Melissa Thye

POSTDOCTORAL RESEARCH ASSOCIATE · CENTRE FOR REPRODUCTIVE HEALTH

49 Little France Crescent, Edinburgh EH16 4SB

✉ m.thye@ed.ac.uk | ⌂ mthye.github.io | mthye | MelissaThye

Interests

RESEARCH

- Semantic Memory
- Narrative Comprehension
- Social Processing
- Naturalistic Neuroimaging
- Neurodiversity
- Open Science

TEACHING

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

Employment

2023 - **Research Associate in Developmental Cognitive Neuroscience**, *University of Edinburgh*
- MRC Programme Grant: PREterm Neurodevelopment and COGnition (PRENCOG)

2023 **Research Assistant**, Department of Psychology, *University of Edinburgh*
- Mental Health in the Moment - ADHD

2022 **Human Testing Technician**, Department of Psychology, *University of Edinburgh*
- A Registered Re-examination of Prism Adaptation on Landmark Judgements

2021 - 2022 **Research Assistant**, Department of English Literature, *University of Edinburgh*
- Difficulty & Pleasure in the Comprehension of Metaphors using fNIRS

2019 - 2023 **Research Assistant**, *University of Edinburgh*
- Cognitive & Neural Basis of Functional Communication Deficits in Post-Stroke Aphasia

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

Education

2019 - 2023 **Ph.D., Psychology**, *University of Edinburgh*
- Title: *Neural basis of semantic processing across comprehension contexts*
- Supervisors: Daniel Mirman & Paul Hoffman

2015 - 2017 **M.A., Lifespan Developmental Psychology**, *University of Alabama at Birmingham*

2010 - 2014 **B.S., Psychology** (Summa Cum Laude), *University of Central Florida, Burnett Honors College*
- Cognitive Sciences Minor

SPECIALIST TRAINING

2017 **MRI Safety & Operation Training**, *Siemens MAGNETOM Prisma 3.0T MRI Scanner*

2016 **Multimodal Neuroimaging Training Program**, *Pittsburgh, PA*
- Diffusion Weighted Imaging Modality, Instructor: Fang-Cheng Yeh, MD, PhD

2016 **FreeSurfer Course**, *Boston, MA*

Teaching & Mentoring Experience

2025 **Specialist Techniques in Cognitive Neuroscience**, Lecturer, *University of Edinburgh*
- Functional Near-Infrared Spectroscopy (fNIRS) Module

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 **Clinical Psychology**, Teaching Assistant, *University of Alabama at Birmingham*

2016 **Associate's Certificate**, *Center for the Integration of Research, Teaching, and Learning*

2013 - 2014 **Psychopathology**, Teaching Assistant, *University of Central Florida*

Supervision: 2 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

Thye, M., Hoffman, P., & Mirman, D. (2024). 'All the stars will be wells with a rusty pulley': Neural processing of the social and pragmatic content in a narrative. *Journal of Cognitive Neuroscience*, 1–23. 10.1162/jocn_a_02228

Thye, M., Hoffman, P., & Mirman, D. (2024). The neural basis of naturalistic semantic and social cognition. *Scientific Reports, 14*, 6796. 10.1038/s41598-024-56897-3

Ding, J., **Thye, M.**, Edmondson-Stait, A., Szaflarski, J.P., & Mirman, D. (2024). Metric comparison of connectome-based lesion-symptom mapping in post-stroke aphasia. *Brain Communications*.

Murray, A.L., **Thye, M.**, Obsuth, I., Cai, S., Liu, M., Orr, C., & Saravanan, A. (2024). A narrative review to identify promising approaches for digital health interventions to support emotion regulation for adolescents with ADHD. *JMIR Mental Health*. psyarxiv/84jfz

Errington, P., **Thye, M.**, Tao, A., & Mirman, D. (2024). Effects of ease of comprehension and individual differences on the pleasure experienced while reading novelized verb-based metaphors. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 46.

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, 249*, 105379. 10.1016/j.bandl.2024.105379

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, 276*, 120204. 10.1016/j.neuroimage.2023.120204

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, 13*, e077222. 10.1136/bmjopen-2023-077222

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, 158*, 139-157. 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,5*(1), fcac327. 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, 17*(2), e0263781. 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, 2*(1), 100076. 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, 15*(1), 143-150. 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

Thye, M., Ding, J., Hoffman, P., & Mirman, D. (*under review*). Functional connectivity of semantic and default mode networks during narrative comprehension.

Thye, M., Hoffman, P., & Mirman, D. (*under review*). Neural correlates of social and thematic semantics in autistic and non-autistic adults.

Zhang, Y., Ding, J., **Thye, M.**, Szaflarski, J.P., & Mirman, D. (*under review*). Decoding semantic category representations across the human brain.

Presentations

Thye, M. (2024, March). *Registered Reports: Why, What, & How*. Research talk at the Open Research Event Series, University of Edinburgh, Edinburgh, UK.

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.

Thye, M., Hoffman, P., & Mirman, D. (2024). *Differential engagement of the anterior temporal lobe in response to semantic and social content in narratives*. Poster presented at the Architectures and Mechanisms for Language Processing Meeting, Edinburgh, UK.

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.

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.

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.

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.

Open Science Tools

fMRI Pipeline

Transparency and Openness Promotion App

Other Professional Activities

TRAINING ....

2022 - 2023 **Aurora Leadership Development Initiative**, *Advance HE*

SERVICE AND OUTREACH ....

2023 - **Scientific Transparency Editor**, *Cortex*
2023 - 2024 **Edinburgh Science Festival Volunteer**, National Museum of Scotland, *Edinburgh, UK*
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
- Neuropsychologia
- eNeuro
- PLoS ONE
- Scientific Reports
- Brain Structure and Function
- Quarterly Journal of Experimental Psychology
- Epilepsy & Behavior Reports
- Assistive Technology

Grant Review: National Science Foundation (NSF) Doctoral Dissertation Research Improvement Proposal