

## **Patrick S. Ledwidge, Ph.D.**

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## **APPOINTMENTS**

<b>Assistant Professor</b>	2023-
Department of Psychological Sciences <i>Western Kentucky University</i>	
<b>Affiliate Associate Professor</b>	2023-2025
Department of Psychology <i>Baldwin Wallace University</i>	
<b>Assistant Professor</b>	2017-2023
Department of Psychology Department of Neuroscience <i>Baldwin Wallace University</i>	

## **EDUCATION**

Ph.D. <b>University of Nebraska-Lincoln</b> , <i>Cognitive Neuroscience</i>	2017
Minor in <i>Communication Sciences &amp; Disorders</i>	
M.A. <b>University of Nebraska-Lincoln</b> , <i>Cognitive Neuroscience</i>	2015
B.A. <b>DePauw University</b> , <i>Psychology, Spanish</i>	2013

## **RESEARCH INTERESTS**

EEG/ERP measurement and advanced signal processing; Cognitive-motor integration; dual-tasking; neurophysiology of sports-related concussion and ACL/MSK injury; psycholinguistics

## **SKILLS & METHODS**

High-density electroencephalography (EEG); MoBI EEG (Explore Plus); ERP processing/analysis; EEGLAB/ERPLAB toolboxes; EEG time frequency analysis; inertial measurement units; biosignal integration in LSL; Net Station 5.x; E-prime 3.x; SPSS; SAS; MPlus, neuropsychological testing (including virtual test administration); multivariate statistics; multilevel modeling

## --SCHOLARSHIP--

### GRANTS, HONORS, & AWARDS

#### **Submitted, Under Review**

KY INBRE. Pilot Project Award. “Elecrocortical Brain Dynamics of Reactive Gait Adjustment Biomechanics.” PI.

NIMH/NINDS R16 SuRE First. “Elecrocortical Brain Dynamics of Reactive Gait Adjustment Biomechanics.” PI.

#### **Funded, Active**

2025-2027 Children’s Medical Center Foundation. “Informed Decision-Making for Return to Performance in ACLR Patients.” \$211,000. Co-I (PI J. Abt)

2024-2026 Kentucky INBRE. Research Project Award (NIGMS grant # 8P20GM103436). “EEG Biomarkers of Suboptimal Cognitive-Motor Integration and Injury-Risk Biomechanics.” \$205,802.00. PI

#### **Funded, Ended**

24-25 Ohio University. ASPIRE Grant. “Concussion and Injury Risk – Bridging the Gap with ERPs.” \$11,826.93. Co-I (PI M. Anderson).

2023 *Quick Turn Around Grant*, Ogden College of Science & Engineering, Western Kentucky University, \$3,000.

2023 *Maurin Honor’s College Honor’s Faculty Engagement Grant*, Western Kentucky University, “Critical Evaluation of Commercial vs. Research EEG Systems in PSYS 160 Introduction to Biopsychology. \$709.96.

2023 Kentucky INBRE. Start-up Award. \$29,529.00.

2022 *Edith C. Robinson Grant*, “Cognitive-Motor Interference after ACL Reconstruction and Return to Sport: An EEG Study.” \$1,000.

2022 *Gund Student-Faculty Research Grant*, Baldwin Wallace University. \$2,000

2020 *Faculty Summer Grant*, Baldwin Wallace University. \$4,000

2020 *Gund Student-Faculty Research Grant*, Baldwin Wallace University. “Funds to support the Cognitive Neuropsychology Laboratory.” \$1,000

2019 *Faculty Summer Grant*, Baldwin Wallace University. \$2,000

2019 *Scholarly Presentation for Domestic Travel Grant*, Baldwin Wallace University. \$1,261.81

2019 *Gund Student-Faculty Research Grant*, Baldwin Wallace University. “Funds to support undergraduate research in the Cognitive Neuropsychology Laboratory.” \$3,000

2018 *Human Participant Research Funds*, “Baldwin Wallace Concussion Project.” Baldwin Wallace University Department of Psychology. \$675.

2018 *Annual funds to support the Cognitive Neuropsychology Laboratory*. Provost’s Office, Baldwin Wallace University.

2018 *Women for BW*. “BW Concussion Education and Research Program.” Baldwin Wallace University. \$5,000

2018 *Baldwin Wallace University Faculty-Student Collaboration*. “How distracting is your iPhone? Neural mechanisms of divided attention during the presence of a cell-phone.”

2018 *Faculty Summer Grant*, Baldwin Wallace University. “The Concussion Athlete Project: changes in cognition and language during recovery from concussion.” \$4,000

2018 *Gund Student-Faculty Research Grant*, Baldwin Wallace University. “Neural mechanisms of contextual ambiguity resolution.” \$3,000

2017 *Human Participant Research Fund*, “Brain Responses during Contextual Ambiguity Resolution and Divided Attention via Cell Phone Use.” Baldwin Wallace University Department of Psychology. \$1,800.

2015 Research support funds for Center for Brain, Biology & Behavior, “Changes in Working Memory Across the Adult Lifespan.” State of Nebraska. \$9240.

2015 Graduate Research Mentor Award (Nominee), University of Nebraska-Lincoln, Department of Psychology

2017 *Warden Funds Research/Travel Grant*. University of Nebraska-Lincoln Department of Psychology. \$300

2016 *Warden Funds Research/Travel Grant*. University of Nebraska-Lincoln Department of Psychology. \$300

2015 *Warden Funds Research/Travel Grant*. University of Nebraska-Lincoln Department of Psychology. \$300

2012 DePauw University, J. William and Katherine C. Asher Research Fund, “Endowed Research Grant.” \$3,800.

2013 Madson Graduate Scholarship, The Sigma Chi Foundation

2013 Department of Psychology Senior Thesis Award, DePauw University

2013 Kenneth S. Wagoner Psychology Research Award, DePauw University

2011 General Academic Scholarship, Sigma Chi Foundation

### **Applied, Not Funded**

2023 NIH National Institute of Arthritis, Musculoskeletal, and Skin Diseases. Academic Research Enhancement Award (R15). “Dual-task Neurophysiological and Biomechanical Risk Factors for a Second ACL injury.” Resubmission. Co-PI

2022 Arthroscopy Association of North America. “Cognitive and Neurophysiological Factors Impacting Recovery from ACL Reconstruction.” Co-PI

2022 The Orthopaedic Research and Education Foundation. “Dual-Task Neurophysiology and Biomechanics Post-ACL Reconstruction.” Co-PI

2022 NIH National Institute of Arthritis, Musculoskeletal, and Skin Diseases. Academic Research Enhancement Award (R15). “Dual-task Neurophysiological and Biomechanical Risk Factors for a Second ACL injury.” Co-PI. Discussed passed to Advisory Council Review (11/10/22)

2021 The Orthopaedic Research and Education Foundation. “Biomechanical, Cognitive, and Neural Predictors of Secondary ACL Injury.” PI

2016 NIH NINDS Ruth L. Kirschstein NRSA Individual Predoctoral Fellowship (Parent F31). “Concussion and Cognitive Communication in College Athletes: Neural Markers and Functional Deficits.”

2015 NIH NICHD Ruth L. Kirschstein NRSA Individual Predoctoral Fellowship (Parent F31). “Neural Biomarkers of Concussion in Adolescents.”

2013 NSF Graduate Research Fellowship. “Tracking Neural Network Changes in Working Memory Across the Adult Lifespan.”

## **PROFESSIONAL MEMBERSHIPS**

North American Brain Injury Association, Pediatric Research in Sports Medicine (PRiSM), Society for Neuroscience, Society for Psychophysiological Research, Brain Injury Association of Ohio, International Neuropsychological Society, Cognitive Neuroscience Society, Association for Psychological Science, American Psychological Association, Faculty for Undergraduate Neuroscience

## **PUBLICATIONS**

[NLM My Bibliography](#)

	<i>H-index</i>	<i>Times cited</i>	<i>i10 index</i>
Web of Science	4	78	N/A
Google Scholar	6	195	4

\*Indicates undergraduate student co-author

^Indicates graduate student co-author

### **Peer-Reviewed**

#### ***Under Review***

Morgan, A., Petrus, J.^, Johnson, A.\*, Blankenburg, J.\*, Harris, A.\*, Montgomery, A., Guggenheim, R.\*, Costlow, H.\*, Hall, B.\*, Abt, J.P., Calcei, J.G., Voos, J., Polousky, J., Morscher, M., Kadlowec, J. **Ledwidge, P.S.** Effect of cognitive motor interference on landing and jumping kinematics following anterior cruciate ligament reconstruction. *Journal of Biomechanics*.

#### ***Published***

10. **Ledwidge, P.S.**, McPherson, C.N.,^ Faulkenberg, L.\* Morgan, A., & Baylis, G.C. (2025). A Comparison of approaches for motion artifact removal from wireless mobile EEG during overground running. *Sensors*, 25, 4810. DOI: 10.3390/s25154810.
9. **Ledwidge, P.S.**, Hartland, L., Brickman, K.^ Burkhart, S., & Abt, J. (2025). Challenges and opportunities for integrating EEG into sports-concussion rehabilitation. *Journal of Sport Rehabilitation Special Issue on Concussion Rehabilitation*, 34(3)278-286. DOI: 10.1123/jsr.2024-0103
8. **Ledwidge, P.S.**, Hartland, L., Huston, C.\* Jones, C., Neff, E.\* Castro, E.\* Abt, J.P. (2025). Post-concussion changes in the N200 and P300 ERPs are associated with cognitive symptoms and performance. *Brain Injury*, 39(5), 390-399. DOI: 10.1080/02699052.2024.2435947
7. **Ledwidge, P.S.**, Jones, C., Huston, C.\* Trenkamp, M.\* Bator, B.\* & Laeng, J. (2022). Electrophysiology reveals cognitive-linguistic impairments after concussion. *Brain & Language*, 223, 105116. PMID: 35970083. DOI: 10.1016/j.bandl.2022.105116. Times cited: 1
6. **Ledwidge, P.S.**, Patterson, J.N., Molfese, D.L., & Honaker, J.A. (2019). Clinical utility of oculomotor and electrophysiological measures in identifying concussion history. *Clinical Journal of Sport Medicine*, 29(4), 292-297. PMID: 31241531. DOI: 10.1097/JSM.0000000000000512. Times cited: 11

5. **Ledwidge, P.S.** (2018). The impact of sports-related concussions on the language system: A case for event-related brain potentials. *Annals of Behavioral Neuroscience*, 1, 36-46. Times cited: 2
4. **Ledwidge, P.S.**, Foust, J.L.\* & Ramsey, A.T.\* (2018). Recommendations for developing an EEG laboratory at a primarily undergraduate institution. *Journal of Undergraduate Neuroscience Education*, 17(1), A10-A19. PMID: 30618494. Times cited: 29
3. Hudac, C.M., Cortesa, C.S., **Ledwidge, P.S.**, & Molfese, D.L. (2018). History of concussion impacts electrophysiological correlates of working memory. *International Journal of Psychophysiology*, 132, 135-144. PMID: 29024682. DOI:10.1016/j.ijpsycho.2017.09.020 Times cited: 26
2. **Ledwidge, P.S.**, & Molfese, D.L. (2016). Long-term effects of concussion on electrophysiological indices of attention in varsity college athletes: An event-related potential and standardized low-resolution brain electromagnetic tomography approach. *Journal of Neurotrauma*, 33, 2081-2090. PMID: 27025905. DOI: 10.1089/neu.2015.4251 Times cited: 56
1. **Ledwidge, P.S.** (2014). The importance of divergent thinking for research in graduate school and beyond. *APS Observer*, 27(5). Times cited: 3

#### Invited Book Chapters

3. **Ledwidge, P.S.**, Masterson, C., Meinders, A.\* & Molfese, D.L. Becoming Part of a Large and Successful Research Team. (2024). In F. Leong (Ed.), *The Psychology Research Handbook: A primer for graduate students and research assistants*. Newbury Park, CA: Sage Publishers. Times cited: 0
2. **Ledwidge, P.S.** (2022). Psychosocial recovery issues and interventions following traumatic brain injury. In Hux, K. & Dinges, C. *Assisting Survivors of Traumatic Brain Injury* (3<sup>rd</sup> edition). Times cited: 0
1. **Ledwidge, P.S.** (2015). Review of the book *Understanding Traumatic Brain Injury: Current Research and Future Directions*, edited by H. S. Levin, D. H. K. Shum & R. C. K. Chan. *Developmental Neuropsychology*, 40(2), 98-100. Times cited: 1

#### INVITED ORAL PRESENTATIONS

10/18/2023	<b>Ledwidge, P.S.</b> Clinical Utility of EEG for sports injury prevention and evaluation. Ohio University Musculoskeletal and Neurological Institute (Athens, OH).
09/30/2021	<b>Ledwidge, P.S.</b> “The Neurophysiology of Sports Concussion.” <i>DePauw University</i> .
12/02/2020	<b>Ledwidge, P.S.</b> “Long-term impacts of sports-related concussions.” <i>Hillcrest Rotary</i> .
11/10/2020	<b>Ledwidge, P.S.</b> “Late-life impacts of traumatic brain injury.” <i>Kiwanis Club of Berea</i> .
10/06/2020	<b>Ledwidge, P.S.</b> “Pediatric Concussion: Outcomes, rehabilitation, & current research.” <i>Rotary Club of Berea</i> .

09/01/2020	<b>Ledwidge, P.S.</b> "Neurocognitive health and aging." <i>Science of Health Series</i> . Baldwin Wallace University.
10/04/2019	<b>Ledwidge, P.S.</b> "Neurocognitive health and aging." <i>Science of Health Series</i> . Baldwin Wallace University.
04/04/2019	<b>Ledwidge, P.S.</b> & Jones, C. "BW's Concussion Research and Clinical Management Programs." <i>Pizza with a Professor</i> . Baldwin Wallace University.
04/26/2018	Ramsey, A.T.*; Foust, J.L.*; & <b>Ledwidge, P.S.</b> "A late slow frontal positivity ERP reflects the resolution of contextual ambiguity during narrative discourse comprehension." <i>Ovation</i> . Baldwin Wallace University.
11/1/2017	<b>Ledwidge, P.S.</b> "Effects of sports-related concussions on the brain: Questions, answers, future directions... and questions." <i>Proseminar in Experimental Psychology</i> . Cleveland State University.
11/28/2016	<b>Ledwidge, P.S.</b> "Altered ERP correlates of attention and working memory associated with a history of sports-related concussion." <i>Center for Brain, Biology, &amp; Behavior</i> . University of Nebraska-Lincoln.
06/03/2014	Cortesa, C., & <b>Ledwidge, P.S.</b> "The Science of Athletics: How Concussions Change the Brain," <i>Osher Lifelong Learning Institute</i> . University of Nebraska-Lincoln.

### **CONFERENCE PRESENTATIONS**

02/01/2025	<b>Ledwidge, P.S.</b> A community-engaged framework to reduce disparities in concussion neuroscience: Evaluating EEG/ERP cognitive brain dynamics in black adolescent football athletes. <i>Pediatric Research in Sports Medicine</i> .
09/22/2022	<b>Ledwidge, P.S.</b> , Jones, C., Huston, C.*; Trenkamp, M.*; Bator, B.*; & Laeng, J. Electrophysiology reveals cognitive-linguistic impairments after concussion. The 2022 Joint Conference on Brain Injury (New York, NY)
03/24/2018	<b>Ledwidge, P.S.</b> "A late slow frontal positivity ERP reflects the resolution of contextual ambiguity during narrative discourse comprehension." <i>Data Blitz</i> . Cognitive Neuroscience Society Annual Meeting.

### **CONFERENCE PRESENTATIONS- STUDENTS**

2. McPherson, C.^ Planting with the Non-Dominant Limb during an Unanticipated Sidestep Maneuver Produces Higher Vertical Tibial Accelerations: Preliminary Findings. (2025). KY INBRE Annual Meeting.
1. Heckler, J.\* Accuracy in Performing a Run-to-Cut Sidestep Maneuver is Poorer when Planting on Non-Dominant Limb: Preliminary Findings (2025). KY INBRE Annual Meeting.

### **CONFERENCE ABSTRACTS (PUBLISHED)**

2. **Ledwidge, P.S.**, Jones, C., Huston, C.\*; Trenkamp, M.\*; Bator, B.\*; Laeng, J.; Neff, E.\*; & Castro, E.\* Electrophysiology reveals cognitive-linguistic impairments after concussion: Evidence from the N400 ERP. (2022). *Journal of Head Trauma Rehabilitation*, 37(6), E583-584. Meeting Abstract: The 2022 Joint Conference on Brain Injury (New York, NY).

1. Morgan, A., **Ledwidge, P.**, Blankenburg, J.\*, Petrus, J.\*., Guggenheim, R.\*., Costlow, H.\*., Johnson, A.\*., Kadlowec, J. (2023). A novel study examining cognitive-motor interference after anterior cruciate ligament reconstruction. *International Society of Biomechanics in Sports*, 41(1).

### **CONFERENCE ABSTRACTS- Other**

49. Heckler, J.^, Hisler, I.\*., Ratcliff, C.\*., Lundy, C.\*., **Ledwidge, P.S.** Direction-informed cueing effects on plantar flexion response conflict. 2026 Midwestern Psychological Association.
48. McPherson, C.N.^, Faulkenberg, L.\*., Morgan, A., **Ledwidge, P.S.** The effect of anticipation, step type, and limb dominance on side-step cutting manuevers. 2026 Midwestern Psychological Association.
47. McPherson, C.N.^, Faulkenberg, L.\*., Morgan, A., **Ledwidge, P.S.** The effect of anticipation, step type, and limb dominance on side-step cutting manuevers. 2025 Kentucky Academy of Sciences.
46. Morgan, A.M., Petrus, J.^, Johnson, A.\*., Blankenburg, J.\*., Harris, A.\*., Montgomery, A., Costlow, H.\*., Hall, B.\*., Abt, J., Calcei, J., Voos, J., Polousky, J., Morscher, M., Kadlowec, J., **Ledwidge, P.S.** Effect of cognitive motor interference on landing and cutting kinematics following anterior cruciate ligament construction. 2025. American Society of Biomechanics.
45. McPherson, C.^, Faulkenberg, L.\*., Heckler, J.\*., Hisler, I.\*., Ratcliff, C.\*., Venero, C.^, Baylis, G., Morgan, A., & **Ledwidge, P.S.** Planting with the Non-Dominant Limb during an Unanticipated Sidestep Maneuver Produces Higher Vertical Tibial Accelerations: Preliminary Findings. (2025). KY INBRE Annual Meeting.
44. McPherson, C.^, Faulkenberg, L.\*., Venero, C.^, Heckler, J.\*., Ratcliff, C.\*., Hisler, I.\*., Baylis, G., Morgan, A., & **Ledwidge, P.S.** ERP correlates of Cognitive Control During an Unanticipated Sidestep Maneuver: Preliminary Findings from an EEG Mobile Brain-Body Imaging (MOBI) study. (2025). KY INBRE Annual Meeting.
43. Heckler, J.\*., Faulkenberg, L.\*., McPherson, C.^, Ratcliff, C.\*., Hisler, I.\*., Venero, C.^, Baylis, G., Morgan, A., & **Ledwidge, P.S.** Accuracy in Performing a Run-to-Cut Sidestep Maneuver is Poorer when Planting on Non-Dominant Limb: Preliminary Findings (2025). KY INBRE Annual Meeting.
42. **Ledwidge, P.S.**, Hartland, L., Huston, C.\*., Jones, C., Neff, E.\*., Castro, E.,\* Abt, J.P. Post-concussion Neurophysiology Is Associated with Symptoms and Neurocognitive Performance. (2024). Flash Talk. American College of Sports Medicine.
41. **Ledwidge, P.S.** (2024). A trial-by-trial examination of working memory ERP brain dynamics after a season of high school football. EaRLY TBI.
40. **Ledwidge, P.S.**, Morgan, A., Kadlowec, J., Montgomery, A., Abt, J., Polousky, J., Morscher, M., Calcei, J., & Voos, J. (2024). Dual-task interference after ACL reconstruction and risk prediction for secondary injury: An EEG and motion analysis approach. Pediatric Research in Sports Medicine Conference.
39. Petrus, J.^, Johnson, A.\*., Blankenburg, J.\*., **Ledwidge, P.**, Kadlowec, J., Morgan, A. Effects of ACL reconstruction and cognitive motor interference on knee abduction during a drop jump protocol. 2023. American Society of Biomechanics (Midwest).

38. Harris, A.\*, Kiesel, M.\*, Petrus, J.^, **Ledwidge, P.**, Kadlowec, J., Morgan, A. Effects of ACL reconstruction and cognitive motor interference on knee abduction during a drop jump protocol. 2023. American Society of Biomechanics (Midwest).

37. Haines, C.\*, El-Madhoun, L.\*, Petrus, J. ^, **Ledwidge, P.**, Kadlowec, J., Morgan, A. Effects of ACL reconstruction and cognitive motor interference on knee flexion during a drop jump protocol. 2023. American Society of Biomechanics (Midwest).

36. Guggenheim, R.\*, Costlow, H.\*, Blankenburg, J.\*., Petrus, J.\*., Johnson, A.\*., Kadlowec, J., Morgan, A., & **Ledwidge, P.S.** (2023). A novel study examining cognitive-motor interference after anterior cruciate ligament reconstruction: Preliminary findings from the N200 event-related brain potential. Baldwin Wallace Ovation. April 27, 2023.

35. Blankenburg, J.\*., Petrus, J.\*., Johnson, A.\*., Guggenheim, R.\*., Costlow, H.\*., Kadlowec, J., Morgan, A., & **Ledwidge, P.S.** (2023). A novel study examining cognitive-motor interference after anterior cruciate ligament reconstruction: Feasibility of a 3D motion capture study. Baldwin Wallace Ovation. April 27, 2023.

34. Dennison, E.^, **Ledwidge, P.S.** (2023). The relationship between pediatric traumatic brain injury and internalizing mental health symptoms in young adulthood: Preliminary Findings. Poster presented at: Baldwin Wallace Ovation; April 27, 2023; Berea, OH

33. Hall B\*, Gentilin A\*, Menke S\*, Flynn M\*, James C\*, Mansell J\*, Witt M\*, Caraccio O\*, Lantow S\*, Sengvoravong M\*, Shepherd J\*, **Ledwidge P.** (2023). The relationship between child traumatic brain injury and internalizing symptoms in adults: A preliminary study of the mechanistic role of EEG biomarkers of lexical-semantic processing. Poster presented at: Baldwin Wallace Ovation; April 27, 2023; Berea, OH

32. Buehner D\*, Costlow H\*, Eitel J\*, Menke S\*, Phillips J\*, Skrzypek M\*, **Ledwidge P.** A preliminary study examining the potential role of the ERN ERP waveform to monitor traumatic brain-injury-related internalizing problems. (2023). Poster presented at: Baldwin Wallace Ovation; April 27, 2023; Berea, OH.

31. Guggenheim, R.\*., Sloane, E.\*., & **Ledwidge, P.S.** The effects of virtual reality training on athletes' visual tracking abilities. (2023). Poster presented at: Baldwin Wallace Ovation; April 27, 2023; Berea, OH.

30. Costlow, H.\*., Guggenheim, R.\*., Blankenburg, J.\*., Petrus, J.\*., Johnson, A.\*., Abt, J., Calcei, J., Voos, J., Polousky, J., Morscher, M., Montgomery, A., Kadlowec, J., Morgan, A., & **Ledwidge, P.S.** The N200 Event-Related Potential Correlate of Cognitive-Motor Interference in ACL-Reconstructed Athletes: Preliminary Findings. Abstract accepted to the 2023 Society for Neuroscience Annual Meeting.

29. **Ledwidge, P.S.**, Morgan, A., Kadlowec, J., Montgomery, A., Abt, J., Polousky, J., Morscher, M., Calcei, J., & Voos, J. Dual-task interference after ACL reconstruction and risk prediction for secondary injury: An EEG and motion analysis approach. Abstract accepted to the 2024 Pediatric Research in Sports Medicine Conference.

28. Guggenheim, R.\*., Costlow, H.\*., Blankenburg, J.\*., Petrus, J.\*., Johnson, A.\*., Kadlowec, J., Morgan, A., & **Ledwidge, P.S.** (2022). A novel study examining cognitive-motor interference after anterior cruciate ligament reconstruction: Feasibility of a combined event-related potential (ERP) and 3D motion capture study. *Midwest/Great Lakes Undergraduate Research Symposium in Neuroscience*.

27. Gentilin, A.\*., & **Ledwidge, P.S.** (2022). The association between childhood brain injury and internalizing behaviors in young adults: Examining the role of verbal function and its

neural correlates. *Midwest/Great Lakes Undergraduate Research Symposium in Neuroscience*.

26. Guggenheim, R.\*, Costlow, H.\*, Blankenburg, J.\*, Petrus, J.\*., Johnson, A.\*., Kadlowec, J., Morgan, A., & **Ledwidge, P.S.** (2022). A novel study examining cognitive-motor interference after anterior cruciate ligament reconstruction: Feasibility of a combined event-related potential (ERP) and 3D motion capture study. *Society for Neuroscience Annual Meeting: Undergraduate Floor*.
25. **Ledwidge, P.S.**, Jones, C., Huston, C.\*., Trenkamp, M.\*., Bator, B.\*., Laeng, J., Neff, E., & Castro, E. (2022). Electrophysiology Reveals Cognitive-Linguistic Deficits after Concussion: Evidence from the N400 ERP. Early TBI Conference.
24. **Ledwidge, P.S.**, Jones, C., Huston, C.\*., Trenkamp, M.\*., Bator, B.\*., & Laeng, J. Electrophysiology reveals cognitive-linguistic impairments after concussion. (2021). *Baldwin Wallace Faculty Showcase*.
23. Guddamanugu, S.\*., Kuszajewski, E.\*., Neff, E.\*., Blake, K.\*., Galaida, N.\*., **Ledwidge, P.S.** (2019). The effects of concussion on neural correlates of lexical-semantic retrieval: Event-related potential evidence. *Northeast Ohio Concussion Summit*. Baldwin Wallace University. Berea, OH.
22. Huston C.\*., **Ledwidge, P.S.** (2019). The impact of concussions on the N200 ERP during a cognitive inhibition task: Preliminary results. *Northeast Ohio Concussion Summit*. Baldwin Wallace University. Berea, OH.
21. **Ledwidge, P.S.**, Trenkamp, M.\*., Huston, C.\*., Ramsey, A., & Mizerowski, A.\* (2019). The possibility of receiving a text message on a cell phone delays P300 latencies recorded during an auditory oddball. *Baldwin Wallace University Ovation*. Berea, OH.
20. **Ledwidge, P.S.**, Ramsey, A.\*., & Huston, C.\* (2019). The frontal post-N400 positivity is elicited to unexpected-plausible words in low, but not weak, constraining contexts. *Baldwin Wallace University Ovation*. Berea, OH.
19. Ramsey, A.T.\*., & Foust, J.L.\*., & **Ledwidge, P.S.**, (2018). A late slow frontal positivity ERP reflects the resolution of contextual ambiguity during narrative discourse comprehension. *Baldwin Wallace University Ovation*. Berea, OH.
18. Huston, C.\*., **Ledwidge, P.S.** (2019). The impact of concussions on the N200 ERP during a cognitive inhibition task: Preliminary results. *Midwest/Great Lakes Undergraduate Research Symposium in Neuroscience*. College of Wooster. Wooster, OH.
17. **Ledwidge, P.S.**, Trenkamp, M.\*., Huston, C.\*., Ramsey, A., & Mizerowski, A.\* (2019). The possibility of receiving a text message on a cell phone delays P300 latencies recorded during an auditory oddball. *Association for Psychological Science Annual Convention*. Washington, D.C.
16. **Ledwidge, P.S.**, Ramsey, A.T.\*., & Huston, C.\* (2019). The frontal post-N400 positivity is elicited to unexpected-plausible words in low, but not weak, constraining contexts. *Cognitive Neuroscience Annual Meeting*. San Francisco, CA.
15. Ramsey, A.T.\*., Mizerowski, A.\*., & **Ledwidge, P.S.**\* (2018). Cell phones have our attention: Effects of cell phone distraction on the P300 response in an auditory oddball paradigm. Poster presented at the *Midwest/Great Lakes Undergraduate Research Symposium in Neuroscience*. Ohio Wesleyan University. Delaware, OH.
14. **Ledwidge, P.S.**, Ramsey, A.T.\*., & Foust, J.L.\* (2018). A late slow frontal positivity ERP reflects the resolution of contextual ambiguity during narrative discourse comprehension. *Cognitive Neuroscience Society Annual Meeting*. Boston, MA.

13. Molfese, P.J., **Ledwidge, P.**, Zosky, J., Masterson, C., Shattuck, J., Burnfield, J.M., & Molfese, D.L. (2016). Cortical thickness differences in retired athletes with a history of concussion. Poster presented at *The Organization for Human Brain Mapping*. Geneva, Switzerland.
12. **Ledwidge, P.S.**, & Molfese, D.L. (2015). Effects of concussion on selective attention in college varsity football athletes: A standardized low-resolution ERP tomography (sLORETA) study. Poster presented at the *Big Ten/CIC-Ivy League TBI Research Collaboration Summit*. Chicago, IL.
11. O'Doherty, J.G.\*, **Ledwidge, P.S.**, & Molfese, D.L. (2015). Comparison of neurocognitive tests used in the assessment of concussion. Poster presented at the *University of Nebraska-Lincoln Undergraduate and Creative Experiences Conference*. Lincoln, NE.
10. Meinders, A.M.\*, **Ledwidge, P.S.**, Maerlender, A.C., & Molfese, D.L. (2015). Sex differences in working memory of college athletes: An electrophysiological study. Poster presented at the *University of Nebraska-Lincoln Undergraduate and Creative Experiences Conference*. Lincoln, NE.
9. **Ledwidge, P.S.**, Cortesa, C.S., & Molfese, D.L. (2014). Neuropsychological performance moderates P3b amplitude elicited during an oddball task: An ERP study with college-athletes. Poster presented at the *4<sup>th</sup> Annual Traumatic Brain Injury Conference*. Washington, DC.
8. Bonebright, T.L., Muñoz, A. E.\*, & **Ledwidge, P.S.** (2014). Cueing of visual attention using auditory stimuli. Poster presented at the *Association for Psychological Science Convention*. San Francisco, CA.
7. **Ledwidge, P.S.**, Lear, M., Roberts, M.E., & Evans, J.\* (2014). Interactions between personality, cognitive resources, and reward processing in successful emotional regulation. Poster presented at the *Association for Psychological Science Convention*. San Francisco, CA.
6. Real, K.\*, **Ledwidge, P.S.**, & Molfese, D.L. (2014). The search for a biomarker of concussion. Poster presented at the *University of Nebraska-Lincoln Undergraduate and Creative Experiences Conference*. Lincoln, NE.
5. Fangmeier, A.L.\*, Cortesa, C. S., **Ledwidge, P.S.**, & Molfese, D.L. (2014). Working memory in athletes diagnosed with traumatic brain injury. Poster presented at the *University of Nebraska-Lincoln Undergraduate and Creative Experiences Conference*. Lincoln, NE.
4. Meinders, A.M.\*, **Ledwidge, P.S.**, & Cortesa, C.S. (2014). Effects of concussion on selective attention and executive function in athletes. Poster presented at the *University of Nebraska Lincoln Undergraduate and Creative Experiences Conference*. Lincoln, NE.
3. **Ledwidge, P.S.**\*, Lear, M.\* , & Hall, C.\* (2013). Development and validation of a Flow Scale using the International Personality Item Pool (IPIP). Poster presented at the *Association for Psychological Science Convention*. Washington, DC.
2. Lear, M.\* , **Ledwidge, P.S.**\*, & Roberts, M.E. (2013). The effects of ego depletion and personality on emotion regulation. Poster presented at the *Midwestern Psychological Association Conference*. Chicago, IL.
1. Lear, M.\* , **Ledwidge, P.S.**\*, & Roberts, M.E. (2013). The effects of ego depletion and personality on emotion regulation. Poster presented at the *DePauw University Senior Showcase*. Greencastle, IN.

## --TEACHING & MENTORING--

### AWARDS

2025 Nominee, WKU Ogden College Science & Engineering, Faculty Teaching Award  
2025 Nominee, WKU CITL Teaching Honors Award  
2024 Nominee, WKU CITL Teaching Honors Award

### WORKSHOPS LEAD

1/7/2026 “A New Approach to “Syllabus Day”: Strategies for Highly Effective Teaching.”  
WKU Center for Innovation in Teaching and Learning.

*Traditional approaches to ‘Syllabus Day’ include a prudent and in-depth review of course work, expectations, and policies, leading students through introduction ‘icebreakers’, and/or potentially even dismissing classes early. In this session, alternatively, I illustrate how ‘Syllabus Day’, if not capitalized on, provides a missed opportunity to immediately develop students’ motivation, curiosity, and commitment to your class. In this workshop, participants will learn to apply innovative techniques for developing effective syllabi and planning for the first day, which will ultimately enhance students’ potential for academic success and satisfaction in your course.*

1/15/2026 “Building Trust to Maximize Student Learning: Strategies for Highly Effective Teaching.” WKU Professional Development Day.

*Highly effective teachers create learning environments grounded in mutual trust and respect to maximize students’ success and satisfaction in meeting high expectations. In doing so, these teachers practice humility, authenticity, a commitment to student learning, and connect all work back to meaningful learning objectives. Drawing from the scholarship of teaching and learning, including Ken Bain’s studies of effective college teaching, this combined lecture-workshop will offer instruction and concrete strategies for building highly effective learning environments grounded in mutual trust. Participants will be able to leverage these skills to maximize students’ deep learning, curiosity, and satisfaction in your courses and offices.*

### GRADUATE STUDENTS

#### Master’s Students

2025-Present Heckler, Jaime, M.S. in Psychological Sciences  
2024-Present McPherson, Carly, M.S. in Psychological Sciences  
2023-2024 Brickman, Kirstiana, M.S. in Psychological Sciences  
2022-2023 Dennison, Emily, M.S. in Speech & Language Pathology  
2021-2022 Thadeus, Kailee, M.S. in Speech & Language Pathology  
2020-2021 Semanik, Alexis, M.S. in Speech & Language Pathology

### THESES

#### Undergraduate Senior Theses Supervised: Neuroscience

2023 Guggenheim, Ryan. “Impact of Anterior Cruciate Ligament (ACL) injury and reconstruction on ERP indices of cognitive motor control”  
2022 Laughner, Alyssa. “Implications of Undiagnosed Depression on Attention & Memory”

2022	Castro, Elizabeth. "The Association Between a History of mTBI and The Default Mode Network in College-Aged Contact Sport Athletes"
2021	Neff, Erin. "Neural correlates of emotional processing in children: Implications for concussion management"
2021	Kuszajewski, Ellen. "Neural correlates of emotional processing in children: Implications for concussion management"
2019	Trenkamp, Madison. "Development of a Stimulus Set to be used in a Sentence Verification Task to Examine the Effects of Sports-Related Concussions on the N400 ERP." Baldwin Wallace University.

Undergraduate Senior Theses Supervised: *Psychology*

2018	Ramsey, A. "Smartphones have our attention: Effects of cell phone distraction on the P300 ERP elicited in an auditory oddball paradigm." Baldwin Wallace University.
2014	Meinders, A. "Sex Differences in Working Memory of College Athletes: An Electrophysiological Study. University of Nebraska-Lincoln.
2014	Mason, S. "Effects of Executive Control and Emotion Regulation on Anxiety. University of Nebraska-Lincoln.

**COURSES**

Graduate coursework

2025-Present	Advanced Topics in Cognition (PSYS 533), Western Kentucky University
2024-Present	Psychopharmacology (PSYS 465G), Western Kentucky University

Undergraduate coursework

2024-Present	Psychopharmacology (PSYS 465), Western Kentucky University
2023-Present	Honors Introduction to Biopsychology (PSYS160), Western Kentucky University
2023-Present	Introduction to Biopsychology (PSYS 160), Western Kentucky University
2022-2023	Laboratory in Cognitive Neuroscience (NRO 340), Baldwin Wallace University
2021-2023	Thesis in Psychology (PSY 381), Baldwin Wallace University
2021-2023	Research Methods in Psychology (PSY 380), Baldwin Wallace University
2020-2023	Introduction to Brain & Behavior (NRO 110), Baldwin Wallace University
2019-2023	Lab in Statistical Methods (PSY 279), Baldwin Wallace University
2019-2023	Neurocognitive Disorders (PSY 463), Baldwin Wallace University
2019-2023	iThink: How "smart" technology shapes the mind Baldwin Wallace University
2018-2023	Neuroscience Senior Thesis (NRO 491-493), Baldwin Wallace University
2018-2023	Psychology Senior Thesis (PSY 492), Baldwin Wallace University
2018-2023	Faculty-Student Collaboration (PSY 459), Baldwin Wallace University
2018-2023	Cognitive Neuroscience (PSY 363), Baldwin Wallace University
2018-2023	Physiological Psychology (PSY 303), Baldwin Wallace University
2017-2023	Elements of Statistics (PSY 278), Baldwin Wallace University
2017-2023	Principles of Psychological Science (PSY 100), Baldwin Wallace University
2014	Behavioral Neuroscience (PSY 465/BIOS 419), University of Nebraska-Lincoln

## **--SERVICE--**

### **SYMPOSIA ORGANIZED**

10/20/19      *Northeast Ohio Concussion Summit (NOCS)*  
Baldwin Wallace University, Berea, OH

### **PROFESSIONAL SERVICE**

#### Officer

*Program Committee Member, EaRLY TBI*

#### Ad hoc Reviewer

*Scientific Reports, Experimental Brain Research, Nature Mental Health, Psychology of Sport and Exercise, Brain Injury, Clinical Journal of Sport Medicine, Journal of Athletic Training, International Journal of Psychophysiology, Developmental Neuropsychology,*

#### Editorial Board, Member

2017-2019    *Annals of Behavioral Neuroscience*  
2015            *Developmental Neuropsychology*, Associate Guest Editor, 2015, 40(1-2), Special Issue: “The Effects of Concussion in Youth Sports on the Brain”

### **UNIVERSITY SERVICE**

#### Western Kentucky University

2024-            Reviewer, Ogden College Medical School Interviews  
2024-            Reviewer, FUSE Grants  
2024-            Department Retention Committee  
2024            Search Committee for Assistant Professor of Neuroscience, Department of Psychological Sciences)  
2024            Search Committee for Instructor, Department of Psychological Sciences

#### Baldwin Wallace University

2022-2023    Chair, Sports-Research Advisory Committee  
2021-2023    Coordinator, Kathryn Grover Harrington & Robert A. Harrington Visiting Distinguished Professorship  
2021-2023    Member, Research Advisory Council  
2020-2023    Member, Graduate Affairs Committee  
2020-2023    Assessment Coordinator, Department of Psychology  
2020            Search Committee for Director of Office of Sponsored Programs & Research  
2020            Search Committee for Dean of Graduate Studies & Research  
2018-2023    Member, Concussion Management Team  
2018-2020    Supervisor, Psychology Student Research Coordinator