PAUL R. HIBBING, PH.D.

Assistant Professor
University of Illinois Chicago
Department of Kinesiology and Nutrition

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EDUCATION

Doctor of Philosophy (May 2020)
University of Tennessee, Knoxville

Major:	Kinesiology and Sport Studies
Specialization:	Exercise Physiology
Cognate:	Statistics
Dissertation:	Calibration and validation of gyroscope inclusive youth Sojourn models
Committee:	Scott E. Crouter (Major Professor) David R. Bassett Jr. Dawn P. Coe Haileab Hilafu

Master of Science (August 2016)
Iowa State University

Major:	Kinesiology
Thesis:	Estimation of physical activity intensity using triaxial ActiGraph accelerometers in youth populations: Impact of data type, attachment site, and modeling approach, including adaptations of the Sojourn method for varied use in youth
Committee:	Gregory J. Welk (Major Professor) Laura D. Ellingson Philip M. Dixon

Bachelor of Science (August 2014)
Iowa State University

Major:	Kinesiology and Health
Minors:	German Language Music Technology

ACADEMIC APPOINTMENTS

- Assistant Professor ..... *01/2023 – present*
  University of Illinois at Chicago
  Department of Kinesiology and Nutrition
  Courses Taught – Page 22 | *Students Mentored – Page 23*

OTHER PROFESSIONAL EXPERIENCE

Postdoctoral Training

- Fellowship Appointment..... *07/2020 – 12/2022*
  Children's Mercy Kansas City
  Center for Children's Healthy Lifestyles & Nutrition (director Ann Davis)
  Primary mentors: Jordan Carlson, Robin Shook
- Certificate: Physical Activity & Public Health (60 hours) ..... *09/14/2021 – 09/21/2021*
  Postgraduate Course on Research Directions and Strategies (director Russell Pate)
  University of South Carolina
  Arnold School of Public Health

Fee-for-Service Research Consultancies

- British Youth Physical Activity Measurement Study ..... *07/2017 – 09/2017*
  Supervisors: Greg Welk (Iowa State University) and Stuart Fairclough (Edge Hill University)
  Description: Managed activity monitor data from free-living youth
- Youth Physical Activity Measurement Study..... *01/2019 – 06/2019*
  Supervisor: Greg Welk (Iowa State University)
  Description: Managed activity monitor data from free-living youth
- Gestational Weight Gain and Optimal Wellness Study *06/2020*
  Supervisor: Samantha Ehrlich (University of Tennessee, Knoxville)
  Description: Performed logistic regression analyses

Graduate Research Assistantships

- Iowa State University ..... *08/2014 – 07/2016*
  Department of Kinesiology
  Physical Activity and Health Promotion Lab (director Greg Welk)
  Funded by NIH R21CA188641 and NCI subcontract HHSN261201200028I (Westat)
- University of Tennessee, Knoxville..... *08/2016 – 05/2020*
  Department of Kinesiology, Recreation, and Sport Studies
  Applied Physiology Lab (director Scott Crouter)
  Funded by NIH R01HD083431

Other Research Positions

- Undergraduate Research Assistant ..... *09/2013 – 08/2014*
  Iowa State University
  Department of Kinesiology
  Physical Activity and Health Promotion Lab (director Greg Welk)
- Summer Research Intern ..... *05/2014 – 08/2014*
  Iowa State University
  Department of Kinesiology
  Neurophysiology Lab (director Elizabeth Stegemöller)

Supervised Research Mentorship

High School Students (STAR 2.0)

Lauryn Birmingham, Park Hill High School ..... *Summer 2022*
Aniya Byrd, Lincoln College Preparatory Academy ..... *Summer 2022*
Tumusifu Ndagijimana, J.C. Harmon High School ..... *Summer 2022*
Sara Sadeghi, Sumner Academy of Arts and Sciences ..... *Summer 2022*
Nedra Seigfreid, Truman High School ..... *Summer 2022*

Undergraduate Students

Darby Flatley, Iowa State University ..... *2015-2016; remotely through 2017*
Ayla Heder, Iowa State University *2015-2016*
Bailie Kies, Iowa State University *2015-2016*
B. Jesse Clendenin, University of Tennessee, Knoxville *2017-2019*
Brice Walkowski, University of Tennessee, Knoxville *2018-2020*
Christine Ibeagi, Children's Mercy Kansas City ..... *Summer 2021*

Supervised Teaching Positions

(● undergraduate courses | ○ graduate courses)

Undergraduate Teaching Assistant (Iowa State University)

○ BIOL 255L, Laboratory Section: Human Anatomy ..... *Fall 2013*

Graduate Teaching Assistant (University of Tennessee, Knoxville)

○ KNS 414, Laboratory Section: Fitness Testing and Exercise Prescription ..... *May Term 2017*
○ KNS 532, Laboratory Section: Exercise Physiology ..... *Fall 2017, Fall 2019*
○ SOWK 665, Advanced Quantitative Research Methods ..... *Fall 2018*

Guest Lecturer (University of Tennessee, Knoxville)

● "Current Research in the Applied Physiology Laboratory" *04/20/2017*
KNS 350, Physical Activity Epidemiology
● "Physical Activity and Wellness" *09/13/2017*
FYS 129, Wellness: The Art and Science
○ "Cardiovascular Physiology I" *10/18/2017*
KNS 532, Exercise Physiology
○ "Cardiovascular Physiology II" *10/23/2017*
KNS 532, Exercise Physiology

- "Assessing Energy Expenditure in Youth" *02/06/2020*
  KNS 365, Pediatric Exercise Science
- "Measuring Physical Activity in Youth" *03/05/2020*
  KNS 365, Pediatric Exercise Science

GRANT FUNDING

Current Research Support

1. R01DK129428 (National Institutes of Health) *05/2022-04/2026*

   Role: Consultant (Principal Investigators: Crouter and Ding)

   Title: Use of accelerometer and gyroscope data to improve precision of estimates of physical activity type and energy expenditure in free-living adults

   Details: The goal of this study is to pair multi-sensor physical activity monitoring with advanced machine learning to improve the precision of physical activity estimates. In response to PA-18-856: Diet and Physical Activity Assessment Methodology.

   Amount: $2,591,294

2. R01HL168535 (National Institutes of Health).....*12/2023-11/2027*

   Role: Consultant (Principal Investigator: Natarajan)

   Title: Leveraging deep learning to classify sitting posture and measure sedentary patterns from accelerometer data in diverse cohorts

   Details: The goal of this study is to calibrate and validate a model that predicts sitting and non-sitting posture using data from wrist-worn activity monitors.

   Amount: $2,761,721

3. R01CA257807 (National Institutes of Health) *09/2021-08/2026*

   Role: Co-Investigator (Principal Investigators: Tussing-Humphreys and Varady)

   Title: Effects of time-restricted eating versus daily continuous calorie restriction on body weight and colorectal cancer risk markers among adults with obesity

   Details: The goal of this study is to determine the comparative impacts of time restricted eating versus caloric restriction on weight- and cancer-related variables in a 12-month randomized trial. In response to RFA-CA-20-004: Research Answers to National Cancer Institute's (NCI) Provocative Questions (R01 Clinical Trial Optional).

   Amount: $5,083,338

4. DEAR Pilot Grant (ActiGraph LLC) *06/2024-05/2025*

   Role: Principal Investigator

   Title: Calibration and validation of models to predict blood pressure with the ActiGraph LEAP device

   Details: The goal of this study is to establish methods of non-invasive blood pressure measurement using photoplethysmography data from the ActiGraph LEAP device.

   Amount: $10,000

5. 960 NMSS CA-2110-38596 Pilot *05/2024-04/2025*

   Role: Multi-Principal Investigator with Hibner

   Title: Development of Improved Exercise Testing Methods for People with Multiple Sclerosis

   Details: The goal of this study is to establish more accurate and acceptable methods for measuring and predicting aerobic capacity in people with multiple sclerosis.

   Amount: $66,000

6. NIHxxxxxx (National Institutes of Health) *xx/2025-xx/2026*

   Role: Co-Investigator (Principal Investigators: Motl, Rehman, and Abrams)

   Title: Vascular metabolic dysfunction in skeletal muscle for explaining post-exertional malaise in PASC

   Details: The goal of this study is to characterize the vascular and muscular pathophysiology of post-exertional malaise in people with long-COVID. In response to OTA-21-015J: RECOVER PASC PATHOBIOLOGY SUBSTUDIES.

   Amount: $1,446,785

Applications Under Review

7. R01CA296977 (National Institutes of Health) ..... *November 2024*

   Role: Co-Investigator (Principal Investigator: Welk)

   Title: Refinement of the Youth Activity Profile for School Research and Surveillance

   Details: The goal of this study is to improve the Youth Activity Profile's predictive algorithms using measurement error modeling and subgroup calibration.

   Requested: $74,226 (subaward)

8. F31xxxxxx (National Institutes of Health) ..... *December 2024*

   Role: Collaborator (Supplemental Mentorship; Principal Investigator DuBose)

   Title: Physical Activity, Vascular Function, and Brain Health in Multiple Sclerosis

   Details: The goal of this study is to understand how physical activity impacts the health of individuals with multiple sclerosis, with particular attention to impacts on vascular function and markers of brain health.

9. F31xxxxxx (National Institutes of Health) ..... *December 2024*

Role: Collaborator (Supplemental Mentorship; Principal Investigator Remillard)

Title: Connecting Disciplines: Applying Computer Vision to Physical Activity Measurement Methods

Details: The goal of this study is to streamline direct observation of physical activity by leveraging deep learning and computer vision.

10. R01DK145499 (National Institutes of Health) ..... *January 2025*

Role: Principal Investigator

Title: Physical activity timing in relation to glycemic control for night workers versus day workers

Details: The goal of this study is to transition me into a new area of research focused on physical activity and glycemic control for night workers. Submitted under PAR-24-075, “Stephen I. Katz Early Stage Investigator Research Project Grant (R01 Clinical Trial Not Allowed)”.

Requested: $2,977,658

11. R21HLxxxxxx (National Institutes of Health) ..... *February 2025*

Role: Multi-Principal Investigator with Paluch

Title: Harmonizing physical activity data from wearable devices in cardiovascular disease research

Details: The goal of this study is to improve the comparability of wearable device output from different placements (hip/wrist) and brands (ActiGraph/GENEActiv/Axivity). Submitted under PAR-25-056, "Secondary Analysis of Existing Datasets in Heart, Lung, and Blood Diseases and Sleep Disorders (R21 Clinical Trial Not Allowed)".

Requested: $256,818

12. R01DK143220 (National Institutes of Health) ..... *February 2025*

Role: Co-Investigator (Principal Investigator: Shook)

Title: Characterizing metabolic function, appetite, and weight gain in adolescents

Details: The goal of this study is to integrate domains of appetite regulation, metabolic function, and physical activity on energy balance and future weight gain in adolescents.

Requested: $103,395 (subaward)

Completed Awards

13. Kenneth and Eva Smith Award (Children’s Mercy Kansas City) *10/2021-09/2023*

Role: Key Personnel (Principal Investigator: Shook)

Title: Fitbit Teens: A measurement error approach to estimating energy balance in free-living adolescents

Details: The goal of this study is to advance the assessment of energy balance in youth through measurement error modeling. I will assist in managing and processing data from wearable activity monitors.

Amount: $50,000

14. STAR 2.0 mini grant (Children's Mercy Kansas City) *06/2022-07/2022*

Role: Co-lead mentor with Carlson

Details: The purpose of the Summer Training in Academic Research (STAR) 2.0 program is to provide high school students from underrepresented backgrounds with a mentored research training experience during a six-week summer program, culminating in manuscript submission for peer review. Our project was focused on validating estimates of total sleep and sleep stages from a Garmin Vivofit 4 device against gold standard polysomnography collected during overnight sleep studies in the Children's Mercy Sleep Clinic.

Amount: $2,000

Applications Not Funded

15. R01DK129662 (National Institutes of Health) ..... *October 2020*

Role: Co-Investigator (Principal Investigator: Carlson)

Title: Scaling up Ecological Video Identification of Physical Activity (EVIP) for community-based research

Details: The goal of this study is to advance computer vision approaches for providing automated ecological physical activity assessment in parks, schools, and sports facilities. In response to PA-18-856: Diet and Physical Activity Assessment Methodology.

16. Collaborative Pilot Award (Internal; see details) ..... *November 2020*

Role: Co-Investigator (Principal Investigators: Shook and Creasy)

Title: Fitbit Teens: A novel estimation of energy balance through the calibration of consumer devices in free-living adolescents

Details: The goal of this pilot study was to advance the assessment of energy balance in youth through the use of measurement error modeling. In response to a collaborative pilot program of Children's Mercy Kansas City and the Colorado Nutrition and Obesity Research Center.

17. R01DKxxxxxx (National Institutes of Health) ..... *June 2021*

Role: Key personnel (Principal Investigator: Shook)

Title: A measurement error approach to estimating energy balance in free-living adults

Details: The goal of this study was to use measurement error modeling to improve utility of smart scales and smart watches for assessing energy intake via the intake balance method. In response to PA-18-857: Diet and Physical Activity Assessment Methodology.

18. R01CA255858 (National Institutes of Health) ..... *July 2021*

Role: Consultant (Principal Investigator: Welk)

Title: Measurement error modeling to enhance calibration of the youth activity profile

Details: The goal of this study was to refine the utility of the Youth Activity Profile for national applications and surveillance. In response to PA-18-856: Diet and Physical Activity Assessment Methodology.

19. TL1 Award (Internal/National Institutes of Health)..... *January 2022*

Role: Principal Investigator/Trainee

Title: Occupational and non-occupational physical activity have differential associations with cardiovascular disease versus diabetes in the Hispanic Community Health Study/Study of Latinos (HCHS/SOL)

Details: The goal of this project was to provide me training and experience related to research in the area of population health, specifically prevention of cardiovascular and cardiometabolic disease in an at-risk and underrepresented population. In response to an internal RFA at the University of Kansas Medical Center, as part of the Frontiers Clinical and Translational Science Institute programming (UL1TR002366).

20. F32HL163951 (National Institutes of Health)..... *April 2022*

Role: Principal Investigator

Title: Occupational and non-occupational physical activity have differential associations with cardiovascular versus glycemic biomarkers in the Hispanic Community Health Study/Study of Latinos (HCHS/SOL)

Details: The goal of this project is to provide me training and experience related to research in the area of physical activity epidemiology, specifically related to occupational physical activity and cardiovascular/glycemic health in an at-risk and underrepresented population. In response to PA-21-048: Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (Parent F32).

21. DEAR Pilot Grant (ActiGraph LLC) ..... *November 2022*

Role: Principal Investigator

Title: Development of Gyroscope-Inclusive Gait Assessment Models for Patients with Multiple Sclerosis

Details: The purpose of the Digital Endpoint Accelerator Research (DEAR) Grant was to "[support] projects that aim to validate the use of [digital health technology] data as outcome measures in clinical populations where the validation from healthy populations might not apply". The proposed study would do so with a focus on the utility of gyroscope data for predicting gait parameters in a sample of patients with multiple sclerosis.

22. Interdisciplinary Pilot Grant (UIC College of Applied Health Sciences) ..... *April 2023*

Role: Principal Investigator

Title: Calibration and validation of photoplethysmography data from a research-grade smartwatch device

Details: The goal of this study was to test and apply data from a new smartwatch device available from Empatica Inc.

23. R21HL175565 (National Institutes of Health)..... *October 2023*

Role: Multi-Principal Investigator with Paluch

Title: Harmonizing traditional and modern accelerometer data for epidemiological research on physical activity

Details: The goal of this study is to improve the comparability of wearable device output from traditional monitors (hip-worn, uniaxial, arbitrary and proprietary units) and modern ones (wrist-worn, triaxial, raw acceleration data).

24. R01HL171132 (National Institutes of Health).....*November 2023*

Role: Co-Investigator (Principal Investigators: Carlson and Natarajan)

Title: Advancing field-based sleep measurement from 24-hour activity monitors

Details: The goal of this study is to leverage data from the thigh-worn activPAL monitor to improve sleep assessment in the context of 24-hour epidemiology.

25. R01HL174142 (National Institutes of Health).....*February 2024*

Role: Co-Investigator (Principal Investigator: Carnethon)

Title: A longitudinal study of the distribution and timing of physical activity, sleep, sedentary behavior and diet on postpartum weight change: The Activity Measurement in Postpartum Mothers (AMPM) study

Details: The goal of this study is to understand 24-hour behavior as it relates to weight change in postpartum mothers up to 1 year after birth.

26. R01HDxxxxxx (National Institutes of Health) ..... *June 2024*

Role: Co-Investigator (PI: Bruce)

Title: Healthy Eating and Lifestyle in MS (HEAL-MS): A randomized controlled weight loss trial for adults with advancing Multiple Sclerosis

Details: The goal of this study is to deliver and test a lifestyle intervention to promote weight loss in people with multiple sclerosis.

27. R01HL178538 (National Institutes of Health)..... *June 2024*

Role: Co-Investigator (Principal Investigators: Carlson and Natarajan)

Title: Advancing Field-Based Sleep Measurement from 24hour Wearables to Improve Cardiometabolic Health

Details: The goal of this study is to leverage data from the thigh-worn activPAL monitor to improve sleep assessment in the context of 24-hour epidemiology.

28. MS240117 (Department of Defense) .....*October 2024*

Role: Principal Investigator

Title: Timing of Physical Activity in Relation to Cognition for People with Multiple Sclerosis

Details: The goal of this hypothesis-generating study is to understand how physical activity's timing-related characteristics (e.g., the time of day at which it occurs) moderate its effects on cognition.

SCHOLARLY WORKS

Peer-Reviewed Publications

(student/mentee co-authors indicated with asterisks)

1. **Hibbing P**, Kim Y, Saint-Maurice PF, & Welk GJ. (2016) Impact of activity outcome and measurement instrument on estimates of youth compliance with physical activity guidelines: A cross-sectional study. *BMC Public Health.* 16(223). doi: 10.1186/s12889-016-2901-8.

2. Stegemöller EL, Radig H, **Hibbing P**, Wingate J, & Sapienza C. (2017) Effects of singing on voice, respiratory control, and quality of life in persons with Parkinson's Disease. *Disability and Rehabilitation*. 39(6), 594-600. doi: 10.3109/09638288.2016.1152610.

3. Stegemöller EL, **Hibbing P**, Radig H, & Wingate J. (2017) Therapeutic singing as an early intervention strategy for swallowing in persons with Parkinson's Disease. *Complementary Therapies in Medicine*. 31, 127-133. doi: 10.1016/j.ctim.2017.03.002.

4. Ellingson L, **Hibbing P**, Kim Y, Frey-Law L, Saint-Maurice P, & Welk G. (2017) Lab-based validation of different data processing methods for wrist-worn ActiGraph accelerometers in adults. *Physiological Measurement*. 38(6), 1045-1060. doi: 10.1088/1361-6579/aa6d00.

   The above article was selected as a Highlight of 2017 by *Physiological Measurement*. See http://iopscience.iop.org/journal/0967-3334/page/Highlights_of_2017.

5. Kim Y, **Hibbing P**, Saint-Maurice PF, Ellingson LD, Hennessy E, Wolff-Hughes DL, Perna FM, & Welk GJ. (2017) Surveillance of youth physical activity and sedentary behavior with wrist accelerometry. *American Journal of Preventative Medicine*. 52(6), 872-879. doi: 10.1016/j.amepre.2017.01.012.

6. Saint-Maurice PF, Kim Y, **Hibbing P**, Oh A, Perna FM, & Welk GJ. (2017) Calibration and validation of the Youth Activity Profile: The FLASHE study. *American Journal of Preventative Medicine*. 52(6), 880-887. doi: 10.1016/j.amepre.2016.12.010.

7. Bai Y, **Hibbing P**, Mantis K, & Welk GJ. (2018) Comparative evaluation of heart rate-based monitors: Apple Watch vs Fitbit Charge HR. *Journal of Sports Sciences*. 36(15), 1734-1741. doi: 10.1080/02640414.2017.1412235.

8. Dixon PM, Saint-Maurice PF, Kim Y, **Hibbing P**, Bai Y, & Welk GJ. (2018) A primer on the use of equivalence testing for evaluating measurement agreement. *Medicine and Science in Sports and Exercise*. 50(4), 837-845. doi: 10.1249/MSS.0000000000001481.

9. **Hibbing PR**, Ellingson LD, Dixon PM, & Welk GJ. (2018) Adapted Sojourn models to estimate activity intensity in youth: A suite of tools. *Medicine and Science in Sports and Exercise*. 50(4), 846-854. doi: 10.1249/MSS.0000000000001486.

10. **Hibbing PR**, LaMunion SR, Kaplan AS, & Crouter SE. (2018) Estimating energy expenditure with ActiGraph GT9X inertial measurement unit. *Medicine and Science in Sports and Exercise*. 50(5), 1093-1102. doi: 10.1249/MSS.0000000000001532.

11. Stegemöller EL, Tatz JR, Warnecke A, **Hibbing P**, Bates B, & Zaman A. (2018) Influence of music style and rate on repetitive finger tapping. *Motor Control*. 22(4), 472-485. doi: 10.1123/mc.2017-0081.

12. Toth LP, Park S, Pittman WL, Sarisaltik D, **Hibbing PR**, Morton A, Springer CM, Crouter SE, & Bassett DR. (2018) Validity of activity tracker step counts during walking, running, and activities of daily living. *Translational Journal of the American College of Sports Medicine*. 3(7), 52-59. doi: 10.1249/TJX.0000000000000057.

13. Stegemöller EL, Izbicki P, & **Hibbing P** (2018). The influence of moving with music on motor cortical activity. *Neuroscience Letters*. 683, 27-32. doi: 10.1016/j.neulet.2018.06.030.

14. Crouter SE, **Hibbing PR**, & LaMunion SR. (2018) Use of objective measures to estimate sedentary time in youth. *Journal for the Measurement of Physical Behaviour*. 1(3), 136-142. doi: 10.1123/jmpb.2018-0007.

15. Gharghabi S, Yeh CM, Ding Y, Ding W, **Hibbing P**, LaMunion S, Kaplan A, Crouter SE, & Keogh E. (2019) Domain agnostic online semantic segmentation for multi-dimensional time series. *Data Mining and Knowledge Discovery*. 33(1), 96-130. doi: 10.1007/s10618-018-0589-3.

16. Toth LP, Park S, Pittman WL, Sarisaltik D, **Hibbing PR**, Morton AL, Springer CM, Crouter SE, & Bassett DR. (2019) Effects of brief intermittent walking bouts on step count accuracy of wearable devices. *Journal for the Measurement of Physical Behaviour*. 2(1), 13-21. doi: 10.1123/jmpb.2018-0050.

17. Noonan RJ, Christian D, Boddy LM, Saint-Maurice PF, Welk GJ, **Hibbing PR**, & Fairclough SJ. (2019) Accelerometer and self-reported measures of sedentary behaviour and associations with adiposity in UK youth. *Journal of Sports Sciences*. 37(16), 1919-1925. doi: 10.1080/02640414.2019.1605649.

18. Park S, Toth LP, **Hibbing PR**, Springer CM, Kaplan AS, Feyerabend MD, Crouter SE, & Bassett DR. (2019) Dominant vs non-dominant wrist placement of activity monitors: Impact on steps per day. *Journal for the Measurement of Physical Behaviour*. 2(2), 118-123. doi: 10.1123/jmpb.2018-0060.

19. Fairclough SJ, Christian DL, Saint-Maurice PF, **Hibbing PR**, Noonan RJ, Welk GJ, Dixon P, & Boddy LM. (2019) Calibration and validation of the Youth Activity Profile as a physical activity and sedentary behaviour surveillance tool for English youth. *International Journal of Environmental Research and Public Health*. 16(19). doi: 10.3390/ijerph16193711.

20. Ellingson L, **Hibbing PR**, Welk GJ, Dailey D, Rakel B, Crofford LJ, Sluka KA, & Frey-Law LA. (2019) Choice of processing method for wrist-worn accelerometers influences interpretation of free-living physical activity data in a clinical sample. *Journal for the Measurement of Physical Behaviour*. 2(4), 228-236. doi: 10.1123/jmpb.2018-0062.

21. Crouter SE, LaMunion SR, **Hibbing PR**, Kaplan AS, & Bassett DR. (2019) Accuracy of the Cosmed K5 portable calorimeter. *PLOS ONE*. 14(12). doi: 10.1371/journal.pone.0226290.

22. LaMunion SR, Blythe AL, **Hibbing PR**, Kaplan AS, Clendenin BJ, & Crouter SE. (2020) Use of consumer monitors for estimating energy expenditure in youth. *Applied Physiology, Nutrition, and Metabolism*. 45(2), 161-168. doi: 10.1139/apnm-2019-0129.

23. Ehrlich SF, Casteel AJ, Crouter SE, **Hibbing PR**, Hedderson MM, Brown SD, Galarce M, Coe D, Bassett D, & Ferrara A. (2020) Alternative wear-time estimation methods compared to traditional diary logs for wrist-worn ActiGraph accelerometers in pregnant women. *Journal for the Measurement of Physical Behaviour*. 3(2), 110-117. doi: 10.1123/jmpb.2019-0049.

24. **Hibbing PR**, Bassett DR, Coe DP, LaMunion SR, & Crouter SE. (2020) Youth metabolic equivalents differ depending on operational definitions. *Medicine and Science in Sports and Exercise*. 52(8), 1846-1853. doi: 10.1249/MSS.0000000000002299.

25. **Hibbing PR**, Bassett DR, & Crouter SE. (2020) Modifying accelerometer cut-points affects criterion validity in simulated free-living for adolescents and adults. *Research Quarterly for Exercise and Sport*. 91(3), 514-524. doi: 10.1080/02701367.2019.1688227.

26. **Hibbing PR**, LaMunion SR, Hilafu H, & Crouter SE. (2020) Evaluating the performance of sensor-based bout detection algorithms: The transition pairing method. *Journal for the Measurement of Physical Behaviour*. 3(3), 219-227. doi: 10.1123/jmpb.2019-0039.

27. Bruce JM, Cozart JS, Shook RP, Ruppen SP, Siengsukon C, Simon S, Befort C, Lynch S, Mahmoud R, Drees B, Norouzinia AN, Bradish T, Posson P, **Hibbing PR**, & Bruce AS. (2021) Modifying diet and exercise in MS (MoDEMS): Study design and protocol for a telehealth weight loss intervention for adults with obesity & multiple sclerosis. *Contemporary Clinical Trials*. 107(106495). doi: 10.1016/j.cct.2021.106495.

28. Stegemöller EL, Ferguson T, Zaman A, **Hibbing P**, Izbicki P, & Krigolson O. (2021) Finger tapping to different styles of music and changes in cortical oscillations. *Brain and Behavior*. 11(9), e2324. doi: 10.1002/brb3.2324.

29. **Hibbing PR**, Lamoureux NR, Matthews CE, & Welk GJ. (2021) Protocol and data description: The free-living activity study for health. *Journal for the Measurement of Physical Behaviour*. 4(3), 197-204. doi: 10.1123/jmpb.2020-0052.

30. Welk GJ, Saint-Maurice PF, Dixon PM, **Hibbing PR**, Bai Y, McLoughlin GM, & da Silva MP. (2021) Calibration of the online youth activity profile assessment for school-based applications. *Journal for the Measurement of Physical Behaviour*. 4(3), 236-246. doi: 10.1123/jmpb.2020-0048.

31. Forseth B, Ortega A, **Hibbing PR**, Moon M, Steel C, Singh M, Kollu A, Miller B, Miller M, Staggs V, Calvert H, Davis AM, & Carlson JA. (2021) Adding family digital supports to classroom-based physical activity interventions to target in- and out-of-school activity: An evaluation of the Stay Active intervention during the COVID-19 pandemic. *Journal of Healthy Eating and Active Living*. 1(4), 214-228. doi: 10.51250/jheal.v1i4.31.

32. Steel C, Crist K, Grimes A, Bejarano C, Ortega A, **Hibbing PR**, Schipperijn J, & Carlson JA. (2021) Validity of a GPS-based algorithm and consumer wearables for classifying active trips in children and adults. *Journal for the Measurement of Physical Behaviour*. 4(4), 321-332. doi: 10.1123/jmpb.2021-0019.

33. Greenwood-Hickman MA, Rosenberg D, Bellettiere J, Carlson J, **Hibbing PR**, Jankowska MM, Kumar A, LaCroix AZ, Nakandala S, Tuz-Zahra F, Zou J, & Natarajan L. (2021) The CNN Hip Accelerometer Posture (CHAP) method for classifying sitting patterns from hip accelerometers: A validation study. *Medicine and Science in Sports and Exercise*. 53(11), 2445-2454. doi: 10.1249/mss.0000000000002705.

34. Creasy SA, **Hibbing PR**, Cotton E, Lyden K, Ostendorf DM, Willis EA, Pan Z, Melanson EL, & Catenacci VA. (2021) Temporal patterns of physical activity in successful weight loss maintainers. *International Journal of Obesity*. 45(9), 2074-2082. doi: 10.1038/s41366-021-00877-4.

35. **Hibbing PR**, Bellettiere J, & Carlson JA. (2022) Sedentary profiles: A new perspective on accumulation patterns in sedentary behavior. *Medicine and Science in Sports and Exercise*. 54(4), 696-706. doi: 10.1249/MSS.0000000000002830.

36. Lamoureux NR, **Hibbing PR**, Matthews CE, & Welk GJ. (2022) Integration of report-based methods to enhance the interpretation of monitor-based research: Results from the FLASH project. *Journal for the Measurement of Physical Behaviour*. 5(1), 42-48. doi: 10.1123/jmpb.2021-0029.

37. Carlson JA, Ridgers ND, Nakandala S, Zablocki R, Tuz-Zahra F, Bellettiere J, **Hibbing PR**, Steel C, Jankowska MM, Rosenberg DE, Greenwood-Hickman MA, Zou J, LaCroix AZ, Kumar A, & Natarajan L. (2022) CHAP-child: An open source method for estimating sit-to-stand transitions and sitting bout patterns from hip accelerometers among children. *International Journal of Behavioral Nutrition and Physical Activity*. 19(109). doi: 10.1186/s12966-022-01349-2.

38. Bellettiere J, Carlson JA, Di C, Dillon L, Dunstan D, Greenwood-Hickman MA, Healy GN, **Hibbing PR,** Jankowska MM, Kumar A, LaCroix AZ, Nakandala S, Owen N, Ridgers ND, Rosenberg D, Tuz-Zahra F, Winkler EAH, Zou J, & Natarajan L. (2022) CHAP-Adult: A Reliable and Valid Algorithm to Classify Sitting and Measure Sitting Patterns Using Data from Hip-Worn Accelerometers in Adults Aged 35+. *Journal for the Measurement of Physical Behaviour*. 5(4), 215-223. doi: 10.1123/jmpb.2021-0062.

39. **Hibbing PR**, Creasy SA, & Carlson JA. (2022) CRIB: A novel method for device-based physical behavior analysis. *Journal for the Measurement of Physical Behaviour*. 5(4), 277-287. doi: 10.1123/jmpb.2021-0059.

40. **Hibbing PR**, Shook RP, Panda S, Manoogian ENC, Mashek DG, & Chow LS. (2023) Predicting energy intake with an accelerometer-based intake-balance method. *British Journal of Nutrition*. 130(2), 344-352. doi: 10.1017/S0007114522003312.

41. Ortega A, Forseth B, **Hibbing PR**, Steel C, & Carlson JA. (2023) Convergent validity between epoch-based activPAL and ActiGraph methods for measuring moderate-to-vigorous physical activity in youth and adults. *Journal for the Measurement of Physical Behaviour*. 6(2), 115-123. doi: 10.1123/jmpb.2022-0013.

42. Carlson JA, **Hibbing PR**, Forseth B, Diaz KM, Sotres-Alvarez D, Bejarano CM, Duran AT, Castañeda SF, Garcia ML, Perreira KM, Daviglus ML, Van Horn L, Gellman MD, Isasi CR, Cai J, Delamater AM, Staggs VS, Thyfault J, & Gallo LC. (2023) Sedentary bout patterns and metabolic health in the Hispanic Community Health Study/Study of Latino Youth (SOL Youth). *Journal of the American Heart Association*. 12(18). doi: 10.1161/JAHA.122.028495.

43. **Hibbing PR**, Welk GJ, Ries D, Yeh HW, & Shook RP. (2023) Criterion validity of wrist accelerometry for assessing energy intake via the intake-balance technique. *International Journal of Behavioral Nutrition and Physical Activity*. 20(115). doi: 10.1186/s12966-023-01515-0.

44. **Hibbing PR**, Carlson JA, Simon SL, Melanson EL, & Creasy SA. (2023) Convergent validity of time in bed estimates from activPAL and Actiwatch in free-living youth and adults. *Journal for the Measurement of Physical Behaviour*. 6(3), 213-222. doi: 10.1123/jmpb.2023-0011.

45. **Hibbing PR**, Carlson JA, Steel C, Greenwood-Hickman MA, Nakandala S, Jankowska MM, Bellettiere J, Zou J, LaCroix AZ, Kumar A, Katzmarzyk PT, & Natarajan L. (2023) Low movement, deep-learned sitting patterns, and sedentary behavior in the International Study of Childhood Obesity, Lifestyle, and the Environment (ISCOLE). *International Journal of Obesity*. 47(11), 1100-1107. doi: 10.1038/s41366-023-01364-8.

46. Cozart JS, Bruce AS, Shook RP, Befort C, Siengsukon C, Simon S, Lynch SG, Mahmoud R, Drees B, Posson P, **Hibbing PR**, Huebner J, Bradish T, Robichaud J, & Bruce JM (2023). Body metrics are associated with clinical, free-living, and self-report measures of mobility in a cohort of adults with obesity and multiple sclerosis. *Multiple Sclerosis and Related Disorders*. 79, 105010. doi: 10.1016/j.msard.2023.105010.

47. Bruce JM, Cozart JS, Shook RP, Befort C, Siengsukon CF, Simon S, Lynch SG, Mahmoud R, Drees B, Posson P, **Hibbing PR**, Huebner J, Bradish T, Robichaud J, & Bruce AS. (2023) Modifying Diet and Exercise in Multiple Sclerosis (MoDEMS): A randomized controlled trial for behavioral weight loss in adults with multiple sclerosis and obesity. *Multiple Sclerosis Journal*. 19(14), 1860-1871. doi: 10.1177/13524585231213241.

48. Kumar DP, Zanotto T, Cozart JS, Bruce AS, Befort C, Siengsukon C, Shook R, Lynch S, Mahmoud R, Simon S, **Hibbing PR**, Drees B, Huebner J, Bradish T, Robichaud J, Sosnoff JJ, & Bruce JM. (2024) Association between frailty and sleep quality in people living with multiple sclerosis and obesity: An observational cross-sectional study. *Multiple Sclerosis and Related Disorders*. 81, 105154. doi: 10.1016/j.msard.2023.105154.

49. Zablocki RW, Hartman SJ, Di C, Zou J, Carlson JA, **Hibbing PR**, Rosenberg DE, Greenwood-Hickman MA, Dillon L, LaCroix AZ, & Natarajan L. (2024) Using functional principal component analysis (FPCA) to quantify sitting patterns derived from wearable sensors. *International Journal of Behavioral Nutrition and Physical Activity*. 21(48). doi: 10.1186/s12966-024-01585-8.

50. Helsel BC, **Hibbing PR**, Montgomery RN, Vidoni ED, Ptomey LT, Clutton J, & Washburn RA. (2024) agcounts: An R package to calculate ActiGraph activity counts from portable accelerometers. *Journal for the Measurement of Physical Behaviour*. 7(1). doi: 10.1123/jmpb.2023-0037.

51. **Hibbing PR**, Pilla M, Birmingham L*, Byrd A*, Ndagijimana T*, Sadeghi S*, Seigfreid N*, Farr D, Al-Shawwa B, Ingram DG, & Carlson JA. (2024) Evaluation of the Garmin Vivofit 4 for assessing sleep in youth experiencing sleep disturbances. *Digital Health*. 10, 20552076241277150. doi: 10.1177/20552076241277150.

52. **Hibbing PR** & Khan MM*. (2024) Raw photoplethysmography as an enhancement for research-grade wearable activity monitors. *JMIR mHealth and uHealth*. 12, 57158. doi: 10.2196/57158.

53. Posson PM, **Hibbing PR**, Damiot A, Carbuhn AF, White DA, Shakhnovich V, Sullivan D, & Shook RP. (2025) Resting energy expenditure equations have lower accuracy for adolescents with overweight/obesity versus healthy-weight adolescents. *Childhood Obesity*. 21(1), 30-38. doi: 10.1089/chi.2024.0226.

54. Bai Y, Dixon PM, Saint-Maurice PF, **Hibbing PR**, McLoughlin GM, da Silva MP, & Welk GJ (2025). The measurement reliability and equivalence of print versus online versions of the Youth Activity Profile. *PLOS ONE*. 20(1). doi: 10.1371/journal.pone.0312254.

55. Gabel K, Hamm A, Czyzewski O, Sanchez Perez J, Fought-Boudaia A, Motl RW, & **Hibbing PR**. (2025) A narrative review of intermittent fasting with exercise. *Journal of the Academy of Nutrition and Dietetics*. 125(2), 153-171. doi: 10.1016/j.jand.2024.05.015.

56. **Hibbing PR**, Welk GJ, & Dixon PM. (2025) The null need not be nil: Clarifying the parallel arbitrariness of difference testing and equivalence testing. *American Journal of Clinical Nutrition*. 121(2), 207-212. doi: 10.1016/j.ajcnut.2024.12.017.

57. Duhamahoro J, Lamoureux NR, **Hibbing PR**, Taylor MA, & Welk GJ. (2025) Comparative validity of two thigh-worn activity monitors in free-living conditions. *Journal for the Measurement of Physical Behaviour*. 8(1). doi: 10.1123/jmpb.2024-0034.

58. Kidwell-Chandler A, Jackson J*, Jeng B, Silveira SL, Pilutti LA, **Hibbing PR**, & Robert W Motl. (2025) Body Composition and its outcomes and management in multiple sclerosis. *Nutrients*. 17(1021). doi: 10.3390/nu17061021.

59. LaMunion SR, **Hibbing PR**, & Crouter SE. (2025) Calibration and validation of machine learning models for physical behavior characterization: Protocol and methods for the Free-Living Physical Activity in Youth (FLPAY) study. *JMIR Research Protocols*. 14(1). doi: 10.2196/65968.

60. Jankowska MM, Tribby CP, **Hibbing PR**, Carlson JA, Greenwood-Hickman MA, Sears DD, LaCroix AZ, & Natarajan L. (online ahead of print) Movement- and posture-based measures of sedentary patterns and associations with metabolic syndrome in Hispanic/Latino and non-Hispanic adults. *Journal of Racial and Ethnic Health Disparities*. doi: 10.1007/s40615-024-02114-w.

Manuscripts Under Review

1. Carlson JA, Moon M, Steel C, Bai Y, Dodson EA, Dooley EE, Forseth B, Fox AT, Greenberg JD, Grimes A, Hasson RE, **Hibbing PR**, Jiang Q, Pate RP, Serrano NH, Spring KE, Stanish HI, Webber-Ritchey KJ, & Staiano AE. (Under Review) Results from the United States 2024 Report Card on Physical Activity for Children and Youth. *Journal of Physical Activity and Health.*
2. Cozart JS, Bruce A, Shook R, Befort C, Siengsukon C, Simon S, Lynch S, Morris J, Mahmoud R, Drees B, **Hibbing P**, Robichaud J, Huebner J, Posson P, Bradish T, & Bruce J. (Under Review) Examining changes in neurofilament light chain following a behavioral weight loss intervention for adults with multiple sclerosis and obesity. *Multiple Sclerosis and Related Disorders*.
3. Duhamahoro J, Hibbing PR, Lamoureux NR, Berg E, & Welk GJ. Do movement summary metrics produce comparable outputs across different accelerometer brands in free-living? *Journal for the Measurement of Physical Behaviour*.

Non-Peer-Reviewed Publications

1. Welk GJ, Saint-Maurice PF, Kim Y, Ellingson E, **Hibbing P**, Wolff-Hughes D, & Perna FM. (2017) Understanding and interpreting error in physical activity data: Insights from the FLASHE study. *American Journal of Preventative Medicine*. 52(6), 836-838.
2. **Hibbing P**, LaMunion S, & Toth L. (2017) Fitness trackers can be fashionable and functional. *ACSM Fit Society Page*. 19(3):3-4.
3. Physical Activity Alliance. *The 2022 United States Report Card on Physical Activity for Children and Youth*. Full report and executive summary available at https://paamovewithus.org/news/2022-u-s-report-on-physical-activity-for-children-and-youth/.
4. **Hibbing P.** (2024) My weekly reset. *Science*. 385(6706):338. doi: 10.1126/science.zn2zuyt
5. Physical Activity Alliance. *The 2024 United States Report Card on Physical Activity for Children and Youth*. Full report and executive summary available at https://paamovewithus.org/us-report-card-on-physical-activity-for-children-and-youth/.

Manuscripts in Preparation

1. **Hibbing PR**, LaMunion SR, Bassett DR, Coe DP, Hilafu H, Walkowski B, & Crouter SE. Do sensor fusion and change point detection improve device-based predictions of physical activity intensity in youth? Target journal: *Medicine and Science in Sports and Exercise*.
2. Hukka MK, **Hibbing PR**, LaMunion SR, & Crouter SE. Choice of criterion measure is a source of error when validating sensor-based estimates of youth sedentary behavior. Target journal: *Medicine and Science in Sports and Exercise*.
3. Hukka MK, LaMunion SR, **Hibbing PR**, & Crouter SE. Generational differences of consumer wearable devices for estimating physical activity outcomes. Target journal: *Translational Journal of the American College of Sports Medicine*.

4. **Hibbing PR**, Jackson JJ*, Shook RP, & Chow LS. Report- and device-based estimates of caloric restriction in a three-arm randomized controlled trial of time-restricted eating. Target journal: TBD.

5. Morales J, Zablocki RW, Shao L, Tuz-Zahra F, Zou J, Jankowska MM, Carlson JA, LaCroix AZ, Staudenmayer J, Kumar A, Nguyen S, Ryu H, Kumar A, Shi W, **Hibbing PR**, Di C, Greenwood-Hickman MA, Dillon L, Hartman SJ, & Natarajan L. Validating the Longitudinal Assessment of Sedentary Behavior in a Randomized Controlled Trial via a Deep Learning Algorithm. Target journal: TBD.

6. Jackson JJ*, Lamoureux NR, Duhamahoro J, Welk GJ, & **Hibbing PR**. How do open-source counts affect agreement of different accelerometer brands at various stages of data processing?

Book Chapters

1. Crouter SE, **Hibbing PR**, & LaMunion SR. Physical activity assessment. (2024) In: *Health Professional's Guide to Treatment of Overweight and Obesity*. Edited by Hollie A. Raynor and Linda M. Gigliotti. Academy of Nutrition and Dietetics, Chicago, IL. pp. 116-144.

National/International Abstracts and/or Presentations

1. Stegemöller EL, **Hibbing P**, Brinkman A, Tatz J, Kinedinst B, & Frick P. (2015) The influence of activating versus relaxing music on repetitive finger movement and associated motor cortical activity. Poster presented at the Society for Neuroscience 45th annual meeting, Chicago, IL.

2. Stegemöller EL, **Hibbing P**, & Radig H. (2015) Effects of singing on speech and swallow in patients with Parkinson's disease. Poster presented at the Movement Disorders Society 19th annual meeting, San Diego, CA.

3. **Hibbing PR**, Kim Y, Saint-Maurice PF, & Welk GJ. (2015) Activity monitor agreement in assessing compliance with Step and physical activity guidelines in youth. *Medicine and Science in Sports and Exercise*. 47(5 Suppl 1), 921. Poster presented at the American College of Sports Medicine 62nd annual meeting, San Diego, CA.

4. Saint-Maurice PF, **Hibbing P**, Bai Y, & Welk GJ. (2016) Agreement between print and online versions of the Youth Activity Profile. *Medicine and Science in Sports and Exercise*. 48(5 Suppl 1), 313. Slides presented at the American College of Sports Medicine 63rd annual meeting, Boston, MA.

5. Kim Y, **Hibbing P**, Ellingson LD, Saint-Maurice PF, Hennessy E, McClain J, & Welk GJ. (2016) Comparison of outcomes between raw acceleration and counts-based methods for processing wrist-worn accelerometers: the FLASHE study. *Medicine and Science in Sports and Exercise*. 48(5 Suppl 1), 812. Slides presented at the American College of Sports Medicine 63rd annual meeting, Boston, MA.

6. **Hibbing P**, Ellingson L, Dixon P, & Welk G. (2017) Estimating physical activity intensity in youth with accelerometers: A flexible suite of tools. *Medicine and Science in Sports and Exercise*. 49(5 Suppl 1), 475. Poster presented at the American College of Sports Medicine 64th annual meeting, Denver, CO.

7. Bai Y, Welk G, **Hibbing P**, & Mantis K. (2017) Which heart rate-based monitor is better: Apple Watch or Fitbit Charge HR? Slides presented at the 5th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Bethesda, MD.

8. Toth L, **Hibbing P**, Park S, Morton A, Pittman W, Sarisaltik D, Kaplan A, Crouter S, & Bassett D. (2017) Criterion validity of consumer and research grade activity monitors during brief, intermittent walking. Slides presented at the 5th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Bethesda, MD.

9. **Hibbing P**, LaMunion S, Bassett D, & Crouter S. (2017) Impact of inertial measurement unit on activity recognition using ActiGraph GT9X. Poster presented at the 5th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Bethesda, MD.

10. Kaplan A, Toth L, **Hibbing P**, Morton A, Park S, Pittman W, Sarisaltik D, Bassett D, & Crouter S. (2017) Sources of error for wearable step counters. Poster presented at the 5th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Bethesda, MD.

11. LaMunion S, **Hibbing P**, Bassett D, & Crouter S. (2017) Application of the ActiGraph GT9X IMU to estimate energy expenditure. Slides presented at the 5th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Bethesda, MD.

12. Crouter S, **Hibbing P**, LaMunion SR, & Bassett DR. (2017) Use of the ActiGraph GT9X IMU to predict energy expenditure. Slides presented at the 5th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Bethesda, MD.

13. Crouter SE, LaMunion SR, **Hibbing PR**, & Bassett DR. (2017) Use of a 2-Regression Model to Estimate Energy Expenditure using the ActiGraph GT9X IMU. Poster presented at the 4th International Conference on Recent Advances and Controversies in Measuring Energy Metabolism, Fribourg, Switzerland.

14. LaMunion SR, **Hibbing PR**, Bassett DR, & Crouter SE. (2017) Use of the ActiGraph GT9X Inertial Measurement Unit to Predict Energy Expenditure Using Artificial Neural Networks. Slides presented at the 4th International Conference on Recent Advances and Controversies in Measuring Energy Metabolism, Fribourg, Switzerland.

15. Kaplan AS, LaMunion SR, **Hibbing PR**, & Crouter SE. (2018) Use of consumer monitors for estimating energy expenditure in youth. *Medicine and Science in Sports and Exercise*. 50(5 Suppl 1), 262. Slides presented at the American College of Sports Medicine 65th annual meeting, Minneapolis, MN.

16. LaMunion SR, **Hibbing PR**, Kaplan AS, & Crouter SE. (2018) Physical activity category classification using the ActiGraph GT9X in youth. *Medicine and Science in Sports and Exercise*. 50(5 Suppl 1), 295. Poster presented at the American College of Sports Medicine 65th annual meeting, Minneapolis, MN.

17. **Hibbing PR**, Bassett DR, & Crouter SE. (2018) Modifying accelerometer cut-points affects criterion validity in free-living youth and adults. *Medicine and Science in Sports and Exercise*. 50(5 Suppl 1), 298. Poster presented at the American College of Sports Medicine 65th annual meeting, Minneapolis, MN.

18. Christian D, Saint-Maurice PF, **Hibbing P**, Noonan RJ, Boddy LM, Welk GJ, & Fairclough SJ. (2018) Calibration of the UK Youth Activity Profile. *Journal of Physical Activity and Health*. 15(10), S39. Slides presented at the 7th International Society for Physical Activity and Health Congress, London, England.

19. Crouter SE, LaMunion SR, **Hibbing PR**, Kaplan AS, Quarantillo ME, & Bassett DR. (2019) Accuracy of the Cosmed K5 portable metabolic system. *Medicine and Science in Sports and Exercise*. 51(6 suppl 1), 147. Slides presented at the American College of Sports Medicine 66th annual meeting, Orlando, FL.

20. Lamoureux NR, **Hibbing PR**, Matthews CE, & Welk GJ. (2019) Temporal relationships between the Act24 and a monitor-based method for estimating energy expenditure over a 24 hour period. *Medicine and Science in Sports and Exercise*. 51(6 suppl 1), 373. Poster presented at the American College of Sports Medicine 66th annual meeting, Orlando, FL.

21. **Hibbing PR** & Crouter SE. (2019) Resting energy expenditure and metabolic equivalents in youth: Impact of inconsistent operational definitions. *Medicine and Science in Sports and Exercise*. 51(6 suppl 1), 818-819. Poster presented at the American College of Sports Medicine 66th annual meeting, Orlando, FL.

22. **Hibbing PR**, LaMunion SR, Hilafu H, & Crouter SE. (2019) Evaluating the performance of bout detection algorithms for wearable sensors: The transition pairing method. Slides presented at the 6th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Maastricht, The Netherlands.

23. Crouter SE, Clendenin BJ, **Hibbing PR**, & LaMunion SR. (2019) Validity of consumer monitors for estimating steps in youth. Slides presented at the 6th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Maastricht, The Netherlands.

24. Ehrlich SF, Hedderson MM, Brown SD, Crouter SE, **Hibbing PR**, Feng J, Tsai AL, & Ferrara A. (2020) Objectively measured physical activity during the first trimester and glucose tolerance at 24-28 weeks gestation. *Medicine and Science in Sports and Exercise*. 52(7S), 100. Poster accepted for the American College of Sports Medicine 67th annual meeting (cancelled due to COVID-19 pandemic).

25. Hukka MK, LaMunion SR, **Hibbing PR**, & Crouter SE. (2020) Generational differences of consumer wearable devices for estimating physical activity outcomes. *Medicine and Science in Sports and Exercise*. 52(7S), 519. Rapid fire poster accepted for the American College of Sports Medicine 67th annual meeting (cancelled due to COVID-19 pandemic).

26. **Hibbing PR** & Crouter SE. (2020) Dynamic segmentation of youth accelerometer data by Sojourn and change point detection methods. *Medicine and Science in Sports and Exercise*. 52(7S), 824-825. Thematic poster accepted for the American College of Sports Medicine 67th annual meeting (cancelled due to COVID-19 pandemic).

27. Ehrlich SF, Hedderson MM, Brown SD, Crouter SE, **Hibbing P**, Feng J, Tsai AL, & Ferrara A. (2020) Objectively measured and self-reported physical activity in the first trimester of pregnancy, glucose tolerance, and gestational diabetes in women with overweight/obesity. *Diabetes*. 69(suppl 1) 1343-P. doi: 10.2337/db20-1343-P. Poster presented at the American Diabetes Association 2020 80th Scientific Sessions (held virtually due to COVID-19 pandemic).

28. Forseth B, Moon M, Singh M, Steel C, Ortega A, **Hibbing P**, Miller B, Miller M, Calvert H, Davis AM, & Carlson JA. (2021). Acceptability and impact of a remote classroom- and family-based physical activity interventions during the COVID-19 pandemic. Slides presented at the Active Living Conference (held virtually due to COVID-19 pandemic) of the Physical Activity Policy Research and Evaluation Network.

29. **Hibbing PR**, Carlson JA, Simon SL, Melanson EL, & Creasy SA. (2021) Convergent validity of Actiwatch and activPAL for assessing time in bed. *Journal for the Measurement of Physical Behaviour*. 4(S1), S20-S21. Virtual poster presented at the 7th International Conference on Ambulatory Monitoring of Physical Activity and Movement (held virtually due to COVID-19 pandemic).

30. White DA, Posson PM, **Hibbing PR**, & Shook RP. (2022) Somatic maturity and resting energy expenditure to fat-free mass (ree/ffm) ratio in mid- to late-adolescence. *Medicine and Science in Sports and Exercise*. 54(9S), 583. Poster presented at the American College of Sports Medicine 69th annual meeting, San Diego, CA.

31. **Hibbing PR**, Welk GJ, & Shook RP. (2022) Free-living validity of energy expenditure estimates from wrist-worn ActiGraph monitors: A doubly labeled water study. *Journal for the Measurement of Physical Behaviour*. 5(4), 340. Poster presented at the 8th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Keystone, CO.

32. Zanotto T, Kumar DP, Cozart J, Bruce A, Befort C, Siengsukon C, Shook R, Lynch S, Mahmoud R, Simon S, **Hibbing P**, Drees B, Huebner J, Bradish T, Robichaud J, Sosnoff J, & Bruce J. (2024) Association between frailty and sleep quality in people living with multiple sclerosis: An exploratory study. *Archives of Physical Medicine and Rehabilitation*. 105(4), e119. doi: 10.1016/j.apmr.2024.02.335. Research Poster #2522425 presented at the 100th Annual Conference of the American Congress of Rehabilitation Medicine, Atlanta, GA.

33. Webber-Ritchey KJ, Staiano A, Bai Y, Dodson E, Dooley EE, Forseth B, Greenberg JD, Grimes A, Hasson RE, **Hibbing PR**, Pate RR, Serrano N, Stanish H, Jiang Q, Spring KE, Fox AT, Moon M, Steel C, & Carlson, J. (2024) Grades and trends from the 2024 United States report card on physical activity for children and youth. Circulation. 105(Suppl 1), 4135629. Moderated digital poster session presented at the American Heart Association Scientific Sessions 2024, Chicago, IL., November 16-18, 2024.

34. Serrano N, Bai Y, Dodson E, Dooley E, Forseth B, Greenberg J, Grimes A, Hasson R, **Hibbing P**, Pate R, Staiano A, Stanish H, Webber-Ritchey K, Jiang Q, Spring K, Fox A, Moon M, Steel C, & Carlson J. (2024) Community and built environment implications: 2024 U.S. physical activity report card for children and youth. International Society for Physical Activity and Health Bi-Annual Congress. October 2024.

35. Carlson JA, Staiano A, Bai Y, Dodson E, Dooley E, Forseth B, Greenberg J, Grimes A, Hasson R, **Hibbing P**, Pate R, Serrano N, Stanish H, Webber-Ritchey K, Jiang Q, Spring K, Fox A, Moon M, & Steel C (2025). The 2024 US report card on physical activity for children and youth: Implications for active living. Oral presentation at the Annual Meeting of the Active Living Conference. March 16-20, 2025. Manhattan, KS.

Workshops/Symposia

1. **Hibbing PR**. (2019) Accessing and using data through the FLASH GitHub repository. Presented in the symposium *Advancing collaborative activity monitor research using open-source tools* with co-presenters Greg Welk (chair) and Charles Matthews. 6th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Maastricht, The Netherlands.

2. **Hibbing PR**. (2022) Using git and GitHub to track, disseminate, and maintain your physical behavior code and data. Workshop presented at the 8th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Keystone, CO, USA.

3. **Hibbing PR**. (2022) Deep-learned sedentary patterns and obesity in the International Study of Childhood Obesity, Lifestyle, and Environment (ISCOLE): Results from the CHAP-child model. Presented in the symposium *The CNN Hip Accelerometer Posture (CHAP) Suite: Leveraging deep learning to close the gap between thigh and hip accelerometry in the free-living measurement of sitting behavior* with co-presenters Loki Natarajan (chair), Mikael Anne Greenwood-Hickman, Jordan Carlson, and Marta Jankowska. *Journal for the Measurement of Physical Behaviour*. 5(4),

355. 8th International Conference on Ambulatory Monitoring of Physical Activity and Movement, Keystone, CO, USA.

4. **Hibbing PR**. (2025) Theory and Application of Intake-Balance Assessments Using Criterion and Surrogate Measures. Workshop presented at the 2025 International Conference on Diet and Activity Methods, Toronto, ON, Canada. Presented on Hibbing's behalf by Justin Jackson (student), due to coinciding parental leave.

5. **Hibbing PR.** (upcoming) A Decade of Data: Where do we go from here? Presented in the symposium *A decade of US Report Cards on Physical Activity in Children and Youth*, with co-presenters Bethany Forseth (chair), and Rebecca Hasson, along with co-authors from the report card's research advisory committee. American College of Sports Medicine. May 27-30. Atlanta, GA.

Regional/Institutional Presentations

1. **Hibbing P** & Devick R. (2014) The validity of an online tool for the assessment of physical activity behaviors in youth. Slides presented at the 8th Symposium on Undergraduate Research and Creative Expression, Ames, IA.

2. **Hibbing PR**, Bassett DR, & Crouter SE. (2018) Modifying accelerometer cut-points affects criterion validity in free-living youth and adults. Poster presented at the 46th annual meeting of the Southeast Chapter of the American College of Sports Medicine, Chattanooga, TN.

3. LaMunion SR, **Hibbing PR**, Kaplan AS, Bassett DR, & Crouter SE. (2018) Predicting energy expenditure with the ActiGraph GT9X IMU using artificial neural networks. Poster presented at the 46th annual meeting of the Southeast Chapter of the American College of Sports Medicine, Chattanooga, TN.

4. Kaplan AS, LaMunion SR, **Hibbing PR**, Bassett DR, & Crouter SE. (2018) Activity classification with the ActiGraph GT9X IMU using artificial neural networks. Poster presented at the 46th annual meeting of the Southeast Chapter of the American College of Sports Medicine, Chattanooga, TN.

5. Park S, Toth LP, **Hibbing PR**, Springer CM, Kaplan AS, Feyerabend MD, Crouter SE, & Bassett DR. (2018) Dominant vs non-dominant wear: A comparison of steps per day. Poster presented at the 46th annual meeting of the Southeast Chapter of the American College of Sports Medicine, Chattanooga, TN.

6. Kaplan AS, LaMunion SR, **Hibbing PR**, Bassett DR, & Crouter SE. (2018) Use of two-regression models to predict energy expenditure using wrist-worn GENEActivs in youth. Slides presented at the 46th annual meeting of the Midwest Chapter of the American College of Sports Medicine, Grand Rapids, MI.

7. **Hibbing PR** & Crouter SE. (2019) Resting energy expenditure and metabolic equivalents in youth: Impact of inconsistent operational definitions. Poster presented at the 47th annual meeting of the Southeast Chapter of the American College of Sports Medicine, Greenville, SC.

8. Clendenin BJ, **Hibbing PR**, LaMunion SR, & Crouter SE. (2019) Criterion validity of ActiGraph GT9X step predictions in youth. Slides presented at the 47th annual meeting of the Southeast Chapter of the American College of Sports Medicine, Greenville, SC.

9. Hukka MK, LaMunion SR, **Hibbing PR**, & Crouter SE. (2020) Generational differences of consumer wearable devices for estimating physical activity outcomes. Thematic poster presented at the 48th annual meeting of the Southeast Chapter of the American College of Sports Medicine, Jacksonville, FL.

10. Rand BG, Ferrara A, **Hibbing PR**, Hedderson MM, Brown SD, Badon SE, Crouter SE, & Ehrlich SF. (2021) The association of physical activity with lipid levels in pregnant women with overweight and obesity. Poster presented at the 49th annual meeting of the Southeast Chapter of the American College of Sports Medicine, held online due to COVID-19 pandemic.

11. Posson P, **Hibbing PR**, & Shook R. (2021) Resting energy expenditure equations have lower validity for overweight and obese versus healthy weight adolescents. Poster presented at the 6th annual Research at Children's Mercy Month Poster Session, Kansas City, MO.

Invited Talks

1. **Hibbing PR.** (2024) Wrist-worn photoplethysmography data: Opportunities and challenges. Presented at the 2nd ActiGraph Digital Data Summit, February 28, 2024, Pensacola Beach, FL, USA.

2. **Hibbing PR.** (2025) Measuring Physical Activity in the Context of Glycemic Dysregulation. Presented to the Diabetes & Metabolism Journal & Research Club, UIC Division of Endocrinology, April 2, 2025, Chicago, IL, USA.

SOFTWARE PACKAGES

1. **Paul R. Hibbing** (2018). TwoRegression: Develop and Apply Two-Regression Algorithms. R package version 1.0.0. URL: https://cran.r-project.org/package=TwoRegression.

2. **Paul R. Hibbing** (2018). AGread: Read Data Files from ActiGraph Monitors. R package version 1.1.1. URL: https://github.com/paulhibbing/AGread.

3. **Paul R. Hibbing** (2018). Observation: Collect and Process Physical Activity Direct Observation Data. R package version 0.3.0. URL: https://cran.r-project.org/package=Observation.

4. **Paul R. Hibbing** (2019). PAutilities: Streamline physical activity research. R package version 1.1.0. URL: https://github.com/paulhibbing/PAutilities.

5. **Paul R. Hibbing** & Kate Lyden (2019). Sojourn.Data: Supporting Objects for Sojourn Accelerometer Methods. R package version 0.3.0. URL: https://cran.r-project.org/package=Sojourn.Data.

6. **Paul R. Hibbing**, Kate Lyden, & Isaac J. Schwabacher (2019). Sojourn: Apply Sojourn methods for processing ActiGraph accelerometer data. R package version 1.1.0. URL: https://cran.r-project.org/package=Sojourn.

7. PAHP Lab (2020). FLASH: Free Living Activity Study for Health. R package version 0.1.1.9000. URL: https://github.com/PAHPLabResearch/FLASH. Access available by filling out the form at https://iastate.qualtrics.com/jfe/form/SV_be0mbBZOhMpeiX3.

8. **Paul R. Hibbing** (2022). PBpatterns: Analyze patterns of physical behavior. R package version 0.3.1.9000. URL: https://github.com/paulhibbing/PBpatterns.

9. **Paul R. Hibbing** (2022). daytime: Operate on time variables for physical behavior research. R package version 0.3.0.9000. URL: https://github.com/paulhibbing/daytime.

10. PAHP Lab (2022). ACT24: R Interface for the Activities Completed over Time in 24 Hours instrument. Under development. URL: https://github.com/PAHPLabResearch/ACT24.

11. **Paul R. Hibbing** (2022). anthropometry: Conveniently characterize body measures. Under development. URL: https://github.com/paulhibbing/anthropometrics.
12. **Paul R. Hibbing** (2022). accelEE: Predict Energy Expenditure from Accelerometer Data. Under development. URL: https:/github.com/paulhibbing/accelEE.
13. **Paul R. Hibbing** (2022). EE.Data: Objects for predicting energy expenditure. Under development. URL: https:/github.com/paulhibbing/EE.Data.
14. **Paul R. Hibbing** (2022). IntakeBalance: Apply intake-balance methods. Under development. URL: https:/github.com/paulhibbing/IntakeBalance.
15. Helsel BC, **Hibbing PR**, Montgomery RN, Vidoni ED, Clutton & J (2024). agcounts: Calculate 'ActiGraph' Counts from Accelerometer Data. URL: https://github.com/bhelsel/agcounts.

PROFESSIONAL SOCIETIES

American College of Sports Medicine ..... *02/2016 – present*
International Society for the Measurement of Physical Behaviour ..... *03/2017 – present*
American College of Sports Medicine, Southeast Regional Chapter ..... *01/2018 – 12/2020*
International Society of Behavioral Nutrition and Physical Activity ..... *06/2021 – 05/2022*
International Society for Diet and Activity Methods ..... *03/2025 – present*

TEACHING AND MENTORSHIP

Courses Taught: University of Illinois Chicago

				Student Evaluations	
Course	**Title**	**Semester**	**Instructional Units**	**Aggregate Score***	**Response Rate**
KN 152 (undergraduate)	Introduction to Exercise Physiology and Health	Spring 2023	525	132.16/155 (85%)	30%
		Fall 2023	528	138.85/155 (90%)	34%
		Fall 2024	540	132.27/155 (85%)	34%
KN 200 (undergraduate)	Statistical Methods	Fall 2024	129	125.51/155 (81%)	42%
		Spring 2025		--	--

KN 396 (undergraduate)	Special Project	Summer 2023	8	--	--
KN 501 (graduate)	Current Research in Kinesiology	Fall 2024	1	--	--
		Spring 2025	1		
KN 596 (graduate)	Independent Research in Kinesiology	Fall 2023	6	--	--
		Spring 2024	1	--	--

*Rated on a scale of 0-5 in up to 31 categories. Score reflects the sum of average ratings in each category.

Students Mentored: University of Illinois Chicago

Student	Role	Semester(s)
Maryam Khan (M.S.)	Supplemental Mentorship	Spring 2023
Kenji Thammavong (B.S.)	Barton Scholarship Mentor	Summer 2023
Doyin Ogundiran (M.S.)	Supplemental Mentorship	Fall 2024
Justin Jackson (Ph.D.)	Major Professor	Summer 2023-present

Students Mentored: Other

Student	Role	Duration
Evan Kilby (M.S.) *University of North Florida*	Thesis Committee Member	August 2023-May 2024 *[student did not complete thesis]*
Charleen Yeager (Ph.D.) *Rush University*	Dissertation Committee Member	July 2024-present

Guest Lectures

(● undergraduate courses | ○ graduate courses)

University of Illinois Chicago

○ "Health Behavior Data in Kinesiology" 10/11/2023
BHIS 531, Health IT and Informatics in Interprofessional Collaborative Practice

HONORS & AWARDS

Iowa State University

Dean's List.....*(College of Human Sciences, Fall '10 – Spring '14[*])*
Dean's Scholarship .....*(College of Human Sciences, '10-'11 academic year; $1000)*
Academic Recognition Award.....*('10-'11 academic year; $1250)*
Academic Recognition Award (Renewal).....*(Fall '11; $625[*])*
Barbara E. Forker Leadership Award .....*(Department of Kinesiology, 2014)*
Top 20 Graduating Senior Scholar.....*(Department of Kinesiology, 2014)*
Graduate Magna Cum Laude.....*(2014)*
Outstanding Master's Student Award .....*(Department of Kinesiology, 2016)*
AKA[†] Master's Scholar Award (institutional winner) .....*(Department of Kinesiology, 2016)*

University of Tennessee, Knoxville

Chancellor's Fellowship.....(*'16-'17 academic year; $10,000*)
Chancellor's Fellowship (Renewal).....*('17-'18 academic year; $10,000)*
Chancellor's Fellowship (Renewal).....*('18-'19 academic year; $10,000)*
Shipley-Swann Graduate Fellowship .....*('18-'19 academic year; $5000)*
Andy Kozar Graduate Research Scholarship Award ..... *(KRSS[†], 2019; $1000)*
Chancellor's Fellowship (Renewal).....*('19-'20 academic year; $10,000)*
Shipley-Swann Graduate Fellowship .....*('19-'20 academic year; $5000)*
Extraordinary Professional Promise Citation..... *(CEHHS[†], 2020)*
Edward K. Capen Award..... *(KRSS[†], 2020; $200)*
Andy Kozar Graduate Research Scholarship Award ..... *(KRSS[†], 2020; $1000)*
AKA[†] Doctoral Scholar Award (institutional winner) .....*(KRSS[†], 2020)*
Helen B. Watson Faculty/Student Award for Outstanding Doct. Dissertation....*(CEHHS[†], 2020; $375)*

University of Illinois Chicago

Honoring Our Professors' Excellence (HOPE) Award, Nominated by CJ Shapiro.....(2024)

[*]No classes taken Spring '12
[†]AKA- American Kinesiology Association; KRSS- department of Kinesiology, Recreation, and Sport Studies; CEHHS- College of Education, Health, and Human Sciences

SERVICE & OUTREACH

Professional Service

Editorial Board *08/2022-present*

Medicine and Science in Sports and Exercise

International Steering Committee/Society Board Member-at-Large *05/2023-present*

International Conference on Diet and Activity Methods
International Society for Diet and Activity Methods

Working Group (3-year Term) *08/2023-present*

United States Report Card on Physical Activity for Children and Youth (chair Jordan Carlson)
Part of the Physical Activity Alliance's National Physical Activity Plan

Manuscript Reviewer

- *Medicine and Science in Sports and Exercise* (20)
- *Journal for the Measurement of Physical Behaviour* (9)
- *Measurement in Physical Education and Exercise Science* (3)
- *Journal of Science and Medicine in Sport* (2)
- *European Journal of Sport Science* (1)
- *Journal of Sports Sciences* (1)
- *Applied Physiology, Nutrition, and Metabolism* (1)

Grant Reviewer

- *2023-2024 UIC-UIUC Applied Health Sciences Interdisciplinary Collaborative Grant Program (1)*
- *United Kingdom Multiple Sclerosis Society (2)*
- *United Kingdom Research and Innovation (1)*

Conference Abstract Reviewer

- *2025 symposia and poster/oral presentations, International Conference on Diet and Activity Methods*

Institutional Service: University of Illinois Chicago

Department Level

- Search Committee ..... *09/2023 (canceled)*
  Tenure Track Faculty in Exercise Physiology
  Requisition ID 1021856
- Department Advisory Committee *08/2024-present*
  Tenure Track Faculty in Exercise Physiology
  Requisition ID 1021856
- Search Committee *12/2024-present*
  Tenure Track Faculty in Exercise Physiology
  Requisition ID 1028399

College Level

- Strategic Planning Research Working Group *02/2025-present*

Institutional Service: Other

Programming Chair *03/2022-12/2022*

Postdoctoral Fellowship Program (director Amanda Bruce)
Children's Mercy Kansas City/University of Kansas Medical Center
Center for Children's Healthy Lifestyles & Nutrition

Community Service

- Bike Rodeo Assistant *10/25/2016*
  Kids Can Bike! program
  Knoxville, TN Parks and Recreation
- Laboratory Instructor..... *07/10/2018*
  Kids U Jr. Leadership Institute summer camp (ages 11-16)
  University of Tennessee, Knoxville
- Laboratory Instructor..... *02/19/2019*
  Kingsport City Schools exercise physiology class on-campus visit
  University of Tennessee, Knoxville
- Volunteer Donation Sorter..... *07/09/2022*
  Harvesters – The Community Food Network
  Kansas City, MO