

# THOMAS E. KRAYNAK, MS

210 South Bouquet Street  
Pittsburgh, PA 15260  
tekraynak@pitt.edu

## Primary Research Interests

Neurobiology of Stress, Psychoneuroimmunology, Cardiovascular Disease

## Education

- 2015 – present      Biological and Health Program  
Department of Psychology, University of Pittsburgh  
Advisors: Peter J. Gianaros, PhD, and Anna L. Marsland, PhD  
*In Progress; MS Psychology, 2018*
- 2015 – present      Graduate Training Program  
Center for the Neural Basis of Cognition
- 2007 – 2011        BA Psychology *cum laude*  
Case Western Reserve University
- 2007 – 2011        BM Piano Performance *with Academic Honors*  
Cleveland Institute of Music

## Research Experience and Training Support

- 2015 – present      Graduate Trainee  
Center for the Neural Basis of Cognition
- 2015 – 2018        Graduate Research Fellow  
Cardiovascular Behavioral Medicine Training Program  
Principal Investigators: Karen Matthews, PhD, and Stephen Manuck, PhD  
Department of Psychiatry, University of Pittsburgh
- 2012 – 2015        Research Specialist  
Program in Cognitive Affective Neuroscience  
Supervisor: Greg Siegle, PhD  
Department of Psychiatry, University of Pittsburgh
- 2011 – 2012        Lab Manager and Research Associate  
Affective Neuroscience Lab  
Supervisor: Golnaz Tabibnia, PhD  
Department of Social & Decision Science, Carnegie Mellon University

## Publications

Khalsa, S. S., et al. [including **Kraynak, T. E.**] (2018). Interoception and Mental Health: A Roadmap. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 3, 501–513.

**Kraynak, T. E.**, Marsland, A. L., & Gianaros, P. J. (2018). Neural mechanisms linking emotion with cardiovascular disease. *Current Cardiology Reports*, 20(12), 128.

**Kraynak, T. E.**, Marsland, A. L., Wager, T. D., & Gianaros, P. J. (2018). Functional neuroanatomy of peripheral inflammatory physiology: A meta-analysis of human neuroimaging studies. *Neuroscience & Biobehavioral Reviews*, 94, 76-92.

Ginty, A. T., **Kraynak, T. E.**, Fisher, J. P., & Gianaros, P. J. (2017). Cardiovascular reactivity to psychological stress: Neurophysiological substrates and links to cardiovascular disease. *Autonomic Neuroscience*, 207, 2-9.

Marsland, A. L., Kuan, D. C. H., Sheu, L. K., Krajina, K., **Kraynak, T. E.**, Manuck, S. B., & Gianaros, P. J. (2017). Systemic inflammation and resting state connectivity of the default mode network. *Brain, Behavior, and Immunity*, 62, 162-170.

Price, R. B., Gates, K., **Kraynak, T. E.**, Thase, M. E., & Siegle, G. J. (2017). Data-driven subgroups in depression derived from directed functional connectivity paths at rest. *Neuropsychopharmacology*, 42(13), 2623-2632.

Price, R. B., Lane, S., Gates, K., **Kraynak, T. E.**, Horner, M. S., Thase, M. E., & Siegle, G. J. (2017). Parsing heterogeneity in the brain connectivity of depressed and healthy adults during positive mood. *Biological Psychiatry*, 81(4), 347-357.

Tabibnia, G., Creswell, J. D., **Kraynak, T. E.**, Westbrook, C., Julson, E., & Tindle, H. A. (2014). Common prefrontal regions activate during self-control of craving, emotion, and motor impulses in smokers. *Clinical Psychological Science*, 2(5), 611-619.

### Manuscripts in Progress

Ginty, A. T., **Kraynak, T. E.**, Kuan, D. C. H., & Gianaros, P. J. (Revision Requested). Ventromedial prefrontal cortex connectivity during and after psychological stress.

**Kraynak, T. E.**, Marsland, A. L., Hanson, J. L., & Gianaros, P. J. (Under Peer Review). Systemic inflammation links retrospective reports of childhood physical abuse with resting corticolimbic connectivity in midlife adults.

### Awards and Honors

2019	MacLean Scholar Travel Award for Neuroscience Research Trainees American Psychosomatic Society Annual Meeting
2017	Honorable Mention National Science Foundation Graduate Research Fellowship Program
2016	Travel Award Laureate Institute for Brain Research Interoception Summit
2016	Scholar Award American Psychosomatic Society Annual Meeting
2015	MacLean Scholar Travel Award for Neuroscience Research Trainees American Psychosomatic Society Annual Meeting
2015	Citation Poster Award American Psychosomatic Society Annual Meeting
2014	Student Poster Award Society for Psychophysiological Research 54 <sup>th</sup> Annual Meeting
2014	Outstanding Poster Award, Staff University of Pittsburgh Department of Psychiatry Research Day
2011	Outstanding SAGES Writing Portfolio Award Case Western Reserve University

2007

Eagle Scout

### Conference Presentations

**Kraynak, T. E.**, Marsland, A. L., Hanson, J. L., & Gianaros, P. J. (2019, March). An inflammatory pathway links retrospective reports of childhood physical abuse with resting corticolimbic connectivity in midlife adults. Paper session talk to be presented at the American Psychosomatic Society Annual Scientific Meeting, Vancouver, BC, Canada. \* MacLean Scholar Travel Award

**Kraynak, T. E.**, Marsland, A. L., & Gianaros, P. J. (2017, March). Retrospective recall of childhood abuse and midlife subclinical cardiovascular disease: Cross-sectional and longitudinal associations. Paper session talk presented at the American Psychosomatic Society Annual Scientific Meeting, Seville, Spain.

DeRamus, T. P.\*, **Kraynak, T. E.\***, Roman, C. A.\*, Silva, R. F.\*, Thye, M. D.\*, & Yeh, F.C. (2016, July). Test-retest reliability of white matter pathways in diffusion imaging: Comparing acquisition and reconstruction methods. Presentation for the Multimodal Neuroimaging Training Program Symposium on Cognitive and Affective Neuroscience, Pittsburgh, PA. \* shared first authorship

**Kraynak, T. E.**, Marsland, A. L., Manuck, S. B., & Gianaros, P. J. (2016, March). Circulating interleukin-6 covaries with resting brain network connectivity and topology in midlife adults. Paper session talk presented at the American Psychosomatic Society Annual Scientific Meeting, Denver, CO. \* Scholar Award

**Kraynak, T. E.**, Marsland, A. L., Wager, T. D., & Gianaros, P. J. (2016, March). Functional neuroimaging of human brain-immune interactions: a quantitative meta-analysis. Paper session talk presented at the American Psychosomatic Society Annual Scientific Meeting, Denver, CO.

**Kraynak, T. E.**, Siegle, G. J., Srinath, A. E., Keljo, D. J., Jones, N., Regueiro, M., Szegedy, E. (2014, May). Pain-associated periaqueductal gray resting state functional connectivity in pediatric inflammatory bowel disease. Symposium talk presented at Digestive Disease Week, Chicago, IL.

**Kraynak, T. E.** (2011, February). I Got Rhythm: Research and Treatment in Neurologic Music Therapy. Presentation for the University Hospitals Center for Music and Medicine, Cleveland, OH.

### Conference Posters

DeRamus, T. P.\*, **Kraynak, T. E.\***, Roman, C. A.\*, Silva, R. F.\*, Thye, M. D.\*, & Yeh, F.C. (2016, July). Reproducibility of graph theoretical analysis in structural connectomics. Poster presented at the Multimodal Neuroimaging Training Program Symposium on Cognitive and Affective Neuroscience, Pittsburgh, PA. \* shared first authorship

**Kraynak, T. E.**, Siegle, G. J., & Hall, M. H. (2015, March). Reduced stressor-evoked perigenual anterior cingulate reactivity and functional connectivity in insomnia. Poster presented at the American Psychosomatic Society Annual Scientific Meeting, Savannah, GA.

\* Citation Poster and MacLean Scholar Travel Award

**Kraynak, T. E.**, Collier, A., D'Andrea, W., Hooley, J. M., & Siegle, G. J. (2014, September). Childhood trauma is associated with exaggerated neural reactivity to criticism. Poster presented at the Society for Psychophysiological Research Annual Meeting, Atlanta, GA. \* Student Poster Award

**Kraynak, T. E.** (2011, August). Functional neuroimaging of musical emotions: a review and meta-analysis. Poster presented at the Society for Music Perception and Cognition biennial conference, Rochester, NY.

**Specialized Training**

- 2017 Neurohackweek Summer School for Neuroimaging and Data Science  
University of Washington eScience Institute, Seattle, WA
- 2016 Diffusion Weighted Imaging Module  
Multimodal Neuroimaging Training Program  
Center for the Neural Basis of Cognition, Pittsburgh, PA
- 2013 Matlab Mini-Course  
Center for the Neural Basis of Cognition, Pittsburgh, PA
- 2011 Network Analysis: Functional Connectivity  
Neurometrika, Boston, MA

**Professional Memberships**

American Psychosomatic Society  
Society for Psychophysiological Research

**Ad-Hoc Journal Reviewing**

Annals of the New York Academy of Sciences  
Biological Psychiatry  
Brain, Behavior, and Immunity  
Human Brain Mapping  
Psychophysiology  
Psychosomatic Medicine

**Departmental Memberships**

- 2017 – 2018 Psychology Department Representative  
Dietrich School of Arts & Sciences Graduate Student Organization
- 2011 Student Board Member  
CWRU University Hospitals Center for Music and Medicine
- 2010 – 2011 President and Member  
CWRU Psi Chi Honor Society Executive Board
- 2009 – 2011 Mu Phi Epsilon Honor Society  
Cleveland Institute of Music Chapter

**Additional Research Interests**

Behavioral Medicine  
Cardiovascular Psychophysiology  
Early Life Adversity  
Emotion  
Interoception  
Machine Learning  
Mind-Body Neuroscience  
Network Neuroscience  
Neuroimaging