

Heena R. Manglani, M.A.

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Department of Psychiatry
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EDUCATION

08/15 – 06/22 (Anticipated*)	Ph.D. Candidate, Clinical Psychology The Ohio State University Columbus, Ohio <u>Dissertation</u> : Leveraging multimodal neuroimaging and machine learning to predict processing speed in multiple sclerosis
08/15 – 04/18	M.A. in Clinical Psychology The Ohio State University Columbus, Ohio <u>Thesis</u> : A neural network analysis of sedentary behavior and information processing speed in multiple sclerosis
09/10 – 05/13	B.A. in Psychology, Magna Cum Laude Rutgers University Newark, New Jersey

HONORS & AWARDS

Summer 2020	Summer Teaching Excellence Award
Spring 2019	1 st place Research Presentation, Graduate Student Research Forum
Summer 2019	Summer Teaching Excellence Award
Summer 2018	Summer Research Excellence Award
Summer 2016	College of Social and Behavioral Sciences (SBS) Fellowship
2015-2016	Graduate Fellowship
2012-2013	Honors in Psychology
2012	Dean's Undergraduate Research Fellowship

PEER REVIEWED PUBLICATIONS

Manglani, H.R., Samimy, S., Schirda, B., Nicholas, J. A., & Prakash, R. S. (2020). Four weeks of mindfulness training vs. adaptive cognitive training in multiple sclerosis: Effects on processing speed and working memory. *Neuropsychology*, 34(5), 591. <https://doi.org/10.1037/neu0000633>

Schirda, B., Duraney, E., Lee, H.K., **Manglani H.R.**, Andridge R.R., Plate, A., Nicholas J.A., & Prakash R.S. (2020). Mindfulness Training for Emotion Dysregulation in Multiple Sclerosis: A Pilot Randomized Controlled Trial. *Rehabilitation Psychology*, 65(3), 206. <https://doi.org/10.1037/rep0000324>

Manglani, H.R., Lewis, A.H., Wilson, S.J., and Delgado, M.R. (2017). Pavlovian-to-Instrumental Transfer of Nicotine and Food Cues in Deprived Cigarette Smokers. *Nicotine and Tobacco Research*, 19(6), 670-676. <https://doi.org/10.1093/ntr/ntx007>

MANUSCRIPTS SUBMITTED

Manglani, H.R., Fountain-Zaragoza, S., Shankar, A.J.R., Nicholas, J.A., & Prakash R.S. Employing connectome-based models to predict working memory in multiple sclerosis. *BioRxiv*, 2021.03.01.432930.

<https://doi.org/10.1101/2021.03.01.432930>

Samimy, S., **Manglani, H.R.**, Fountain-Zaragoza, S., Andridge R.R., & Prakash, R.S. Impact of mindfulness training on in-the-moment attentional control and emotion dysregulation in older adults: Secondary analysis of a pilot, placebo-controlled randomized controlled trial. Manuscript submitted for publication.

Fountain-Zaragoza, S., **Manglani, H. R.**, Rosenberg, M. D., Andridge, R., & Prakash, R.S. (2021). Defining a Connectome-Based Predictive Model of Attentional Control in Aging. *BioRxiv*, 2021.02.02.429232.

<https://doi.org/10.1101/2021.02.02.429232>

MANUSCRIPTS IN PREPARATION

Manglani, H.R., Fisher, M.F., Duraney, E.J., Nicholas, J.A., & Prakash R.S. Utility of the NIH toolbox cognition battery in multiple sclerosis. Manuscript in preparation.

Duraney, E.J., Fisher M.F., **Manglani, H.R.**, Andridge, R.R., Prakash, R.S. Impact of Mindfulness Training on Daily Use of Emotion Regulation Strategies in Multiple Sclerosis: Secondary Analysis of a Pilot Randomized Controlled Trial. Manuscript in preparation.

Janssen, A.L., **Manglani, H.R.**, Spielberg, J., Schirda, B., Nicholas, J., Prakash, R.S. Physical activity and working memory correlates in multiple sclerosis. Manuscript in preparation.

ORAL PRESENTATIONS

Manglani, H.R., Fisher, M.F., Duraney, E.J., Nicholas, J.A., & Prakash R.S. (upcoming, October 2021). Utility of the NIH toolbox cognition battery in multiple sclerosis. *Consortium of Multiple Sclerosis Centers*. Orlando, FL.

Manglani, H.R., Pandya, K., Greco, L. (2020). Development of a Diabetes Self-Care Outreach (DiSCO) Program for Bhutanese Nepali Patients. *North American Refugee Health Conference*. Virtual.

Prakash, R.S., **Manglani, H.R.**, Duraney E., Andridge R. (2020). Cognitive Impairment in Multiple Sclerosis: Comparison of MACFIMS with the NIH Cognitive Toolbox. *Consortium of Multiple Sclerosis Centers*. Virtual.

Fountain-Zaragoza, S., **Manglani, H.R.**, Rosenberg, M., Prakash, R.S. (2020). Defining a Connectome-Based Neuromarker of Cognitive Aging. *International Neuropsychological Society*. Denver, CO.

Manglani, H.R., Fountain-Zaragoza, S., Shankar, A., Prakash, R.S. (2019). A Connectome-Based Biomarker of Working Memory in Multiple Sclerosis. *Center for Cognitive and Behavioral Brain Imaging 1st Annual Research Day*. The Ohio State University, Columbus, OH.

Manglani, H.R., Samimy, S., Schirda, B., Lee, K., Prakash, R.S. (2019). Does 4-week cognitive rehabilitation improve processing speed and working memory in MS? Results of mindfulness training vs. adaptive computerized training. *Consortium of Multiple Sclerosis Centers*. Seattle, WA.

Prakash, R.S., **Manglani, H.R.**, Fountain-Zaragoza, S., Shankar, A., Evans, D. (2019). Using connectome-based predictive modeling to derive neuromarkers of cognition in MS. *Consortium of Multiple Sclerosis Centers*. Seattle, WA.

POSTER PRESENTATIONS

Manglani, H.R., Fountain-Zaragoza, S., Rosenberg, M., Prakash, R.S. (2020). Characterizing the Generalizability of an Attention Neuromarker in Healthy Aging. *Organization for Human Brain Mapping*. Montreal, Canada. Rescheduled to virtual.

Manglani, H.R., Fountain-Zaragoza, S., Shankar, A., Prakash, R.S. (2020). A Connectome-Based Biomarker of Working Memory in Multiple Sclerosis. *International Neuropsychological Society*. Denver, CO.

Shankar, A.J.R., **Manglani, H.R.**, Fountain-Zaragoza, S., Evans, D., Prakash, R.S. (2019). Connectome-based predictive modeling of working memory from resting-state functional connectivity in people with multiple sclerosis. *Society for Neuroscience*. Chicago, IL.

Manglani, H.R., Fountain-Zaragoza, S., Prakash, R.S. (2019). Connectome-based predictive modeling of working memory in multiple sclerosis. *Cognitive Neuroscience Society*. San Francisco, CA.

Manglani, H.R., Samimy, S., Schirda, B., Lee, K., Prakash, R.S. (2018). Effects of 4-week mindfulness training vs. adaptive computerized training on cognition in multiple sclerosis. *Sixth Annual Scientific Meeting of the Center for Clinical and Translational Science*. Columbus, Ohio.

Manglani, H.R., Janssen, A., Prakash R.S. (2017). Sedentary Behavior in People with MS: Impact on Cognitive Functioning. *Consortium of Multiple Sclerosis Centers*. New Orleans, LA.

Manglani, H.R., Janssen, A., Prakash R.S. (2017). What does sitting have to do with cognitive function? Sedentary Behavior and Information Processing Speed in Multiple Sclerosis. *Edward F. Hayes Graduate Research Forum*. Columbus, Ohio.

Lewis, A.H., **Manglani, H.R.**, Delgado, M.R. (2016). Neural responses to cigarette and monetary gains and losses in deprived smokers. *Social and Affective Neuroscience Society*. New York, NY.

Speer, M., **Manglani, H.R.**, Kim, E.S., Delgado, M.R. (2016). Reminiscing about positive memories dampens acute stress responses and engages regions associated with emotion regulation. *Social and Affective Neuroscience Society*. New York, NY.

Lewis, A.H., **Manglani, H.R.**, Delgado, M.R. (2015). Neural responses to cigarette and monetary gains and losses in deprived smokers. *Society for Neuroscience*. Chicago, IL.

Speer, M.E., **Manglani, H.R.**, Delgado M.R. (2015). Reminiscing about positive memories buffers acute stress responses and engages the prefrontal cortex. *Society for Neuroscience*. Chicago, IL.

Manglani, H.R., Lewis, A.H., Wilson, S.J., Delgado, M.R. (2015). Pavlovian-to-instrumental transfer of cigarette and food cues during abstinence in smokers. *Social and Affective Neuroscience Society*. Boston, MA.

Lewis, A.H., Smith, D.V., **Manglani, H.R.**, Delgado, M.R. (2015). Neural activation and functional connectivity during extinction learning with appetitive and aversive conditioned stimuli. *Social and Affective Neuroscience Society*. Boston, MA.

Speer, M., **Manglani, H.R.**, Kim, E.S., Delgado, M.R. (2014). Recalling the positive past dampens the physiological response to acute stress. *Society for Neuroscience*. Washington, D.C.

Lewis, A.H., **Manglani, H.R.**, Delgado, M.R. (2013). Neural circuitry underlying extinction learning with appetitive and aversive conditioned stimuli. *Society for Neuroscience*. San Diego, CA.

PRESS INTERVIEWS & ARTICLES

Manglani, H.R. (2019, June 4). Mindfulness meditation may boost cognition in MS. *MDEdge Neurology*. Retrieved from <https://www.mdedge.com/neurology/page/about-mdedge-neurology>.

RESEARCH AND TEACHING EXPERIENCE

2016-2021	Instructor, The Ohio State University, Introduction to Psychology
2013-2015	Lab Manager, The Social and Affective Neuroscience Lab, Rutgers University PI: Mauricio Delgado, Ph.D.
2012-2013	Teaching Assistant, Rutgers University, Introduction to Psychology Prof. Gerard La Morte
2011-2013	Undergraduate Research Assistant, The Social and Affective Neuroscience Lab, Rutgers University PI: Mauricio Delgado, Ph.D.

CLINICAL EXPERIENCE

2018-2020	<p>Neuropsychological Assessment and Rehabilitation of Age-Related Cognitive Decline, The Ohio State University, Columbus, OH Duration: 24 months Setting: Department Psychological Services Center & Virtual Supervisor: Ruchika Prakash, Ph.D.</p> <ul style="list-style-type: none"> Duties included leading eight-week Mindfulness Based Stress Reduction (MBSR) with group-based mindfulness practices including breath awareness, body scan, loving-kindness, mountain meditation, walking meditation, and mindful eating. Delivered instruction on mindful listening and facilitated inquiry of practices. Clients have included older adults with and without mild cognitive impairment.
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2019-2020

Family Medicine Practicum, The Ohio State University Wexner Medical Center, & Department of Family Medicine at Outpatient Care East, Columbus, OH

Duration: 11 months

Setting: Outpatient Primary Care Facility

Supervisor: Laurie, Greco, Ph.D.

- Duties included providing individual psychotherapy using Acceptance and Commitment Therapy (ACT) to diverse patients from low socioeconomic backgrounds, with poor health literacy, and comorbid chronic health conditions.
- Common presentations included anxiety, depression, and trauma in the context of numerous stressors including financial, unemployment, interpersonal, loss of partner/spouse, divorce, injury, medical illness, hospitalization, and legal.
- Co-facilitated group-based chronic pain rehabilitation program using ACT to identify painful thoughts, emotions, and sensations, increase awareness through mindfulness practices, promote psychological flexibility through experiential cognitive defusion exercises, set goals, and promote value-based living.
- In primary care behavioral health integration team, served as mental/behavioral health consultant. Worked with medical doctors, psychiatrists, pharmacists, social workers, and dieticians to implement a holistic approach to health care. Conducted assessment and brief intervention in the Immigrant and Refugee Health Clinic serving individuals from Eritrea, Nepal/Bhutan, and Democratic Republic of Congo. Identified psychological barriers to resettlement and provided short-term psychotherapy.
- Helped to develop the Diabetes and Self-Care Outreach (DiSCO) program for Bhutanese/Nepali patients and family members to promote self-management of diabetes and living a full life with the chronic illness.

2018-2019

Neuropsychology & Rehabilitation Psychology Practicum, The Ohio State University Wexner Medical Center, Department of Physical Medicine & Rehabilitation, Columbus, OH

Duration: 10 months

Setting: Acute Inpatient Rehabilitation Hospital

Supervisors: Tracy Shannon, Psy.D., ABPP-CN, ABPP-RP and Chelsea Kane, Psy.D.

- Duties included reviewing electronic medical records (EPIC), completing bedside intake evaluations, and conducting cognitive testing on medically complex patients on general rehabilitation, traumatic brain injury, stroke, and oncology rehabilitation services. Engaged in treatment planning with multidisciplinary teams including physiatrists, physical therapists, occupational therapists, and speech and language pathologists.
- Neuropsychological duties for outpatient evaluations included conducting clinical interviews, writing integrated reports using results from neuropsychological testing, and curating personalized treatment recommendations using a biopsychosocial approach.
- Common presentations included traumatic brain injury, anoxic brain injury, stroke, multiple sclerosis, Parkinson's disease, NMDA Encephalitis, POTS, and electrical injury. Referral questions included capacity evaluations, differential

diagnosis, and rehabilitative recommendations for driving, employment, and leisure activities.

- Co-led psychoeducation groups for patients in acute recovery from stroke and their family members. In this two-part series, provided psychoeducation on 1) different types of stroke and their risk factors, and 2) health behaviors to maximize recovery in cognitive, psychological, and functional domains.
- Didactics: Participated in weekly neuropsychology didactic presentations on neuroanatomy, neurologic and psychiatric diseases and disorders, neuropsychological assessment, and cognitive rehabilitation.

2017-2018

Behavioral Medicine Practicum, The Ohio State University, Columbus, OH

Duration: 10 months

Settings: Department Psychological Services Center, Medical Center Cardiopulmonary Rehabilitation Program

Supervisor: Charles Emery, Ph.D.

- Duties included conducting clinical interviews on and providing individual therapy to chronically ill clients utilizing a variety of cognitive behavioral interventions including progressive-muscle relaxation and autogenic relaxation.
- Led group-based psychoeducation and progressive muscle relaxation training in individuals with various lung diseases.
- Common presentations included depression, anxiety, and trauma in the context of chronic obstructive pulmonary disease, fibromyalgia, POTS, and substance use.

2016-2017

Cognitive Behavioral Therapy Practicum, The Ohio State University, Columbus, OH

Duration: 10 months

Setting: Department Psychological Services Center

Supervisor: Michael Vilensky, Ph.D.

- Duties included conducting clinical interviews using the Structured Clinical Interview for DSM-5 (SCID-5), writing intake reports, and delivering manualized, evidence-based treatments.
- Common presentations included major depressive, generalized anxiety, social anxiety, illness anxiety, and eating disorders.

PROFESSIONAL DEVELOPMENT

2019

Eighth Annual Midwest Cognitive Science Conference, Columbus, OH

Host: The Ohio State University

Topic: Integrating Neural and Behavioral Data

2017

Multimodal Neuroimaging Training Symposium, Pittsburg, PA

Hosts: University of Pittsburgh, Carnegie Mellon University

Topic: Advances in Health Neuroscience and Multimodal Neuroimaging

LEADERSHIP & SERVICE

2015-present

Mindfulness Meditation Interest Group, The Ohio State University

Title: Executive Board Member
 Role: Lead guided meditation practices.

- 2016-present **Group for Research and Application of Clinical Science, The Ohio State University**
 Title: Executive Board Member
 Role: Facilitate presentations from internal and external guest speakers.
- 2016-present **Center for Cognitive and Behavioral Brain Imaging Student Organization, The Ohio State University**
 Participate in active discussion on advancing neuroimaging methods and analyses.
- 2018, 2019 **MS Wellness Day, The Ohio State University**
 Role: Presented on the role of physical activity and sedentary behavior in day-long workshop on health and wellness.
- 2019 **Humanities and Cognitive Sciences High School Summer Institute**
 Role: Presented to students about neuroimaging methods and opportunities for research in STEM fields.
- 2018 **Fourth Annual Arts and Sciences Campus Campaign Talent Show.**
 Role: Presented TED-style talk on research, mentorship, and the advancement of health psychology.
- 2017, 2018 **National Multiple Sclerosis Society Support Group, Buckeye Chapter**
 Role: Co-led discussions on the role of resilience in coping with multiple sclerosis and implications for quality of life. Led discussion on the impact of anxiety and depression on multiple sclerosis disease management and reviewed evidence-based psychological treatments (e.g., CBT).
- 2016, 2017, 2018 **Walk MS, National Multiple Sclerosis Society, Columbus, Ohio**
 Role: Participated in fundraising walk to support research and treatment of multiple sclerosis.
- 2015, 2016, 2017, 2018 **OSU Scarlet and Gray Multiple Sclerosis Education Day, The Ohio State University**
 Role: Discussed recent research findings on behavioral interventions in MS.
- 2015, 2016, 2017 **Stem Breakfast of Science Champions. The Ohio State University**
 Taught elementary school students basic brain anatomy and provided information about career paths in STEM fields.

PEER REVIEW EXPERIENCE:

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- 2021 Ad Hoc Reviewer, Mindfulness
 2019 Ad Hoc Reviewer, Scientific Reports

PROFESSIONAL AND HONOR SOCIETY MEMBERSHIP

American Psychological Association (APA; graduate student affiliate)
APA Division 40 – Society for Clinical Neuropsychology (graduate student affiliate)
International Neuropsychological Society (graduate student affiliate)
Organization for Human Brain Mapping (graduate student affiliate)

SKILLS

Hindi (fluent), French, Sindhi (verbally proficient), Italian, Spanish (basic)