# Theodore P. Imhoff-Smith

Research Specialist
Center for Healthy Minds
University of Wisconsin-Madison

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http://timhoffsmith.github.io

## EDUCATION

**University of Wisconsin - Madison**                                            August 2011
    B.A. in Psychology and Computer Science Certificate

**University of Wisconsin - Milwaukee** *(Special Student Coursework)*
    Cognitive Neuroscience                                            Fall 2014
    Cellular and Molecular Neuroscience                              Spring 2015

**University of Illinois at Urbana-Champaign**
    Master of Computer Science (emphasis in machine learning and statistics)        Expected 2021

## PUBLICATIONS

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 OR IN PREP)

Goldberg, S., **Imhoff-Smith, T.P.**, Bolt, D.M., Wilson-Mendenhall, C.D., Dahl, C.J., Davidson, R.J., and Rosenkranz, M.A. (revise and resubmit), 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*.

Kral, T.R.A., **Imhoff-Smith, T.P.**, Lapate, R., Patsenko, E., Grupe, D.W., Goldman, R.I., Rosenkranz, M.A., & Davidson, R.J. (in prep). Long-term meditation training is associated with enhanced attention and stronger posterior cingulate — lateral prefrontal cortex resting connectivity.

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

**Imhoff-Smith, T.P**, Grupe, D.W., & Davidson, R.J. (in prep). Cardiac response to threat and safety: Balance, flexibility, and state dysregulation of the autonomic nervous system in posttraumatic stress.

## CONFERENCE PRESENTATIONS

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 PROFESSIONAL EXPERIENCE

**Center for Healthy Minds, University of Wisconsin - Madison**　　　　　　　June 2015 - Present
*Research Specialist*

**Wisconsin Center for the Neuroscience & Psychophysiology of Meditation**
*Principal Investigators: Richard Davidson, PhD; Melissa Rosenkranz, PhD; Giulio Tonio, PhD*
- Conduct resting state and task fMRI, heart rate, respiration, and skin conductance analysis
- Develop and manage psychophysiology data pipelines in bash, Python, Matlab
- Co-develop processing pipeline for resting state fMRI using bash, FSL, AFNI
- Clean and preprocess MRI, psychophysiology, behavioral, EMA, and self report data
- Collect imaging, psychophysiology, behavioral, and self-report measures
- Implement and supervise day-to-day procedures, screening, data collection, and data quality
- Co-manage training for team of nine full time core staff and 20+ undergraduate assistants
- Assist research program manager with regulatory and budgetary tasks

**Asthmatic Inflammation and Neurocircuitry Activation** and
**Patterns of Neurocircuitry Activation In Severe Asthma**
*Principal Investigator: William Busse, MD*
- Implement pipeline for resting state fMRI using bash, FSL, AFNI
- Develop, preregister, and test hypotheses on resting state fMRI in asthma and inflammation
- Preprocess PET data

**The Impact of Mindfulness-Based Resilience Training on Stress-Related Biological, Behavioral, and Health-Related Outcomes in Law Enforcement Officers**
*Principal Investigator: Dan Grupe, PhD*
- Collect inflammatory, neuroendocrine, physiology, behavioral, and self-report measures
- Clean and preprocess self report data
- Extract and process heart rate and sleep measures from Fitbit field data
- Analyze impact of mindfulness training on PTSD symptoms and sleep quality

**Veterans' Wellness Study**
*Principal Investigator: Dan Grupe, PhD*
- Extract and preprocess dynamic heart rate from BIOPAC data during threat-of-shock task
- Conduct heart rate variability analysis in CMetX and Bash
- Analyze cardiac response to threat of shock in combat-exposed veterans

**Well-Being and the Healthy Minds App**
*Principal Investigators: Melissa Rosenkranz, PhD; Simon Goldberg, PhD*
- Co-author clinicaltrials.gov and OSF registrations on the effectiveness of targeted mental exercises on measures of awareness, connection, and insight
- Test feasibility of large-scale app-based interventions
- Recruit, collect, and preprocess data, guide participants through app-based intervention

**Facets of Mind**
*Principal Investigator: Christy Wilson-Mendenhall, PhD*
- Analyze data quality from Amazon Mechanical Turk studies
- Assist PI with preregistrations and preparations for manuscripts and grant submissions

**Epic, Madison, WI**                                            June 2012 - June 2015
*Quality Assurance Specialist and Pod Lead*

**EpicCare Inpatient - Medication Administration Record**
- Managed and improved quality and process for a team of 17
- 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 on multiple development projects.

**Psychology Department, University of Wisconsin - Madison**
*Undergraduate Researcher*

**Harackiewicz Social Psychology Lab**            January 2009 - December 2010
- Recruited, collected data, coded and entered self-report data
- Mentored and trained student peers

**Independent Research Project**            September 2009 - December 2009
- Analyzed social and individual differences in affective response to interpersonal threat
- Designed, collected, analyzed data, and produced manuscript


## FELLOWSHIPS, HONORS, AND AWARDS

*Honorable Mention - National Science Foundation Graduate Research Fellowship*            March 2020
*Nominated to Tau Beta Pi, engineering honor society*            August 2020
*Nominated to Sigma Xi, scientific research honor society*

## TECHNICAL SKILLS AND EXPERIENCE

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|---|---|
| *Programming:* | Python, R, Bash, MATLAB, Java, JavaScript, C++, HTML, CSS |
| *Statistical Software:* | RStudio, MATLAB, SPSS |
| *Image Processing:* | FSL, AFNI, FreeSurfer, ANTs |
| *Psychophysiology:* | BIOPAC, CMetX, Ledalab, Fitbit API |
| *Data Management:* | REDCap, Qualtrics, COINS |

## PROFESSIONAL AND NON-PROFIT AFFILIATIONS

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|---|---|
| *Social and Affective Neuroscience Society* | May 2015 - Present |
| *Intentional Mentoring Madison (Board and Leadership Team)* | January 2019 - Present |