

PhD Candidate
Connecticut Institute for the Brain & Cognitive Sciences
Brain Imaging Research Center
Department of Psychological Sciences
University of Connecticut
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Charles P. Davis

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Summary

I am a cognitive scientist interested in the cognitive and neural bases of semantic memory and its relation to language. Broadly, how do we know what things mean, how does the brain give rise to those meanings, and how does language help us to access and organize those meanings? I use a range of behavioral and neuroimaging techniques to answer these questions. At a meta-scientific level, I am enthusiastic about open, reproducible science, advances in statistical analysis, and data visualization.

Education

PhD, Psychological Sciences , <i>University of Connecticut</i> , Storrs, CT Advisor: Eiling Yee; Committee: Gerry Altmann, James Magnuson, Marie Coppola	Expected 2020
MS, Psychological Sciences , <i>University of Connecticut</i> , Storrs, CT Advisor: Eiling Yee; Committee: Gerry Altmann, James Magnuson, Marie Coppola	2018
Honours BA, Psychology , <i>Brock University</i> , St. Catharines, ON, Canada First-Class Standing; Minor: Philosophy; Concentration in German	2013

Peer-Reviewed Publications

- **Davis, C. P.**, Joergensen, G., Boddy, P., Dowling, C., & Yee, E. (2020). Making it harder to “see” meaning: The more you see something, the more its conceptual representation is susceptible to visual interference. *Psychological Science*. [doi:10.1177/0956797620910748](https://doi.org/10.1177/0956797620910748)
- Botvinik-Nezer, R., Holzmeister, F., Camerer, C. F., Dreber, A. Huber, J., ... **Davis, C. P.**, ... Poldrack, R., & Schonberg, T. (2020). Variability in the analysis of a single neuroimaging dataset by many groups. *Nature*. [doi:10.1038/s41586-020-2314-9](https://doi.org/10.1038/s41586-020-2314-9)
- **Davis, C. P.**, Altmann, G. T. M., & Yee, E. (2020). Situational systematicity: A role for schema in understanding the differences between abstract and concrete concepts. *Cognitive Neuropsychology*. [doi:10.1080/02643294.2019.1710124](https://doi.org/10.1080/02643294.2019.1710124)
- **Davis, C. P.**, Morrow, H. M., & Lupyan, G. (2019). What does a horgous look like? Nonsense words elicit meaningful drawings. *Cognitive Science*. [doi:10.1111/cogs.12791](https://doi.org/10.1111/cogs.12791)
- **Davis, C. P.**, Libben, G., & Segalowitz, S. J. (2019). Compounding matters: The P100 as an index of semantic access to compound words. *Cognition*. [doi:10.1016/j.cognition.2018.12.006](https://doi.org/10.1016/j.cognition.2018.12.006)
- **Davis, C. P.**, & Yee, E. (2019). Features, labels, space, and time: Factors supporting taxonomic relationships in the anterior temporal lobe and thematic relationships in the angular gyrus. *Language, Cognition and Neuroscience*. [doi:10.1080/23273798.2018.1479530](https://doi.org/10.1080/23273798.2018.1479530)

Manuscripts under Review and in Preparation

- **Davis, C. P.** & Yee, E. (under review). Building semantic memory from distributional language and embodied experience. Invited to *WIREs Cognitive Science*.

- **Davis, C. P.**, Healy, R., Joergensen, G. H., Yee, E., & Eigsti, I. M. (in prep). Autism-spectrum traits predict the embodiment of manipulation knowledge about object concepts: Evidence from eye tracking.
- **Davis, C. P.**, Yee, E., & Eigsti, I. M. (in prep). Beyond the social domain: Autism-spectrum traits and the embodiment of manipulable object concepts. Invited to appear in S. L. Macrine & J. Fugate (Eds.), *Movement matters: How embodied cognition informs teaching and learning*.
- **Davis, C. P.**, Paz-Alonso P. M., Altmann, G. T. M., & Yee, E. (in prep). Abstract concepts and the suppression of arbitrary episodic context.
- **Davis, C. P.**, Paz-Alonso P. M., Altmann, G. T. M., & Yee, E. (in prep). Investigating the roles of prefrontal and medial temporal cortex in encoding of arbitrary episodic context with abstract and concrete concepts.
- Ryherd, K., **Davis, C. P.**, Yee, E., & Landi, N. (in prep). The role of language in two systems for category learning.
- Morrow, H. M., Joergensen, G. H., Seng, K., **Davis, C. P.**, & Yee, E. (in prep). The effects of posture and modality on abstract concept processing.

Invited Commentary

- **Davis, C. P.**, Altmann, G. T. M., & Yee, E. (in press). Language as a mental travel guide. Commentary on Above and beyond the concrete: The diverse representational substrates of the predictive brain. To appear in *Behavioral and Brain Sciences*.

Conference Proceedings

- **Davis, C. P.**, Morrow, H. M., De Luca, M., & Lupyan, G. (2020). [The generality and origins of form-to-meaning iconicity](#). In Ravignani, A., Barbieri, C., Martins, M., Flaherty, M., Jadoul, Y., Lattenkamp, E., Little, H., Mudd, K. & Verhoef, T. (Eds.): *The Evolution of Language: Proceedings of the 13th International Conference (EvoLang13)*.
- **Davis, C. P.**, Paz-Alonso P. M., Altmann, G. T. M., & Yee, E. (2019). [Abstract concepts and the suppression of arbitrary episodic context](#). In A. K. Goel, C. M. Seifert, & C. Freksa (Eds.), *Proceedings of the 41st Annual Conference of the Cognitive Science Society* (p. 1592–1598). Montreal, QC: Cognitive Science Society.
- **Davis, C. P.**, Libben, G., & Segalowitz, S. J. (2014). Compounding matters: The P1 as an index of semantic access to compound words. *Psychophysiology*, 51(Suppl 1), S34.

Posters and Presentations

- **Davis, C. P.** & Lupyan, G. (2020, July). The iconicity of random words. Accepted at the 42nd Annual Meeting of the Cognitive Science Society, Toronto, ON, Canada.
- **Davis, C. P.**, Morrow, H. M., De Luca, M., & Lupyan, G. (2020, April). The generality and origins of form-to-meaning iconicity. Accepted at the 13th International Conference on the Evolution of Language, Brussels, Belgium. [Conference cancelled due to COVID-19 outbreak.]
- Heffner, C. C., **Davis, C. P.**, & Myers, E. B. (2019, August). Behavioral and neural correlates of phonetic plasticity. Presented at the 11th Annual Meeting of the Society for the Neurobiology of Language, Helsinki, Finland.
- **Davis, C. P.**, Paz-Alonso P. M., Altmann, G. T. M., & Yee, E. (2019, July). Abstract concepts and the suppression of arbitrary episodic context. Presented at the 41st Annual Meeting of the Cognitive Science Society, Montreal, QC, Canada.
- **Davis, C. P.**, Paz-Alonso P. M., Altmann, G. T. M., & Yee, E. (2019, March). Is arbitrary episodic context suppressed in abstract concepts? Presented at the 26th Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Healy, R., Serino, J., **Davis, C. P.**, Joergensen, G., & Yee, E. (2018, March). Understanding “thunder” is more difficult than “rainbow” when performing an auditory task. Presented at the 25th Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
- **Davis, C. P.**, Paz-Alonso P. M., Altmann, G. T. M., & Yee, E. (2018, March). Encoding of episodic context in abstract and concrete concepts. Presented at the 25th Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.

- **Davis, C. P.**, Joergensen, G., & Yee, E. (2017, November). Silence! An auditory task disrupts processing of auditorily experienced concepts. Presented at the 58th Annual Meeting of the Psychonomic Society, Vancouver, BC, Canada.
- **Davis, C. P.**, Joergensen, G., Boddy, P., Dowling, C., & Yee, E. (2017, November). Get your head out of the clouds: Performing a visual task makes it harder to think about art than music. Presented at the 25th Annual Workshop on Object Perception, Attention, and Memory, Vancouver, BC, Canada.
- **Davis, C. P.**, Libben, G., & Segalowitz, S. J. (2017, March). Why not both? Form and meaning affect early visual processing of compound words. Presented at the 30th Annual CUNY Conference on Human Sentence Processing, Cambridge, MA.
- **Davis, C. P.**, Libben, G., & Segalowitz, S. J. (2016, November). Word concreteness and the processing of compound words. Presented at the 57th Annual Meeting of the Psychonomic Society, Boston, MA.
- Libben, G., **Davis, C. P.**, & Segalowitz, S. J. (2016, February). *Compound words, semantic transparency, and metaphors for morphological representations in the brain*. Presented at International Morphology Meeting 17, Vienna, Austria.
- **Davis, C. P.**, Libben, G., & Segalowitz, S. J. (2014). Compounding matters: The P1 as an index of semantic access to compound words. *Psychophysiology*, 51(Suppl 1), S34.
- **Davis, C. P.**, Libben, G., & Segalowitz, S. J. (2014, September). *Morphological transcendence: Morphemic boundary ambiguity produces conflict at the N4*. Presented at the 9th International Meeting on the Mental Lexicon, Niagara-on-the-Lake, ON, Canada.
- **Davis, C. P.**, Libben, G. & Segalowitz, S. J. (2014, September). *Compounding matters: The P1 as an index of semantic access to compound words*. Presented at the 9th International Meeting on the Mental Lexicon, Niagara-on-the-Lake, ON, Canada.
- Martini, T. S., Capuana, L., Blank, C., **Davis, C. P.**, & Judges, R. (2014, January). *Psychology undergraduates' understanding of skill-based learning outcomes*. Presented at the Annual Meeting of the National Institute for the Teaching of Psychology, Tampa, FL.
- **Davis, C. P.** (2012). *Predicting homosexuality from digit ratios (2D:4D), handedness, and fraternal birth order: A multivariate analysis in men and women*. Undergraduate Honours Thesis, Brock University, St. Catharines, ON, Canada.

Teaching Experience

- Graduate Statistics: Foundations of Research in Psychological Science 2019 – Present
 - Teaching Assistant
- Research in Psychology (University of Connecticut) 2019 – Present
 - Lab Instructor
- Physiological Psychology (Eastern Connecticut State University) 2018
 - Guest Lecturer (Semantic Memory)
- Introductory Psychology (University of Connecticut) 2015 – 2017
 - Lab Instructor
- Psychology of Language (University of Connecticut) 2015 – 2016
 - Teaching Assistant: Grader; Guest Lecturer
- Psychology Students' Transition to Work (Brock University) 2014 – 2015
 - Teaching Assistant: Grader
- Introduction to Psychology (Brock University) 2012 – 2013
 - Teaching Assistant: Seminar Facilitator
- Statistics and Research Design in the Behavioural Sciences (Brock University) 2010 – 2012
 - Teaching Assistant: Tutorial Instructor

Applied Experience

- CT Institute for the Brain and Cognitive Sciences/Brain Imaging Research Center 2017 – 2019
 - Research Assistant in Neuroimaging

- Cactus Communications 2013 – 2019
 - Academic Editor: Second-Language English Editing; Publication Support
- Introduction to Psychology: Gateways to Mind and Behavior (Mitterer and Coon, 2014) 2013 – 2014
 - Copyeditor
- Ontario Brain Injury Association 2011
 - Research and Data Analysis Specialist (summer co-op position)

Awards and Distinctions

- NSF-IGERT Innovation Grant: *Learning a phonologically engineered embodied language system* 2019
- CT Institute for the Brain and Cognitive Sciences IBRAiN Fellowship in Neuroimaging 2017–19
- NSF-IGERT Innovation Grant: *The role of language in two systems for category learning* 2018
- CT Institute for the Brain and Cognitive Sciences Summer Graduate Fellowship 2016–17
- NSERC Ontario Graduate Scholarship (declined offer) 2015
- NSERC Canada Graduate Scholarship (runner-up) 2015
- Brock Scholar's Award 2008–12
- John Lavery Scholarship 2011
- Brock Alumni Honours Scholarship 2011
- Dean's Honours List 2008–13

Service and Activity

Ad-hoc Reviewing

- Cognition
- Cognitive Science
- Journal of Experimental Psychology: General
- Journal of Experimental Psychology: Human Perception and Performance

Professional Affiliations

- Cognitive Neuroscience Society
- Cognitive Science Society
- Psychonomic Society

Students Mentored

- Brandon Strom (BSc, Cognitive Science).
 - Thesis: *The role of context in learning abstract and concrete concepts.*
- Roisin Healy (BSc, Psychological Sciences)
 - Thesis: *The role of autism-spectrum traits in the embodiment of manipulable object concepts.*

Committee Activity

- Department of Psychological Sciences Computer Committee Student Representative 2016 – Present
- Graduate Student Advisory Committee: Representative 2016 – 2019
- UCONN Brain Imaging Research Center High-School Visit Host 2018, 2019
- Eastern Connecticut State University Psychology Club Graduate Panelist 2018
- Department of Psychological Sciences Graduate Colloquium Night Organizer 2018, 2019

- CT Institute for the Brain and Cognitive Science Robust Statistics Workshop Organizer 2016 – 2016
- Expressive Communication and Origins of Meaning Reading Group Coordinator 2016 – 2016
- University of Connecticut IGERT Prospective Student Visit Committee 2016
- University of Connecticut IGERT TalkShop Series Moderator 2015 – 2016

Technical Skills

- R
- Linguistic and behavioral corpora/databases
- fMRI data analysis in AFNI, FSL, Freesurfer
- Human Connectome Project MRI (structural and functional) data processing
- Shell scripting
- Experiment Builder software
- Presentation experiment design software
- PsychoPy experiment design software
- E-Prime experiment design software
- Python
- Qualtrics survey software
- Amazon Mechanical Turk
- Twitter API data analysis
- Natural language processing
- EEG acquisition
- EEG/ERP data analysis in EEGLab (Matlab)
- SPSS