

Maninderjit Kaur, PT, Ph.D.
Physical Therapy, MGH Institute of Health Professions, Boston
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Education

University of Delaware 2016
Doctor of Philosophy (PhD) in Biomechanics and Movement Sciences

University of Connecticut 2013
Master of Science (MSc) in Kinesiology

Post Grad Institute of Medical Education & Research, India 2009
Bachelor of Physical Therapy (BPhT)

Postdoctoral Training

Vanderbilt University 2016-2018
Psychology & Human Development

Licensure

Physical Therapist, Massachusetts License # PTL27227 2023-present
Physical Therapist, New York License # 042566 2017-2024

Academic Appointment

Associate Professor 2024-present
Physical Therapy Department, MGH Institute of Health Professions

Assistant Professor 2019-2024
Physical Therapy Department, MGH Institute of Health Professions

Clinical Appointments

Junior Physiotherapist 2009-2010
Amarjit Multispecialty Hospital, Jalandhar, Punjab (India)

Clinical Internship 2008-2009
Post Grad Institute of Medical Education & Research, Chandigarh (India)

Honors and Awards

University Graduate Fellows Award, University of Delaware 2015-2016
Lisa Pappanikou Glidden Scholarship, University of Connecticut 2014
Bronze medal, Post Grad Institute of Medical Education & Research (India) 2009
Educational merit scholarship, Guru Amar Dass Public School (India) 2002-2004

Grants

Under Review

NIH R15 2024
Title: Using Visual Instructional Protocol During Standardized Motor Testing of Children with Autism Spectrum Disorder

Total: \$300,000 Role: PI

NIH RO3 2024
Title: Development and Content validation of Pediatric Dizziness Index (PDI) in children and adolescents with concussion
Total: \$80,000 Role: Co-I

Completed

Academy of Pediatric Physical Therapy (Critical Synthesis of Literature) 2021-2022
Title: Early Markers of Motor Delay in ASD during the First Two Years of Life: A Systematic Review
Total: \$2,432 Role: PI

MGH Institute of Health Professions (Special call for COVID Research) 2019-2021
Title: Exploring Practice Patterns of Pediatric Telerehabilitation during COVID-19
Total: \$5,000 Role: PI

LuMind Down Syndrome Foundation 2017-2018
Title: Learning through objects in infants and toddlers with Down syndrome
Total: \$125,000 Role: Co-PI

Vanderbilt University (Discovery Grant) 2017-2019
Title: Learning through objects in infants and toddlers with Down syndrome
Total: \$50,000 Role: Co-I

University of Connecticut (SEEDS Graduate Student Grant) 2014-2015
Title: Creative yoga intervention for children with Autism Spectrum Disorder
Total: \$1,500 Role: PI

Unfunded

Charles Hood Foundation 2024
Title: Social Motor Synchrony: An Integrated Treatment for Teaching Social and Motor Skills to Children with ASD
Total: \$200,000 Role: PI

Foundation of Physical Therapy Research (FPTR) 2023
Title: Visual Accommodation Protocol for Standardized Motor Testing of Children with Autism
Total: \$40,000 Role: PI

Deborah Munroe Noonan Memorial Fund 2022
Title: Visual accommodations during standardized motor testing in Autism Spectrum Disorder
Total: \$160,000 Role: PI

Academy of Pediatric Physical Therapy 2021
Title: Utilization of Physical Therapy Services in Children with Autism Spectrum Disorder
Total: \$30,000 Role: PI

Deborah Munroe Noonan Memorial Fund 2019
Title: Motor-Social Synchrony in Children with Autism Spectrum Disorder
Total: \$160,000 Role: PI

NIH (RO3)

2017

Title: Motor behavior of preschoolers and school-aged children with Down Syndrome (DS)

Total: \$157,000

Role: Co-I

Publications

*First co-authors †Student Advisees

Peer Reviewed Articles:

1. Adams, B., & **Kaur, M.** (2024). Predictors of daily physical activity, screen time, and sleep duration in children with and without Autism Spectrum Disorder (ASD). *Research in Autism Spectrum Disorders*, 115, 102398.
2. **Kaur, M.**, Gochyyev, G., **Tiwari, D.** (2024). Use of Standardized Motor Assessments in Children with Autism Spectrum Disorder: A Meta-Analysis and Systematic Review. *Research in Autism Spectrum Disorder (RASD)*, 110, 102298.
3. Tiwari, D., Allen, M., Schulz, R., Gotts, B., Stewart, C., & **Kaur, M.** (2024). Development and Content Validation of the Pediatric Dizziness Index (PDI). *Curr Pediatr Res*, 28 (7), 2294-2301.
4. Tiwari, D., Naidoo, K., Eddy, E., Chatiwala, N., **Kaur, M.** (2023) Development and validation of the Activities and Participation Children and Adolescents –neck (APCAN) Measure. *Journal of Patient-Reported Outcomes*, 7(1), 107.
5. Kara, N., Baldwin, J., **Kaur, M.** (2023) Early Motor Delays During First Two Years in Autism Spectrum Disorder: A Scoping Review. *Pediatric Physical Therapy*, 36(1), 19-35.
6. **Kaur, M.**, Needham, A. (2023) Performance during Object Retrieval Tasks in Young Children with and without Down Syndrome: A Pilot Study. *Infant and Child Development*.
7. **Kaur, M.**, Eddy, E. Z., & Tiwari, D. (2022). Exploring Practice Patterns of Pediatric Telerehabilitation During COVID-19: A Survey Study. *Telemedicine and e-Health*.
8. **Kaur, M.**, Eigsti, I. M., & Bhat, A. (2021). Effects of a creative yoga intervention on the joint attention and social communication skills, as well as affective states of children with Autism Spectrum Disorder. *Research in Autism Spectrum Disorders*, 88, 101860.
9. Schworer, E., Fidler, D., **Kaur, M.**, Needham, A., Prince, M.A., Daunhauer, L. (2021). Infant Precursors of Executive Function in Down Syndrome. *Journal of Intellectual Disability Research*.
10. **Kaur, M.**, Detherage, A.,† & Needham, A. (2020). Unconventional Tool Use in Infants: Using a Familiar Tool in a Novel Way in the Second Year of Life. *Journal of Cognitive Development*, 54, 100881.
11. Schworer, E., Fidler, D., **Kaur, M.**, Needham, A., Prince, M.A., Daunhauer, L. (2020). Goal-Directed Action Planning in Infants with Down Syndrome. *Journal of Intellectual Disability Research*.
12. **Kaur, M.** & Bhat, A. (2019). Creative yoga improves motor and imitation skills of children with autism spectrum disorder. *Physical Therapy*, 99(11), 1520-1534.
13. ***Kaur, M.**, *Srinivasan, S., & Bhat, A. (2018). Comparing motor performance, praxis, coordination, and interpersonal synchrony between children with and without Autism Spectrum Disorder (ASD). *Research in Developmental Disabilities*, 72, 79-95.
14. Van Etten, H. M., **Kaur, M.**, Srinivasan, S. M., Cohen, S. J., Bhat, A., & Dobkins, K. R. (2017). Increased Prevalence of Unusual Sensory Behaviors in Infants at Risk for, and Teens with, Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 1-15.
15. **Kaur, M.**, Srinivasan, S., & Bhat, A. (2015). Atypical object exploration in infants at-risk for autism during the first year of life. *Frontiers Psychology*, 6.

16. Srinivasan, S., **Kaur, M.**, Park, I., Gifford, T., Marsh, K., & Bhat, A. (2015). The effects of rhythm and robotic interventions on the imitation/praxis, interpersonal synchrony, and motor performance of children with Autism Spectrum Disorder (ASD). A pilot randomized controlled trial. *Autism Research and Treatment*.
17. **Kaur, M.**, Gifford, T., Marsh, K. L., & Bhat, A. (2013). Effects of robot-child interactions on the bilateral coordination skills of typically developing children and a child with autism: Preliminary study. *Journal of Motor Learning and Development*, 1, 31-37.

Non-Peer Reviewed Articles:

18. **Kaur, M.** (2016). Creative Yoga Intervention for children with Autism Spectrum Disorders. Doctoral Dissertation submitted to University of Delaware.
19. **Kaur, M.** (2013). The effects of robot-child interactions on the bilateral coordination skills of typically developing children between 4 and 11 years of age. Masters' Thesis submitted to University of Connecticut.
20. Gifford, T., Srinivasan, S., **Kaur, M.**, Dotov, D., Wanamaker, C., Dressler, G., ... & Bhat, A. (2011). Using robots to teach musical rhythms to typically developing children and children with autism. *University of Connecticut*.

Online materials:

1. Study: For Children With Autism, Yoga Improves Motor Skills, May Buffer 'Cascading' Effects. Retrieved from <https://www.apta.org/news/2019/11/27/study-for-children-with-autism-yoga-improves-motor-skills-may-buffer-cascading-effects>. Published Nov 27, 2019. APTA

Peer Reviewed Presentations and Abstracts:

1. Tiwari, D., Mariah, A., Schulz, R., Gotts, B., Stewart, C., **Kaur, M.** Development and content validation of the Pediatric Dizziness Index (PDI). 13th World Congress of Neurorehabilitation, Vancouver, Canada, May 22-25, 2024.
2. Tiwari, D., Mariah, A., Schulz, R., Gotts, B., Stewart, C., **Kaur, M.** Development and content validation of the Pediatric Dizziness Index (PDI). Brain Injury Association of Massachusetts 42nd annual conference, Marlboro, MA, March 27-28.
3. Tiwari, D., Naidoo, K., Chatiwala, N., **Kaur, M.**, Eddy, E. Z. Development and validation of the activities and participation children and adolescents –neck (APCAN) measure ACRM 2023, Atlanta. Oct 30-Nov 2, 2023.
4. **Kaur, M.**, Gochyyev, Tiwari, D. Review of Standardized Motor Assessments in Children with Autism Spectrum Disorder. Presented at APTA's *Combined Sections Meeting (CSM)*, 2024.
5. **Kaur, M.**, Adams, B. Lifestyle Behaviors (Physical Activity, Screen Time, Sleep) of Children with Autism Spectrum Disorder. Presented at APTA's *Combined Sections Meeting (CSM)*, 2024.
6. Adams, B., Cheung, E.,[†] Andrada, K.,[†] Erana, A.,[†] **Kaur, M.** Biopsychosocial Determinants of Obesity in Children with Autism Spectrum Disorder. Presented at APTA's *Combined Sections Meeting (CSM)*, 2024.
7. Tiwari, D., Naidoo, K., Chatiwala, N., Eddy, E., **Kaur, M.** Development and Validation of the Activities and Participation Children and Adolescents – Neck (APCAN) Measure. Presented at APTA's *Combined Sections Meeting (CSM)*, 2024.
8. Danforth, C., **Kaur, M.**, Mohanty, S., Needham, A. (2023). An exploration of social imitation as a visual aid for children with Down syndrome during a drumming task. Presented at 54th Annual Gatlinburg Conference.
9. Kara, N., Baldwin, J., **Kaur, M.** (2023). Early Motor Delays During First Two Years in Autism Spectrum Disorder: A Scoping Review. Presented at APTA's *Combined Sections Meeting (CSM)*, 2023.

10. **Kaur, M.**, Flores, G.,[†] Malloy, K.,[†] Vu, M.,[†] Needham, A. (2022). Object Play in Children with and without Down Syndrome. Accepted for APTA's CSM, 2022.
11. **Kaur, M.**, Eddy, E. Z., Tiwari, D. (2021). A Survey of Physical Therapists and Occupational Therapists to Explore Practice Patterns of Pediatric Telerehabilitation during COVID-19. Oral presentation at 98th American Congress of Rehabilitation Medicine (ACRM) Conference.
12. **Kaur, M.**, Eddy, E. Z., Tiwari, D. (2021). Exploring Practice Patterns of Pediatric Telerehabilitation during COVID – A Survey Study. 2021 Institute co-sponsored by LeaRRn and CoHSTAR.
13. **Kaur, M.**, McCrea, S.,[†] Sweet, L.,[†] Leung, V.,[†] Martella, A.,[†] Needham, A. (2020). Object Play in Children with and without Down Syndrome. CSM of APTA, 2020.
14. **Kaur, M.** & Needham, A. (2019). Object exploration in infants with and without Down Syndrome. Symposium Presentation at 52nd Annual Gatlinburg Conference.
15. Detherage, A., **Kaur, M.**, & Needham, A. (2018). Supporting Infants' Tool Use by Constraining Their Initial Grasp of the Tool. Oral Presentation at *International Society on Infant Studies (ICIS) 2018*.
16. **Kaur, M.**, Needham, A. (2019). Kinematic assessment of reaching movements in school-going children with Down Syndrome. 52nd Annual Gatlinburg Conference.
17. Srinivasan, S., **Kaur, M.**, Wanamaker, C., Gifford, T., Marsh, K., Bhat, A. (2019). Using mobile robots to facilitate academic skills in children with ASD. *International Meeting for Autism Research (IMFAR 2019)*.
18. Halligan, T.,[†] **Kaur, M.**, Hirtle, J., Needham, A. (2018). Exploration of familiar and unfamiliar tools in the first year of life. *ICIS 2018*.
19. Bakshipour, E., **Kaur, M.**, Izadi-Najafabadi, S., Srinivasan, S., & Bhat, A. N. (2016). Comparing Motor Abilities Using a Standardized Clinical Assessment (BOT-2) and Parent Report Questionnaires (MABC-2 and DCDQ) in children with Autism Spectrum Disorder (ASD). *IMFAR 2016*.
20. Van Etten, H., **Kaur, M.**, Srinivasan, S., Bhat, A., & Dobkins, K. (2016). Infants at risk for Autism show elevated unusual sensory behaviors. *ICIS 2016*.
21. **Kaur, M.**, Srinivasan, S., & Bhat, A. (2015). Sensory responsiveness in infants at-risk for Autism Spectrum Disorder (ASD) within the first 2 years of life. *IMFAR, 2015*.
22. Srinivasan, S., Nguyen, T., **Kaur, M.**, & Bhat, A. (2015). Differences in Means-End Exploration Between Infants at Risk for Autism and Typically Developing Infants in the first 15 months of life. *IMFAR, 2015*.
23. Reiss, M., Srinivasan, S., **Kaur, M.**, & Bhat, A. (2015). The effects of embodied rhythm and robotic interventions on the repetitive and negative behaviors of children with Autism between 5 and 12 years of age. *IMFAR, 2015*.
24. Korgaonkar, C., Srinivasan, S., O'Hara, C., **Kaur, M.**, Gifford, T., & Bhat, A. (2015). The effects of robot-child interactions on the social attention and verbalization skills of children with Autism between 5 and 12 years of age. *IMFAR, 2015*.
25. **Kaur, M.**, Srinivasan, S., Park, I., Harris, A., Sandbank, M., & Bhat, A. (2014) Differences in object exploration skills between infants at risk for autism and typically developing infants in the first 15 months of life. *ICIS and IMFAR, 2014*.
26. **Kaur, M.**, Srinivasan, S., Bhat, A. (2014) Parental perceptions of early communication, motor, social, and cognitive development in infants at risk for autism between 9 and 18 months of age. Poster accepted at *ICIS, 2014*.
27. Park, I., Srinivasan, S., **Kaur, M.**, Desrosiers, A., Gifford, T., Neelly, L., & Bhat, A. (2014) The effects of rhythm & robot interventions on the solo and social synchrony of children with Autism Spectrum Disorders (ASDs). *IMFAR, 2014*.
28. Park, I., Srinivasan, S., **Kaur, M.**, Gilewska, D., & Bhat, A. (2014) The effects of rhythm and robot interventions on the affective states of children with Autism Spectrum Disorders (ASDs). *IMFAR, 2014*.

29. Tran, L., Srinivasan, S., **Kaur, M.**, & Bhat, A. (2014). Comparing perceptuo-motor and communication development in at-risk infants who later showed development delays. *IMFAR, 2014*.
30. Srinivasan, S., Tran, L., **Kaur, M.**, & Bhat, A. (2014). Object sharing and locomotor development in infants at risk for Autism and typically developing infants in the first 15 months of life. *IMFAR, 2014*.
31. **Kaur, M.**, Srinivasan, S., Mhadeshwar, A., Gifford, T., White, M., Brooks, L., Marsh, K., Bubela, D., Bhat, A. (2012). The Effects of Robot-Child Interactions on Social Synchrony in Typically Developing Children between 4 to 8 years of age. *IMFAR, 2012*.
32. **Kaur, M.**, Harris, A., Srinivasan, S., & Bhat, A. (2012). Differences in Object Exploration Skills between Infants At-Risk for Autism and Typically Developing Infants in the first 12 months of life. *ICIS, 2012*.
33. Cha, E., Srinivasan, S., **Kaur, M.**, Mhadeshwar, A., & Bhat, A. (2012). Object Sharing skills in typically developing infants in the first 15 months of life: Implications for infants at risk for Autism. *ICIS, 2012*.
34. Srinivasan, S., **Kaur, M.**, Mhadeshwar, A., Gifford, T., White, M., Brooks, L., Marsh, K., Bubela, D., Bhat, A. (2012). The Effects of Robot-Child Interactions on Drumming Synchrony in Typically Developing Children between 4 to 8 years of age. *IMFAR, 2012*.
35. Srinivasan, S., **Kaur, M.**, Mhadeshwar, A., Gifford, T., & Bhat, A. (2012). The Effects of Robot-Child Interactions on Joint Attention and Verbalization Patterns in Typically Developing Children between 4 to 8 years of age. *IMFAR, 2012*.
36. **Kaur, M.**, Srinivasan, S., Palatinus, K., Menacherry, P., Mhadeshwar, A., Gifford, T., Marsh, K. & Bhat, A. (2011). Intra- and inter-personal synchrony in typically developing children and children with ASD/ADHD. *IMFAR, 2011*.

Invited Presentations:

1. **Kaur, M.** (2020). Novel movement-based interventions for children with Autism Spectrum Disorder (ASD). Pediatric SIG Talk organized by APTA MA chapter.
2. Needham, A. & **Kaur, M.** (2018). Improving Learning in Infants with Down Syndrome. Online Webinar organized by LuMind RDS, Marlborough, MA.
3. **Kaur, M.** (2016). Novel movement-based interventions for children with Autism Spectrum Disorder. Presented at Brown Bag Series, Vanderbilt University.
4. **Kaur, M.** (2016). Creative yoga intervention for young children with Autism Spectrum Disorder. Presented at Nationwide Children's Hospital, Columbus, Ohio.

Educational Activities

Courses Taught

MGH Institute of Health Professions

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|---|--------------|
| • PT 713 – Degenerative Conditions Across Lifespan, co-instructor | 2020-Present |
| • PT 600s/700s – Pediatric Thread, thread instructor | 2020-Present |
| • PT 814 – Contextual Factors, co-instructor | 2019-Present |
| • PT 880 – Pediatric Elective, lead instructor | 2019-2022 |
| • PT 850 – Capstone Project, project advisor | 2019-Present |

Vanderbilt University

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| • PSY 1250- Developmental Psychology, lead instructor | 2018 |
| • PSY 1117- Introductory Seminar, lead instructor | 2018 |
| • PSY 2500- Infancy, guest lecturer | 2017-2018 |

University of Connecticut

- EKIN 5507 – Exercise Prescription for Special Populations, guest lecturer 2013

Mentoring

DPT Capstone Projects, Mentor (MGH Institute of Health Professions)

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| • Kathleen McMorrow, Matt O'Hara, Chioma Okafor, Emily Walsh | 2023-2024 |
| • Kendra Andrada, Elizabeth Cheung, Erana Anajose | 2022-2023 |
| • Kristi Vanprooyen, Leann Plett, Gabriella Ruggeri | 2022-2023 |
| • Aisling Cuffe, Ben Purtell, Teja Badami, Amanda Cain | 2021-2022 |
| • Madeline Vu, Gabriela J. Flores, Kerrie Malloy | 2020-2021 |
| • Shannon McCrea, Allison Martella, Lindsey Sweet, Vivian B. Leung | 2019-2020 |

Undergraduate Honors Thesis, Committee Member (Vanderbilt University)

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| • Krystina Schultz | 2018 |
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PhD Qualifying Exam, Committee Member (MGH IHP)

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| • Marc Maffei | 2021 |
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Professional Development

Qualitative and Mixed Methods Overview for Investigators, MGH	April 2021
Faculty Success Program, National Center for Faculty Development & Diversity	Jan-April 2021
Techniques to Writing a Competitive Grant with Harvard Catalyst	Feb-April 2022

Professional Memberships & Activities

National Center for Faculty Development & Diversity, member	2020-2022
American Physical Therapy Association (APTA), member	2019-Present
Massachusetts Chapter	2019-Present
Pediatrics Section	2019-Present

Service

Professional Service (Journal Peer Reviewer)

Pediatric Physical Therapy (PPT)	2022-Present
Physical Therapy Journal (PTJ)	2019-Present
Research in Developmental Disabilities (RIDD)	2019-Present
Physical and Occupational Therapy in Pediatrics	2021
Autism & Developmental Language Impairments	2021
Autism	2016

Professional Service

APTA Pediatric Fact Sheet Committee, Co-chair	2024-Present
APTA Pediatric Fact Sheet Committee, member	2021-2024
APTA Pediatric Research Committee, member	2020-Present

Departmental (PT) and Institutional (IHP) Service

Program Review Committee (IHP), member	2022-Present
IHP Cares 4 Kids Student Group (IHP), Faculty advisor	2022-Present

Curriculum Committee (PT), member	2021-Present
Admissions Committee (PT), Co-chair	2022-Present
Admissions Committee (PT), member	2019-2022
Research Committee (PT), member	2019-2020