

ALEXANDER P. BURGOYNE

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Employment

2020 - Present Post-Doctoral Researcher
Attention & Working Memory Lab
Georgia Institute of Technology, School of Psychology
Principal Investigator: Randy Engle, Ph.D.

EDUCATION

2019 Doctor of Philosophy
Cognition and Cognitive Neuroscience
Michigan State University, Department of Psychology
Advisor: D. Zach Hambrick, Ph.D.

2018 Master's Degree
Cognition and Cognitive Neuroscience
Michigan State University, Department of Psychology
Advisor: D. Zach Hambrick, Ph.D.

2014 Bachelor of Arts in Psychology
Michigan State University, College of Social Science

SUBMITTED ARTICLES

Burgoyne, A. P., Hambrick, D. Z., & Altmann, E. M. (under review). Incremental Validity of Placekeeping as a Predictor of Multitasking.

Hambrick, D. Z., **Burgoyne, A. P.**, Stec, K., Fenn, K. M. (under review). The ACT Predicts Academic Performance, but Why? The Mystery Remains.

Burgoyne, A. P. & Macnamara, B. N. (under review). The Reliability and Validity of the Mindset Assessment Profile Tool.

Hambrick, D. Z., **Burgoyne, A. P.**, & Katsumata, D. S. (under review). Accelerating the Acquisition of Expertise.

JOURNAL ARTICLES

Burgoyne, A. P., Hambrick, D. Z., & Macnamara, B. N. (in press). How Firm Are the Foundations of Mindset Theory? *Psychological Science*.

Burgoyne, A. P., Hambrick, D. Z., & Altmann, E. M. (2019). Placekeeping Ability as a Component of Fluid Intelligence: Not Just Working Memory Capacity. *American Journal of Psychology*, *132*, 439-449.

Burgoyne, A. P., Harris, L. J., & Hambrick, D. Z. (2019). Predicting Skill Acquisition in Music: The Role of General Intelligence, Music Aptitude, and Mindset. *Intelligence*, *76*.

Burgoyne, A. P., Hambrick, D. Z., & Altmann, E. M. (2019). Is Working Memory a Causal Factor in Fluid Intelligence? *Psychonomic Bulletin & Review*, *26*, 1333-1339.

Burgoyne, A. P., Nye, C. D., Macnamara, B. N., Charness, N., & Hambrick, D. Z. (2019). The Impact of Domain-Specific Experience on Chess Skill: Re-Analysis of a Key Study. *American Journal of Psychology*, *132*, 27-38.

Burgoyne, A. P., Hambrick, D. Z., Moser, J. S., & Burt, S. A. (2018). Analysis of a Mindset Intervention. *Journal of Research in Personality*, *77*, 21-30.

Mix, K., Hambrick, D. Z., Satyam, V. R., **Burgoyne, A. P.**, & Levine, S. C. (2018). The Latent Structure of Spatial Skill: A Test of the 2 x 2 Typology. *Cognition*, *180*, 268-278.

Hambrick, D. Z., Altmann, E., & **Burgoyne, A. P.** (2018). A Knowledge-Activation Approach to Testing the Circumvention-of-Limits Hypothesis. *American Journal of Psychology*, *131*, 307-321.

Sisk, V., **Burgoyne, A. P.**, Sun, J., Butler, J. L., & Macnamara, B. N. (2018). To What Extent and Under Which Circumstances Are Growth Mindsets Important to Academic Achievement? Two Meta-analyses. *Psychological Science*, *29*, 549-571.

Hambrick, D. Z., **Burgoyne, A. P.**, Macnamara, B. N., & Ullén, F. (2018). Toward a Multifactorial Model of Expertise: Beyond Born Versus Made. *The New York Academy of Sciences*, 1423, 284-295.

Sala, G., **Burgoyne, A. P.**, Macnamara, B. N., Hambrick, D. Z., Campitelli, G., & Gobet, F. (2017). Checking the “Academic Selection” Argument. Chess Players Outperform Non-Chess Players in Cognitive Skills Related to Intelligence: A Meta-Analysis. *Intelligence*, 61, 130-139.

Burgoyne, A. P., Sala, G., Gobet, F., Macnamara, B. N., Campitelli, G., & Hambrick, D. Z. (2016). The Relationship Between Cognitive Ability and Chess Skill: A Comprehensive Meta-Analysis. *Intelligence*, 59, 72-83.

REVIEWS AND COMMENTARIES

Hambrick, D. Z., & **Burgoyne, A. P.** (2019). Beyond nature vs. nurture in expertise research – comment on J. Baker and N. Wattie. *Current Issues in Sport Science*, 4, 104.

CHAPTERS

Burgoyne, A. P., Harris, L. J., & Hambrick, D. Z. (under review). “The Origins of Musical Expertise.” In G. McPherson (Ed.), *The Oxford Handbook of Music Performance*. Oxford, UK: Oxford University Press.

Hambrick, D. Z., **Burgoyne, A. P.**, & Araujo, D. (under review). “Working Memory and Expertise: An Ecological Perspective.” In R. Logie, V. Camos, & N. Cowan (Eds.), *Working Memory: State of the Science (The Oxford Handbook of Working Memory)*. Oxford, UK: Oxford University Press.

Hambrick, D. Z., **Burgoyne, A. P.**, & Altmann, E. M. (in press) "Problem Solving and Intelligence." In R. J. Sternberg (Ed.), *Thinking and Problem Solving (Handbook of Perception and Cognition)*, Volume 3. Academic Press.

Hambrick, D. Z., **Burgoyne, A. P.**, & Oswald, F. L. (2019) "The Role of Interests in the Development of Expertise: A Multifactorial Perspective." In C. D. Nye & J. Rounds

(Eds.), *Vocational Interests in the Workplace: Rethinking Behavior at Work*.
Routledge.

Hambrick, D. Z., **Burgoyne, A. P.**, & Oswald, F. L. (2019). Domain-General Models of Expertise: The Role of Cognitive Ability. In P. Ward, J. M. Schraagen, J. Gore, & E. Roth (Eds.), *The Oxford Handbook of Expertise*. Oxford, UK: Oxford University Press.

Hambrick, D. Z., **Burgoyne, A. P.**, Campitelli, G., & Macnamara, B. N. (2018). "Working Memory, Thinking, and Expertise." In L. J. Ball & V. A. Thompson (Eds.), *International Handbook of Thinking and Reasoning*. Psychology Press.

Macnamara, B. N., Hambrick, D. Z., Frank, D. J., King, M. J., **Burgoyne, A. P.**, & Meinz, E. J. (2018). "The Deliberate Practice View: An Evaluation of Definitions, Claims, and Empirical Evidence." In D. Z. Hambrick, G. Campitelli, & B. N. Macnamara (Eds.), *The Science of Expertise*. Psychology Press.

POPULAR WRITING

Hambrick, D. Z. & **Burgoyne, A. P.** (2019, May 29). Looks Matter, but So Do Smarts, *Scientific American*. Retrieved from
<https://www.scientificamerican.com/article/looks-matters-but-so-does-smarts/>

Burgoyne, A. P. & Hambrick, D. Z. (2017, January 12). Intelligence and the DNA Revolution, *Scientific American*. Retrieved from
<https://www.scientificamerican.com/article/intelligence-and-the-dna-revolution/>

Burgoyne, A. P. & Hambrick, D. Z. (2017, August 22). Flagging Fake News or Bad Sources Won't Work, *Slate*. Retrieved from
http://www.slate.com/articles/health_and_science/science/2017/01/educating_people_about_sources_won_t_stop_fake_news.html

Hambrick, D. Z. & **Burgoyne, A. P.** (2016, September 18). The Difference Between Rationality and Intelligence, *New York Times*, p. SR12.

PRESENTATIONS AND SYMPOSIA

Hambrick, D. Z., **Burgoyne, A. P.**, & Altmann, E. M. (2019, June). *Placekeeping Ability as a Cognitive Control Construct: Validity and Malleability*. Presentation at the annual Office of Naval Research Program Review (Hawkins ONR 341), Arlington, D.C.

Burgoyne, A. P., Hambrick, D. Z., & Macnamara, B. N. (2019, April). *How Firm Are the Foundations of Mindset Theory?* Presentation at the annual conference of the Midwestern Psychological Association, Chicago, IL.

Burgoyne, A. P., & Hambrick, D. Z. (2018, November). *Placekeeping Ability, Working Memory, and Fluid Intelligence*. Presentation at Rice University's Industrial/Organizational Psychology Department's Brown Bag Series. Houston, TX.

Burgoyne, A. P., Altmann, E. M., & Hambrick, D. Z. (2018, November). *Placekeeping Ability as a Component of Fluid Intelligence*. Poster presented at the annual Psychonomics convention, New Orleans, LA.

Macnamara, B. N. & **Burgoyne, A. P.** (2018, May). *How Important Are Growth Mindsets for Learning and Achievement?* Symposium at the annual convention of the Association for Psychological Science, San Francisco, CA.

Burgoyne, A. P., Hambrick, D. Z., & Harris, L. J. (2018, May). *The Role of Cognitive Ability, Music Aptitude, and Mindset in Acquiring Musical Skill*. Presentation at the annual convention of the Association for Psychological Science, San Francisco, CA.

Burgoyne, A. P., Burt, S. A., Moser, J., Yeager, D., Plaisance, K., & Hambrick, D. Z. (2018, April). *Altering Mindsets with a Brief Online Intervention*. Presentation at the annual conference of the Midwestern Psychological Association, Chicago, IL.

Burgoyne, A. P., Altmann, E. M., & Hambrick, D. Z. (2017, May). *Cognitive Determinants of Multitasking Ability*. Poster presented at the annual convention of the Association for Psychological Science, Boston, MA.

Burgoyne, A. P., Nye, C. D., Macnamara, B. N., Charness, N., Hambrick, D. Z. (2017, April). *The Impact of Domain-Specific Experience on Chess Skill: Re-Analysis of a Key Study*. Presentation at the annual conference of the Midwestern Psychological Association, Chicago, IL.

Burgoyne, A. P., Harris, L. J., & Hambrick, D. Z. (2016, May). *Acquiring Skill in Music*. Poster presented at the annual conference of the Midwestern Psychological Association, Chicago, IL.

Burgoyne, A. P., Sala, G., Gobet, F., Macnamara, B. N., Campitelli, G., Hambrick, D. Z. (2016, May). *The Relationship Between Intelligence and Expertise in Chess: A Meta-Analysis*. Presentation at the annual conference of the Midwestern Psychological Association, Chicago, IL.

HONORS AND AWARDS

2018 Research Scholars Award: \$3,500

The Nature and Nurture of Skilled Performance: Understanding the Role of Basic Abilities and Training on Complex Task Performance.

2018 Thompson Endowment Fellowship: \$1,000

The Nature and Nurture of Skilled Performance: Understanding the Role of Basic Abilities and Training on Complex Task Performance.

2018 Future Academic Scholars in Teaching Fellowship: \$2,000

Cognitive Processes Underlying Undergraduate Writing and Proofreading.

2018 Research Enhancement Award: \$1,000

Circumvention of Limits in Chess.

2018 Travel Award: \$1,100

Funding for APS and MPA annual conventions.

2017 Summer Fellowship Award: \$600

2015 Rasmussen Fellowship Award: \$5,000

COGNITIVE ABILITY TESTING SOFTWARE

2017	Visual Arrays Task (E-Prime v2)
2017	Choose-A-Move Chess Test (E-Prime v2)
2017	Chess Knowledge Test (E-Prime v2)

2017 Typing Speed Test (E-Prime v2)
 2016 Reading Comprehension Test (E-Prime v1 and v2)
 2016 Pattern Comparison Test (E-Prime v1 and v2)
 All programs are free to download at www.scienceofexpertise.com/alex

WEB DESIGN AND MANAGEMENT

www.scienceofexpertise.com – Website for the Expertise Laboratory
www.journalofexpertise.org – Official website for the Journal of Expertise

ACADEMIC POSITIONS

2020 – Present Post-Doctoral Researcher
 Attention & Working Memory Lab
 Georgia Institute of Technology, School of Psychology
 Principal Investigator: Randy Engle, Ph.D.

2015 – 2019 Graduate Research Assistant/Laboratory Manager
 Expertise Laboratory
 Michigan State University, Department of Psychology
 Supervisor: D. Zach Hambrick, Ph.D.

2016 Teaching Assistant
 Psychology 402(W): Sensation and Perception
 Michigan State University, Department of Psychology
 Professor: Mark Becker, Ph.D.

2015 Teaching Assistant
 Psychology 244: Developmental Psychology: Infancy through
 Childhood
 Michigan State University, Department of Psychology
 Professor: Lauren J. Harris, Ph.D.

2014 – 2015 Professional Aide
 Michigan Twins Project, Michigan State University
 Principal Investigators: Kelly Klump, Ph.D., Alex Burt, Ph.D.

- 2013 Teaching Assistant
Psychology 200: Introduction to Cognitive Psychology
Michigan State University, Department of Psychology
Professor: Mark Becker, Ph.D.
- 2012 – 2013 Research Assistant
Michigan Twins Project, Michigan State University
Principal Investigators: Kelly Klump, Ph.D., Alex Burt, Ph.D.

PROFESSIONAL SERVICE

- 2017 – Present Reviewer for the following journals: *Journal of Experimental Psychology: General*, *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *Journal of Behavioral Decision Making*, *Clinical Psychological Science*, *Military Psychology*, *Music Perception*, *Journal of Expertise*, *Advances in Cognitive Psychology*, *Organizational Behavior and Human Decision Processes*, *Learning and Individual Differences*, *Frontiers in Psychology*.
- 2016 Reviewer for the Association for Psychological Science Student Grant Competition
- 2016 Student Representative, *Quantitative Genetics Faculty Search Committee*, Psychology Department, Michigan State University East Lansing, MI

TECHNICAL SKILLS

Structural equation modeling (*Amos, MPlus*)
Meta-analysis (*R, Comprehensive Meta-Analysis*)
Multi-level modeling, power analysis, etc. (*SPSS, G*Power*)
Experiment program development (*E-Basic*)
Web design (*HTML, CSS*)
Website management and graphic design (*Adobe Dreamweaver, Photoshop, Illustrator*)

PROFESSIONAL DEVELOPMENT

Fall	2018	Future Academic Scholars in Teaching Fellow
Spring	2017	Leadership Academy at Michigan State University
Summer	2016	Certification in College Teaching Institute
Summer	2016	Introductory & Intermediate Structural Equation Modeling Workshop
Summer	2015	Teaching Assistant Institute at Michigan State University

MEDIA COVERAGE

Research featured in the following outlets:

- Vox
- Wired
- The Conversation (x2)
- The Times
- Psychology Today
- American Council on Science and Health (x2)
- Australian Financial Review
- MSU Today (x2)
- Genetic Literacy Project (x2)
- Technology
- Futurity
- EurekAlert
- MedicalXpress
- Mad in America
- Science Newsline
- CWRU's The Daily
- Association for Psychological Science
- The Hechinger Report
- Huffington Post
- Education Week (x2)
- Reddit (x3)
- Chess.com
- Saint Louis Chess Club
- Chess and Strategy
- Bright Person
- Real Clear Science
- Peak Fitness
- ValueWalk
- New Delhi Television
- Charles Jennings & Associates
- Actualité Houssenia Writing
- Newswise
- Marginal Revolution
- Health Medicine Network
- Newser
- Science Daily
- From Experience to Meaning
- Mensa Côte d'Azur