

Katherine L. Hsieh

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PROFESSIONAL EXPERIENCE

Assistant Professor 2022-Present
Department of Physical Therapy
Lewis College of Nursing and Health Professions
Georgia State University, Atlanta, GA

Postdoctoral Research Fellow 2020-2022
Department of Internal Medicine
Section on Gerontology and Geriatric Medicine
Wake Forest School of Medicine, Winston-Salem, NC

Adjunct Assistant Professor 2020-2022
Department of Health and Exercise Science
Wake Forest University, Winston-Salem, NC

Graduate Assistant 2016-2020
Motor Control Research Lab
Department of Kinesiology and Community Health
University of Illinois at Urbana-Champaign, Champaign, IL
Advisor: Jacob J. Sosnoff, PhD

Research Assistant 2015- 2016
Military Performance Lab
Center For the Intrepid
Brooke Army Medical Center
Henry M. Jackson Foundation, Fort Sam Houston, TX

EDUCATION

University of Illinois at Urbana-Champaign 2016-2020
Ph.D., Kinesiology
Dissertation: Fall Risk Assessment with Mobile Technology for People
with Multiple Sclerosis

University of Georgia 2011- 2015
B.S., Exercise and Sports Science
Thesis: Ankle Anterior Drawer Laxity and Stiffness via the LigMaster Arthrometer

SCHOLARY ACTIVITY

GRANTS

Accepted

The Interaction Between Cognition and the Environment on Gait in Older Adults

National Institute on Aging

F32AG077940

PI: **Hsieh, K.L.**

\$141,384

Impact Score: 23

Real-world Monitoring of Limb Loading for Bone Preservation During Weight Loss

National Institute on Aging P30 AG021332

MPIs: **Hsieh, K.L.** & Weaver, A.A.

\$25,000

03/2020-03/2021

PUBLICATIONS

In Press

1. **Hsieh K.L.**, Chen L., & Sosnoff J.J. (2022). Mobile Technology for Falls Prevention in Older Adults. *Journal of Gerontology: Series A*.
2. Frechette M.L., Fanning J.T., **Hsieh K.L.**, Rice L., & Sosnoff J.J. (2022). The usability of a smartphone-based fall risk health application for adult wheelchair users. *JMIR Formative Research*.

Accepted

3. Beavers D.P., **Hsieh K.L.**, Kitzman D.W., Kritchevsky S.B., Messier S.P., Neiberg R.H., Nicklas B.J., Rejeski W.J., Beavers K.M. (2022). Estimating Heterogeneity of Physical Function Treatment Response to Caloric Restriction Among Older Adults with Obesity. *PLOS One*. 17(5), e0267779.
4. **Hsieh K.L.**, Frechette M.L., Fanning J., Griffin A., Chen L., & Sosnoff J.J. (2022). The Developments and Iterations of a Mobile Technology-Based Fall Risk Health Application. *Frontiers in Digital Health*. 4, 828686.
5. Brown C.N., Samson C.O., & **Hsieh K.L.** (2022). Hysteresis and Stiffness of the Lateral Ankle Complex in those with Chronic Ankle Instability. *Sports Biomechanics*. 21(4), 517-530.
6. Fanning J., Brooks A.K., **Hsieh K.L.**, Kershner K.I., Furlipa J., Nicklas B.J., Rejeski W.J. (2022). The effects of a pain management-focused mobile health behavior intervention on older adults' self-efficacy, satisfaction with functioning, and quality of life: A randomized pilot trial. *International Journal of Behavioral Medicine*. 29(2), 240-246.

7. Fanning J., Brooks A.K., **Hsieh K.L.**, Kershner K.I., Furlipa J., Nicklas B.J., Rejeski W.J. (2021). Building on lessons learned in a Mobile Intervention to Reduce Pain and Improve Health (MORPH): protocol for the MORPH-II Trial. *JMIR Research Protocols*. 10(7), e29013
8. Zanutto T., Frechette M.L., Koziel S.R., **Hsieh K.L.**, & Sosnoff J.J. (2021). Frequency and characteristics of falls in people living with and without multiple sclerosis during the COVID-19 pandemic: a cross-sectional online survey. *Multiple Sclerosis and Related Disorders*. 54, 103111.
9. **Hsieh K.L.**, Fanning J., Frechette M.L., & Sosnoff J.J. (2021). Usability of a Fall Risk Mobile Health Application for People with Multiple Sclerosis: Mixed Methods Study. *JMIR Human Factors*. 8(1):e25604.
10. Miller R.M., Beavers D.P., Cawthon P.M., Crotts C., Fanning J., Gerosa J., Greene K.A., **Hsieh K.L.**, Kiel J., Lawrence E., Lenchik L., Lynch S.D., Nesbit B.A., Nicklas B.J., Weaver A.A., & Beavers K.M. (2021). Incorporating nutrition, vests, education, and strength training (INVEST) in bone health: Trial design and methods. *Contemporary Clinical Trials*. 104, 106326.
11. **Hsieh K.L.** & Sosnoff J.J. (2021) Smartphone Accelerometry to Assess Postural Control in Individuals with Multiple Sclerosis. *Gait and Posture*. 84, 114-119.
12. **Hsieh K.L.**, Sun R., & Sosnoff J.J. (2020) Usability of Self-Guided Mixed Reality Fall Risk Assessment for Older Adults. *Gerontechnology*. 19(4), 1-7.
13. **Hsieh K.L.** & Sosnoff J.J. (2020). A Motor Learning Approach to Reducing Fall-Related Injuries. *Journal of Motor Behavior*. 1-5.
14. **Hsieh K.L.**, Mirelman A., Shema-Shiratzky S., Galperin I., Regev K., Shen S., Schmitz-Hübsch T., Karni A., Paul F., Devos H., Sosnoff J.J., & Hausdorff J.M. (2020). A Multimodal Virtual Reality Treadmill Intervention for Enhancing Mobility and Cognitive Function in People with Multiple Sclerosis: Protocol for a Randomized Controlled Trial. *Contemporary Clinical Trials*. 97, 106122.
15. Shema-Shiratzky S., Hillel I., Mirelman A., Regev K., **Hsieh K.L.**, Karni A., Devos H., Sosnoff J.J., & Hausdorff J.M. (2020). A Wearable Sensor Identifies Alterations in Community Ambulation in Multiple Sclerosis: Contributors to Real-World Gait Quality and Physical Activity. *Journal of Neurology*, 1-10.
16. Tablerion J.M., Wood T.A., **Hsieh K.L.**, Bishnoi A., Sun R., Hernandez M., An R., & Sosnoff J.J. (2020). Motor Learning in People with Multiple Sclerosis: A Systematic Review and Meta-Analysis. *Archives of Physical Medicine and Rehabilitation*. 101(3), 512-523.

17. Sun R., **Hsieh K.L.**, & Sosnoff, J. J. (2019). Fall Risk Prediction in Multiple Sclerosis Using Postural Sway Measures: A Machine Learning Approach. *Scientific Reports*, 9(1), 1-7.
18. **Hsieh K.L.**, Trinh L., & Sosnoff J.J. (2019). Gait Variability is Altered in Cancer Survivors with Self-Reported Neuropathy. *Gait & Posture*. 72, 206-210.
19. **Hsieh K.L.**, Fanning J.T., & Sosnoff J.J. (2019). A Smartphone Application is Valid and Reliable in Older Adults during Real World Testing. *Gerontechnology*. 18(1), 29-35.
20. **Hsieh K.L.**, Wood T.A., An R., Trinh L., & Sosnoff J.J. (2019). Gait and Balance Impairments in Breast Cancer Survivors: A Systematic Review and Meta-analysis of Observational Studies. *Archives of Clinical Translation and Rehabilitation*. doi.org/10.1016/j.arret.2018.12.001.
21. Wood, T.A., **Hsieh, K.L.**, An R., Ballard R.A., Sosnoff J.J. (2019) Balance and Gait Alternations Observed More than 2 Weeks after Concussion: A Systematic Review and Meta-analysis. *American Journal of Physical Medicine Rehabilitation*. 98(7), 566-576.
22. **Hsieh K.L.**, Roach K.L., Wajda D.A., & Sosnoff J.J. (2019). Smartphone Technology Can Measure Postural Stability and Distinguish Fall Risk in Older Adults. *Gait & Posture*, 67, 160-165.
23. **Hsieh K.L.**, Moon Y., Ramkrishnan V., Ratnam R., & Sosnoff J.J. (2019) Validating Virtual Time to Contact with Home Based Technology in Young and Older Adults. *Journal of Applied Biomechanics*. 35(1), 61-67.
24. **Hsieh K.L.**, Fanning J.T., Rogers W.A., Wood T.A., & Sosnoff, J.J. (2018). A Fall Risk mHealth App for Older Adults: Development and Usability Study. *JMIR Aging*, 1(2), e11569.
25. **Hsieh, K.L.**, Sheehan, R.C., Wilken, J.M., & Dingwell, J.B. (2018). Healthy individuals are more maneuverable when walking slower while navigating a virtual obstacle course. *Gait & Posture*, 61, 466-472.
26. **Hsieh, K.L.**, Sun, R., & Sosnoff, J. J. (2017). Cognition is associated with gait variability in individuals with multiple sclerosis. *Journal of Neural Transmission*, 124(12), 1503-1508.
27. Roeing, K.L., **Hsieh, K.L.**, & Sosnoff, J. J. (2017). A systematic review of balance and fall risk assessments with mobile phone technology. *Archives of gerontology and geriatrics*, 73, 222-226.

28. Brown, C. N., Ko, J., Rosen, A. B., & **Hsieh, K.L.** (2015). Individuals with both perceived ankle instability and mechanical laxity demonstrate dynamic postural stability deficits. *Clinical Biomechanics*, 30(10), 1170-1174.

REFEREED PRESENTATIONS

*denotes presented poster, †denotes presented talk

1. †**Hsieh K.L.**, Neiburg R.H., Beavers K.M., & Beavers D.P. Effect of Baseline BMI and IL-6 Subgroup Membership on Gait Speed Response to Caloric Restriction. (2021). *Gerontological Society of America*. Virtual.
2. †**Hsieh K.L.**, Fanning J., Frechette M.L., & Sosnoff J.J. The Development and Usability of a Fall Risk Mobile Health Application for Individuals with Multiple Sclerosis. (2021). *Society of Behavioral Medicine*. Virtual.
3. ***Hsieh K.L.** & Sosnoff J.J. Assessing Postural Control with Smartphone Accelerometry in People with Multiple Sclerosis. (2020). *American Society of Biomechanics*. Virtual.
4. Brown C.N., Samson C.O., & **Hsieh K.L.** Lateral Ankle Complex Hysteresis in Individuals with Chronic Ankle Instability. (2020). *National Athletic Trainer's Association*. Virtual.
5. Mejía, S.T., Su, T., Griffin, A., **Hsieh, K.**, Schulte, J., Guzman, L., Nangia, N., Sosnoff, J. (2020). User Experiences of Daily Fall Risk Self-Assessment via a Mobile Application. International Society for Gerontechnology's 12th World Conference. Trondheim, Norway.
6. †**Hsieh K.L.**, Griffin A., Sun R., & Sosnoff J.J. Using Technology for Fall Risk Assessment in Older Adults. (2019). *American Congress of Rehabilitation Medicine*. Chicago, IL.
7. Mejia, S.T., **Hsieh, K.L.**, Fanning. J.T., & Sosnoff, J.J. The Daily Balance Project: An Inquiry into the Intraindividual Dynamics of Perceived and Actual Fall Risk. (2019). *Gerontological Society of America*. Austin, TX.
8. †**Hsieh K.L.**, Trinh L., & Sosnoff J.J. Gait Variability is Altered in Cancer Survivors with Neuropathy (2019). *International/American Society of Biomechanics*. Calgary, Alberta, CA.
9. Tablerion J.M., Wood T.A., **Hsieh K.L.**, Bishnoi A., Sun R., Hernamdez M., An R., & Sosnoff J.J. (2019). Motor Learning in People with Multiple Sclerosis: A Systematic Review and Meta-Analysis. *Consortium of Multiple Sclerosis Centers*. Seattle, WA.

10. †**Hsieh K.L.**, Mejia S.T., Fanning J.T., & Sosnoff J.J. (2019). Functional Mobility Variability in an Older Adult Over 30 Days. *Midwest American Society of Biomechanics*. Dayton, Ohio.
11. Frechette M.L., **Hsieh K.L.**, & Sosnoff J.J. (2019). Preliminary Examination of Smartphone-Based Fall Risk Assessment in Individuals with Multiple Sclerosis. *Midwest American Society of Biomechanics*. Dayton, Ohio.
12. ***Hsieh K.L.**, Roach K.L., Wajda D.A., & Sosnoff J.J. (2018). Smartphone Technology Can Measure Postural Stability and Distinguish Fall Risk in Older Adults. *American Society of Biomechanics*. Rochester, MN.
13. ***Hsieh K.L.**, Trinh L., & Sosnoff J.J. (2018). The Romberg Test in Cancer Survivors with Neuropathy. *Progress in Clinical Motor Control*. State College, PA.
14. †Sun R., **Hsieh K.L.**, Mussad S., & Sosnoff J.J. (2018). Assessment of Postural Control in Multiple Sclerosis: Identification of Core Outcome Variables. *Rehabilitation in Multiple Sclerosis*. Amsterdam, Netherlands.
15. Wood T.A., **Hsieh K.L.**, Ballard R.A., An R., & Sosnoff J.J. (2018) A meta-analysis examining objective balance and gait measures following concussion symptom resolution. *Great Lakes Athletic Trainers Association Annual Meeting*, Wheeling, IL.
16. ***Hsieh K.L.**, Wood T.A., McDonagh D., Fanning J., Wajda D.A., & Sosnoff J.J. (2017). Usability of a Fall Risk Mobile Health Application in Older Adults. *Collaborations in Health, Aging, Research, and Technology*. Champaign, IL.
17. ***Hsieh K.L.** and Sosnoff J.J. (2017). Gait Variability is Associated with Reduced Cognitive Function in Individuals with Multiple Sclerosis. *American Congress of Rehabilitative Medicine*. Atlanta, GA.
18. ***Hsieh K.L.**, Moon Y., Ramkrishnan V., Ratman R., & Sosnoff J.J. (2017). Validating Virtual Time to Contact with Home-Based Technology. *International Society of Posture and Gait Research*. Fort Lauderdale, FL.
19. †**Hsieh K.L.**, Sheehan R.C., Ruble M.D., Dingwell J.B., & Wilken J.M. (2016). Individuals with Lower Limb Trauma Prioritize Stability over Maneuverability When Navigating a Virtual Obstacle Course. *Omer Day*. San Antonio, TX.
20. Samson C.O., **Hsieh K.L.**, & Brown C.N. (2015) Lateral ankle complex response to repeated mechanical laxity assessment. *International Ankle Symposium*. Dublin, Ireland.
21. Brown C.N., Samson C.O., **Hsieh K.L.**, & Ko J. (2015). Lateral Ankle Joint Complex Stiffness in Those with Chronic Ankle Instability. *International Ankle Symposium*. Dublin, Ireland.

22. ***Hsieh K.L.**, Ko J., Samson C.O., & Brown C.N. (2015). Functional Performance Test and BMI Scores in Adolescent Athletes with Chronic Ankle Instability. *Southeast Chapter American College of Sports Medicine*. Jacksonville, FL.
23. ***Hsieh K.L.**, Rosen A.B., Leblanc R., Fu Y.U., Simpson K.J., & Brown C.N. (2014). Effect of Patellar Tendon Straps on Knee Joint Moments During a Drop-Jump. *Southeast Chapter American College of Sports Medicine*. Greenville, SC.
24. Hovorka C., **Hsieh K.L.**, & Kogler G. (2014). Motion Control Validation of a Custom Ankle Foot Orthosis. *American Academy of Orthotists and Prosthetists*. Chicago, IL.

INVITED TALKS

1. Real-World Monitoring of Limb Loading During Weight Loss. (May 2022). *Sticht Center for Healthy Aging and Alzheimer's Prevention Aging Conference*. Winston-Salem, NC.
2. Baseline BMI and IL-6 Membership on Gait Speed Response to Caloric Restriction. (May 2021). *Sticht Center for Healthy Aging and Alzheimer's Prevention Aging Conference*. Winston-Salem, NC.
3. Fall Risk Consequences, Predictors, and Prevention in Older Adults (April 2019). *Brown Bag Seminar for UIUC Medical Students*. Champaign, IL.
4. Fall Prevention in Older Adults: Assessment and Interventions. (April 2019). *Health Alliance*. Champaign, IL.
5. The Role of Mobile Technology for Fall Risk Assessment in Older Adults. (January 2019). *Kinesiology & Community Health Departmental Colloquium*. Champaign, IL.
6. The Science of Falls. (April 2018). *Philanthropic Educational Organization*. Urbana, IL.
7. Tai Chi for Falls Prevention in Older Adults. (November 2017). *Falls: Prevention, Assessment, and Intervention*. Champaign, IL.

TEACHING EXPERIENCE

Adjunct Assistant Professor

HES 350: Human Physiology
Wake Forest University

Spring 2021-Summer 2022

Group Facilitator

GRAD 714: Scientific Integrity and Professionalism
Wake Forest School of Medicine

Spring 2021

Teaching Assistant

KIN 259: Motor Development and Control
University of Illinois at Urbana-Champaign

Fall 2017, Spring 2018, Fall 2018

UIUC Teachers Ranked as Excellent - KIN 259

Spring 2018, Fall 2018

Certificate in Foundations of Teaching

May 2019

MENTORSHIP

Wake Forest University

Emily Potts – Undergraduate honors student; primary mentor	2021-2022
Joy Furlurpia – Master’s student; co-mentor	2020-2022
Sierra Browning – Undergraduate student; primary mentor	2020-2022
Garrett Bangert – Undergraduate student; co-mentor	Summer 2021
Kyle Kershner – Master’s student; co-mentor	2020-2021

University of Illinois at Urbana-Champaign

Jake Tablerion – Undergraduate student; co-mentor	2017-2019
Jamie Rymut – Undergraduate student; co-mentor	2016-2017

COMMUNITY INVOLVEMENT

Manuscript Reviewer:

- Gait and Posture
- Clinical Biomechanics
- Archives of Physical Medicine and Rehabilitation
- Journal of Medical Internet Research
- Archives of Gerontology and Geriatrics
- Disability and Rehabilitation

Professional Memberships:

- American Society of Biomechanics
- American Congress of Rehabilitative Medicine

Search Committee Member:

- Research Coordinator Position for UIUC
- Visiting Research Specialist Position for UIUC

UIUC College of Applied Health Sciences Graduate Student Council

2019-2020

HONORS & AWARDS

Laura J. Huelster Award, Dept. of Kinesiology & Community Health	2020
Paul D. Doolen Scholarship for the Study of Aging	2019
University of Illinois Chittenden Fellow	2019-2020
Progress in Clinical Motor Control Workshop and Travel Award	2018