Heena R. Manglani, Ph.D.

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Department of Psychiatry
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EDUCATION

07/22 – present	T32 Research Fellow in Integrative Medicine, Harvard Medical School Clinical Psychology Fellow, Psychiatry, Massachusetts General Hospital, Boston, MA
07/21 – 06/22	Clinical Fellow in Psychology Harvard Medical School/Massachusetts General Hospital, Boston, MA Elective/Track: Integrated Brain Health Clinical and Research Program
08/15 – 06/22	Ph.D. Candidate, Clinical Psychology The Ohio State University, Columbus, Ohio Dissertation: 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 Thesis: 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

Spring 2022	Credentialing Scholarship from the National Register of Health Service Psychologists
Fall 2021	The John Whitaker Prize from the Consortium of Multiple Sclerosis Centers (CMSC)
2021	Psychology Department 2020-2021 Teaching Excellence Award for Graduate Students
Summer 2020	Summer Teaching Excellence Award
Spring 2019	1st 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 REVIEIWED PUBLICATIONS

Duraney, E.J., Fisher M.F., **Manglani, H.R.**, Andridge, R.R., & Prakash, R.S. (in press). Impact of Mindfulness Training on Daily Use of Emotion Regulation Strategies in Multiple Sclerosis: Secondary Analysis of a Pilot

Randomized Controlled Trial. *Rehabilitation Psychology*.

Prakash, R.S., Fountain-Zaragoza, S., Fisher, M., Gbadeyan, O., Andridge, R., Kiecolt-Glaser, J., **Manglani, H.R.**, Duraney, E.J., Shankar, A., McKenna, M.R., Teng, J., Phansikar, M. & Canter, R. (2022). Protocol for a Mindfulness-Based Stress Reduction Intervention to Improve Behavioral and Neural Markers of Attentional Control in Older Adults (HealthyAgers Trial). *BMC Geriatrics*.

Bannon, S., Grunberg, V.A., **Manglani, H.R.**, Lester, E.G., Ritchie, C., & Vranceanu, AM. (2022). Together from the start: A transdiagnostic framework for early dyadic interventions for neurodegenerative diseases. *Journal of the American Geriatrics Society*. https://doi.org/10.1111/jgs.17801

Manglani, H.R., Fisher, M.F., Duraney, E.J., Nicholas, J.A., & Prakash R.S. (2022). A promising cognitive screener in multiple sclerosis: The NIH toolbox cognition battery concords with gold standard neuropsychological measures. *Multiple Sclerosis Journal*. https://doi.org/10.1177/13524585221088731

Manglani, H. R., Healy, B. C., & Vranceanu, A.M. (2022). Demand with low supply: A pipeline for personalized integrative medicine in multiple sclerosis. *Multiple Sclerosis and Related Disorders*, *58*, 103493. https://doi.org/10.1016/j.msard.2022.103493

Samimy, S., **Manglani, H.R.**, Fountain-Zaragoza, S., Andridge R.R., & Prakash, R.S. (2021). 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. *Aging & Mental Health*, 1–9. https://doi.org/10.1080/13607863.2021.1998348

Manglani, H. R., Fountain-Zaragoza, S., Shankar, A., Nicholas, J. A., & Prakash, R. S. (2021). Employing Connectome-Based Models to Predict Working Memory in Multiple Sclerosis. *Brain Connectivity*. https://doi.org/10.1089/brain.2021.0037

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

Prakash, R.S., **Manglani, H.R.**, Duraney, E.J., Shankar, A., Fisher, M.F., Janssen, A., Cea L., Petosa, R., Andridge, R., & Nicholas, J.A. TRACking Health Behavior in People with Multiple Sclerosis (TRAC-MS): Study Protocol and Description of the Baseline Sample. Manuscript submitted for publication.

MANUSCRIPTS IN PREPARATION

Fountain-Zaragoza, S., **Manglani, H. R.**, Rosenberg, M. D., Andridge, R., & Prakash, R.S. (in prep). 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

Manglani, H. R., Dhamala, E., Shankar, A., Nicholas, J.A., Osher, D., & Prakash R.S (in prep). Leveraging multimodal neuroimaging and machine learning to predict processing speed in multiple sclerosis.

ORAL PRESENTATIONS

Manglani, H.R., Fisher, M.F., Duraney, E.J., Nicholas, J.A., & Prakash R.S. (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.* 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. (2021, November 4). Brief, Automated Cognitive Test May Offer Key Advantages in MS. *Medscape*. Retrieved from http://www.medscape.com/viewarticle/962332.

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 for 7 semesters**

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

2021 – 2022 **Clinical Psychology Fellow**, Integrated Brain Health Clinical and Research Program, Harvard Medical School/Massachusetts General Hospital, Boston, MA
Setting: Department of Psychiatry
Supervisor: Ana-Maria Vranceanu, Ph.D.

Clinical Rotations:

Rotation: *Outpatient Psychotherapy*
Supervisor: Jennifer Burbridge, Ph.D; Audrey Tolman, Ph.D, Ethan Lester, Ph.D.

- Conduct weekly individual evidence-based psychotherapy with patients coping with medical issues (e.g., neurological illness, chronic pain, obesity) and psychological distress
- Deliver the Resiliency for Amyotrophic Lateral Sclerosis (ALS) skills-based program to foster coping in patients with ALS and their caregivers
- Engage in weekly individual and group supervision and seminars (Behavioral Medicine, CBT, Integrative Psychotherapy)

Rotation: *Inpatient Psychiatric Service (Blake 11)*
Supervisor*:* Michelle Stein, Ph.D.

- Provide brief individual evidence-based psychotherapy to patients under acute psychiatric distress (e.g., conduct chain analysis, problem-solve, create safety plan for suicidal ideation)
- Consult on multidisciplinary treatment team during rounds
- Contribute to weekly group supervision and seminars

Rotation: *Integrated Brain Health Clinical and Research Program*
Supervisor: Ana-Maria Vranceanu, Ph.D.

- Deliver manualized dyadic intervention to couples with Acute neurological illness (i.e., stroke, tumor, brain infections, traumatic brain injury) and their caregivers in the Neuroscience Intensive Care Unit (NeuroICU) and post-discharge via virtual sessions
- Lead weekly manualized virtual group- and skills-based intervention for adolescents with Neurofibromatosis
- Conduct qualitative focus groups with individuals post-acquired brain injury to identify facilitators and barriers to recovery
- Participate in weekly individual and group supervision

Rotation: *Internet-Based Cognitive Behavioral Therapy (iCBT) Program*
Supervisor: Susan Spirch, Ph.D.

- Determine eligibility for iCBT and assign appropriate program (i.e., depression and/or anxiety, or COVID-adapted versions).
- Provide bimonthly phone coaching to adults participating in virtual, asynchronous depression and/or anxiety CBT program consisting of 6 modules
- Participate in bi-weekly team supervision

Clinical Trials:
Clinical Trial: *Recovering together: A skills-based program to optimize recovery for patients with acute neurological injuries (ANIs) and their caregivers*

- Multi-phase randomized clinical trial (RCT) utilizing mixed-method design to develop dyadic mind-body intervention for couples with ANI
- Duties include revising intervention manual from pilot study and serving as study clinician to help build dyadic skills including: mindfulness, self-efficacy, coping, interpersonal bond, social support, and self-care.

Clinical Trial: *Resiliency training for adolescents with Neurofibromatosis (NF) via live videoconferencing*

- 8-week virtual group-based RCT for adolescents with NF1 and NF2
- Duties include leading virtual group interventions in both experimental and active control groups

Clinical Trial: *Resiliency after acquired brain injury (ABI): Defining and enhancing biopsychosocial function*

- Mixed-methods (quantitative, qualitative, blood, and fMRI) study that seeks to identify resiliency factors among patients with ABI
- Duties include leading focus groups and contributing to open coding process

*Served as a practicum student in all clinical experiences described below:

2018-2020 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.

- 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.

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:

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)