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**Training**

- 2015-2018 **Advanced Rehabilitation Research Training Postdoctoral Fellow.** Department of Physical Medicine and Rehabilitation, University of Michigan, Ann Arbor, MI.
- 2016 **Physical Activity and Public Health Course Fellowship.** Arnold School of Public Health, University of South Carolina, Center for Disease Control and Prevention, Columbia, SC.

**Education**

- 2011-2015 **Ph.D.** Exercise Science Emphasis; University of Idaho, Moscow, ID.
- 2012-2013 **Graduate Certificate.** Bioregional Planning and Community Design; University of Idaho, Moscow, ID.
- 2011-2013 **Graduate Certificate.** Statistics; University of Idaho, Moscow, ID.
- 2008-2010 **M.S.** Kinesiology; University of North Dakota, Grand Forks, ND.
- 2003-2007 **B.A.** Physical Education; University of Jamestown, Jamestown, ND.

**Academic Appointments**

- 2021-Present **Adjunct Faculty.** Physical Medicine and Rehabilitation, Fargo VA Healthcare System, Fargo, ND.
- 2019-Present **Faculty Affiliate.** Center for Large Data Research and Data Sharing in Rehabilitation, University of Texas Medical Branch, Galveston, TX.
- 2018-Present **Assistant Professor.** Department of Health, Nutrition, and Exercise Sciences, North Dakota State University, Fargo, ND.
- 2018 **Visiting Scholar.** Center for Large Data Research and Data Sharing in Rehabilitation, University of Texas Medical Branch, Galveston, TX.
- 2011-2015 **Graduate Assistant.** Department of Movement Sciences, University of Idaho, Moscow, ID.
- 2014 **Graduate Research Assistant.** National Institute of Advanced Transportation Technology, Department of Civil Engineering, University of Idaho, Moscow, ID.
- 2009-2010 **Graduate Assistant.** Department of Physical Education, Exercise Science, and Wellness, University of North Dakota, Grand Forks, ND.
- 2009 **Graduate Research Assistant.** Department of Physical Education, Exercise Science, and Wellness, University of North Dakota, Grand Forks, ND.

**Peer-Reviewed Publications**

1. **McGrath R.** Maximal Handgrip Strength Alone Could be an Incomplete Measure of Muscle Function. *Journal of the American Medical Directors Association.* 2021 (In Press). PMID: [33596410](https://pubmed.ncbi.nlm.nih.gov/33596410/).
2. **McGrath R,** Carson P, Jurivich D. It is Important to Examine Physical Functioning and Inflammatory Responses During Post-Hospitalization COVID-19 Recovery. *The Journal of Frailty & Aging.* 2021 (In Press). <https://doi.org/10.14283/jfa.2020.73>.
3. Klawitter L, **McGrath R.** Should we Pucker Up and Welcome a Potential New Assessment of Muscle Function? *Journal of the American Medical Directors Association.* 2021 (In Press). PMID: [33548183](https://pubmed.ncbi.nlm.nih.gov/33548183/).
4. Mahoney S, Hackney K, Jurivich D, Dahl L, Johnson C, **McGrath R.** Handgrip Strength Asymmetry is Associated with Limitations in Individual Basic Self-Care Tasks. *Journal of Applied Gerontology.* 2020 (In Press). PMID: [33356740](https://pubmed.ncbi.nlm.nih.gov/33356740/).

5. Klawitter L, Mahoney S, Dahl L, Hackney K, Herrmann S, Edwards B, **McGrath R**. The Role of Assessing Additional Aspects of Muscle Function with a Digital Handgrip Dynamometer on Cognitive Function in Older Adults: A Pilot Study. *Journal of Alzheimer's Disease Reports*. 2020;4(1):495-499. PMID: [33532697](#).
6. **McGrath R**, Clark B, Cesari M, Johnson C, Jurivich D. Handgrip Strength Asymmetry is Associated with Future Falls in Older Americans. *Aging Clinical and Experimental Research*. 2020 (In Press). PMID: [33247424](#).
7. Parker K, Rhee Y, Tomkinson G, Vincent B, O'Connor M, **McGrath R**. Handgrip Weakness and Asymmetry Independently Predict the Development of New Activity Limitations: Results from Analyses of Longitudinal Data from the U.S. Health and Retirement Study. *Journal of the American Medical Directors Association*. 2020 (In Press). PMID: [33290729](#).
8. Mahoney S, Klawitter L, Hackney K, Dahl L, Herrmann S, Edwards B, **McGrath R**. Examining Additional Aspects of Muscle Function with a Digital Handgrip Dynamometer and Accelerometer in Older Adults: A Pilot Study. *Geriatrics*. 2020;5(4):E86. PMID: [33142897](#).
9. **McGrath R**. Are we Maximizing the Utility of Handgrip Strength Assessments for Evaluating Muscle Function? *Aging Clinical and Experimental Research*. 2020 (In Press). PMID: [32892298](#).
10. Mahoney S, Bradley A, Pitts L, Waletzko S, Robinson-Lane SG, Fairchild T, Terbizan DJ, **McGrath R**. Health insurance is associated with decreased odds for undiagnosed prediabetes and type 2 diabetes in American adults. *International Journal of Environmental Research and Public Health*. 2020;17(13):4706. PMID: [32629937](#).
11. Collins K, Johnson, N, Klawitter L, Waldera R, Stastny S, Kraemer W, Christensen B, **McGrath R**. Handgrip Strength Asymmetry and Weakness are Differentially Associated with Functional Limitations in Older Americans. *International Journal of Environmental Research and Public Health*. 2020;17(9):3231. PMID: [32384713](#).
12. **McGrath R**, Cawthon P, Cesari M, Al Snih S, Clark B. Handgrip Strength Asymmetry and Weakness are Associated with Lower Cognitive Function: A Panel Study. *Journal of the American Geriatrics Society*. 2020;68(9):2051-2058. PMID: [32473060](#).
13. **McGrath R**, Tomkinson G, LaRoche D, Vincent B, Bond C, Hackney K. Handgrip Strength Asymmetry and Weakness May Accelerate Time to Mortality in Aging Americans. *Journal of the American Medical Directors Association*. 2020;S1525-8610(20)30360-1. PMID: [32611522](#).
14. **McGrath R**, Vincent B, Jurivich D, Hackney K, Tomkinson G, Dahl L, Clark B. Handgrip Strength Asymmetry and Weakness Together are Associated with Functional Disability in Aging Americans. *Journal of Gerontology: Medical Sciences*. 2021;76(2):291-296. PMID: [32319511](#).
15. Vincent B, Johnson N, Tomkinson G, **McGrath R**, Clark B, Choi B-J. Sleeping Time is Associated with Functional Limitations in a National Sample of Older Americans. *Aging Clinical and Experimental Research*. 2020 (In Press). PMID: [32170709](#).
16. Bailey R, Serra M, **McGrath R**. Obesity and Diabetes are Jointly Associated with Functional Disability in Stroke Survivors. *Disability and Health Journal*. 2020;13(3):100914. PMID: [32139319](#).
17. Hall O, Hall O, Kolodny A, Teater J, **McGrath R**. Assessment of Drug Overdose Mortality in Ohio, 2009-2018. *JAMA Network Open*. 2020;3(4):e202183. PMID: [32259262](#).
18. **McGrath R**, Johnson N, Klawitter L, Mahoney S, Trautman K, Carlson C, Rockstad E, Hackney K (2020). What are the Association Patterns Between Handgrip Strength and Adverse Health Conditions? A Topical Review. *SAGE Open Medicine*. 2020; 8: 2050312120910358. PMID: [32166029](#).
19. Tomkinson G, Kidokoro T, Dufner T, Noi S, Fitzgerald J, **McGrath R**. Temporal Trends in Handgrip Strength for Older Japanese Adults Between 1998 and 2017. *Age and Ageing*. 2020;49(4):634-639. PMID: [32037458](#).

20. **McGrath R**, Hackney K, Ratamess N, Vincent B, Clark B, Kraemer W. Absolute and Body Mass Index Normalized Handgrip Strength Percentiles by Gender, Ethnicity, and Hand Dominance in Americans. *Advances in Geriatric Medicine and Research*. 2020;2(1). Pii:e200005. PMID: [31930203](#).
21. Shaughnessy K, Hackney K, Clark B, Kraemer W, Terbizan D, Bailey R, **McGrath R**. A Narrative Review of Handgrip Strength and Cognitive Functioning: Bringing a New Characteristic to Muscle Memory. *Journal of Alzheimer's Disease*. 2020;73(4):1265-1278. PMID: [31929158](#).
22. **McGrath R**, Vincent B, Peterson M, Jurivich D, Dahl L, Hackney K, Clark B. Weakness May Have a Causal Association with Early Mortality in Older Americans: A Matched Cohort Analysis. *Journal of the American Medical Directors Association*. 2020;21(5):321-6e.2. PMID: [31786197](#).
23. **McGrath R**, Al Snih S, Markides K, Faul J, Vincent B, Hall O, Peterson M. The Burden of Health Conditions Across Race and Ethnicity for Aging Americans. *Medicine*. 2019;98(46):e17964. PMID: [31725658](#).
24. **McGrath R**, Stastny S, Casperson S, Jahns L, Roemmich J, Hackney K. Daily Protein Intake and Distribution of Daily Protein Consumed Decreases Odds for Functional Disability in Older Americans. *Journal of Aging and Health*. 2020;32(9):1075-1083. PMID: [31625427](#).
25. **McGrath R**, Vincent B, Hackney K, Al Snih S, Graham J, Thomas L, Ehlers D, Clark B. Weakness and Cognitive Impairment are Independently and Jointly Associated with Functional Decline in Aging Americans. *Aging Clinical and Experimental Research*. 2019;32(9):1723-1730. PMID: [31520335](#).
26. Silveira S, Ledoux T, Johnston C, Kalpakjian C, O'Connor D, Cottingham M, **McGrath R**, Tate D. Differences Among Participants' Response to a Wellness Intervention for Individuals with Spinal Cord Injuries. *Disability and Health Journal*. 2020;13(1):100842. PMID: [31558388](#).
27. **McGrath R**, Vincent B, Hackney K, Robinson-Lane S, Downer B, Clark B. The Longitudinal Associations of Handgrip Strength and Cognitive Function in Aging Americans. *Journal of the American Medical Directors Association*. 2020;21(5):634-9.e1. PMID: [31706916](#).
28. **McGrath R**, Lee D-C, Kraemer W, Vincent B, Shaughnessy K, Terbizan D. Weakness is Associated with Time to Incident Chronic Heart Failure in Aging Americans. *Journal of Nutrition, Health & Aging*. 2020;24(1):16-19. PMID: [31886803](#).
29. Hackney K, Trautman K, Johnson N, **McGrath R**, Stastny S. Protein and Muscle Health During Aging: Benefits and Concerns Related to Animal-Based Protein. *Animal Frontiers*. 2019;9(4):12-17. PMID: [32002269](#).
30. Hall O, Hall O, **McGrath R**, Haile Z. Years of Life Lost Due to Opioid Overdose in Ohio: Temporal and Geographic Patterns of Excess Mortality. *Journal of Addiction Medicine*. 2020;14(2):156-162. PMID: [31592905](#).
31. **McGrath R**, Robinson-Lane S, Cook S, Clark B, Herrmann S, Lunsman O'Connor M, Hackney K. Handgrip Strength is Associated with Poorer Cognitive Functioning in Aging Americans. *Journal of Alzheimer's Disease*. 2019;70(4):1187-1196. PMID: [31322562](#).
32. Bailey R, Phad A, **McGrath R**, Ford A, Tabak R, Haire-Joshu D. Lifestyle Risk Behaviors Among Stroke Survivors With and Without Diabetes. *American Journal of Physical Medicine and Rehabilitation*. 2019;98(9):794-799. PMID: [31415289](#).
33. **McGrath R**, Al Snih S, Markides K, Hall O, Peterson M. The Burden of Health Conditions for Middle-Aged and Older Adults in the United States: Disability-Adjusted Life Years. *BMC Geriatrics*. 2019;19(1):100. PMID: [30961524](#).
34. **McGrath R**. Comparing Absolute Handgrip Strength and Handgrip Strength Normalized to Body Weight in Aging Adults. *Aging Clinical and Experimental Research*. 2019;31(12):1851-1853. PMID: [30806906](#).

35. Silveira S, Ledoux T, Johnston C, Kalpakjian C, O'Connor D, Cottingham R, **McGrath R**, Tate D. Well on Wheels Intervention: Satisfaction with Life and Health for Adults with Spinal Cord Injuries. *Journal of Spinal Cord Medicine*. 2020;43(1):60-68. PMID: [30557093](#).
36. Bailey R, Phad A, **McGrath R**, Haire-Joshu D. Prevalence of Five Lifestyle Risk Factors Among U.S. Adults With and Without Stroke. *Disability and Health Journal*. 2019;12(2):323-327. PMID: [30448248](#).
37. **McGrath R**, Erlandson K, Vincent B, Hackney K, Herrmann S, Clark B. Decreased Handgrip Strength is Associated with Impairments in Each Autonomous Living Task for Aging Adults in the United States. *Journal of Frailty and Aging*. 2019;8(3):141-145. PMID: [31237315](#).
38. **McGrath R**, Clark B, Erlandson K, Herrmann S, Vincent B, Hall O, Hackney K. Impairments in Individual Autonomous Living Tasks and Time to Self-Care Disability in Middle Aged and Older Adults. *Journal of the American Medical Directors Association*. 2019;20(6):730-735. PMID: [30503592](#).
39. Bailey R, Phad A, **McGrath R**, Tabak R, Haire-Joshu D. Prevalence of 3 Healthy Lifestyle Behaviors Among U.S. Adults With and Without History of Stroke. *Preventing Chronic Disease*. 2019;16:E23. PMID: [30789819](#).
40. **McGrath R**, Al Snih S, Markides K, Hackney K, Bailey R, Peterson M. The Burden of Functional Disabilities for Middle-Aged and Older Adults in the United States. *The Journal of Nutrition Health and Aging*. 2019;23(7):172-174. PMID: 30697627. PMID: [30697627](#).
41. Hall O, **McGrath R**, Peterson M, Chadd E, DeVivo M, Heinemann A, Kalpakjian C. The Burden of Spinal Cord Injury in the United States: Disability-Adjusted Life Years. *Archives of Physical Medicine and Rehabilitation*. 2019;100(1):95-100. PMID: [30248314](#).
42. **McGrath R**, Hall O, Peterson M, Chadd E, DeVivo M, Heinemann A, Kalpakjian C. The Association Between the Etiology of a Spinal Cord Injury and Time to Mortality in the United States: A 44-Year Longitudinal Investigation. *Journal of Spinal Cord Medicine*. 2019;42(4):444-452. PMID: [30124389](#).
43. **McGrath R**. Understanding the Feasibility and Validity of Muscle Strength Measurements in Aging Adults. *Journal of the American Medical Directors Association*. 2019;20(1):99-100. PMID: [30415892](#).
44. **McGrath R**, Kraemer W, Al Snih S, Peterson M. Handgrip Strength and Health in Aging Adults. *Sports Medicine*. 2018;48(9):1993-2000. PMID: [29943230](#).
45. **McGrath R**, Vincent B, Lee I-M, Kraemer W, Peterson M. Handgrip Strength, Function, and Mortality in Older Adults: A Time-Varying Approach. *Medicine and Science in Sports and Exercise*. 2018;50(11):2259-2266. PMID: [29933349](#).
46. Peterson M, Belakovskiy A, **McGrath R**, Yarrow J. Testosterone Deficiency, Weakness, and Multimorbidity in Men. *Scientific Reports*. 2018;9(1):5897. PMID: [29651127](#).
47. Paul D, **McGrath R**, Vella C, Kramer M, Baer D, Moshfegh A. Understanding the Nature of Measurement Error When Estimating Energy Expenditure and Physical Activity via Physical Activity Recall. *Journal of Physical Activity and Health*. 2018;15(7):543-549. PMID: [29580135](#).
48. **McGrath R**, Robinson-Lane S, Peterson M, Bailey R, Vincent B. Muscle Strength and Functional Limitations: Preserving Function in Older Mexican Americans. *Journal of the American Medical Directors Association*. 2018;19(5):391-398. PMID: [29371128](#).
  - **Featured Editorial of This Research:** Landi F, Calvani R, Picca A, Marzetti E. Can Muscle Strength be Considered a Composite Biomarker of Sarcopenia? *Journal of the American Medical Directors Association*. 2018;19(5):373-374. PMID: [29559370](#).
49. **McGrath R**, Ottenbacher K, Vincent B, Kraemer W, Peterson M. Muscle Weakness and Functional Limitations in an Ethnically Diverse Sample of Older Adults. *Ethnicity and Health*. 2017;25(3):342-353. PMID: [29278920](#).
50. **McGrath R**, Vella C, Scruggs P, Peterson M, Williams C, Paul D. The Impact of Low Accelerometer Wear Time on the Estimates and Application of Sedentary Behavior and Physical Activity Data in Adults. *Journal of Physical Activity and Health*. 2017;14(12):919-924. PMID: [28682660](#).

51. **McGrath R**, Vincent B, Al Snih S, Markides K, Dieter B, Bailey R, Peterson M. The Association Between Handgrip Strength and Diabetes on Activities of Daily Living Disability in Older Mexican Americans. *Journal of Aging and Health*. 2018;30(8):1305-1318. PMID: [28627325](#).
52. **McGrath R**, Kraemer W, Vincent B, Hall O, Peterson M. Muscle Strength is Protective Against Osteoporosis in an Ethnically Diverse Sample of Adults. *Journal of Strength and Conditioning Research*. 2017;31(9):2586-2589. PMID: [28658086](#).
53. Vaartstra M, Kercher V, Start A, Brown A, Peterson M, **McGrath R**. Understanding Why Undergraduate Students Declare and Continue to Study an Exercise Science-Related Major. *International Journal of Exercise Science*. 2017;10(8):807-817. PMID: [28966716](#).
54. **McGrath R**, Vincent B, Al Snih S, Markides K, Peterson M. The Association Between Muscle Weakness and Incident Diabetes in Older Mexican Americans. *Journal of the American Medical Directors Association*. 2017;18(5):452-e7. PMID: [28330635](#).
55. Peterson M, **McGrath R**, Zhang P, Markides K, Al Snih S, Wong R. Muscle Weakness is Associated with Diabetes in Older Mexicans: The Mexican Health and Aging Study. *Journal of the American Medical Directors Association*. 2016;17(10):933-938. PMID: [27450948](#).
56. Lowry M, **McGrath R**, Scruggs P, and Paul D. Error Assessment and Practitioner Survey for Manual Bicycle and Pedestrian Count Programs Involving Community-Volunteers. *International Journal of Sustainable Transportation*. 2016;10(8):720-729. [doi:10.1080/15568318.2015.1137377](https://doi.org/10.1080/15568318.2015.1137377).
57. Green A, **McGrath R**, Martinez V, Taylor K, Paul D, Vella C. Associations of Objectively-Measured Sedentary Behavior, Light Physical Activity, and Markers of Cardiometabolic Health in Young Women. *European Journal of Applied Physiology*. 2014;114(5):907-919. PMID: [24463602](#).
58. **McGrath R**, Whitehead J, Caine D. The Effects of Proprioceptive Neuromuscular Facilitation Stretching on Post-Exercise Delayed Onset Muscle Soreness in Young Adults. *International Journal of Exercise Science*. 2014;7(1):14-21. PMID: [27182398](#).

#### **Published Reports**

- Lowry M, **McGrath R**, Cool S, Cook R, Skiles M, Li Z, Henrickson K, Dunlap M, Wang Y, Hall M (2015). [Data Collection and Spatial Interpolation of Bicycle and Pedestrian Data](#) (No. 2013-M-I-0048).

#### **Funded Research**

- Hackney K, **McGrath R** (Co-I). Repair of Oxycon Mobile Portable Indirect Calorimetry System. North Dakota Established Program to Stimulate Competitive Research. \$1,907.
- Hackney K, **McGrath R** (Co-I), Ploutz-Snyder L, Scott J, Downs M, Mahoney S. Intramuscular Adipose Tissue and Functional Muscle Cross Sectional Area Following Disuse with Exercise Countermeasures. NASA EPSCoR-Related Research. January 1, 2021-July 31, 2021: \$19,646.
- **McGrath R** (PI), Hackney K, Stastny S, Ehlers D, Tomkinson G. The Great Plains Internet Wellness for Aging Study: The GP I-WAS Project. Great Plains IDEa-CTR. July 1, 2020-June 30, 2021. NIH-NIGMS (1U54GM115458): \$72,500.
- **McGrath R** (PI), Hackney K, Dahl L, Edwards B, Herrmann S. The Grip Strength, Internet Activity, and Nutrition Trial: The GIANT Study. Sanford Health-NDSU Collaborative Seed Grant. July 1, 2019-December 31, 2020: \$89,739.
- Hackney K, McCourt M, **McGrath R** (Co-I). Aging and Balance: Interactions Between Neuromuscular Function and the Lower Visual Field. NDSU Center for Visual and Cognitive Neuroscience Pilot Program. August 1, 2019-July 31, 2021. NIH-NIGMS (P30GM114748): \$116,000.
- Robinson-Lane S, **McGrath R** (Co-I). Towards a Culturally Responsive Intervention for Black Caregivers of Persons with Dementia. University of Michigan Claude D. Pepper Center. July 1, 2019-June 30, 2021: \$20,000.
- **McGrath R** (PI), Al Snih S, Markides K, Peterson M. The Burden of Disease and Functional Limitation for Ethnically Diverse Older Adults in the United States: Disability-Adjusted Life Years. Center for Large Data Research and Data Sharing in Rehabilitation: Large Data Pilot Study. July 1, 2017-December 31, 2019. NIH-NICHHD-NINDS-NIBIB (P2CHD065702): \$21,600.

- Hackney K, **McGrath R** (Co-I), Stastny S, Johnson N. The Impact of Beef Consumption on Functional Performance in Middle-Aged and Older Adults. National Cattleman's Beef Association. April 1, 2019-August 30, 2019: \$26,106.
- **McGrath R** (PI). College of Human Sciences and Education Summer Research Award. May 1, 2019-August 30, 2019: \$5,000.
- Hackney K, Nawarhna D, Dorsam G, Stastny S, **McGrath R** (Co-I). Optimizing Detection of Circulating MicroRNAs for Weight Management. College of Human Development and Education Seed Grant. January 1, 2019-December 31, 2019: \$3,350.
- Terbizan D, Hackney K, **McGrath R** (Co-I). Upgrading Wearable Technology for Teaching and Research in Exercise Science. HDE Award for Lab or Teaching Technology, or to Improve Research Lab or Facilities. November 1, 2018-June 30, 2019: \$1,872.
- Tate D, Kalpakjian C. The University of Michigan Advanced Rehabilitation Research Program in Community Living and Participation. October 05, 2015-April 30, 2018. NIDILRR-HHS-ACL (90AR5020-01-00). **Role: Fellow.**
- **McGrath R** (PI), Peterson, M. Objectively-Measured Sedentary Behavior and Physical Activity in Persons with Cerebral Palsy: A Systematic Review and Meta-Analysis. July 1, 2016-June 30, 2017. University of Michigan ARRT Pilot-Research Stipend: \$2,000.
- **McGrath R** (PI), Paul D. University of Idaho Transportation Analysis: Get Green, Get Active. September 1, 2008-August 31, 2009. University of Idaho Community Partnerships and Sustainability Center Grant: \$2,000.

#### **Award Winning Peer-Reviewed Abstracts and Conference Proceedings**

1. Silveira S, Ledoux T, Johnston C, Kalpakjian C, O'Connor D, Cottingham M, **McGrath R**, Tate D (2018). Identifying Successful Participants in the Well on Wheels Holistic Wellness Intervention. The ACRM Annual Conference. October 2018, Dallas, TX (Poster Presentation). **ACRM SCI-ISIG Best Poster Award.**
2. Martinez V, **McGrath R**, Vaartstra M, Green A, Smart A, Johnson T (2015). Assessing the State of Undergraduate Students Declaring a Health-Related Major. Northwest ACSM Annual Meeting. February 2015, Bend, OR. **Outstanding Doctorate Research Presentation Award.**
3. **McGrath R**, Moshfegh A, Kramer M, Rumpler W, Baer D, Vella C, Scruggs P, Paul D (2013). Prediction of Total Energy Expenditure and Moderate-to-Vigorous Physical Activity by the NHANES PAQ. Northwest ACSM Annual Meeting. March 2013, Salem, OR. **Outstanding Doctorate Research Presentation Award.**
4. Green A, Paul D, **McGrath R**, Martinez V, Taylor K, Vella C (2013). Sedentary Behavior, Central Obesity and Cardiovascular Disease Risk Factors in Young Women. Northwest ACSM Annual Meeting. March 2013, Salem, OR. **Outstanding Doctorate Research Presentation Award.**

#### **Peer-Reviewed Abstracts and Conference Proceedings**

5. Hall O, Teater J, Kolodny A, **McGrath R**, Hall O. Assessment of Drug Overdose Mortality in Ohio, 2009-2018. American Society of Addiction Medicine 52<sup>nd</sup> Conference. April 2021 (Virtual Poster Presentation).
6. **McGrath R**, Clark B, Hackney K, Jurivich D, Vincent B, Dahl L, Peterson M. Weakness May Cause Mortality in Older Americans: A Matched Cohort Analysis. ACSM's 67<sup>th</sup> Annual Meeting and 11<sup>th</sup> World Congress on Exercise is Medicine. May 2020. San Francisco, CA (Online Thematic Poster).
7. Hall O, Haile Z, **McGrath R**, Hall O (2020). Years of Life Lost Due to Opioid Overdose in Ohio. American Society of Addiction Medicine Annual Conference. April 2020. Denver, CO (Poster Presentation).
8. **McGrath R**, Al Snih S, Markides K, Faul J, Vincent B, Hall O, Peterson M (2019). The Burden of Health Conditions Across Race and Ethnicity for Aging Americans: Disability-Adjusted Life Years. American Geriatrics Society Conference. May 2019. Portland, OR (Poster Presentation).

9. Bailey R, **McGrath R**, Serra M (2019). Obesity and Diabetes are Jointly Associated with Functional Disability in Stroke Survivors. Obesity Week Conference. November 2019. Las Vegas, NV (Poster Presentation).
10. Bailey R, Phad A, **McGrath R**, Ford A, Tabak R, Haire-Joshu D, Serrano N (2019). Lifestyle Risk Behaviors Among Stroke Survivors With and Without Diabetes. American Diabetes Association Annual Meeting. June 2019. San Francisco, CA (Poster Presentation).
11. Hall O, Hall O, **McGrath R**, Haile Z (2019). Years of Life Lost Due to Opioid Overdose in Ohio: Temporal and Geographic Patterns of Excess Mortality. Assay Guidance Manual Symposium-The Opioid Crisis and the Future of Addiction and Pain Therapeutics: Opportunities, Tools, and Technologies. February 2019. Bethesda, MD (Poster Presentation).
12. **McGrath R**, Lee D-C, Kraemer W, Vincent B, Terbizan, D (2019). Handgrip Strength and Congestive Heart Failure in Aging Adults: Getting a Grip on Heart Health. ACSM's 66<sup>th</sup> Annual Meeting and 10<sup>th</sup> World Congress of Exercise is Medicine. May 2019, Orlando, FL (Poster Presentation).
13. **McGrath R**, Al Snih S, Markides K, Hall O, Peterson M (2019). The Burden of Health Conditions for Aging Adults in the United States: Disability-Adjusted Life Years. American Medical Directors Association Annual Conference. March 2019, Atlanta, GA (Poster Presentation).
14. **McGrath R**, Al Snih S, Markides K, Hackney K, Bailey R, Peterson M (2019). The Burden of Autonomous Living and Basic Self-Care Disability for Aging Adults in the United States: Disability-Adjusted Life Years. International Conference on Frailty & Sarcopenia Research. February 2019, Miami, FL (Oral Presentation).
15. **McGrath R**, Vincent B, Lee I-M, Kraemer W, Peterson M (2018). The Time-Varying Longitudinal Associations Between Muscle Strength, Functional Limitations, and Mortality in Older Adults. ACSM's 65<sup>rd</sup> Annual Meeting and 9<sup>th</sup> World Congress of Exercise is Medicine. May 2018, Minneapolis, MN (Thematic Poster Presentation).
16. **McGrath R**, Ottenbacher K, Vincent B, Kraemer W, Peterson M (2017). Muscle Weakness and Functional Disability in a Nationally-Representative Sample of Ethnically Diverse Older Adults. The ACRM Annual Conference. October 2017, Atlanta, GA (Oral Presentation).
17. **McGrath R**, Kraemer B, Vincent B, Hall O, Peterson M (2017). Muscle Strength is Protective Against the Odds of Osteoporosis in a Nationally-Representative Sample of Ethnically Diverse Adults. NSCA National Conference. July 2017, Las Vegas, NV (Poster Presentation).
18. **McGrath R**, Vincent B, Dieter B, Markides K, Al Snih S, Peterson M (2017). The Independent and Combined Effects of Muscle Weakness and Diabetes Status on Predicting Activities of Daily Living Disability. ACSM's 64<sup>rd</sup> Annual Meeting and 8<sup>th</sup> World Congress of Exercise is Medicine. May 2017, Denver, CO (Poster Presentation).
19. Vincent B, **McGrath R**, Al Snih S, Markides K, Peterson M (2017). Muscle Weakness Increases the Risk of Incident Diabetes in Older Mexican Americans. ACSM's 64<sup>rd</sup> Annual Meeting and 8<sup>th</sup> World Congress of Exercise is Medicine. May 2017, Denver, CO (Oral Presentation).
20. Paul D, Vincent B, Vella C, Scruggs P, Peterson M, Williams C, **McGrath R** (2017). Data Imputation Improves Sedentary Behavior and Physical Activity Estimates in Accelerometer Data with Low Wear. ACSM's 64<sup>rd</sup> Annual Meeting and 8<sup>th</sup> World Congress of Exercise is Medicine. May 2017, Denver, CO (Poster Presentation).
21. **McGrath R**, Tate D, Forchheimer M, Kalpakjian C, Peterson M (2016). The Impact of a Holistic Wellness Intervention in Persons with Spinal Cord Injury. The ACRM Annual Conference. November 2016, Chicago, IL (Poster Presentation).
22. Vincent B, **McGrath R**, Al Snih S, Markides K, Peterson M (2016). Muscle Weakness and Diabetes Risk in Older Mexican Americans. Midwest American College of Sports Medicine Annual Meeting. November 2016, Fort Wayne, IN (Poster Presentation).
23. **McGrath R**, Ziadeh M, Wheaton M, Le T, Peterson M, Kalpakjian C (2016). The Efficacy of Oral Glutathione to Improve Health Outcomes in Persons with Post-Polio Syndrome: A Prospective, Single Arm Clinical Trial. Midwest American College of Sports Medicine Annual Meeting. November 2016, Fort Wayne, IN (Poster Presentation).

24. **McGrath R**, Zhang P, Markides K, Al Snih S, Wong R, Peterson M (2016). The Impact of Muscle Weakness on Diabetes in Older Mexican Adults: The Mexican Health and Aging Study. NSCA National Conference. July 2016, New Orleans, LA (Oral Presentation).
25. **McGrath R**, Vella C, Scruggs P, Williams C, Peterson M, Vincent B, Paul D (2016). Low Accelerometer Wear Time Adherence Underestimates Sedentary Behavior and Physical Activity. ACSM's 63<sup>rd</sup> Annual Meeting and 7<sup>th</sup> World Congress of Exercise is Medicine. May 2016, Boston, MA (Poster Presentation).
26. Martinez V, Vaartstra M, **McGrath R**, Start A, Brown A, Johnson T (2016). Assessing the State of Undergraduate Students Declaring a Health-Related Major. ACSM's 63<sup>rd</sup> Annual Meeting and 7<sup>th</sup> World Congress of Exercise is Medicine. May 2016, Boston, MA (Poster Presentation).
27. **McGrath R**, Vella C, Scruggs P, Williams C, Paul D (2015). Low Accelerometer Adherence Negatively Impacts the Estimates and Application of Physical Activity Data. ACSM's 62<sup>nd</sup> Annual Meeting and 6<sup>th</sup> World Congress of Exercise is Medicine. May 2015, San Diego, CA (Poster Presentation).
28. Paul D, Lowry M, Scruggs P, **McGrath R** (2015). Assessing Error and Surveying Practitioners for Manual Bicycle and Pedestrian Count Programs Involving Community-Volunteers. ACSM's 62<sup>nd</sup> Annual Meeting and 6<sup>th</sup> World Congress of Exercise is Medicine. May 2015, San Diego, CA (Poster Presentation).
29. **McGrath R**, Vella C, Scruggs P, Williams C, Paul D (2015). Estimates and Application of Physical Activity Data is Negatively Impacted by Low Accelerometer Adherence. Northwest ACSM Annual Meeting. February 2015, Bend, OR (Poster Presentation).
30. Vella C, Martinez V, Taylor K, Green A, **McGrath R**, Paul D (2014). Cardiorespiratory Fitness Mediates the Associations between Sedentary Behavior and Markers of Cardiometabolic Health in Women. ACSM's 61<sup>st</sup> Annual Meeting and 5<sup>th</sup> World Congress of Exercise is Medicine. May 2014, Orlando, FL (Poster Presentation).
31. **McGrath R**, Moshfegh A, Kramer M, Rumpler W, Baer D, Vella C, Scruggs P, Paul D (2013). Prediction of Total Energy Expenditure and Moderate-to-Vigorous Physical Activity by the NHANES PAQ. ACSM's 60<sup>th</sup> Annual Meeting and 4<sup>th</sup> World Congress of Exercise is Medicine. May 2013, Indianapolis, IN (Poster Presentation).
32. Green A, Paul D, **McGrath R**, Martinez V, Taylor K, Vella C (2013). Sedentary Behavior, Central Obesity and Cardiovascular Disease Risk Factors in Young Women. ACSM's 60<sup>th</sup> Annual Meeting and 4<sup>th</sup> World Congress of Exercise is Medicine. May 2013, Indianapolis, IN (Poster Presentation).
33. **McGrath R**, Browder K (2012). The Relationship between Muscle Activation and Rating of Perceived Exertion Across Four Exercise Modes. ACSM's 59<sup>th</sup> Annual Meeting and 3<sup>rd</sup> World Congress of Exercise is Medicine. May 2012, San Francisco, CA (Poster Presentation).
34. **McGrath R**, Whitehead J, Caine D, Brinkert R, Paul D (2012). How Stretching Modalities and Flexibility Predict Delayed Onset Muscle Soreness in Adults. Northwest ACSM Annual Meeting. March 2012, Coeur d'Alene, ID (Poster Presentation).
35. **McGrath R**, Whitehead J, Caine D, Brinkert R (2011). The Effects of Two Different Post-Exercise Stretching Modalities on Delayed Onset Muscular Soreness in Adults. ACSM's 58<sup>th</sup> Annual Meeting and 2<sup>nd</sup> World Congress of Exercise is Medicine. June 2011, Denver, CO (Poster Presentation).

### **Invited Presentations and Interviews**

- **McGrath R**. [North Dakota Today](#). KVLV-TV, Fargo, ND, January 2021.
- **McGrath R**. Measures of Mobility and Functional Impairment: Handgrip Strength. Project ECHO Geriatric and Age Friendly Care teleECHO series. University of North Dakota School of Medicine and Health Sciences. December 2020.
- **McGrath R**. Doctors Radio. Healthy Aging. SiriusXM, February 2020.
- **Berger M**. [Weaker Grip Strength May Be A Sign of Dementia](#). Healthline, August 2019.
- **Yasgur B**. [Gripping Theory Offers Clue to Predicting Cognitive Decline](#). Medscape, June 2020.



- **McGrath R.** What Exactly is Handgrip Strength Measuring? Ohio Muscular and Neurological Institute Research Symposium, August 2019, Athens, OH.
- **McGrath R.** Muscle Strength and Brain Health. Physical Activity and Brain Health Webinars. October 2019, Fargo, ND.
- **McGrath R.** “The Burden of Disease and Functional Limitations for an Ethnically Diverse Sample of Older Adults in the United States: Disability-Adjusted Life Years.” Health and Retirement Study/IHPI-ISR Health Economics and Public Policy Seminar, University of Michigan. February 2018, Ann Arbor, MI.
- **McGrath R.** “Data Blitz.” Center for Large Data Research & Data Sharing in Rehabilitation Annual Meeting, University of Texas Medical Branch. January 2018, Galveston, TX.
- **McGrath R.** “Integrating Physical Activity into Everyday Life.” Spina Bifida Education Days. September 2017, Pinckney, MI.

### **Non-Referred Abstracts and Presentations**

- Hall Jr. O, **McGrath R**, Hall Sr. O (2018). Statewide Trends in Years of Life Lost Due to Opioid Overdose. University of Michigan James W. Rae Scientific Day (Poster Presentation), Ann Arbor, MI.
- **McGrath R**, Hall O, Peterson M, Kalpakjian C (2017). The Effect of Neurological Category of Impairment on the Incidence of Mortality in Persons with a Spinal Cord Injury. University of Michigan James W. Rae Scientific Day (Poster Presentation), Ann Arbor, MI.
- Hall O, **McGrath R**, Peterson M, Kalpakjian C (2017). The Burden of Spinal Cord Injury in the United States: Disability-Adjusted Life Years. University of Michigan James W. Rae Scientific Day (Poster Presentation), Ann Arbor, MI.
- Martinez V, Vaartstra M, **McGrath R**, Start A, Brown A, Johnson, T (2015). Assessing the State of Undergraduate Students Declaring a Health-Related Major. University of Idaho Innovation Showcase (Oral Presentation), Moscow, ID.
- Green A, Paul D, **McGrath R**, Martinez V, Taylor K, Vella C (2013). Sedentary Behavior, Central Obesity and Cardiovascular Disease Risk Factors in Young Women. University of Idaho Innovation Showcase (Oral Presentation), Moscow, ID.
- **McGrath R**, Moshfegh A, Kramer M, Rumpler W, Baer D, Vella C, Scruggs P, Paul D (2013). Prediction of Total Energy Expenditure and Moderate-to-Vigorous Physical Activity by the NHANES PAQ. University of Idaho Innovation Showcase (Oral Presentation), Moscow, ID.
- **McGrath R** (2009). Post-Exercise PNF Stretching May Reduce DOMS in Young Adults: A Research Proposal. University of North Dakota College of Education and Human Development Research Fair (Poster Presentation), Grand Forks, ND.

### **Teaching**

North Dakota State University; Department of Health, Nutrition, and Exercise Sciences.

- Instructor: Research Methods and Design in Exercise Science (HNES 375).
- Instructor: Exercise and Disease (HNES 370).
- Instructor: Scholarly Writing and Presenting (HNES 777).
- Instructor: Assessment in Nutrition and Exercise Science (HNES 754).
- Instructor: Physical Activity Epidemiology (HNES 727).
- Instructor: Obesity Across the Lifespan (HNES 743).

University of Idaho; Department of Movement Sciences.

- Instructor: Design and Analysis of Research in Movement Sciences (PEP/REC 455).
- Teaching Assistant: Concepts in Strength and Conditioning (PEP 409).
- Teaching Assistant: Physiology of Exercise (PEP 418).
- Teaching Assistant: Exercise Training and Prescription (PEP 493).
- Teaching Assistant: Motor Behavior (PEP 360).

- Teaching Assistant: Biomechanics (PEP 300).
- Preceptor: Practicum in Exercise and Health (PEP 495).
- Instructor: Strength and Conditioning (PEP 106).

University of North Dakota: Department of Physical Education, Exercise Science, and Wellness.

- Teaching Assistant: Biomechanics (PXW 322).
- Teaching Assistant: Motor Learning (PXW 276).

### **Extracurricular Teaching**

- Medical Resident Journal Advisor, Department of Physical Medicine and Rehabilitation, University of Michigan, Ann Arbor, MI.
- Bowl Team Coach, ACSM Undergraduate Student Knowledge Bowl Team, University of Idaho, Moscow, ID.
- Graduate Student Advisor, Exercise Science and Health Club, University of Idaho, Moscow, ID.

### **Mentoring**

North Dakota State University; Department of Health, Nutrition, and Exercise Sciences.

- Lukus Klawitter (PhD student), major professor.
- Logan Pitts (PhD student), committee member.
- Nathaniel Johnson (PhD student), committee member.
- Kelly Parker (PhD student), committee member.
- Miranda Ripplinger (MS student), committee member.
- Thomas Lillquist (MS student), committee member (2020 graduate).

University of Michigan; Department of Physical Medicine and Rehabilitation.

- Orman Trent Hall, DO, Department of Physical Medicine and Rehabilitation, University of Michigan, Ann Arbor, MI (Current Position: Fellow; The Ohio State University).

University of Idaho; Department of Movement Sciences, Moscow, ID.

- Ryan Wilson, BS, undergraduate student.
- Thomas Anderson, BS, undergraduate student.

### **Awards**

- 2020 College of Human Sciences and Education Emerging Researcher Award: Winner.
- 2020 College of Human Sciences and Education Gunkleman Award: Winner.
- 2019 College of Human Development and Education Emerging Researcher Award: Finalist.
- 2019 College of Human Development and Education Collaboration Award: Finalist.
- 2015 University of Idaho Outstanding Graduate Teaching Assistant Award: Finalist.
- 2015 ACSM Northwest Regional Student Knowledge Bowl Champions (Coach).
- 2014 University of Idaho Outstanding Graduate Teaching Assistant Award: Runner-Up.
- 2014 ACSM Northwest Regional Student Knowledge Bowl Champions (Coach).

### **Academic Service**

- National Institutes of Health (NIH) grant reviewer; [Neurological, Aging and Musculoskeletal Epidemiology \(NAME\) chartered study section](#). February 2021.
- Associate Editor, *Journal of Alzheimer's Disease*: 2020-present.
- Sport Management Hiring Committee, Department of Health, Nutrition, and Exercise Sciences, North Dakota State University, Fargo, ND.
- PhD Assessment Committee, Department of Health, Nutrition, and Exercise Sciences, North Dakota State University, Fargo, ND.
- Strategic Planning Committee, Department of Health, Nutrition, and Exercise Sciences, North Dakota State University, Fargo, ND.

- MS Exercise Science and Nutrition Plan C Committee, Department of Health, Nutrition, and Exercise Sciences, North Dakota State University, Fargo, ND.
- Exercise Science Workgroup, Department of Health, Nutrition, and Exercise Sciences, North Dakota State University, Fargo, ND.
- Hiring Committee, Department of Movement Sciences Basic Instruction Program, University of Idaho, Moscow, ID.
- Student Senator, Graduate and Professional Student Association, University of Idaho, Moscow, ID.
- Member, Active Transportation Committee, University of Idaho, Moscow, ID.
- Member, College of Education Graduate Research and Policy Committee, University of Idaho, Moscow, ID.
- Voting Member, Tenure and Promotion Committee, College of Education, University of Idaho, Moscow, ID.
- Voting Member, Faculty Award Committee, University of North Dakota, Grand Forks, ND.

**Ad-Hoc Journal Reviewer (Approximately 200 Assignments Completed)**

*Age and Ageing*

*Aging and Mental Health*

*Alzheimer's & Dementia*

*American Journal of Medicine*

*American Journal of Preventive Medicine*

*Archives of Gerontology and Geriatrics*

*Archives of Physical Medicine and Rehabilitation*

*Archives of Physiotherapy*

*Biomarker Insights*

*Biomechanics*

*Biomedical and Environmental Sciences*

*BMC Geriatrics*

*BMC Neurology*

*BMC Public Health*

*BMJ Open*

*Clinical Interventions in Aging*

*Clinical Nutrition*

*Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*

*Disability and Health Journal*

*Drugs & Aging*

*European Journal of Neurology*

*Experimental Gerontology*

*Frontiers in Physiology*

*Gerontology*

*Healthcare*

*Healthcare & Social Care in the Community*

*IEEE Journal of Biomedical and Health Informatics*

*International Journal of Environmental Research and Public Health*

*International Journal of Exercise Science*

*International Journal of Geriatric Psychiatry*

*International Journal of Gerontology*

*International Journal of Industrial Ergonomics*

*Journal of Aging and Health*

*Journal of Applied Biomechanics*

*Journal of Applied Gerontology*

*Journal of Cross-Cultural Gerontology*

*Journal of Exercise Science and Fitness*  
*Journal of Gerontological Social Work*  
*Journal of Men's Health*  
*Journal of Multidisciplinary Healthcare*  
*Journal of Musculoskeletal Research*  
*Journal of Pediatric Neurology*  
*Journal of the American College of Nutrition*  
*Journal of the American Medical Directors Association*  
*Journal of Spinal Cord Medicine*  
*Journal of Sport and Health Science*  
*Journal of Strength and Conditioning Research*  
*Medical Science Monitor*  
*Medicina*  
*Medicine and Science in Sports and Exercise*  
*Open Access Journal of Sports Medicine*  
*Patient Preference and Adherence*  
*Pediatrics*  
*Physical & Occupational Therapy in Geriatrics*  
*PLoS One*  
*Primary Care Diabetes*  
*Public Health Nutrition*  
*Rejuvenation Research*  
*Research on Aging*  
*SAGE Open*  
*Scientific Reports*  
*Sensors*  
*Sleep Medicine*  
*Sports Medicine*  
*Sustainability*  
*The Journals of Gerontology: Medical Sciences*  
*Topics in Stroke Rehabilitation*

### **Professional Memberships**

- American College of Sports Medicine: 2011-present.
- American College of Sports Medicine-Northland Chapter: 2018-present.
- American College of Sports Medicine-Midwest Chapter: 2016-2017.
- American Medical Directors Association: 2018-2019.
- American Statistical Association: 2017-2018.
- National Strength and Conditioning Association: 2016-2017.
- American Congress of Rehabilitation Medicine: 2016-2018.
- American College of Sports Medicine-Northwest Chapter: 2013-2016.