**HANNAH M. MERSEAL**

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**EDUCATION**

Ph.D. in Cognitive Psychology, 2024 (in progress)

PENNSYLVANIA STATE UNIVERSITY, University Park, PA

Advisor: Dr. Roger Beaty

Specialization in Cognitive and Affective Neuroscience

Dissertation (in progress): Investigating default and executive control network contributions to bilingual creativity in a novel metaphor production task.

Executive control as the gateway to bilingual creativity: A network neuroscience study

M.S. in Cognitive Psychology, 2021

PENNSYLVANIA STATE UNIVERSITY, University Park, PA

Advisor: Dr. Roger Beaty

Thesis: Assessing temporal constraints on sequence ordering in music improvisation.

B.A. in Music & Psychology, 2019

WHEATON COLLEGE, Norton, MA

Departmental Honors in Music

Thesis: *Be Still in Haste* for the Great Woods Symphony Orchestra

**PUBLICATIONS**

**Merseal, H. M.**, Frieler, K., Weiss, D. J., & Beaty, R. E. (Under revision). Temporal constraints on melodic sequencing in jazz improvisation.

Patterson, J. D., **Merseal, H. M.,** Agnoli, S., Baas, M., Baker, B., Barbot, B., Benedek, M., Chen, Q., Corazza, G. E., Forthmann, B., Karwowski, M., Kreisberg-Nitzav, A., Kenett, Y. N., Link, A., Lubart, T., Mercier, M., Miroshnik, K., Ovando-Tellez, M., Primi, R., Puente-Diaz, R., Said-Metwaly, S., Stevenson, C., Volle, E., van Hell, J. G., & Beaty, R. E. (In press). Multilingual semantic distance: Automatic verbal creativity assessment in many languages. *Psychology of Aesthetics, Creativity, and the Arts.*

Beaty, R. E., Cortes, R. A., **Merseal, H. M.**, Hardiman, M. M., & Green, A. E. (2023, in press). Brain networks for scientific creative thinking: Functional connectivity associated with the generation of original hypotheses. *Psychology of Aesthetics, Creativity, and the Arts.*

Beaty, R. E., **Merseal, H. M.**, & Zeitlen, D. C. (2023, in press). Network neuroscience of domain-general and domain-specific creativity. In L. J. Ball & F. Vallée-Tourangeau (Eds.), *Routledge International Handbook of Creative Cognition*. Taylor & Francis.

**Merseal, H. M.**, Luchini, S., Kenett, Y. N., Knudsen, K., Bilder, R. M., & Beaty, R. E. (2023). Free association ability distinguishes highly creative artists from scientists: Findings from the Big C Project. *Psychology of Aesthetics, Creativity, and the Arts.* https://psycnet.apa.org/doi/10.1037/aca0000545

**Merseal, H. M.**, Beaty, R. E., Kenett, Y. N., Lloyd-Cox, J., de Manzano, Ö, & Norgaard, M. (2023). Representing melodic relationships using network science. *Cognition, 233,* 105362. <https://doi.org/10.1016/j.cognition.2022.105362>

**Merseal, H. M.**, Cortes, R. A., Cotter, K. N., & Beaty, R. E. (2022). Trends in translational creativity research: Introduction to the special issue. *Translational Issues in Psychological Science, 8*(1), 1-5. <https://doi.org/10.1037/tps0000331>

Beaty, R. E., Frieler, K., Norgaard, M., **Merseal, H. M.**, MacDonald, M. C., & Weiss, D. J. (2021). Spontaneous melodic productions of expert musicians contain sequencing biases seen in language production. *Journal of Experimental Psychology: General.* <http://dx.doi.org/10.1037/xge0001107>

Hickey, P., **Merseal, H. M.**, Patel, A. D., & Race, E. (2020). Memory in time: Neural tracking of low-frequency rhythm dynamically modulates memory formation. *NeuroImage,* *213*(1), 1-13. <https://doi.org/10.1016/j.neuroimage.2020.116693>

**MANUSCRIPTS IN PREPARATION**

Luchini, S., **Merseal, H. M.,** Li, Y., & Beaty, R. E. (In prep). Using combined fNIRS/tDCS to investigate left DLPFC contributions to the serial order effect in divergent thinking.

**Merseal, H. M.** & Gilmore, R. O. (In prep). Global open science practices in the context of GDPR: Barriers and opportunities.

**Merseal, H. M.**, Link, A., Beaty, R. E., & van Hell, J. G. (In prep). Validating semantic distance scoring for automated creativity assessment in Spanish.

**Merseal, H. M.**, Link, A., Korenar, M., van Hell, J. G., & Beaty, R. E. (In prep). Triangulating semantic memory structure, divergent thinking ability, and codeswitching behavior in Spanish/English bilinguals.

**RESEARCH EXPERIENCE**

**PhD Candidate**, Pennsylvania State University 2019 – present

Dr. Roger Beaty

Research on *creativity, semantic memory, improvisation, language*

**Research Assistant**, Wheaton College 2017 – 2019

Dr. Katherine Eskine

Research on *creativity, music, older adult populations*

**Research Assistant**, Tufts University 2018

Drs. Aniruddh Patel & Elizabeth Race

Research on *music, neural entrainment, working memory*

**Research Assistant**, University of Connecticut 2017

Dr. Edward Large

Research on *music, neural entrainment*

**PRESENTATIONS**

**Merseal, H. M.** (2023, April 27-28). *Beyond the individual – Quantifying creativity in groups, companies & nations* [Invitational work session; plenary main track]. Cities Summit of the Americas, Denver, CO, United States.

**Merseal, H. M.,** Link, A., Korenar, M., van Hell, J., & Beaty, R. E. (2023, March 24). *Triangulating the Relationship Between Semantic Memory Structure, Divergent Thinking, and Codeswitching Behavior in Spanish/English Bilinguals* [Data blitz session]. Society for the Neuroscience of Creativity meeting, San Francisco, CA, United States.

**Merseal, H. M.** (2022, November 2). *Using Network Science Methods to Study Principles of Music Cognition* [Invited presentation]. Pitch Exploration Lab, Pennsylvania State University, University Park, PA, United States.

**Merseal, H. M.** (2022, August 21). *Biases in Language Production are Reflected in Music Improvisation* [Spoken presentation]. Expression, Language, and Music, Storrs, CT, United States.

**Merseal, H. M.**, Link, A., Korenar, M., Beaty, R. E., & van Hell, J. (2022, August 4-6). *Linking semantic memory structure to creativity in codeswitching bilinguals.* [Division 10 poster session]. American Psychological Association Meeting, Minneapolis, MN, United States.

**Merseal, H. M.,** Patterson, J. D., Agnoli, S., Benedek, M., Chen, Q., Corazza, G. E., Forthmann, B., Karwowski, M., Kenett, Y. N., Miroshnik, K., Ovando-Tellez, M., Puente, R., Said-Metwaly, S., Volle, E., van Hell, J. G., & Beaty, R. E. *Automated creativity assessment around the world: Validating semantic distance across multiple languages.* (2022, May 12-13). [Spoken presentation]. Society for the Neuroscience of Creativity, virtual.

**Merseal, H. M.,** Luchini, S., Kenett, Y. N., Knudsen, K., Bilder, R. M., & Beaty, R. E. (2022, May 12-13). *Free association ability differs in Big-C artists and scientists.* [Poster presentation]. Society for the Neuroscience of Creativity meeting, virtual.

Beaty, R. E., Cortes, R. A., **Merseal, H. M.**, Hardiman, M. M., & Green, A. E. (2022, April 23-26). *Brain networks for scientific creative thinking: Functional connectivity associated with the generation of original hypotheses*. [Poster presentation]. Cognitive Neuroscience Society, San Francisco, United States.

**Merseal, H. M.** (2022, April 4). *Creativity: What we know (And what we don’t)* [Invited presentation]*.* Cross Atlantic Creativity Congress, Salzburg, Austria.

**Merseal, H. M.** (2022, March 29). *Novel and flexible sequential planning in musical improvisation* [Invited presentation]*.* Research Seminar in Systematic Musicology Speaker Series, University of Graz, Austria.

**Merseal, H. M.** (2021, October 13). *Creativity for Good.* Cognitive Psychology Proseminar, Pennsylvania State University, University Park, PA, United States.

**Merseal, H. M.**, Frieler, K., & Beaty, R. (2021, August 12-14). *Assessing cognitive load factors on production biases in expert musical improvisations* [Division 10 poster session]. American Psychological Association Meeting, online.

**Merseal, H. M.** (2021, August 12-14). *Cognitive load factors contributing to use of sequencing biases in music improvisation* [Showcase session]. APA Division 10 Meeting, online.

**Merseal, H. M.**, Beaty, R., Kenett, Y., Lloyd-Cox, J., de Manzano, Ö., & Norgaard, M. (2021, July 28-31). *The Melodicon: Representing Melodic Relationships Using Network Science*. [Spoken presentation]. International Conference on Music Perception and Cognition - European Society for the Cognitive Sciences of Music Joint Meeting, online.

Frieler, K., Beaty, R., Norgaard, M., **Merseal, H. M.**, MacDonald, M., & Weiss, D. (2021, July 28-31). *Spontaneous melodic productions of expert musicians contain sequencing biases seen in language production*. [Spoken presentation]. International Conference on Music Perception and Cognition - European Society for the Cognitive Sciences of Music Joint Meeting, online.

**Merseal, H. M.** (2021, April 17). *Expert music improvisations contain sequencing biases seen in language production* [Poster session]. New England Sequencing and Timing Meeting, online.

**Merseal, H. M.** (2021, March 6–7). *Sequencing Biases in Musical Improvisation* [Poster session]. Future Directions of Music Cognition Meeting, online.

**Merseal, H. M.** (2020, October 22–23). *Sequencing Biases in Musical Improvisation* [Data blitz session]. Society for the Neuroscience of Creativity Meeting, online.

**Merseal, H. M.** (2020, October 7). *Sequencing Biases in Musical Improvisation: Evidence from Large-Scale Corpus Analysis.* Cognitive Psychology Proseminar, Pennsylvania State University, University Park, PA, United States.

**Merseal, H. M.** (2019, November 4). *Production Biases in Musical Improvisation* [Invited presentation]. Pitch Exploration Lab, Pennsylvania State University, University Park, PA, United States.

**TEACHING EXPERIENCE**

Graduate Student Online Teaching Certificate, 2021

Penn State Faculty Development

Lab Instructor, PSYCH301W: Basic Research Methods in Psychology Sp2022

Teaching Assistant, PSYCH256: Introduction to Cognitive Psychology F2020

Teaching Assistant, PSYCH260: Neural Basis of Human Behavior F2019

Teaching Assistant, PSYCH452: Learning and Memory Sp2020

Teaching Assistant, PSYCH455: Advanced Cognitive Neuroscience Sp2020, F2022,

Sp2023

Teaching Assistant, PSYCH490: Senior Seminar, The Creative Brain F2019, Sp2021, F2021, Sp2023

**PROFESSIONAL ACTIVITIES**

**Research Associate,** Imaginator Academy, CU Denver 2022-

**Affiliate,** Center for Socially Responsible Artificial 2022-

Intelligence at Penn State

**Digital Curation Committee**, Society for the Neuroscience of Creativity 2021-

**Research Coordinator**, *ootiboo* 2021-

**Affiliate**, Penn State Center for Language Science 2019-

**Scientist-in-Residence**, Sonophilia Foundation 2021-22

**Graduate Student Liaison,** Penn State Cognitive Psychology 2020-21

**EDITORIAL EXPERIENCE**

Editorial Review Board Member

*Psychology of Aesthetics, Creativity, and the Arts*

Graduate Editorial Review Board Member

*Creativity Research Journal*

Guest Associate Editor, Special Issue on Creativity

*Translational Issues in Psychological Science*

Ad-hoc Reviewer

*Psychological Science; Translational Issues in Psychological Science; Thinking Skills and Creativity; PLOS One*

**HONORS & AWARDS**

Delbert F. and Marie S. Welch Liberal Arts Fellow, Penn State College 2023-24

of Liberal Arts

Sarah A. Burgess Award, Society for the Neuroscience of Creativity 2023

PSU Center for Language Science, Dissertation Seed Grant 2022-24

Fischer Graduate Fellowship, Penn State College of 2022

Liberal Arts

PSU Center for Language Science, Adele Miccio Award 2021-22

PSU Center for Language Science, Seed Funding 2021

*Linking Semantic Networks to Creative Language Use in*

*Codeswitching Bilinguals*

Penn State Institute for Computational and Data Sciences, 2021

Featured Researcher

Division 10 Community Presentation Award (1st Place), 2021

American Psychological Association

Sonophilia Scholarship for Outstanding Young Scientists 2021

in Creativity Research

Rein Centennial Endowed Graduate Fellowship 2021

Robert W. Graham Endowed Graduate Fellowship 2020

Wheaton College Departmental Honors in Music 2019

Phi Beta Kappa Graduate Fellowship 2019

Edna D. Parks Prize in Music Theory, Wheaton College 2019

Garabedian Prize in Music, Wheaton College 2018, 2019

**PROFESSIONAL MEMBERSHIPS**

Society for the Neuroscience of Creativity – Director of Communications, Organizing Committee

American Psychological Association (Division 10) – Member

Society for Music Perception and Cognition – Member

Society for the Neurobiology of Language – Member

Psi Chi Honors Society in Psychology

Phi Beta Kappa