

LEONARD FAUL

Center for Cognitive Neuroscience
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EDUCATION

Anticipated 2023	Duke University Ph.D. in Psychology & Neuroscience Cognitive Neuroscience Admitting Program (CNAP) Advisors: Dr. Kevin LaBar and Dr. Felipe De Brigard
2017	University of Louisville (UofL) B.S. in Psychology and Biology, Chemistry Minor Summa Cum Laude

HONORS AND AWARDS

2021	Charles Lafitte Graduate Research Award, Duke University
2018 - 2022	National Science Foundation Graduate Research Fellowship
2018	Charles Lafitte Graduate Travel Award, Duke University
2017 - 2022	James B. Duke Fellowship
2017	Clay Memorial Biology Scholarship Fund, UofL
2017	Amber M. Heuerman Undergraduate Research Fund Award, UofL
2017	The UofL Woodcock Honorary Society
2017	UofL Honors Scholar
2017	Neuroscience Day Poster Competition Winner, UofL SfN Chapter
2016	UofL Summer Research Opportunity Program
2015	UofL Board of Overseers Mentoring Program
2013 - 2017	Henry Vogt Scholarship, UofL

PUBLICATIONS

- Huang, S.* , **Faul, L.*** , Sevinc, G., Mwilambwe-Tshilobo, L., Setton, R., Lockrow, A., Ebner, N., Turner, G.R., Spreng, R.N. & De Brigard, F. (2021). Age Differences in Intuitive Moral Decision-Making: Associations with Inter-Network Neural Connectivity. *Psychology and Aging*. ***co-first authors**
- Wright, R.N., **Faul, L.**, Graner, J.L., Stewart, G.W., LaBar, K.S. (2021). Psychosocial Determinants of Anxiety About the COVID-19 Pandemic. *Journal of Health Psychology*.
- Faul, L.**, & LaBar, K. S. (2020). Emotional memory in the human brain. In: Carew, T. J. (Ed.), *Oxford Handbook of the Neurobiology of Learning and Memory*. Oxford, UK: Oxford University Press.

- Faul, L.***, Stjepanovic, D.*, Stivers, J.M., Stewart, G.W., Graner, J.L., Morey, R.A., & LaBar, K.S. (2020). Proximal threats promote enhanced acquisition and persistence of reactive fear learning circuits. *Proceedings of the National Academy of Sciences*, *117*(28), 16678-16689. *co-first authors
- Faul, L.***, Knight, L.K.*, Depue, B.E., Jacob, A.E., Kaelin, D.L., Espay, A.J., & LaFaver, K. (2020) Neural activity changes after inpatient rehabilitation for functional movement disorders. *Psychiatry Research: Neuroimaging*, *303*, 111125. *co-first authors
- Faul, L.**, St. Jacques, P.L, DeRosa, J.T., Parikh, N., & De Brigard, F. (2020). Differential contribution of dorsomedial prefrontal and posterior parietal cortices during counterfactual and perspective shifts of episodic autobiographical memories. *NeuroImage*, *215*, 116843.
- Faul, L.**, Fogleman, N.D., Mattingly, K.M., & Depue, B.E. (2019). Inhibitory Control Mediates a Negative Relationship Between Body Mass Index and Intelligence: A Neurocognitive Investigation. *Cognitive, Affective, and Behavioral Neuroscience*, *19*(2), 392-408
- LaFaver, K., **Faul, L.**, Jacob, A., & Depue, B.E. (2018). Neuroimaging of Functional Movement Disorders (FMD) Before and After a Multidisciplinary Rehabilitation Program. American Academy of Neurology, Los Angeles, CA. *Neurology* 90, S30. 006.
- Lyle, K. B., Dombroski, B. A., **Faul, L.**, Hopkins, R. F., Naaz, F., Switala, A. E., & Depue, B. E. (2017). Bimanual coordination positively predicts episodic memory: A combined behavioral and MRI investigation. *Brain and Cognition*, *118*, 71–79.

Under Review/In Preparation

- Faul, L.**, Baumann, M., & LaBar, K. S. (In prep). Imagine That! Examining the Emotional Experience of Imagined Scenarios.
- Faul, L.** & LaBar, K. S. (In prep). Mood-Congruent Memory Revisited.
- Faul, L.** & LaBar, K. S. (In prep). The Effects of Post-Encoding Mood on Long-Term Memory Bias
- Faul, L.** & De Brigard, F. (In prep). The Moderating Effects of Nostalgia on Mood and Optimism During the COVID-19 Pandemic.
- Khoudary, M., O'Neill, K., **Faul, L.**, Murray, S., Smallman, R., & De Brigard, F. (In prep). Neural differences in dispositional versus situational-based counterfactual thoughts.

SELECTED TALKS AND POSTER PRESENTATIONS

- Faul, L.** & De Brigard, F. (2021). *The Moderating Effects of Nostalgia on Mood and Optimism During the COVID-19 Pandemic*. Memory Disorders Research Society Annual Meeting, Virtual
- Faul, L.**, Stivers, J.M., Stjepanovic, D., Stewart, G.W., Graner, J.L., Morey, R.A., & LaBar, K.S. (2021). *Proximal threats promote enhanced acquisition and persistence of reactive fear circuits*. Paper presentation for the European Meeting on Human Fear Conditioning, Virtual

- Wright, R.N., **Faul, L.**, Graner, J.L., Stewart, G.W., LaBar, K.S. (2021). *Psychosocial Determinants of Anxiety About the COVID-19 Pandemic*. Society for Affective Science, Virtual
- Huang, S.* , **Faul, L.*** , Sevinc, G., Mwilambwe-Tshilobo, L., Setton, R., Lockrow, A., Ebner, N., Turner, G.R., Spreng, R.N. & De Brigard, F. (2021). *Age Differences in Intuitive Moral Decision-Making: Associations with Inter-Network Neural Connectivity*. Cognitive Neuroscience Society, Virtual
- Faul, L.** (2020). *Emotional Memories: An Empirical Journey from Consolidation to Reconsolidation (and back again)*. Center for Cognitive Neuroscience, Duke University, Durham, NC
- Faul, L.**, Stivers, J.M., Stjepanovic, D., Stewart, G.W., Graner, J.L., Morey, R.A., & LaBar, K.S. (2019). *Proximal threats promote enhanced acquisition and persistence of reactive fear circuits*. Social and Affective Neuroscience Society, Miami, FL
- Faul, L.**, St. Jacques, P.L., DeRosa, J.T., Parikh, N., De Brigard, F. (2019). *Neural activity associated with counterfactual thinking and perspective shift of autobiographical memories*. Cognitive Neuroscience Society, San Francisco, CA
- Wright, R.N., **Faul, L.**, Hoscheidt, S.M., Adock, R.A., LaBar, K.S. (2019). Reward rescues navigation performance from the impairing effects of stress. Duke Institute for Brain Sciences Distinguished Lecture and Symposium.
- Faul, L.**, Stivers, J.M., Stjepanovic, D., Stewart, G.W., Graner, J.L., LaBar, K.S. (2018). *Proximity to Virtual Threats Modulates Fear Learning and Extinction Networks*. Society for Neuroscience, San Diego, CA. – Nanosymposium on Cortical and Subcortical Mechanisms of Learning and Cognition
- Mattingly, K.M., **Faul, L.**, Depue, B.E. (2018). *Cortical parietal thickness and hippocampal volume are bidirectionally associated with executive function and impulsive externalizing behavior*. Society for Neuroscience, San Diego, CA.
- Faul, L.**, Depue, B.E., Jacob, A.E., Kaelin, D.L., Espay, A.J., LaFaver, K. (2017). *Functional Neuroimaging of Functional Movement Disorders (FMD) Before and After a Rehabilitation Program*. 3rd International Conference on Functional (Psychogenic) Neurological Disorders, Edinburgh, Scotland.
- Faul, L.**, Mattingly, K.M., Depue, B.E. (2017). *Neuroanatomical Substrates Underlying the Relationship Between Body Mass and Cognitive Functioning*. Cognitive Neuroscience Society, San Francisco, CA.
- Faul, L.**, Mattingly, K.M., Depue, B.E. (2016). *The Relationship Between Body Mass, Cognitive Functioning, and Brain Morphometry*. Research!Louisville, University of Louisville, Louisville, KY.
- Faul, L.**, Mattingly, K.M., Depue, B.E. (2016). *Neuroanatomy Underlying Cognitive, Psychological and Physical Behavior*. Summer Research Opportunity Program, University of Louisville, Louisville, KY.
- Faul, L.** (2014). *Diffusion Tensor Imaging in 3D Slicer: Constructing the Corpus Callosum*. Workshop presented to the Department of Psychological and Brain Sciences, University of Louisville, Louisville, KY.

RESEARCH EXPERIENCE

Duke University

- 2018 - present **LaBar Lab, Dr. Kevin LaBar**
Graduate Student
Topics: *fear conditioning; emotion regulation; depression; stress and reward; emotional memory; mood-congruent memory; emotion experience*
- 2018 - present **Imagination and Modal Cognition Lab, Dr. Felipe De Brigard**
Graduate Student
Topics: *memory modification; counterfactual thinking; perspective shift; autobiographical memory; morality; forgiveness; nostalgia*
- 2017 – 2018 **Egner Lab, Dr. Tobias Egner**
CNAP Rotation Student
Topics: *inhibitory control; emotional interference*

University of Louisville

- 2015 – 2017 **NeuroImaging Laboratory of Cognitive, Affective and Motoric Processes (NILCAMP), Dr. Brendan Depue**
Independent Research Student
Topics: *brain morphometry; cognitive function; functional movement disorders; emotion regulation*
- Summer 2016 **Synaptic Organization, Development and Plasticity of Visual Pathways Lab, Dr. Martha Bickford**
Summer Research Scholar
Topics: *retrograde tracing; thalamic reticular nucleus; serial sections reconstruction*
- 2014 – 2016 **Visual Cognition Laboratory, Dr. John Pani**
Independent Research Student
Topics: *DTI tractography; visual learning; neuroanatomy*

MENTORING EXPERIENCE

- 2020 – 2022 Aisha Greene
Undergraduate Senior Thesis Student
Topics: *Neuroimaging meta-analysis on counterfactual thinking. Investigating the relationship between age, morality, and brain morphometry.*

- 2021 – 2022
 Caroline Hanan
 Undergraduate Senior Thesis Student
 Topic: *Phenomenological and neural aspects of autobiographical memory in aging and depression*
- 2019 – 2020
 Sarah Haurin
 Undergraduate Senior Thesis Student
 Summer Neuroscience Program Fellow
 Topic: *Investigating the use of visual perspective shift as an implicit emotion regulation technique*
 Haurin, S., **Faul, L.**, Parikh, N., LaBar, K.S. (2019). *Perspective Shift and Emotional Regulation of Moral Memories*. Poster presented at the Summer Neuroscience Program closing Conference, Durham, NC
- 2020
 Shenyang Huang
 Undergraduate Research Student; CNAP Graduate Student
 Topic: *Age-related differences in moral decision-making and resting-state functional connectivity*
- 2019
 Jason Zhang
 Undergraduate Research Student
 Topic: *Understanding depression through the relationship between stress, serotonin function, and dopamine*

TEACHING EXPERIENCE

- Spring 2021
 PSY 212: Forensic Psychology
 Teaching Assistant for Dr. John Blackshear
Lectured on false memory and eyewitness testimony
- Fall 2020
 PSY 105: Abnormal Psychology
 Teaching Assistant for Dr. Nancy Zucker
Led weekly virtual discussion sections (25 students)
- Spring 2020
 PSY 102: Cognitive Psychology
 Teaching Assistant for Dr. David Rubin
Lectured for two weekly discussion sections (40 students) on the basics of cognitive psychology; created and graded all exams
- Summer 2019
 Teaching Assistant Workshop
 Duke University Psychology and Neuroscience

ACADEMIC SERVICE

2021	Journal Reviewer <i>Cognition</i>
Summer 2021	Duke STAR Program Instructor <i>Lectured on the cognitive neuroscience of human fear conditioning. Developed a live demonstration of fear conditioning and created 3D printed models of the human brain for each student.</i>
Summer 2019	Duke Neuro Camp Instructor <i>Lectured on the basics of MRI data acquisition and analysis. Provided a demonstration of fMRI at the Duke University scanning center.</i>
2018 – 2019	Duke Center for Cognitive Neuroscience Journal Club <i>Organizer</i>
2018	Duke Institute for Brain Sciences (DIBS) Discovery Day <i>Volunteer</i>
2018 – 2019	Cognitive Neuroscience Admitting Program <i>Recruitment Volunteer Coordinator</i>

PAST AND PRESENT PROFESSIONAL AFFILIATIONS

Social and Affective Neuroscience Society (SANS)	Organization for Human Brain Mapping (OHBM)
Cognitive Neuroscience Society (CNS)	Psi Chi International Honor Society for Psychology
Society for Neuroscience (SfN)	

TECHNICAL AND ANALYTICAL SKILLS

Behavioral, psychophysiological, and neuroimaging data collection

Analysis of electrodermal and facial electromyography activity

Neuroimaging preprocessing and analysis, including:

- Psychophysiological interactions and parametric modulation
- Resting-state functional connectivity
- Multivariate techniques (partial least squares, representational similarity analysis)
- Cortical and subcortical gray matter structural analysis
- White matter structural integrity analysis

Mechanical Turk, Prolific, Qualtrics

Bash, Python, MATLAB, JavaScript, R, SPSS