

Theodore P. Imhoff-Smith

PhD Student, Neuroscience Training Program
School of Medicine and Public Health
University of Wisconsin-Madison

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EDUCATION

University of Wisconsin-Madison Bachelor of Arts in Psychology, Computer Science Certificate	August 2011
University of Illinois at Urbana-Champaign Master of Computer Science (Emphasis in Machine Learning and Statistics)	August 2023
University of Wisconsin-Madison Doctor of Philosophy in Neuroscience <i>Advisor: Vivek Prabhakaran, MD, PhD</i>	Expected 2025

PUBLICATIONS

- Kral, T.R.A., Wang, H.Y., Mitra, V., **Imhoff-Smith, T.P.**, Azemi, E., Goldman, R.I., Rosenkranz, M.A., Wu, S., Chen, A., Davidson, R.J. (2023). Slower respiration rate is associated with higher well-being after wellness training. *Scientific Reports*. doi: <https://doi.org/10.1038/s41598-023-43176-w>
- Imhoff-Smith, T.P.** & Grupe, D.W. (2023). The impact of mindfulness training on PTSD symptoms, subjective sleep quality, and objective sleep outcomes in police officers. *Psychological Trauma: Theory, Research, Practice, and Policy*. doi: <https://doi.org/10.1037/tra0001566>
- Kral, T.R.A., Lapate, R., **Imhoff-Smith, T.P.**, Patsenko, E., Grupe, D.W., Goldman, R.I., Rosenkranz, M.A., & Davidson, R.J. (2022). Long-term meditation training is associated with enhanced subjective attention and stronger posterior cingulate-restrolateral prefrontal cortex resting connectivity. *Journal of Cognitive Neuroscience*. doi: https://doi.org/10.1162/jocn_a_01881
- Goldberg, S., **Imhoff-Smith, T.P.**, Bolt, D.M., Wilson-Mendenhall, C.D., Dahl, C.J., Davidson, R.J., and Rosenkranz, M.A. (2020). Awareness, Connection, and Insight: Testing a multi-component, self-guided, smartphone-based meditation app in a three-armed randomized controlled trial. *Journal of Medical Internet Research Mental Health*. doi: <https://doi.org/10.2196/23825>
- Grupe, D.W., **Imhoff-Smith, T.P.**, Wielgosz, J., Nitschke, J.B., & Davidson, R.J. (2019). A common neural substrate for elevated PTSD symptoms and reduced pulse rate variability in combat-exposed veterans. *Psychophysiology*. doi: <http://doi.org/10.1101/364455>
- Kral, T.R.A., **Imhoff-Smith, T.P.**, Dean III, D.C., Grupe, D.W., Adluru, N., Patsenko, E.G., Mumford, J.A., Goldman, R.I., Rosenkranz, M.A., Davidson, R.J. (2019). Mindfulness-Based Stress Reduction-related changes in posterior cingulate resting brain connectivity. *Social Cognitive and Affective Neuroscience*. doi: <https://doi.org/10.1093/scan/nsz050>

PUBLICATIONS (UNDER REVIEW, SUBMITTED, IN PREP)

Laubacher, C., Kral, T.R.A., **Imhoff-Smith, T.P.**, Klaus, D.R., Goldman, R.I., Sachs, J.F., Davidson, R.J. Busse, W.W., & Rosenkranz, M.A. (under review). Resting state functional connectivity changes following mindfulness-based stress reduction are related to improvements in disease control for patients with asthma.

Imhoff-Smith, T.P., ..., Busse, W., & Rosenkranz, M.A. (in prep). Inflammatory provocation is associated with stress and mood-related changes in salience network resting connectivity.

CONFERENCE PRESENTATIONS

Imhoff-Smith, T.P., Adluru, N., Nair, V.A., Adluru, A., Alexander, A.L., Hermann, B., Struck, A.F., & Prabhakaran, V. (2023, November). Limbic diffusion connectivity and pairwise machine learning classification of three affective phenotypes. Poster accepted for presentation at the annual meeting of the Society for Neuroscience, Washington, DC.

Imhoff-Smith, T.P., Adluru, N., Nair, V.A., Adluru, A., Mathis, J., Nencka, A., Nacewicz, B., Rosenkranz, M., Binder, J., Meyerand, M., Hermann, B., Alexander, A.L., Struck, A.F., McMillan, A., & Prabhakaran, V. (2023, April). Quantifying the relationship between affect and connective diffusion MRI-based connectivity in temporal lobe epilepsy. Poster presented at the annual meeting of the Society of Biological Psychiatry, San Diego, CA.

Kral, T.R.A., **Imhoff-Smith, T.P.**, Lapate, R., Patsenko, E., Grupe, D.W., Goldman, R.I., Rosenkranz, M.A., & Davidson, R.J. (2020, November). Long-term meditation training is associated with stronger posterior cingulate — lateral prefrontal cortex resting connectivity and enhanced attention. Poster presented at the annual meeting of the Mind & Life Institute Contemplative Research Conference, Online.

Imhoff-Smith, T.P., Kral, T.R.A., Grupe, D.W., & Davidson, R.J. (2018, May). MBSR increases PCC-DLPFC resting state functional connectivity relative to active control. Poster presented at the 11th annual meeting of the Social Affective Neuroscience Society, Brooklyn, NY.

Kral, T.R.A., **Imhoff-Smith, T.P.**, Grupe, D.W., & Davidson, R.J. (2018, May). Reduced anxiety and amygdala-sgACC resting state functional connectivity following MBSR. Poster presented at the 11th annual meeting of the Social Affective Neuroscience Society, Brooklyn, NY.

Grupe, D.W., Wielgosz, J., **Imhoff-Smith, T.P.**, Nitschke, J.N., & Davidson, R.J. (2017, May). Respiratory sinus arrhythmia and ventromedial prefrontal function in veterans with posttraumatic stress symptoms. Oral presentation at the 72nd annual convention of the Society of Biological Psychiatry, San Diego, CA.

Imhoff-Smith, T.P., Grupe, D.W., & Davidson, R.J. (2017, March). Parasympathetic tone, PTSD symptom profiles, and phasic heart rate during threat anticipation. Poster presented at the 10th annual meeting of the Social Affective Neuroscience Society, Los Angeles, CA.

Imhoff-Smith, T.P., & Rozek, C.S. (2015, May). The role of emotion regulation in student achievement. Poster presented at the 87th annual meeting of the Midwestern Psychological Association, Chicago, IL.

RESEARCH AND INDUSTRY EXPERIENCE

Department of Radiology, University of Wisconsin - Madison

September 2021 - Present

Graduate Research Assistant

Studying psychiatric correlates of temporal lobe epilepsy and accelerated aging in the Neuroimaging Research Lab. We use novel, state-of-the-art computational methods to map patterns of large-scale brain networks to psychiatric correlates of temporal lobe epilepsy with the aim to understand neurobiological mechanisms of accelerated aging and inform treatment.

Center for Healthy Minds, University of Wisconsin - Madison

June 2015 - August 2021

Researcher

Studied affect, stress, sleep, inflammation and interactions with trauma and asthma. Conducted resting state connectivity, task fMRI, heart rate variability, respiration, and skin conductance analysis. Processed and analyzed heart rate and sleep measures from event-related Fitbit field data. Developed psychophysiology data pipelines in bash, Python, and Matlab. Cleaned and preprocessed MRI, psychophysiology, behavioral, EMA, and self report data.

Study Coordinator

Implemented and supervised day-to-day procedures, screening, data collection, and data quality for an NIH-funded P01 grant. Co-managed training for a team of nine full time core staff and 20+ undergraduate assistants. Assisted the Research Program Manager with regulatory and budgetary tasks.

Data Collector

Collected lab-based neuroimaging, psychophysiological, biological, behavioral, and self-report measures. Managed remote data collection for app-based intervention and Amazon Mechanical Turk studies.

Epic, Madison, WI

June 2012 - June 2015

Pod Lead, Quality Assurance Specialist

Managed and improved quality and process for a team of 17 on the EpicCare Inpatient (Medication Administration Record) application. Coordinated investigations for patient safety escalation across six clinical applications. Conducted usability research and designed usability curriculum for new employees. Led and coordinated cross-team testing of new development.

Department of Psychology, University of Wisconsin - Madison

January 2009 - December 2010

Undergraduate Researcher

Recruited, collected data, coded and entered self-report data for the Harackiewicz lab. Mentored and trained student peers. Analyzed social and individual differences in affective response to interpersonal threat.

FELLOWSHIPS, HONORS, AND AWARDS

Honorable Mention - National Science Foundation Graduate Research Fellowship

March 2020

Nominated to Sigma Xi, scientific research honor society

June 2020

Nominated to Tau Beta Pi, engineering honor society

August 2020

TECHNICAL SKILLS AND EXPERIENCE

Programming: Python, R, Bash, MATLAB, Java, JavaScript, C++, HTML, CSS

Statistical Modeling: Contrastive learning, Generative models (VAEs), Regression

Datatypes: MR Brain imaging, Respiration, Skin conductance, Heart rate

Cloud and Data: Docker, Kubernetes, Spark, Tableau, AWS: S3, EC2, Lambda

PROFESSIONAL AND NON-PROFIT AFFILIATIONS

<i>Society for Neuroscience</i>	2023 - Present
<i>Society of Biological Psychiatry (Trainee Subcommittee of the Education Committee)</i>	2022 - Present
<i>Intentional Mentoring Madison (Board)</i>	2019 - Present
<i>Social and Affective Neuroscience Society</i>	2015 - 2018