and Design
2. Statistical Analysis I (ANOVA)
3. Statistical Analysis II (Correlation and Regression)
4. Multivariate Statistics
5. Structural Equation Modeling
6. Multilevel Modeling
7. Item Response Theory

PROFESSIONAL AFFILIATIONS

Psychonomic Society (Student member, September 2018-Present)

Society for Music Perception and Cognition (Student member, March 2017-Present)

FUNDING

<i>Project title</i>	<i>Funding Source</i>	<i>Year(s)</i>	<i>Amount</i>
Does attention control moderate the relationship between processing speed and cognitive ability? (PI: Randall W. Engle, grant prepared by C. A. Mashburn)	Institute for Mental Chronometry	2021-2024	\$299,909.00

SERVICE

Invited reviewer: *Memory & Cognition, Behavior Research Methods, Psychonomic Bulletin & Review*

AWARDS & HONORS

Herbert P. Haley Fellowship (2022-2023)

Georgia Tech School of Psychology Outstanding Student Paper Award (Draheim, Mashburn, Martin, & Engle, 2019)