Melissa Thye

POSTDOCTORAL RESEARCH ASSOCIATE

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Interests

RESEARCH

- Semantic Memory
- Social Processing
- Naturalistic Neuroimaging
- Open Science
- Neurodiversity
- Participatory Design & Co-production

TEACHING

- Research Methods
- Developmental Psychology
- Cognitive Neuroscience
- Neuroimaging Study Design & Analysis

Education

2019 - 2023	**Ph.D., Psychology**, *University of Edinburgh*
	• Supervisors: Daniel Mirman & Paul Hoffman
2015 - 2017	**M.A., Lifespan Developmental Psychology**, *University of Alabama at Birmingham*
	• Supervisor: Rajesh Kana
2010 - 2014	**B.S., Psychology** (Summa Cum Laude), *University of Central Florida, Burnett Honors College*
	• Cognitive Sciences Minor

TRAINING

2022 - 2023	**Aurora Leadership Development Initiative**, *Advance HE*
2022	**The Inside of Autism**, Instructor: Kieran Rose
2017	**Certified Scan Operator**, *Siemens MAGNETOM Prisma 3.0T MRI Scanner*
2016	**Multimodal Neuroimaging Training Program**, *Pittsburgh, PA*
	• Diffusion Weighted Imaging Modality, Instructor: Fang-Cheng Yeh
2016	**FreeSurfer Course**, *Boston, MA*
2016	**Associate's Certificate**, *Center for the Integration of Research, Teaching, and Learning*
2015	**Graduate Certificate in Autism Spectrum Disorder**, *University of Central Florida*

Employment

2023 -	**Research Associate in Developmental Cognitive Neuroscience**, *University of Edinburgh*
	• Supervisor: James Boardman
	• Project: PREterm Neurodevelopment and COGnition study (PRENCOG)
2023	**Research Assistant**, Department of Psychology, *University of Edinburgh*
	• Supervisor: Aja Murray
	• Project: Mental Health in the Moment - ADHD
2022	**Human Testing Technician**, Department of Psychology, *University of Edinburgh*
	• Supervisor: Rob McIntosh
	• Project: A Registered Re-examination of Prism Adaptation on Landmark Judgements
2021 - 2022	**Research Assistant**, Department of English Literature, *University of Edinburgh*
	• Supervisors: Patrick Errington & Daniel Mirman
	• Project: Difficulty & Pleasure in the Comprehension of Metaphors using fNIRS
2019 - 2023	**Research Assistant**, *University of Edinburgh*
	• Supervisor: Daniel Mirman
	• Project: Cognitive & Neural Basis of Functional Communication Deficits in Post-Stroke Aphasia

2014 - 2015 **Therapist & Teacher**, *Florida Autism Center, Sanford, FL*

Teaching & Mentoring Experience

2023 **Neuroscience of Language**, Guest Lecturer, *University of Edinburgh*
- Lecture Titles: *What Narratives Reveal about the Neurobiology of Language*
  Language In Autism: Historical Perspectives and Opportunities for the Future

2021 **Research Methods in Cognitive Science**, Guest Lecturer, *Rutgers University*
- Lecture Title: *Using fMRI (and more!) to Study Human Cognition*

2018 **Developmental Psychology**, Course Organiser & Lecturer, *University of Alabama at Birmingham*

2017 **Abnormal Psychology**, Teaching Assistant, *University of Alabama at Birmingham*

2013 - 2014 **Abnormal Psychology**, Teaching Assistant, *University of Central Florida*

Co-Supervision: 4 undergraduate dissertations, 1 MSc dissertation, 5 research assistants

Awards, Fellowships, & Grants

2022 **CAHSS Challenge Investment Fund**, *University of Edinburgh* *£8,600*
- Project: The Neural Basis of Semantic and Social Cognition in Autism
- Role: Key Collaborator

2023 **Research Support Grant**, *University of Edinburgh* *£425*

2022 **Research Support Grant**, *University of Edinburgh* *£460*

2022 **Research Support Grant**, *University of Edinburgh* *£815*

2016 **Civitan Emerging Scholars Fellowship**, *University of Alabama at Birmingham* *$25,000*

2016 **Ireland Research Travel Scholarship**, *University of Alabama at Birmingham* *$1,000*

2015 - 2017 **College of Arts and Sciences Graduate Fellowship**, *University of Alabama at Birmingham* *$32,000*

2014 **Distinguished Undergraduate Researcher Award**, *University of Central Florida*

2010 - 2014 **Florida Academic Scholars Award**, *University of Central Florida*

Publications

Peer Reviewed Publications
* equally contributing authors

Adezati, E.*, Liu, X.*, Ding, J., **Thye, M.**, Szaflarski, J.P., & Mirman, D. (2024). Phase synchronization during the processing of taxonomic and thematic relations. *Brain & Language*.

Murray, A.L., Speyer, L., **Thye, M.**, Stewart, T., Obsuth, I., Kane, J., Whyte, K., Devaney, J., Rohde, L., Ushakova, A., & Rhodes, S. (2023). Illuminating the daily life experiences of adolescents with and without ADHD: Protocol for an ecological momentary assessment study. *BMJ Open*.

Thye, M., Hoffman, P., & Mirman, D. (Accepted In-Principle). The neural basis of naturalistic semantic and social cognition. *Scientific Reports*.

Thye, M., Hoffman, P., & Mirman, D. (2023). The words that little by little revealed everything: Neural response to lexical-semantic content during narrative comprehension. *NeuroImage*. 10.1016/j.neuroimage.2023.120204

McIntosh, R.D., Ten Brink, A.F., Mitchell, A.G., Jones, H., Peng, N., **Thye, M.**, & Bultitude, J.H. (2023). A registered re-examination of the effects of leftward prism adaptation on landmark judgements in healthy people. *Cortex*. 10.1016/j.cortex.2022.11.003

Zevgolatakou, E., **Thye, M.**, & Mirman, D. (2023). Behavioural and neural structure of fluent speech production deficits in aphasia. *Brain Communications*. 10.1093/braincomms/fcac327

Errington, P., **Thye, M.**, & Mirman, D. (2022). Difficulty and pleasure in the comprehension of verb-based metaphor sentences: A behavioral study . *PLOS ONE*. 10.1371/journal.pone.0263781

Adezati, E., **Thye, M.**, Edmondson-Stait, A.J., Szaflarski, J.P., & Mirman, D. (2022). Lesion correlates of auditory sentence comprehension deficits in post-stroke aphasia. *NeuroImage: Reports*. 10.1016/j.ynirp.2021.100076

Thye, M., Geller, J., Szaflarski, J.P., & Mirman, D. (2021). Intracranial EEG evidence of functional specialization for taxonomic and thematic relations. *Cortex, 140*, 40-50. 10.1016/j.cortex.2021.03.018

Thye, M., Szaflarski, J.P., & Mirman, D. (2020). Shared lesion correlates of semantic and letter fluency in post-stroke aphasia. *Journal of Neuropsychology*. 10.1111/jnp.12211

Geller, J., **Thye, M.**, & Mirman, D. (2019). Effects of graded white matter damage and binary tract disconnection on post-stroke language impairment. *NeuroImage, 189*, 248-257. 10.1016/j.neuroimage.2019.01.020

Mirman, D., & **Thye, M.** (2018). Uncovering the neuroanatomy of core language systems using lesion-symptom mapping. *Current Directions in Psychological Science, 27*(6), 455-461. 10.1177/0963721418787486

Thye, M., & Mirman, D. (2018). Relative contributions of lesion location and lesion size to predictions of varied language deficits in post-stroke aphasia. *NeuroImage: Clinical, 20*, 1129-1138. 10.1016/j.nicl.2018.10.017

Goodman, E.S., Boe, L., **Thye, M.**, & Mirman, J.H. (2018). Using community detection analysis to elucidate caregivers' mental models of pediatric concussion symptoms. *Safety, 4*(3), 35. 10.3390/safety4030035

Thye, M.D., Ammons, C.J., Murdaugh, D.L., & Kana, R.K. (2018). Differential recruitment of theory of mind brain network across three tasks: An independent component analysis. *Behavioural Brain Research, 347*, 385-393. 10.1016/J.BBR.2018.03.041

Thye, M.D., Murdaugh, D.L., & Kana, R.K. (2018). Brain mechanisms underlying reading the mind from eyes, voice, and actions. *Neuroscience, 374*, 172-186. 10.1016/J.NEUROSCIENCE.2018.01.045

Thye, M.D.*, Bednarz, H.M.*, Herringshaw, A.J.*, Sartin, E.B.*, & Kana, R.K.* (2018). The impact of atypical sensory processing on social impairments in autism spectrum disorder. *Developmental Cognitive Neuroscience, 29*, 151-167. 10.1016/j.dcn.2017.04.010

Book Chapters

Mirman, D., & **Thye, M.** (2022). Lesion-Based Prediction and Predictive Inference. In: Pustina, D., Mirman, D. (eds) *Lesion-to-Symptom Mapping*, vol 180 (pp. 219-236). Neuromethods, vol 180. Springer, New York, NY. 10.1007/978-1-0716-2225-4_12

Thye, M. (2022). Automated Segmentation — Tools and Examples: LINDA software. In: Pustina, D., Mirman, D. (eds) *Lesion-to-Symptom Mapping*, vol 180 (pp. 317-323). Neuromethods, vol 180. Springer, New York, NY. 10.1007/978-1-0716-2225-4

Thye, M. (2022). Lesion-Symptom Mapping — Tools and Examples: LESYMAP software. In: Pustina, D., Mirman, D. (eds) *Lesion-to-Symptom Mapping*, vol 180 (pp. 337-341). Neuromethods, vol 180. Springer, New York, NY. 10.1007/978-1-0716-2225-4

Under Review

Murray, A.L., **Thye, M.**, Obsuth, I., Cai, S., Liu, M., Orr, C., & Saravanan, A. (*under review*). A narrative review to identify promising approaches for digital health interventions to support emotion regulation for adolescents with ADHD.

Thye, M., Hoffman, P., & Mirman, D. (*under review*). 'All the stars will be wells with a rusty pulley': Neural processing of the social and pragmatic content in a narrative.

Errington, P., **Thye, M.**, Tao, A., & Mirman, D. (*under review*). Individual differences display little effect on the pleasure experienced while reading novelised, verb-based metaphors.

Ding, J., **Thye, M.**, Edmondson-Stait, A., Szaflarski, J.P., & Mirman, D. (*under review*). Convergent validity of connectome-based lesion-symptom mapping in post-stroke aphasia.

Presentations

* presenting author

Thye, M.* (2023, March). *Registered Reports: Why, What, & How*. Research talk at the Open Research Event Series, University of Edinburgh, Edinburgh, UK. **[Talk Materials]**

Thye, M.* (2021, October). *Open Research: What's in it for me?*. Research talk at the Open Research Event Series, University of Edinburgh, Edinburgh, UK. **[Talk Materials]**

Thye, M.* & Kana, R.K. (2017, April). *Characterizing the Heterogeneity in Autism Spectrum Disorder Using Brain Connectivity Underlying Social Cognition*. Invited research presentation at the Civitan International/Simpson-Ramsey Neurodevelopmental Symposium, Birmingham, AL.

SUBMITTED ....

Goodman, A. M.*, Janko, D., Davis, K. E., Pizarro. D., **Thye, M.**, Wang, Z., Magnotti, J. F., & Szaflarski, J. P. (2022). *Auditory Feedback Processing in the Orbitofrontal Cortex*. Poster presented at the Annual Meeting of the American Epilepsy Society, Nashville, TN.

Janko, D.*, Goodman, A. M., Davis, K. E., Magnotti, J. F., Wang, Z., Pizarro, D., **Thye, M.**, & Szaflarski, J. P. (2022). *Comorbid Anxiety is Related to Gamma Frequency Amygdala Response to Fearful Faces*. Poster presented at the Annual Meeting of the American Epilepsy Society, Nashville, TN.

Thye, M.*, Hoffman, P., & Mirman, D. (2022, June). *Activation of Semantic and Social Brain Networks During Auditory Story Comprehension*. Poster presented at the Organization for Human Brain Mapping, Glasgow, UK.

Ding, J.*, **Thye, M.**, Edmondson-Stait, A., Szaflarski, J.P., & Mirman, D.* (2022, June). *A Multiverse Evaluation of Connectome-based Lesion-symptom Mapping in Post-stroke Aphasia*. Poster presented at the Organization for Human Brain Mapping, Glasgow, UK.

Zevgolatakou, E., **Thye, M.**, & Mirman, D.* (2021, October). *A multivariate behavioural and lesion-symptom mapping investigation of the core aspects of fluent speech production*. Platform presentation given at the Academy of Aphasia Meeting (virtual).

Thye, M.*, Szaflarski, J.P., & Mirman, D. (2020, February). *Using intracranial EEG to measure the neural dynamics of language processing*. Research talk at the Language Processing and Representation: Scottish-German Perspectives Workshop, Dundee, UK.

Adezati, E., **Thye, M.**, Szaflarski, J.P., & Mirman, D.* (2021, October). *Lesion Correlates of Auditory Sentence Comprehension Deficits in Post-Stroke Aphasia*. Slide Slam presented at the Society for the Neurobiology of Language Meeting (virtual).

Thye, M.*, Geller, J., Pizarro, D., Szaflarski, J.P., & Mirman, D. (2019, March). *An Intracranial EEG Study of Taxonomic and Thematic Relations*. Poster presented at the Cognitive Neuroscience Society Meeting, San Francisco, CA.

Thye, M.*, Geller, J., Pizarro, D., Szaflarski, J.P., & Mirman, D. (2018, November). *An intracranial EEG Study of Semantic Cognition*. Poster presented at the Psychonomic Society Meeting, New Orleans, LA.

Thye, M.* & Mirman, D. (2018, August). *Relative Contributions of Lesion Location and Lesion Size to Predictions of Varied Language Deficits in Post-Stroke Aphasia*. Poster presented at the Society for the Neurobiology of Language Meeting, Quebéc City, Canada.

Geller, J.*, **Thye, M.**, & Mirman, D. (2018, August). *Effects of Graded White Matter Damage and Binary Tract Disconnection on Post-Stroke Language Impairment*. Poster presented at the Society for the Neurobiology of Language Meeting, Quebéc City, Canada.

Thye, M.* & Kana, R.K. (2017, May). *Characterizing the Heterogeneity in Autism Spectrum Disorder Using Brain Connectivity Underlying Social Cognition*. Poster presented at the International Meeting for Autism Research, San Francisco, CA.

Other Professional Activities

SERVICE AND OUTREACH

2023 - **Assistant Editor (Transparency and Openness Promotion)**, Cortex
2018 - 2019 **Colloquium Coordinator**, Neuroimaging Journal Club, *University of Alabama at Birmingham*
2017 - 2019 **Student Representative**, Developmental Psychology, *University of Alabama at Birmingham*
2016 - 2019 **Brain Awareness Week Volunteer**, McWane Science Center, *Birmingham, AL*
2013 - 2014 **Service Officer**, Psi Chi International Honors Society, *University of Central Florida*
2013 **Student Intern**, Center for Autism & Related Disabilities, *Orlando, FL*

PEER REVIEW

- Journal of Neuroscience
- Imaging Neuroscience
- NeuroImage: Clinical
- Brain and Language
- eNeuro
- Neuropsychologia
- Brain Structure and Function
- Quarterly Journal of Experimental Psychology
- Assistive Technology
- PLoS ONE