

Sydney Y. Schaefer, PhD

Associate Professor (with tenure)
Director, Motor Rehabilitation and Learning Laboratory
School of Biological and Health Systems Engineering
Arizona State University
Email: sydney.schaefer@asu.edu

PROFESSIONAL PREPARATION

2010-2012 Postdoctoral Associate, Program in Physical Therapy, Washington University in St. Louis School of Medicine
2008-2009 Postdoctoral Fellow, Department of Biomedical Engineering, Washington University in St. Louis
2004-2008 PhD, Department of Kinesiology, Pennsylvania State University
2002-2004 MS, Department of Kinesiology, Pennsylvania State University
1998-2002 BS, Sports Medicine, Pepperdine University

ACADEMIC/PROFESSIONAL APPOINTMENTS

2023-current Associate Professor (with tenure), Biomedical Engineering, School of Biological and Health Systems Engineering, Arizona State University
2022-current Graduate Program Chair, Biomedical Engineering, School of Biological and Health Systems Engineering, Arizona State University
2021-current Research Affiliate, Mayo Clinic Scottsdale
2016-2023 Assistant Professor, Biomedical Engineering, School of Biological and Health Systems Engineering, Arizona State University
2016-current Director, Motor Rehabilitation and Learning Laboratory, School of Biological and Health Systems Engineering, Arizona State University
2012-2025 Adjunct Assistant Professor, Department of Physical Therapy and Athletic Training, University of Utah
2012-2016 Assistant Professor, Human Movement Science. Department of Kinesiology and Health Science, Utah State University
2012-2016 Director, Motor Rehabilitation and Learning Laboratory, Department of Health, Physical Education and Recreation, Utah State University

AWARDS AND HONORS

2025 Metin Akay Graduate Service Award, School of Biological and Health Systems Engineering, Arizona State University
2023-2025 Fellow, Arizona Alzheimer's Disease Research Center (ADRC) Research Education Component
2023-2024 Fulbright U.S. Scholars Fellowship (Jönköping University, Sweden)
2023 Fellow, Engineering for One Planet (EOP), Arizona State University
2022 Butler-Williams Scholar, National Institute on Aging
2022 Metin Akay Graduate Service Award, School of Biological and Health Systems Engineering, Arizona State University
2021 FWA Award for Outstanding Faculty Mentor, Arizona State University Faculty Women's Association
2021 Eric Gilbeau Outstanding Teaching Award, School of Biological and Health Systems Engineering, Arizona State University
2020 Inclusive Pedagogy Grant Awardee, ASU Howard Hughes Medical Institute Inclusive Excellence Program
2020 Outstanding Assistant Professor, School of Biological and Health Systems Engineering, Arizona State University

2019	Selected attendee, Training in Grantsmanship for Rehabilitation Research (TIGRR) Workshop
2018	Ira A. Fulton Schools of Engineering Top 5% Teaching Award, Arizona State University
2016	Researcher of the Year, Department of Health, Physical Education and Recreation, Utah State University
2014	Recipient, Recognition of Excellence in Mentoring Undergraduate Research, National Council on Undergraduate Research (CUR)
2013	Center for Persons with Disabilities Faculty Fellow Program
2013	Featured Article in the Neurology Section of the American Physical Therapy Association
2012	Exceptional (10+) F1000 Article Factor: F1000.com/13788956#eval15217056
2004	Department of Kinesiology Graduate Research Award, Pennsylvania State University
2002	Summa cum laude, Pepperdine University
2002	Sports Medicine Student of the Year, Pepperdine University

RESEARCH SUPPORT

Current Support

09/25-08/29	Principal Investigator. National Institutes of Health Multi-Year Funded Research Project Grant (RF1 AG091339-01A1) Total cost: \$2,465,320 Title: "Developing a performance-based measure of daily function for screening Hispanic/Latino older adults for Alzheimer's disease risk"
07/25-06/26	Principal Investigator. ASU Women and Philanthropy Grant. Total cost: \$49,999 Title: "Objective Assessment of Daily Function in Alzheimer's Disease"
07/24-06/26	Principal Investigator. Alzheimer's Association (ARCOM-24-1251824) Total cost: \$249,825 Title: "Towards an equitable alternative for early Alzheimer's disease screening"
09/24-08/25 (NCE)	Principal Investigator. National Institutes of Health Exploratory/Developmental Research Grant Program Administrative Supplement for Complementary Health Practitioners (3R21AT012088-01A1S2) Total cost: \$153,637 Title: "Measuring Expectancy Effects of Transcranial Direct Current Stimulation on Motor Learning"
09/24-08/25 (NCE)	Principal Investigator. National Institutes of Health Exploratory/Developmental Research Grant Program Diversity Administrative Supplement (3R21AT012088-01A1S1) Total cost: \$95,340 Title: "Measuring Expectancy Effects of Transcranial Direct Current Stimulation on Motor Learning"
10/23-09/25	Co-Investigator. (PI: Love). National Institute on Aging Small Business Innovation Research Grant (R43 AG082604-01A1) Total cost: \$369,939 Title: "Neuroassessments: Developing a quick, objective motor test to prompt cognitive testing in primary care."

- 09/23-08/25 (NCE) Principal Investigator. National Institutes of Health Exploratory/Developmental Research Grant Program (R21 AT012088-01A1)
Total cost: \$436,303
Title: "Measuring Expectancy Effects of Transcranial Direct Current Stimulation on Motor Learning"
- 08/22-07/25 (NCE) Co-Investigator and Site PI (PI: Schweighofer). National Science Foundation Science of Learning and Augmented Intelligence (SL) Program.
Subcontract total cost to ASU: \$199,893 (Total award: \$707,000)
Title: "Personalizing motor learning"

Previous Support

- 07/23-01/25 Principal Investigator. Edson Initiative for Dementia Care and Solutions, Biodesign Institute, Arizona State University.
Total cost: \$124,740
Title: "Comparing state anxiety between cognitive and motor testing among older adults to advance earlier dementia screening"
- 01/22-08/24 Primary Sponsor (Postdoctoral Associate PI: Hooyman). National Institutes of Health Ruth L. Kirschstein Postdoctoral Individual National Research Service Award (F32 AG071110-01A1).
Total cost: \$211,182
Title: "Using an Online Video Game to Predict Functional and Cognitive Decline within the MindCrowd Electronic Cohort"
- 01/22-12/23 Principal Investigator. Global Sport Institute Seed Grant, Arizona State University
Total cost: \$20,000
Title: "Exploring the effects of tDCS user expectations on motor performance enhancement: Harnessing the power of placebo effects within neuro-technology"
- 07/22-06/23 Sub-PI (PI: Coon). Arizona Alzheimer's Consortium.
Total cost: \$35,417
Title: "Establishing feasibility and dose-response of an online visuospatial training program for older adults"
- 07/21-06/22 Sub-PI (PI: Coon). Arizona Alzheimer's Consortium.
Total cost: \$35,000
Title: "Mobile phone accessibility of a motor-cognitive game within MindCrowd to increase participation among underrepresented minorities"
- 01/21-12/21 Principal Investigator. Global Sport Institute Sex, Gender, and Sexuality in Sport Seed Grant, Arizona State University
Total cost: \$20,000
Title: "Gender differences in expectancy effects of transcranial direct current stimulation on motor performance"
- 12/18-11/21 Primary Sponsor (Graduate student PI: Lingo VanGilder). National Institutes of Health Ruth L. Kirschstein Predoctoral Individual National Research Service Award (F31 AG062057).
Total cost: \$125,485
Title: "Using diffusion tensor imaging to identify the structural neural correlates of visuospatial and motor skill learning processes"
- 2018-2021 Principal Investigator. National Institutes of Health Small Grant Program (R03 AG056822)
Total cost: \$156,729

- Title: "Using standardized visuospatial tests to predict motor training responsiveness in older adults"
- 2021 Sub-PI (PI: Coon). Arizona Alzheimer's Consortium.
Total cost: \$16,000
Title: "Relating Online Motor-Cognitive Game Performance with AD Risk Factors using the MindCrowd Electronic Cohort"
- 2015-2020 Principal Investigator. National Institute on Aging Mentored Research Scientist Development Award (K01 AG047926)
Total cost: \$543,178
Title: "Generalization of functional task-specific motor training in older adults"
- 2014-2015 Principal Investigator. Marriner S. Eccles Foundation
Total cost: \$5,000
Title: "Training and Rehab for Motor Function"
- 2010-2012 Principal Investigator. American Heart Association Postdoctoral Fellowship, Midwest Affiliate (AHA 10POST4140091)
Total cost: \$90,772
Title: "Movement context and its influence on function following stroke"
- 2008-2009 Postdoctoral Trainee (PI: Mueller). National Institute of Child Health and Human Development (T32 HD007434 to the Program in Physical Therapy), Washington University
Title: "Training program in Movement Science"
- 2005-2008 Predoctoral Trainee (PI: Zarit, Willis). National Institute on Aging (T32 AG00048 to the Gerontology Center), Pennsylvania State University
Title: "Interdisciplinary training in Gerontology"

PEER-REVIEWED PUBLICATIONS

1. **Schaefer SY**, Peterson DS, Ernsth-Bravell M, Finkel D. (2025) Predicting the onset of dementia with longitudinal performance-based measures of physical function. *The Journals of Gerontology: Series B*, 80(12):gbaf176. doi: 10.1093/geronb/gbaf176
2. Kettlety SA, Kibler GL, Hooyman A, Holl CK, **Schaefer SY**, Leech KA. (2025) Twenty minutes of Corsi block tapping task training does not improve mental rotation in adults with stroke. *Frontiers in Neurology*, 16:1601454. doi: 10.3389/fneur.2025.1601454
3. Melick A, Lukacik D, Chawla S, **Schaefer SY**, Beeman SC, Verpeut JL. (2025) A Fine Motor Task to Study Joint Kinematics in a Preclinical Model of Neurodegenerative Disease. *Journal of Visualized Experimentation: JoVE*. Jun 13:(220). doi: 10.3791/68128.
4. Villa-Sánchez B, Hooyman A, **Schaefer SY**. (2025) The Influence of Informational Priming on Motor Expectancy in Transcranial Direct Current Stimulation (tDCS). *Experimental Brain Research*, 243(7):157. doi: 10.1007/s00221-025-07110-y
5. Reed AM, Duff K, **Schaefer SY**. (2025) Comparing demographic effects on current and novel neuropsychological measures in older adults with and without Alzheimer's disease. *Archives of Clinical Neuropsychology*, 40(7):1404-1408. doi: 10.1093/arclin/afaf045
6. Hakhu S, Hooyman A, Lingo VanGilder J, **Schaefer SY**, Beeman SC, Alzheimer's Disease Neuroimaging Initiative. (2025) Association between diffusion MRI-based measures of neurite microstructure and risk of Alzheimer's disease. *Experimental Gerontology*, 206:112782. doi: 10.1016/j.exger.2025.112782
7. Hooyman A, Huentelman MJ, De Both M, Ryan L, Duff K, **Schaefer SY**. (2025) Relationship Between Within-Session Digital Motor Skill Acquisition and Alzheimer Disease Risk Factors Among the MindCrowd Cohort: Cross-Sectional Descriptive Study. *JMIR Aging*, 8:e67298. doi: 10.2196/67298

8. Malek-Ahmadi M, Schack K, Duff K, Koppelmans V, King JB, Su Y, **Schaefer SY**. (2025) Cortical thickness predictors of performance-based functional task variability in the Alzheimer's disease spectrum. *Alzheimer Disease & Associated Disorders - An International Journal*. Epub ahead of print, doi: 10.1097/WAD.0000000000000672.
9. **Schaefer SY**, Reed AM, Duff K. (2025) Validating a brief performance-based measure of cognition and daily functioning in amnesic Mild Cognitive Impairment and mild Alzheimer's disease. *Journal of Alzheimer's Disease*. 104(3):835-840. doi: 10.1177/13872877251320379
10. Koppelmans V, Duff K, **Schaefer SY**. (2025) Using a Functional Upper Limb Motor Task to Predict Cognitive and Functional Decline in Mild Cognitive Impairment and Alzheimer's Disease. *Neurorehabilitation and Neural Repair*. 39(3):226-229. doi: 10.1177/15459683241309591
11. Koppelmans V, Ruitenberg MFL, **Schaefer SY**, King JB, Jacobo JM, Silvester BP, Mejia AF, van der Geest J, Hoffman JM, Tasdizen T, Duff K. (2024) Classification of Mild Cognitive Impairment and Alzheimer's Disease Using Manual Motor Measures. *Neurodegenerative Diseases*. 24(2):54-70. doi: 10.1159/000539800.
12. Reed AM, Duff K, Dibble LE, Paul SS, Hooyman A, **Schaefer SY**. (2024) Examining the diagnostic accuracy of a novel performance-based test for Alzheimer's disease screening. *Journal of Prevention of Alzheimer's Disease*. 11(4):903-907. doi: 10.14283/jpad.2024.93.
13. Hooyman A, Haikalis NK, Wang P, Schambra HM, Lohse KR, **Schaefer SY**. (2024) Evidence and sources of placebo effects in transcranial direct current stimulation during visuospatial working memory training. *Scientific Reports*. 14:9094. doi: 10.1038/s41598-024-59927-2.
14. Bergamino M, Keeling E, **Schaefer SY**, Burke A, Prigatano G, Stokes AM. (2024) White Matter Microstructure Analysis in Subjective Memory Complaints and Cognitive Impairment: Insights from Diffusion Kurtosis Imaging and Free-Water DTI. *Journal of Alzheimer's Disease*. 98(3):863-884. doi: 10.3233/JAD-230952.
15. Haikalis NK, Hooyman A, Wang P, Daliri A, **Schaefer SY**. (2023) Placebo effects of transcranial direct current stimulation on motor skill acquisition. *Neuroscience Letters*. 814:137442. doi: 10.1016/j.neulet.2023.137442.
16. Koppelmans V, Ruitenberg MFL, **Schaefer SY**, King JB, Hoffman JM, Mejia AF, Tasdizen T, Duff K. (2023) Delayed and More Variable Unimanual and Bimanual Finger Tapping in Alzheimer's Disease: Associations with Biomarkers and Applications for Classification. *Journal of Alzheimer's Disease*. 95(3):1233-1252. doi: 10.3233/JAD-221297.
17. Hooyman A, **Schaefer SY**. (2023) Age and sex effects on SuperG performance consistent across internet devices. *International Journal of Serious Games*. 10(2):25-36. doi: 10.17083/ijsg.v10i2.598.
18. Malek-Ahmadi M, Duff K, Chen K, Su Y, King JB, **Schaefer SY**. (2023) Volumetric MRI and Neuropsychological Predictors of Motor Task Variability in Cognitively Unimpaired, Mild Cognitive Impairment, and Alzheimer's Disease Older Adults. *Experimental Gerontology*. 173:112087.
19. Hooyman A, Huentelman MJ, DeBoth MD, Ryan L, **Schaefer SY**. (2023) Establishing the validity and reliability of an online motor learning game: Applications for Alzheimer's disease research within MindCrowd. *Games for Health*. 12(2):132-139. doi: 10.1089/g4h.2022.0042.
20. Hooyman A, Lingo VanGilder JL, **Schaefer SY**. (2023) Mediation analysis of the effect of visuospatial memory on motor skill learning in older adults. *Journal of Motor Behavior*. 55(1):68-77. doi: 10.1080/00222895.2022.2105793
21. **Schaefer SY**, Hooyman A, Haikalis NK, Essikpe R, Lohse KR, Duff K, Wang P. (2022) Efficacy of Corsi Block Tapping Task training for improving visuospatial skills: A nonrandomized two-group study. *Experimental Brain Research*. 240(11):3023-3032. doi: 10.1007/s00221-022-06478-5
22. Wang P, Lingo VanGilder JL, Schweighofer N, **Schaefer SY**. (2022) Rey-Osterrieth Complex Figure Recall scores and motor skill learning in older adults: A non-linear mixed effect model-based analysis. *Human Movement Science*, 86:103004. doi: 10.1016/j.humov.2022.103004

23. Lingo VanGilder JL, Bergamino M, Hooyman A, Fitzhugh MC, Rogalsky C, Stewart JC, Beeman SC, **Schaefer SY**. (2022) Using whole-brain diffusion tensor analysis to evaluate white matter structural correlates of delayed visuospatial memory and one-week motor skill retention in nondemented older adults: A preliminary study. *PLoS One*. 17(9):e0274955. doi: 10.1371/journal.pone.0274955
24. Olivier GN, Dibble LE, Paul SS, Lohse KR, Walter CS, Marker RJ, Hayes HA, Foreman KB, Duff K, **Schaefer SY**. (2022) Effects of personalized practice dosages on learning in older adults: A randomized controlled trial. *Frontiers in Rehabilitation Science*. 3:897997. doi: 10.3389/fresc.2022.897997
25. Wang P, Pathania A, Euler MJ, Duff K, **Schaefer SY**. (2022) Investigating the relationship between resting-state EEG frontoparietal coherence, visuospatial ability, and motor skill acquisition – a retrospective analysis. *NeuroRegulation*. 9(2): 82-90. doi: 10.15540/nr.9.2.82
26. **Schaefer SY**, Malek-Ahmadi M, Hooyman A, King JB, Duff K. (2022) Association between motor task acquisition and hippocampal atrophy across cognitively unimpaired, amnesic Mild Cognitive Impairment, and Alzheimer's disease individuals. *Journal of Alzheimer's Disease*. 85(4):1411-1417. doi: 10.3233/JAD-210665.
27. Rangarajan V, Schreiber JJ, Barragan B, **Schaefer SY**, Honeycutt CF. (2022) Sensorimotor and Autonomic Contributions of the Brainstem in Physiological and Pathophysiological Conditions. *Frontiers in Neural Circuits*. 15:681706. doi: 10.3389/fncir.2021.681706.
28. **Schaefer SY**, Duff K, Hooyman A, Hoffman JM. (2022) Improving the prediction of amyloid deposition in Mild Cognitive Impairment with a timed motor task. *American Journal of Alzheimer's Disease and Other Dementias*. 37:15333175211048262. doi: 10.1177/15333175211048262.
29. **Schaefer SY**, McCulloch KL, Lang CE. (2022) Pondering the Cognitive-Motor Interface in Neurologic Physical Therapy. *Journal of Neurologic Physical Therapy*, 46(1):1-2. doi: 10.1097/NPT.0000000000000381.
30. Lingo VanGilder JL, Lopez-Lennon C, Paul SS, Dibble LE, Duff K, **Schaefer SY**. (2021) Relating global cognition and upper-extremity motor skill retention in individuals with mild-to-moderate Parkinson disease. *Frontiers in Rehabilitation Sciences*, 2:754118. doi: 10.3389/fresc.2021.754118.
31. Hooyman A, Talboom JS, DeBoth MD, Ryan L, Huentelman M, **Schaefer SY**. (2021) Remote, unsupervised functional motor task evaluation across the United States using the MindCrowd electronic cohort. *Developmental Neuropsychology*. 46(6):435-446. doi: 10.1080/87565641.2021.1979005.
32. Olivier GN, Walter CS, Paul SS, Dibble LE, **Schaefer SY**. (2021) How Common is the Exponential Decay Pattern of Motor Skill Acquisition? A Brief Investigation. *Motor Control*, 25(3): 451-461. doi: 10.1123/mc.2020-0043.
33. Lingo VanGilder J, Hooyman A, Bosch PR, **Schaefer SY**. (2021) Generalizing the predictive relationship between 1-month motor skill retention and Rey-Osterrieth Delayed Recall scores from nondemented older adults to individuals with chronic stroke: a short report. *Journal of NeuroEngineering and Rehabilitation*, 18(1): 94. doi: 10.1186/s12984-021-00886-4.
34. Wang P, Hooyman A, Schambra HM, Lohse KR, **Schaefer SY**. (2021) Expectations from the general public about the efficacy of transcranial direct current stimulation for improving motor performance. *Brain Stimulation*, 14(3): 500-502. doi: 10.1016/j.brs.2021.03.005.
35. Hooyman A, Wang P, **Schaefer SY**. (2021) Age-related differences in functional tool-use are due to changes in movement quality and not simply motor slowing. *Experimental Brain Research*, 239(5):1617-1626. doi: 10.1007/s00221-021-06084-x.
36. Olivier GN, Paul SS, Walter CS, Hayes HA, Foreman KB, Duff K, **Schaefer SY**, Dibble LE. (2021) The feasibility and efficacy of a serial reaction time task that measures motor learning of anticipatory stepping. *Gait & Posture*, 86: 346-353. doi: 10.1016/j.gaitpost.2021.04.002.

37. Lingo VanGilder J, Lohse KR, Duff K, Wang P, **Schaefer SY**. (2021) Evidence for associations between Rey-Osterrieth Complex Figure test and motor skill learning in older adults. *Acta Psychologica*, 214:103261. doi: 10.1016/j.actpsy.2021.103261.
38. Stewart JC, Saba A, Baird J, Kolar M, O'Donnell M, **Schaefer SY**. (2021) Effect of Standing on a Standardized Measure of Upper Extremity Function. *OTJR: Occupation, Participation and Health*, 41(1): 32-39. doi: 10.1177/1539449220937058.
39. Regan E, Fridriksson J, **Schaefer SY**, Rorden C, Bonilha L, Lingo VanGilder J, Stewart JC. (2021) Neural correlates of within-session practice effects in mild motor impairment after stroke: a preliminary investigation. *Experimental Brain Research*. 239(1):151-160. doi: 10.1007/s00221-020-05964-y.
40. Hooyman A, Malek-Ahmadi M, Fauth EB, **Schaefer SY**. (2021) Challenging the relationship of grip strength with cognitive status in older adults. *International Journal of Geriatric Psychiatry*, 36(3):433-442. doi: 10.1002/gps.5441.
41. Fitzhugh MC, **Schaefer SY**, Baxter LC, Rogalsky C. (2020) Cognitive and neural predictors of speech comprehension in noisy backgrounds in older adults. *Language, Cognition, and Neuroscience*, 36(3):269-287. doi: 10.1080/23273798.2020.1828946.
42. **Schaefer SY**, Hooyman A, Duff K. (2020) Using a timed motor task to predict one-year functional decline in amnesic Mild Cognitive Impairment. *Journal of Alzheimer's Disease*, 77(1):53-58. doi: 10.3233/JAD-200518.
43. Lingo VanGilder JL, Hooyman A, Peterson DS, **Schaefer SY**. (2020) Post-stroke cognitive impairments and responsiveness to motor rehabilitation: A review. *Current Physical Medicine and Rehabilitation Reports*, 8:461–468. doi: 10.1007/s40141-020-00283-3.
44. Wang P, Infurna FJ, **Schaefer SY**. (2020). Predicting motor skill learning with the Visuospatial/Executive subtest of the Montreal Cognitive Assessment. *Journal of Motor Learning and Development*, 8(1): 38-51. doi: 10.1123/jmld.2018-0017.
45. Paul SS, Dibble LE, Walter CS, Olivier GN, Duff K, **Schaefer SY**. (2020) Dopamine replacement improves motor learning of an upper extremity task in people with Parkinson disease. *Behavioural Brain Research*. 377:112213. doi: 10.1016/j.bbr.2019.112213.
46. Lingo VanGilder JL, Walter CS, Hengge CR, **Schaefer SY**. (2020) Exploring the relationship between visuospatial function and age-related deficits in motor skill transfer. *Aging Clinical and Experimental Research*, 32(8):1451-1458. doi: 10.1007/s40520-019-01345-w.
47. **Schaefer SY**, Sullivan JM, Peterson DS, Fauth EB. (2020). Cognitive function at admission predicts amount of gait speed change in geriatric physical rehabilitation. *Annals of Physical and Rehabilitation Medicine*, 63(4):359-361. doi: 10.1016/j.rehab.2019.08.004.
48. Fitzhugh MC, Hemesath A, **Schaefer SY**, Baxter LC, Rogalsky C. (2019) Changes in functional connectivity of Heschl's gyrus due to age-related hearing loss: a resting-state fMRI study. *Frontiers in Psychology*, 10:2485. doi: 10.3389/fpsyg.2019.02485.
49. Zhou J, **Schaefer SY**, Smith BA. (2019). Quantifying caregiver movement when measuring infant movement across a full day: A case report. *Sensors*, 19(13), 2886. doi: 10.3390/s19132886.
50. Olivier GN, Paul SS, Lohse KR, Walter CS, **Schaefer SY**, Dibble LE. (2019). Predicting Motor Sequence Learning in People with Parkinson Disease. *Journal of Neurologic Physical Therapy*, 43(1):33-41. doi: 10.1097/NPT.0000000000000251.
51. Walter CS, Hengge CR, Lindauer BE, **Schaefer SY**. (2019). Declines in motor transfer following task-specific training in older adults. *Experimental Gerontology*, 116:14-19. doi: 10.1016/j.exger.2018.12.012.
52. Paul SS, **Schaefer SY**, Olivier GN, Walter CS, Lohse KR, Dibble LE. (2018). Dopamine replacement medication does not influence implicit learning of a stepping task in people with Parkinson's disease. *Neurorehabilitation and Neural Repair*, 32(12):1031-1042. doi: 10.1177/1545968318809922.

53. **Schaefer SY**, Saba A, Baird J, Kolar MB, Duff K, Stewart JC. (2018). Within-session practice effects in the Jebsen Hand Function Test: Good or bad? *American Journal of Occupational Therapy*, 72(6): 7206345010p1-7206345010p5. doi:10.5014/ajot.2018.024745.
54. Kirkpatrick NJ, Ravichandran VJ, Perrault EJ, **Schaefer SY**, Honeycutt CF. (2018). Evidence for startle as a measurable behavioral indicator of motor learning. *PLoS One*, 13(5):e0195689. doi: 10.1371/journal.pone.0195689.
55. Raikes AC, **Schaefer SY**, Studenka BE. (2018) Concussion history is negatively associated with visual-motor force complexity: evidence for persistent effects on visual-motor integration. *Brain Injury*, 32(6):747-754. doi: 10.1080/02699052.2018.1444204.
56. Lingo VanGilder JL, Hengge CR, Duff K, **Schaefer SY**. (2018) Visuospatial function predicts one-week motor skill retention in cognitively intact older adults. *Neuroscience Letters*, 664:139-143. doi: 10.1016/j.neulet.2017.11.032.
57. Mohabbati-Kalejahi N, Yazdi MAA, Fadel M, **Schaefer SY**, Boyd LA, Lang CE, Lohse KR. (2017) Streamlining science with structured data archives: Insights from stroke rehabilitation. *Scientometrics*, 113(2): 969–983. doi: 10.1007/s11192-017-2482-z.
58. Duff K, Atkinson T, Suhrie K, Dalley B, **Schaefer SY**, Hammers DB. (2017). Short-term practice effects in Mild Cognitive Impairment: Evaluating different methods of change. *Journal of Clinical and Experimental Neuropsychology*, 39(4): 396-407. doi: 10.1080/13803395.2016.1230596.
59. **Schaefer SY**, Duff K. (2017). Within-session and one-week practice effects on a motor task in amnesic Mild Cognitive Impairment. *Journal of Clinical and Experimental Neuropsychology*, 39(5):473-484. doi: 10.1080/13803395.2016.1236905.
60. Fauth EB, **Schaefer SY**, Zarit SH, Ernsth-Bravell M, Johansson B. (2017) Beyond grip strength: Associations between fine motor performance in activities of daily living and cognitive ability in a non-demented sample of older adults. *Journal of Aging and Health*, 29(7): 1144-1159. doi: 10.1177/0898264316654674.
61. Raikes AC, **Schaefer SY**. (2016). Sleep quantity and quality during acute concussion: A pilot study. *Sleep*, 39(12):2141-2147. doi: 10.5665/sleep.6314.
62. Lohse KR, **Schaefer SY**, Raikes AC, Boyd LA, Lang CE. (2016). Asking new questions with old data: The Centralized Open-Access Rehabilitation database for Stroke. *Frontiers in Neurology*, 7:153. doi: 10.3389/fneur.2016.00153.
63. Raikes AC, **Schaefer SY**. (2016). Phasic electrodermal activity during the standardized assessment of concussion. *Journal of Athletic Training*, 51(7): 533-9. doi: 10.4085/1062-6050-51.8.09.
64. Sainburg RL, **Schaefer SY**, Yadav V. (2016). Lateralized motor control processes determine asymmetry of interlimb transfer. *Neuroscience*, 334:26-38. doi: 10.1016/j.neuroscience.2016.07.043.
65. **Schaefer SY**, Hengge CR. (2016) Testing the concurrent validity of a naturalistic upper extremity reaching task. *Experimental Brain Research*, 234(1): 229-240. doi: 10.1007/s00221-015-4454-y.
66. **Schaefer SY**, Louder T, Foster S, Kohler B, Bressel E. (2016) Effect of water immersion on dual task performance: Implications for aquatic therapy. *Physiotherapy Research International*, 21(3): 147–154. doi: 10.1002/pri.1628.
67. **Schaefer SY**, Duff K. (2015) Rapid responsiveness to practice predicts longer-term retention of upper extremity motor skill in non-demented older adults. *Frontiers in Aging Neuroscience*, 7:214. doi: 10.3389/fnagi.2015.00214.
68. Hayes HA, Hunsaker N, **Schaefer SY**, Shultz B, Schenkenberg T, Boyd LA, White A, Foreman B, Dyer P, Maletsky R, Dibble LE. (2015) Does dopamine replacement medication affect postural sequence learning in Parkinson Disease? *Motor Control*, 19(4):325-40. doi: 10.1123/mc.2014-0039.
69. **Schaefer SY**. (2015) Preserved motor asymmetry in late adulthood: Is measuring chronological age enough? *Neuroscience*, 294:51-9. doi: 10.1016/j.neuroscience.2015.03.013.

70. **Schaefer SY**, Dibble LE, Duff K. (2015) Efficacy and feasibility of functional upper extremity task-specific training for older adults with and without cognitive impairment. *Neurorehabilitation and Neural Repair*, 29(7):636–644. doi: 10.1177/1545968314558604.
71. Norton MC, Clark CJ, Tschanz JT, Hartin P, Fauth EB, Gast J, Dorsch TE, Wengreen H, Nugent C, Robinson D, Lefevre M, McClean S, Cleland I, **Schaefer SY**, Aguilar S. (2015) The design and progress of a multi-domain lifestyle intervention to improve brain health in middle-aged persons to reduce later Alzheimer's disease risk: The Gray Matters randomized trial. *Alzheimer's & Dementia: Translational Research & Clinical Interventions*, 1(1):53-62. doi: 10.1016/j.trci.2015.05.001.
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82. **Schaefer SY**, Sainburg RL. (2008) Sequential processes for controlling distance in multijoint movements. *Journal of Motor Behavior*, 40:325-336. doi: 10.3200/JMBR.40.4.325-336.
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PATENTS AND START-UP COMPANIES

1. Schaefer SY. Systems and Methods for Diagnosis and Prognosis of Cognitive Impairment. Provisional US patent application number 63/284,580. Filed 11/30/2021.

2. Neuroassessments LLC (Founder and Managing Member).

SUMMARY OF PRESENTATIONS (detailed list available upon request)

Invited Presentations: 50+

Peer-reviewed Conference Symposia: 3

Peer-reviewed Conference Presentations, including students: 90+

SUMMARY OF PROFESSIONAL ACTIVITIES AND SERVICE (detailed list available upon request)

Journal Editorial Service)

1. Associate Editor, *Journal of the International Neuropsychological Society*
2. Associate Guest Editor, *Journal of Neurologic Physical Therapy* Special Issue on Interactions of Cognition with Movement and Rehabilitation (2020-2021)

International/National Conferences Symposia

1. "Antecedents and Outcomes of Disability Across the Adult Lifespan" (Session 3265), 2017 IAGG World Congress of Gerontology and Geriatrics, San Francisco, CA (2017)
2. "Out of the Clinic and Into the Home: How Remote Assessment and Intervention can Enhance Neurorehabilitation and Neuroscience" symposium. (2023). American Society of Neurorehabilitation Annual Meeting, Charleston, SC.

Peer-Reviewed Journal Referee

Physical & Occupational Therapy in Geriatrics	Neuroscience Letters
Clinical Interventions in Aging	Topics in Stroke Rehabilitation
Brain	Experimental Brain Research
Human Movement Science	Journal of Neurophysiology
Frontiers in Aging Neuroscience	Alzheimer's & Dementia
Journal of Alzheimer's Disease	IEEE Transactions on Neural Systems and
Developmental Neuropsychology	Rehabilitation Engineering
Journal of NeuroEngineering and	PLOS one
Rehabilitation	Frontiers in Neurology (Frontiers in Stroke
Journal of Motor Behavior	Special Issue)
American Journal of Occupational Therapy	IEEE Transactions on Industrial Electronics
Journal of Clinical and Experimental	Journal of Aging and Physical Activity
Neuropsychology	Disability and RehabilitationNeuroscience
Neurorehabilitation and Neural Repair	Journal of Neurologic Physical Therapy
Research Quarterly for Exercise and Sport	Annals of Biomedical Engineering
Muscle and Nerve	Archives of Physical Medicine and
Cerebral Cortex	Rehabilitation
Journal of Cognitive Neuroscience	Cortex
Motor Control	Journal of Physical Education and Sport
	Management

Grant Proposal Review Panel, Standing Study Section Member

1. Study Section Chair (2024-present), Department of Veterans Affairs, RRD8 and RRD9 - Career Development Program
2. Standing Study Section Member, Department of Veterans Affairs, RRD9 - Career Development Program (2020-2024)

3. Study Section Member, American Heart Association, Fellowship Bioengineering & Technology (2019-2023)