

# Kayla M. Kowalczyk, PhD

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## Contact Information

University of Wyoming  
Division of Kinesiology and Health  
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## Education

### **Doctor of Philosophy - Kinesiology - May 2026**

University of Georgia, Athens, GA  
Department of Kinesiology  
Mary Frances Early College of Education  
Concentration: Biomechanics  
Dissertation Topic: *Coordination and Muscular Activation Among Individuals With and Without Concussion History*

### **Master of Science - Biomechanics - May 2022**

University of Nebraska at Omaha, Omaha, NE  
Department of Biomechanics  
College of Education, Health, and Human Sciences  
Thesis: *Low-cost Asymmetric Hip Brace for Gait Training*

### **Bachelor of Science - Exercise Science - May 2020**

Sacred Heart University, Fairfield, CT  
Department of Physical Therapy & Human Movement Science  
The College of Health Professions

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## Academic Positions

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| 2026-Present | <b>Assistant Professor</b> (August 2026-Present)<br>University of Wyoming, Laramie, WY<br>Division of Kinesiology and Health<br><i>Director: Biomechanics Lab</i>                        |
| 2022-2026    | <b>Doctoral Research Assistant</b> (August 2022-May 2026)<br>University of Georgia, Athens, GA<br>UGA Concussion Research Center<br>Biomechanics Laboratory<br>Department of Kinesiology |

Mary Frances Early College of Education

2020-2022

**Graduate Research Assistant** (August 2020-May 2022)  
University of Nebraska at Omaha, Omaha, NE  
Center for Research in Human Movement Variability  
Department of Biomechanics  
College of Education, Health, and Human Sciences

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## **Manuscripts**

### *Published (3)*

1. **Kowalczyk, KM.**, Shumski, EJ., Lisee, C., Lynall, RC. "Female Collegiate Soccer Players Post Anterior Cruciate Ligament Reconstruction Utilize Aberrant Movement Strategies to Achieve Similar Performance to Uninjured Players". *Clinical Biomechanics*. 2025;122. <https://doi.org/10.1016/j.clinbiomech.2024.106424>
2. **Kowalczyk KM.**, Shumski EJ, Schmidt JD, Lynall RC. Concussion History Moderates Trunk Motion and Lower Extremity Biomechanical Relationships During Jump Landing and Cutting. *Journal of Applied Biomechanics*. 2024;40(5):406-415. <https://doi.org/10.1123/jab.2024-0068>
3. **Kowalczyk, K.**, Mukherjee, M. & Malcolm, P. Can a passive unilateral hip exosuit diminish walking asymmetry? A randomized trial. *Journal of NeuroEngineering and Rehabilitation*. 2023;20(88). <https://doi.org/10.1186/s12984-023-01212-w>

### *Submitted (1)*

1. Hashida, K., Drattell, JD., Prato, TA., **Kowalczyk, KM.**, Miller, EM., Lynall, RC., Schmidt, JD. "What percent of normal do you feel right now?": Association with Concussion Recovery Outcomes. *Journal of Head Trauma Rehabilitation*

### *In Preparation (7)*

1. **Kowalczyk, KM.**, Schueren, S., Lisee, C., Lynall, RC. "J Female Soccer Athlete Jump Cut Angular and Coordination Comparisons Following Anterior Cruciate Ligament Reconstruction". *In Preparation for Sports Biomechanics*
2. **Kowalczyk, KM.**, Lisee C., Schmidt JD., Lynall, RC. "Muscle Activation Pre- and Post-Impact Waveform Comparisons During Dynamic Tasks Among Individuals With and Without Concussion History". *In Preparation for Journal of Electromyography and Kinesiology*
3. **Kowalczyk, KM.**, Lisee C., Schmidt JD., Lynall, RC. "The Impact of Concussion History on Lower Extremity Coordination Across Jumping and Cutting Tasks". *Journal TBD*
4. **Kowalczyk, KM.**, Shumski, EJ., Schmidt, JD., Lynall, RC. "Jump Landing Coordination in Female Athletes with and without Concussion History". *Journal TBD*
5. Schueren, S., **Kowalczyk, KM.**, Anderson, MN., Johnson, RS., Le, R., Lempke, LB., Licea, J., Love, K., Modlesky, C., Schmidt, JD., Lynall, RC. "Single season effects of head impacts in youth flag and tackle football on balance, gait, and reaction time". *Journal TBD*
6. Bejar J., **Kowalczyk KM.**, Schueren S., Lisee C., Schmidt JD., Lynall RC. "Relationships Between Concussion Assessment Components and Biomechanics in Female Athletes". *Journal TBD*

7. Kulp SC., **Kowalczyk KM.**, Schueren S., Taylor H., Schmidt JD., Lynall RC. "Predictors of Kinesiophobia in Collegiate Athletes Returning from Concussion". *Journal TBD*
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## **Academic Presentations**

### *Podium/Oral (4)*

- 2025 Hashida K, Prato TA, Drattell JD, **Kowalczyk KM**, Miller EH, Lynall RC, Schmidt JD. "What percent of normal do you feel right now?" Exploring Whether Patient Ratings Captured Within 48 Hours of Concussion Relate to Recovery Outcomes. 76th NATA Clinical Symposia & AT Expo: Rapid Fire Presentation. Orlando, Florida
- 2022 **Kowalczyk, K.**, Malcolm, P. *Can a Unilateral Passive Hip Brace Diminish Walking Asymmetry?* North American Congress of Biomechanics, Ottawa, Canada
- 2022 **Kowalczyk, K.**, Malcolm, P. *Can a Unilateral Passive Hip Brace Diminish Walking Asymmetry?* Rocky Mountain ASB, Estes Park, CO
- 2019 **Kowalczyk, K.**, Wade, J., De Lucia, B., Lynch, V., Stannard, A. *Tracking Calories: The Validity of Wearable Activity Monitors*. NEACSM, Providence, RI

### *Poster (26)*

- 2026 **Kowalczyk KM**, Prato TA, Schueren S, Ash KF, Kardouni J, Lempke LB, Schmidt JD, Hendershot BD, Mauntel TC, Lynall RC. *Concussions Effect on Touch Sensation and Joint Position Sense: Implications for Musculoskeletal Injury Risk*. ACSM Annual Conference 2026, Salt Lake City, Utah
- 2026 Bejar J, **Kowalczyk KM**, Lisee C, Schmidt JD, Lynall RC. *Static, But Not Dynamic, Balance is Associated with Asymmetrical Landing Mechanics in Female Collegiate Athletes*. ACSM Annual Conference, 2026, Salt Lake City, Utah
- 2026 Pradip K, **Kowalczyk KM**, Lynall RC, Lisee C. *Hip Angles and Moments Differ Between Limbs During Gait in Individuals Following ACL Reconstruction*. ACSM Annual Conference, 2026, Salt Lake City, Utah
- 2026 Schueren S, **Kowalczyk KM**, Prato T, Call J, Mantuel TC, Schmidt JD, Lynall RC. *Lower Extremity Sensorimotor Error Following Concussion*. ACSM Annual Conference, 2026, Salt Lake City, Utah
- 2026 Preikszas ZD, **Kowalczyk KM**, Bejar J, Lynall RC. *Limb Asymmetries Across Jump Cuts in Individuals with a Concussion History*. Center for Undergraduate Research Opportunities Conference, Athens, GA

- 2026 Pradip K, **Kowalczyk K**, Lynall R, Lisee C. *Hip Angles and Moments During Gait Differ Between Limbs in Individuals Following ACL Reconstruction*. Southeast American College of Sports Medicine Conference, Greenville, SC
- 2025 **Kowalczyk KM**, Schueren S, Schmidt JD, Lyall RC. *Does Combined Baseline Cognitive Function and Motor Control Correlate With Post-concussion Recovery Time?* ACSM Annual Conference, Atlanta, GA
- 2025 Schueren S, **Kowalczyk KM**, Love KR, Schmidt JD, Lyall RC. *Association Between Head Impacts, Reaction Time, and Cognitive Accuracy in Youth Football*. ACSM Annual Conference, Atlanta, GA
- 2025 Anne R, **Kowalczyk KM**, Hashida K, Prato TA, Lynall RC. *The Relationship Between Concussion History and Joint Angles and its Effect on ACL Injury Risk*. Center for Undergraduate Research Opportunities Conference, Athens, GA
- 2024 Prato TA, Shumski EJ, **Kowalczyk KM**, Hashida K, Schmidt JD, Lynall RC. *Association Between Kinesiophobia and Concussion Assessment Battery Scores at Return-to-play After Concussion*. National Athletic Trainers' Association Clinical Symposia & AT Expo, New Orleans, LA
- 2024 **Kowalczyk, K.**, Shumski, E., Prato, T., Lisee, C., Lynall, R. *Does a History of Lower Extremity Injury Impact Female Athlete Jump Landing Performance Metrics?* ACSM Annual Conference, Boston, MA
- 2024 Atamna, M., **Kowalczyk, K.**, Lynall, R., Shumski, E. *Elite Female Soccer Players Have Decreased Injured Limb Knee Power Post ACL Reconstruction*. Center for Undergraduate Research Opportunities Conference, Athens, GA
- 2023 **Kowalczyk, K.**, Shumski, E., Lynall, R. *Female Athlete Joint Coordination is Unstable During the Eccentric Phase of a Jump Landing*. ASB Annual Conference, Knoxville, TN
- 2023 **Kowalczyk, K.**, Shumski, E., Oh, J., Schmidt, J., Lynall, R. *Concussion History Moderates Relationships Between Trunk and Lower Extremity Biomechanics During a Cut*. ACSM Annual Conference, Denver, CO
- 2022 **Kowalczyk, K.**, Malcolm, P. *Can a Unilateral Passive Hip Brace Diminish Walking Asymmetry?* Human Movement Variability and Great Plains Biomechanics Conference, Omaha, NE
- 2022 Stogdill, H., Sado, T., **Kowalczyk, K.**, Malcolm, P., Mukherjee, M. *Development of Bilateral Passive Hip Exosuit for Stroke Survivors*. Human Movement Variability and Great Plains Biomechanics Conference, Omaha, NE
- 2022 **Kowalczyk, K.**, Malcolm, P. *Low-cost Asymmetric Hip Brace for Error Augmentation Training*. Research and Creative Activity Fair, University of Nebraska at Omaha, Omaha, NE

- 2022 Stogdill, H., Sado, T., **Kowalczyk, K.**, Malcolm, P., Mukherjee, M. *Development of a Bilateral Passive Hip Exoskeleton*. Research and Creative Activity Fair, University of Nebraska at Omaha, Omaha, NE
- 2021 Stannard, A., Hudak, J., **Kowalczyk, K.**, De Lucia, B., Lynch, V., Wade, J. *Validity of Activity Monitors for Energy Expenditure During Walking, Running, and HITT*. ACSM Annual Conference, Virtual
- 2021 **Kowalczyk, K.**, Malcolm, P. *Design of a Low-cost Unilateral Hip Brace for Gait Training*. Human Movement Variability and Great Plains Biomechanics Conference, Virtual
- 2021 **Kowalczyk, K.**, Malcolm, P. *Design of a Low-cost Unilateral Hip Brace for Gait Training*. Rocky Mountain ASB, Virtual
- 2021 **Kowalczyk, K.**, Malcolm, P. *Design of a Low-cost Unilateral Hip Brace for Gait Training*. Research and Creative Activity Fair, University of Nebraska at Omaha, Omaha, NE
- 2020 Wade, J., **Kowalczyk, K.**, De Lucia, B., Lynch, V., Hudak, J., Stannard, A. *Tracking Calories: The Validity of Wearable Activity Monitors*. ACSM Annual Conference, Virtual
- 2020 **Kowalczyk, K.**, Hudak, J., Taber, C. *The Effect of Off-season Training Load on Lactate Threshold, Strength and Rowing Performance in Collegiate Div. 1 Rowers*. Academic Festival, Sacred Heart University, Fairfield, CT
- 2019 Lynch, V., De Lucia, B., Wade, J., **Kowalczyk, K.**, Hudak, J., Stannard, A. *Validity of Wrist-Worn Activity Trackers*. NEACSM, Providence, RI
- 2019 **Kowalczyk, K.**, Wade, J., De Lucia, B., Lynch, V., Stannard, A. *Tracking Calories: The Validity of Wearable Activity Monitors*. Academic Festival, Sacred Heart University, Fairfield, CT
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## **Grant Activity**

### *Previous Support (4)*

- 2025 **Louise E. Kindig Research Award**  
Total Award: \$1,000 (*Funded May 2025*)  
Aim: To evaluate how concussion history impacts lower extremity muscle activation patterns and coordination during deceleration and change-in-direction tasks.  
University of Georgia, Department of Kinesiology  
Submitted: January 2025
- 2021 **Graduate Research and Creative Activity Grant**  
“Low-cost Asymmetric Hip Brace for Error Augmentation Training”

Primary Investigator: Kayla Kowalczyk  
Total Award: \$5,000 (*Funded June 2021-December 2021*)  
Aim: To develop a unilateral exoskeleton to influence asymmetric gait patterns.  
University of Nebraska at Omaha  
Submitted: December 2020

2022                    **Graduate Studies Travel Grant**  
Total Award: \$500 (*Funded*)  
University of Nebraska at Omaha, Omaha, NE  
Submitted: May 2022

2022                    **College of Education, Health, and Human Sciences Travel Grant**  
Total Award: \$500 (*Funded*)  
University of Nebraska at Omaha, Omaha, NE  
Submitted: May 2022

*Support Not Funded (2)*

2024                    **ACSM Foundation**  
Jim and Linda Pivarnik Women's Health, Sport & Physical Activity Travel Award  
Total Award: \$1,000 (*Not Funded*)  
Submitted: February 2024

2023                    **Mary Ella Lunday Soule Scholarship**  
University of Georgia Kinesiology Departmental Award  
Total Award: 12-month, 50% Time Graduate Research Assistantship (*Not Awarded*)  
Submitted: February 2023

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## **Teaching Experience**

*University of Georgia*

**KINS 3600 – Applied Biomechanics**  
University of Georgia, Department of Kinesiology  
CRN: 20332 (n = 30); CRN: 60356 (n = 25)

**BIOE 4960R – Faculty-Mentored Undergraduate Research I**  
University of Georgia, College of Engineering  
CRN: 69805 (n = 1)

**KINS 4200L – Biomechanics Lab**  
University of Georgia, Department of Kinesiology  
CRN: 20347 (n = 15); CRN: 20349 (n = 7);  
CRN: 10330 (n = 15); CRN: 33746 (n = 15)

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## **Guest Lectures**

### *University of Georgia*

- Spring 2026      **KINS 4200**  
*Biomechanics*  
Lectured on Work, Power, and Energy  
Professor: Dr. Caroline Lisee
- Fall 2024      **ATTR 6520**  
*Clinical Evaluation and Treatment: Brain*  
Lectured on the Neurophysiology of TBI  
Professor: Dr. Julianne Schmidt
- Spring 2024      **ATTR 7300**  
*Injury Prevention, Performance Enhancement, and Wellness*  
Performed a Jump Landing Biomechanical Assessment and Taught the Landing Error Scoring System with Dr. Rob Lynall  
Professor: Dr. Earl Cooper
- Spring 2023      **ATTR 7300**  
*Injury Prevention, Performance Enhancement, and Wellness*  
Performed a Jump Landing Biomechanical Assessment and Taught the Landing Error Scoring System with Dr. Rob Lynall  
Professor: Dr. Earl Cooper

### *University of Nebraska at Omaha*

- Spring 2022      **BMCH 4630**  
Guest Judge of Undergraduate Final Project Presentations  
Professor: Dr. Kota Takahashi

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## **Mentorship**

### *University of Georgia*

#### Master's in Athletic Training

- 2025-2026      *Samuel Kulp*: Mentored and advised Sam as he completed his thesis project investigating the effect of concussion on psychological outcomes and fear of injury.

#### Undergraduate Students

- 2025-2026      *Zachary Preikszas*: Mentored Zach as he assisted with my dissertation project. Trained Zach on biomechanical techniques, equipment, and processing.

#### High School Students

- Fall 2024      *Braelyn Pruitt*, Young Dawgs Program

2023-2024      *John Haines*, Clark-Central School District Work Based Learning  
Fall 2023      *Suzanna Barker*, Young Dawgs Program

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## **Awards**

2026      **Outstanding Teaching Assistant Award**  
Department of Kinesiology Nominee  
Center for Teaching and Learning (CTL)  
University of Georgia, Athens, GA

2022      **CEHHS Spring 2022 Outstanding Graduate Student Award**  
College of Education, Health, and Human Sciences  
Department of Biomechanics  
University of Nebraska at Omaha, Omaha, NE

2019      **Most Scholarly Impact or Potential**  
**Kowalczyk, K.**, Wade, J., De Lucia, B., Lynch, V., Stannard, A. *Tracking Calories: The Validity of Wearable Activity Monitors*.  
Academic Festival, Sacred Heart University, Fairfield, CT

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## **Ad-Hoc Manuscript Reviews**

*Medicine & Science in Sport & Exercise* (2 reviews)  
*BMC Sports Science, Medicine and Rehabilitation* (1 review)

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## **Professional Affiliations**

2023-Present    American College of Sports Medicine  
2022-Present    American Society of Biomechanics  
2020-2021      New England Chapter of the American College of Sports Medicine

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## **Patents**

2022      **Passive Hip Exoskeleton**  
UNMC Docket: #22025PCT  
Serial Number: US18/843,165  
International Application #: PCT/US2023/065201  
Submitted: 03/31/2023  
<https://patents.google.com/patent/US20250177813A1/en>

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## **Outreach, Community Service, & Extracurricular Activities**

- 2025                    **Fleet Feet Firefly Five Miler**  
Fleet Feet Athens & Oconee  
Assisted with participant registration at a local five-mile race.
- 2021                    **Tours and Open House**  
Department of Biomechanics  
Assisted with tours and outreach events held at the Biomechanics Research Building for the University of Nebraska at Omaha.
- 2021-2022            **Great Plains Biomechanics and Human Movement Variability Professional and Social Event Committee**  
Biomechanics United  
Helped to plan the professional development and social events at the 2021 and 2022 HMV & GPB conference. Hosted the professional development event in 2021 and 2022.
- 2020-2021            **Social Media Posts**  
Department of Biomechanics Facebook/Twitter Page  
Created a social media post for the UNO Biomechanics accounts.
- 2020                    **Development of Outreach Power Point Presentations**  
Department of Biomechanics Outreach Events  
Helped to create activities and PowerPoints crossing multiple age groups for future in-person outreach events.
- 2020-2022            **Biomechanics United**  
Member; Treasurer 2021-2022  
Student organization within the Department of Biomechanics at the University of Nebraska at Omaha.
- 2018-2020            **Exercise Science Club**  
E-Board Social Media Chair, 2019-2020  
Volunteered at local Boys and Girls Club, soup kitchen, and the Special Olympics. Created social media posts for the club's accounts.
- 2018-2020            **Best Buddies Club**  
E-Board Co-Events Chair  
Peer Buddy to a "Buddy" with Special Needs. Helped plan monthly events with all the peer buddies and their "Buddy".
- 2019                    **The Foundation To Be Named Later**  
Weekend spent volunteering for an organization helping students in underserved areas attend college.
- 2013-2019            **Dalton Youth Softball Tournament**  
Volunteering at a local softball tournament in my home community.

2016-2017

**Boston Marathon**

Wheelchair Sweep Medical Volunteer

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**Research- and Teaching-Related Skills**

Expertise: MATLAB, RStudio, Visual 3D, Qualisys, Delsys EMG, Bertec Force Plates, Adobe Illustrator

Proficiency: Vicon, SPSS, REDCap, Qualtrics, Adobe Premier Pro