

Justin W. Bonny, Ph.D.

Assistant Professor

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Education

- 2013 **Doctor of Philosophy, Psychology**, Emory University, Atlanta, GA
Concentration: Cognition and Development
Dissertation: "*Representing Quantitative Information: Developmental and Neural Comparisons of Mental Magnitudes*"
- 2010 **Master of Arts, Psychology**, Emory University, Atlanta, GA
- 2008 **Bachelor of Science with Honors, Psychology**, University of Maryland, College Park, MD
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Professional Experience

- Assistant Professor**, 2016 – 2019, 2020 – present, Dept. of Psychology, Morgan State University, Baltimore, MD
- Senior Cognitive Scientist**, 2019 – 2020, Intelligent Systems Branch, Research and Exploratory Development Department, The Johns Hopkins University Applied Physics Laboratory (JHU/APL), Laurel, MD
- Research & Analytics**, 2015 – 2016, foundry10, Seattle, WA
- Visiting Scholar**, 2014 – 2016, Dept. of Psychology, California State University, San Bernardino, CA
- Temporary Full-time Instructor**, 2015, Dept. of Psychology, San Bernardino Valley College (SBVC), San Bernardino, CA
- Research and Applied Scientist**, 2013 – 2014, Space and Naval Warfare Systems Center Atlantic (SSC LANT), Department of the Navy, Charleston, SC
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Publications

*denotes student author

- Bonny, J.W.** & Leventon, I.T. (2020). Measuring human perceptions of developing room fires: The influence of situational and dispositional factors. *Fire and Materials*. [link to proof: <https://bit.ly/bonnyFAMproof>]
- Bonny, J.W.**, Scanlon, M., & Castaneda, L.M. (2020). Variations in psychological factors and experience-dependent changes in team-based video game performance. *Intelligence*, 80. doi: 10.1016/j.intell.2020.101450 [link to copy: <https://bit.ly/bonny2020intelligence>]
- Bonny, J.W.**, Lindberg, J.C., Pacampara, M.C. (2017). Hip hop dance experience linked to sociocognitive ability. *PLoS ONE*. doi: 10.1371/journal.pone.0169947 [link to copy: <http://bit.ly/bonny2017PLOS>]
- Bonny, J.W.** & Castaneda, L.M. (2017). Number processing ability is connected to longitudinal changes in multiplayer online battle arena skill. *Computers in Human Behavior*, 66, 377-387. doi: 10.1016/j.chb.2016.10.005 [link to copy: <http://bit.ly/bonny2017CHB>]
- Lourenco, S.F. & **Bonny, J.W.** (2017). Representations of numerical and non-numerical magnitude both contribute to mathematical competence in children. *Developmental Science*, 20(4), e12418, doi: 10.1111/desc.12418 [link to copy: <http://bit.ly/bonny2017DEV>]
- Bonny, J.W.** & Castaneda, L.M. (2016). Impact of the arrangement of game information on recall performance of multi-player online battle arena players. *Applied Cognitive Psychology*, 30(5), 655-826. doi: 10.1002/acp.3234 [link to copy: <http://bit.ly/bonny2016ACP>]
- Lourenco, S. F., **Bonny, J.W.**, & *Schwartz, B.L. (2016). Who wins? Children and adults use physical size and number in third-party judgments. *Frontiers in Developmental Psychology*. doi: 10.3389/fpsyg.2015.02050 [link to copy: <http://bit.ly/bonny2016FRONTIERS>]
- Bonny, J.W.** & Lourenco, S.F. (2015). Individual differences in children's approximations of area correlate with competence in basic geometry. *Learning and Individual Differences*, 44, 16-24. doi: 10.1016/j.lindif.2015.11.001 [link to copy: <http://bit.ly/bonny2015LID>]
- Bonny, J.W.** & Lourenco, S. F. (2013). The precision of nonverbal number representation and its relation to

mathematical ability: Evidence from the preschool years. *Journal of Experimental Child Psychology*, 114, 375-388. doi: 10.1016/j.jecp.2012.09.015 [link to copy: <http://bit.ly/bonny2013JECp>]

Lourenco, S.F., **Bonny, J.W.**, Fernandez, E.P., & *Rao, S. (2012). The precision of number and cumulative area representations contribute shared and unique variance to symbolic math competence. *Proceedings of the National Academy of Sciences*, 109, 18737-18742. doi: 10.1073/pnas.1207212109 [link to copy: <http://bit.ly/bonny2012PNAS>]

Refereed Conference Proceedings

Bonny, J.W. (2018). Preliminary evaluation of a brief team cohesion manikin scale. In *Proceedings of the Human Factors and Ergonomics Society 2018 Annual Meeting* (pp. 747–751). [link to copy: http://bit.ly/bonny_hfes]

Bonny, J.W., Castaneda, L.M., & Swanson, T. (2016). Using an international gaming tournament to study individual differences in MOBA expertise and cognitive skills. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems* (pp. 3473-3484). doi: 10.1145/2858036.2858190 [link to copy: <http://bit.ly/bonny2016CHI>]

Manuscripts in Progress (available upon request)

Bonny, J.W. (in prep.). Synchrony in video game player movement connected to team dynamics.

Bonny, J.W. & Castaneda, L.M. (in prep.). Playing to compete: Multiplayer online battle arena player motivations and connections to social interaction traits.

Grants, Awards, and Honors

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| 2019 | U.S. Army Research Institute for the Behavioral and Social Sciences Basic Research Grant titled “Profiles of Cohesion in Ad-Hoc Teams: Impact of Experience and Psychological Traits” (Early Career Award; \$356,762), competitive |
| 2018 | Division 49 Group Psychology Grant titled “Impact of Experience and Personality Traits on Formation of Cohesion in Ad-Hoc Groups” (\$1,650), American Psychological Foundation, competitive |
| 2018 | Faculty Development Travel Support Award, Morgan State University, competitive |
| 2018 | ASCEND Research Pilot Grant titled “Diverse Stimuli Set to Assess Emotion Recognition in Virtual Environments” (\$49,957), Morgan State University (via NIH parent grant), competitive |
| 2017 | Faculty Enhancement Program Summer Grant Award (\$5,000), Morgan State University, competitive |
| 2017 | ASCEND Course Redesign Award (\$18,000), Morgan State University (via NIH parent grant), competitive |
| 2014 | (2) Naval Innovative Science and Engineering Grants, SSC LANT, competitive |
| 2012 | SMART Scholarship from the Department of Defense |
| 2011 | Student Travel Award, competitive, Society for Research in Child Development |
| 2010 | NSF Graduate Research Fellowship Honorable Mention |

Conference Presentations (Extramural)

*denotes student author

Bonny, J.W. (accepted). *Alignment of member- and observer- reported ratings of team cohesion*. 2021 Society for Personality and Social Psychology Virtual Annual Convention, February 9-13.

Bonny, J.W. (2020). *I want to keep playing with them: Impact of psychological traits and performance on teammate choice*. Annual Meeting of the American Psychological Association, Washington, D.C.

Bonny, J.W. (2020). *Non-symbolic number and size: Evidence of connections from comparison and ordinal processing tasks*. Annual Meeting of the American Psychological Association, Washington, D.C.

Bonny, J.W. (2020, June). *Development of cohesion in newly-formed teams shaped by member personality traits*. 125th Annual Meeting of the Eastern Psychological Association, Boston, MA.

Smith, K.* & **Bonny, J.W.** (2020, June). *The influence of surface-level characteristics on the cohesion of ad-hoc groups*. 125th Annual Meeting of the Eastern Psychological Association, Boston, MA.

Bonny, J.W. & Leventon, I.T. (2019, July). *Influence of dispositional and situational factors on human perceptions of fire risk*. 15th International Conference and Exhibition on Fire Science and Engineering. Egham, UK.

Bonny, J.W., Leventon, I.T., Balci, T. *, Clouse, K.*, & Haines, R.T. (2019, May). *Changes in perceptions of growing fires: Room fires perceived as dangerous prior to requiring protective action*. 31st APS Annual Convention. Washington,

D.C.

- Bonny, J.W.**, Barnes, A.T.*, Gibbs, M.D.*, & McDowell, K.C.* (2019, May). *Picturing facial displays of emotion: Connections between recognition and imitation of complex emotion*. 31st APS Annual Convention. Washington, D.C.
- Bonny, J.W.** (2018, April). *Hand movement enhances 3D non-symbolic number perception*. In *TechMindSociety '18 Proceedings of the APA Technology, Mind, and Society Conference*. Washington, D.C.
- Bonny, J.W.**, Castaneda, L.M., & Swanson, T. (2016, May). *Using an international gaming tournament to study individual differences in MOBA expertise and cognitive skills*. Paper presented at the annual ACM CHI Conference on Human Factors in Computing Systems. San Jose, CA.
- Toups, Z.O. & **Bonny, J.W.** (2014, October). *Measuring team coordination in play: Anticipation ratio and beyond*. Games User Research and Analytics workshop at the ACM SIGCHI Annual Symposium on Computer-Human Interaction in Play (CHI PLAY) 2014. Toronto, Canada.
- Bonny, J. W.** & Lourenco, S.F. (2013, April). *Partial dissociations in cumulative area and number representations in children and adults*. Poster presented at the Biennial meeting of the Society for Research in Child Development. Seattle, WA.
- Bonny, J. W.** & Lourenco, S.F. (2013, April). *Use of physical size and numerical alliances in group dominance across development*. Poster presented at the Biennial meeting of the Society for Research in Child Development. Seattle, WA.
- Bonny, J. W.** & Lourenco, S. F. (2011, October). *Precision of number, size, and cumulative area discriminations in preschoolers*. Poster presented at the Biennial Meeting of the Cognitive Development Society. Philadelphia, PA.
- Bonny, J. W.** & Lourenco, S.F. (2011, July). *General magnitude representation and mathematics: how number and area acuity relate to math ability*. Poster presented at the Annual meeting of the Cognitive Science Society. Boston, MA.
- Bonny, J. W.** & Lourenco, S.F. (2011, April). *Area acuity is correlated with visuo-spatial reasoning in children*. Poster presented at the Biennial meeting of the Society for Research in Child Development. Montreal, Canada.
- Bonny, J. W.** & Lourenco, S.F. (2011, March). *Connections between numerical acuity and specific mathematical skills in preschoolers*. Poster presented at the Biennial meeting of the Society for Research in Child Development. Montreal, Canada.
- Bonny, J. W.**, Skillrud, K.M.*, & Lourenco, S. F. (2010, March). *Cross-modal number matching in young children*. Poster presented at the Biennial Meeting of the International Society of Infant Studies. Baltimore, Maryland.
- Bonny, J. W.** & Lourenco, S. F. (2009, October). *Magnitude acuity and the relation to mathematical skill*. Poster presented at the Biennial Meeting of the Cognitive Development Society. San Antonio, TX.
- Bonny, J. W.** & Lourenco, S. F. (2009, July). *The spatial organization of magnitude information*. Poster presented at the Annual Meeting of the Cognitive Science Society. Amsterdam, Netherlands.
- Henderson, A.M.E., Woodward, A., **Bonny, J. W.**, & Smith, J. (2009, April). *Do nine-month-olds appreciate the shared nature of new linguistic forms?* Poster presented at the Biennial meeting of the Society for Research in Child Development. Denver, CO.
- Bonny, J.W.**, Wallsten, T.S., & Lejuez, C.W. (2008, April). *Does affect make for more optimal behavior on sequential risk tasks?* Poster presented at the Annual Meeting of the National Conference for Undergraduate Research. Salisbury, MD.

Conference Presentations (Intramural)

*denotes student author

- Balci, K.C.*, **Bonny, J.W.** & Perrino, C. (2019, April). *Measuring perception of fire risk using eye tracking*. Morgan State University 26th Annual Undergraduate and Graduate Research Symposium. Baltimore, M.D.
- Clark, S.*, **Bonny, J.W.** & Perrino, C. (2019, April). *The effect of encumbrment on cognitive perception in sports*. Morgan State University 26th Annual Undergraduate and Graduate Research Symposium. Baltimore, M.D.
- Clouse, K.*, **Bonny, J.W.** & Haines, R.T. (2019, April). *Perception of fire: Is it worth the risk?* Morgan State University 26th Annual Undergraduate and Graduate Research Symposium. Baltimore, M.D.

- Balci, K.C.*, **Bonny, J.W.** & Perrino, C. (2019, April). *Measuring perception of fire risk using eye tracking*. 34th Annual Mae P. Claytor Behavioral Science Undergraduate Research Conference. Baltimore, M.D.
- Clark, S.*, **Bonny, J.W.** & Perrino, C. (2019, April). *The effect of encumbrment on cognitive perception in sports*. 34th Annual Mae P. Claytor Behavioral Science Undergraduate Research Conference. Baltimore, M.D.
- Clouse, K.*, **Bonny, J.W.** & Haines, R.T. (2019, April). *Perception of fire: Is it worth the risk?* 34th Annual Mae P. Claytor Behavioral Science Undergraduate Research Conference. Baltimore, M.D.
- McDowell, K.C.*, **Bonny, J.W.** & Haines, R.T. (2019, April). *Young adults' use of space when creating virtual reality art*. 34th Annual Mae P. Claytor Behavioral Science Undergraduate Research Conference. Baltimore, M.D.

Invited Talks

- ready at five (non-profit), School Readiness Symposium, 2018.
University of Maryland, College Park, Department of Department of Human Development and Quantitative Methodology Colloquia Series, 2018.
- Morgan State University, Psychometrics Talk Series, 2016.
- Morgan State University, NIGMS-RISE Program Seminar Series, 2016.
- University of Washington, Design Use Build (DUB) Seminar Series. 2016.
- University of California, Riverside, Department of Psychology, Developmental Brown Bag. 2014.
- Science and Technology Advisory Council Colloquium Series, SSC LANT. 2013.

Press Coverage of Research

- NIST News and Events (2019, July 14). Group Members Participate in the 15th International Conference and Exhibition on Fire Science and Engineering. Retrieved from: <https://www.nist.gov/news-events/news/2019/07/interflam-2019>
- Dolan, E. (2017, February 28). Study finds number processing task predicts improvements in gaming skill. PsyPost. Retrieved from: <http://www.psypost.org/2017/02/study-finds-number-processing-task-predicts-improvements-gaming-skill-47866>
- Mitchell, F. (2016, March 23). New studies from Foundry10 suggest cognitive benefits to playing esports. *The eSports Observer*. Retrieved from: <https://esportsobserver.com/new-studies-foundry10-suggest-cognitive-benefits-playing-esports/>
- Clark, C. (2012, October 24). Higher-math skills entwined with lower-order magnitude sense. *eScience Commons*. Retrieved from: <http://esciencecommons.blogspot.com/2012/10/higher-math-skills-entwined-with-lower.html>

Teaching Experience and Training

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| 2018- | Professor: Cognitive Psychology (Morgan State) |
| 2018- | Professor: Psychology of Exceptional Children (Morgan State) |
| 2018- | Professor: Experimental Psychology I (Morgan State) |
| 2017- | Professor: Learning and Memory (Morgan State) |
| 2017- | Professor: Scientific Methods in Psychology (Morgan State) |
| 2017- | Professor: Psychology Statistics II (Morgan State) |
| 2016- | Professor: Psychology Statistics I (Morgan State) |
| 2016- | Professor: General Psychology (Morgan State) |
| 2015 | Professor: Introduction to Psychology (including distance learning section; SBVC) |
| 2015 | Professor: Introduction to Research Methods (SBVC) |
| 2013 | Instructor: Infancy (Emory University) |
| 2012 | Teaching Assistant: Cognition (Emory University) |
| 2011 | Teaching Assistant: Intro to Psychology (Emory University) |
| 2010 | Teaching Associate: Experimental Methods (Emory University) |
| 2009 | Teaching Assistant: Applied Statistics for Psychology (Emory University) |

Training Completed:

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| 2009 | Teaching Training Workshop (Emory University) |
| 2009 | Teaching Pedagogy Course (Emory University) |

Mentoring

2018-2020	Thesis Student and Undergraduate Research Assistant, Keona Smith (Morgan State)
2018-2019	Undergraduate Research Assistant, Jeneah Jackson (Morgan State)
2018-2019	Undergraduate Research Assistant, Layshel Kemp (Morgan State)
2018-2019	Thesis Student and Undergraduate Research Assistant, Tugba Balci (Morgan State)
2018-2019	Thesis Student and Undergraduate Research Assistant, Sarah Clark (Morgan State)
2018-2019	Thesis Student and Undergraduate Research Assistant, Katherine Clouse (Morgan State)
2018-2019	Thesis Student and Undergraduate Research Assistant, Kaaliyah McDowell (Morgan State)
2017-2019	Undergraduate Research Assistant, Amber Fowler (Morgan State)
2017-2019	Undergraduate Research Assistant, Maya Gibbs (Morgan State)
2018-2019	Undergraduate Research Assistant, Khalia Fernandez (Morgan State)
2018-2019	Undergraduate Research Assistant, Janae Freeman (Morgan State)
2017-2018	Undergraduate Research Assistant, India Harper (Morgan State)
2017-2018	Undergraduate Research Assistant, Rayna Wallace (Morgan State)
2018	Undergraduate Research Assistant, Letisha Vincent (Morgan State)
2018	Summer Undergraduate Research Assistant, Assata Barnes (Morgan State)
2018	Summer Undergraduate Research Assistant, Mercedes Mitchell (Morgan State)
2018	Undergraduate Research Assistant, Markea Carter (Morgan State)
2018	Undergraduate Research Assistant, Tyla Archer (Morgan State)
2017-2018	Undergraduate Research Assistant, Jessica Brown (Morgan State)
2017-2018	Undergraduate Thesis Student, Jonelé Campbell (Morgan State)
2017-2018	Undergraduate Thesis Student, George Ramos (Morgan State)
2016-2018	ASCEND Undergraduate Research Team (Morgan State)
2015	Honors student, Tania Escobedo (SBVC)
2012	Honors student, Bari Schwartz (Emory University)
2010	Honors student, Sonia Rao (Emory University)
2010	Research Assistant, Kirsten Skillrud (Emory University)

Professional Service

2019-2020	New Hire Buddy, Intelligent Systems Branch, JHU/APL
2019-2020	Intern Coordinator Team Member, Intelligent Systems Branch, JHU/APL
2017-2019	Administrator, Department of Psychology Online Participant Pool (Sona Systems), Morgan State University
2017-2019	Member, Psychometrics Graduate Program Admissions Interview Committee, Department of Psychology, Morgan State University
2017-2019	Member, Faculty Workload Committee, Department of Psychology, Morgan State University
2017-2019	Member, Morgan State University Institutional Review Board (IRB)
2017-2019	Member, Department of Psychology Search Committee, Morgan State University
2015	Participant in Division Faculty Meetings (SBVC)
2013-2014	Science and Technology Advisory Council Member (SSC LANT)
2011-2013	"Brainy Days" Outreach (Emory University; introduced topics in neuroscience to elementary school students using hands-on demos)
2011-2013	Member of Ethics Committee (Emory University)
2011-2013	Committee Member of Graduate Research Interdisciplinary Team of Scholars (Emory University)
2011	Graduate Student Council Representative (Emory University)

Ad Hoc Reviewer

ACM CHI Conference on Human Factors in Computing Systems
 American Psychological Association Technology, Mind, Society Conference
 British Journal of Developmental Psychology
 Cyberpsychology, Behavior, and Social Networking
 Developmental Science
 Frontiers in Human Neuroscience
 Journal of Experimental Child Psychology

Affiliations

American Psychological Association, Division 3, Experimental and Cognitive Psychology
American Psychological Association, Division 7, Developmental Psychology
American Psychological Association, Division 8, Society for Personality and Social Psychology
American Psychological Association, Division 21, Applied Experimental and Engineering Psychology
American Psychological Association, Division 49, Society of Group Psychology and Group Psychotherapy
Cognitive Development Society
Cognitive Neuroscience Society
Cognitive Science Society
Society for Personality and Social Psychology
Society for Research in Child Development