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

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**APPOINTMENTS**

**Assistant Professor** 2017-

Department of Psychology, Department of Neuroscience

**Director**

Cognitive Neuropsychology Lab

*Baldwin Wallace University, Cleveland, OH*

**EDUCATION**

Ph.D. **University of Nebraska-Lincoln**,*Psychology-Cognitive Neuroscience* 2017

Minor in *Communication Sciences & Disorders*

M.A. **University of Nebraska-Lincoln**, *Psychology-Cognitive Neuroscience* 2015

B.A. **DePauw University**, *Psychology, Spanish* 2013

**RESEARCH INTERESTS**

Neurophysiology of sports-related concussion, cognitive and neural mechanisms of sports injury risk and prevention, post-concussion risk for MSK injury, cognitive-motor neurophysiology, long-term cognitive and psychosocial functioning in retired athletes, pediatric brain development and skill acquisition, language and discourse comprehension, ERPology, naturalistic stimuli and individual differences in neurophysiology

**SKILLS AND METHODS**

High-density electroencephalography (EEG), EEG time frequency analysis, ERP processing/analysis, EEGLAB/ERPLAB toolboxes, Net Station 5.x, E-prime, Python, SPSS, SAS, MPlus, neuropsychological testing (including virtual test administration)

**HONORS, AWARDS, AND GRANTS**

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**

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

**PEER-REVIEWED PUBLICATIONS**

*Under Review*

**Ledwidge, P.S.**, Jones, C., \*Huston, C., \*Trenkamp, M., \*Bator, B., & Laeng, J.

Electrophysiology reveals cognitive-linguistic impairments after concussion.

*Published*

Mansouri, A., **Ledwidge, P.S.**, Molfese, D.L., & Sayood, K. A routine EEG monitoring system

for automated sports-related concussion detection. *Neurotrauma Reports.* In press.

**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.

**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.

**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.

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.

**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.

**INVITED BOOK CHAPTERS**

**Ledwidge, P.S.** Psychosocial recovery issues and interventions following traumatic brain

Injury. In Hux, K. & Dinnes, C. *Assisting Survivors of Traumatic Brain Injury* (3rd edition). Pro-ed. In press.

**Ledwidge, P.S.**, Masterson, C., Meinders,A.\*,& Molfese, D.L. Becoming Part of a

Large and Successful Research Team. In F. Leong (Ed.), *The Psychology Research Handbook: A primer for graduate students and research assistants.* Newbury Park, CA: Sage Publishers. In press.

**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.

**SYMPOSIA ORGANIZED**

10/20/19 *Northeast Ohio Concussion Summit (NOCS)*

Baldwin Wallace University, Berea, OH

**INVITED PRESENTATIONS**

09/30/2021 **Ledwidge, P.S.** “The Neurophysiology of Sports Concussion.” *DePauw University.*

12/02/2020 **Ledwidge. P.S.** “Long-term impacts of sports-related concussions.” *Hillcrest Rotary.*

11/10/2020 **Ledwidge. P.S.** “Late-life impacts of traumatic brain injury.” *Kiwanis Club of Berea*.

10/06/2020 **Ledwidge. P.S.** “Pediatric Concussion: Outcomes, rehabilitation, & current research.” *Rotary Club of Berea*.

09/01/2020 **Ledwidge, P.S.** “Neurocognitive health and aging.” *Science of Health Series.* Baldwin Wallace University.

10/04/2019 **Ledwidge, P.S.** “Neurocognitive health and aging.” *Science of Health Series.* Baldwin Wallace University.

04/04/2019 **Ledwidge, P.S.** & Jones, C. “BW’s Concussion Research and Clinical Management Programs.” *Pizza with a Professor*. Baldwin Wallace University.

04/26/2018 Ramsey, A.T.\*, Foust, J.L.\*, & **Ledwidge**, **P.S.** “A late slow frontal positivity ERP reflects the resolution of contextual ambiguity during narrative discourse comprehension.” *Ovation*. Baldwin Wallace University.

03/24/2018 **Ledwidge, P.S.** “A late slow frontal positivity ERP reflects the resolution of contextual ambiguity during narrative discourse comprehension.” *Data Blitz*. Cognitive Neuroscience Society Annual Meeting.

11/1/2017 **Ledwidge, P.S.** “Effects of sports-related concussions on the brain: Questions, answers, future directions… and questions.” *Proseminar in Experimental Psychology.* Cleveland State University.

11/28/2016 **Ledwidge, P.S.** “Altered ERP correlates of attention and working memory associated with a history of sports-related concussion.” *Center for Brain, Biology, & Behavior*. University of Nebraska-Lincoln.

06/03/2014 Cortesa, C., & **Ledwidge, P.S.** “The Science of Athletics: How Concussions Change the Brain,” *Osher Lifelong Learning Institute*. University of Nebraska-Lincoln.

**PROFESSIONAL MEMBERSHIPS**

Pediatric Research in Sports Medicine (PRiSM)

Society for Psychophysiological Research

Brain Injury Association of Ohio

International Neuropsychological Society

Cognitive Neuroscience Society

Association for Psychological Science

American Psychological Association

**SERVICE**

Ad hoc Reviewer

*Psychology of Sport and Exercise*

*Brain Injury*

*Clinical Journal of Sport Medicine*

*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”

Institutional- Baldwin Wallace University

2021-Present Member, Research Advisory Council

2020-Present Member, Graduate Affairs Committee

2020-Present 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-Present Member, Concussion Management Team

2018-Present Supervisor, Psychology Student Research Coordinator

**CONFERENCE PRESENTATIONS**

**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.*

**Ledwidge, P.S.**, Mansouri, A., Molfese, D.L., & Sayood, K. A routine EEG monitoring system

for automated sports-related concussion detection. (2021). *Baldwin Wallace Faculty Showcase.*

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.

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.

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.

**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.

**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.

**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.

**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.

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.

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.

**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.

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.

**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.

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.

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.

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.

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.

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.

**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 *4th Annual* *Traumatic Brain Injury Conference*. Washington, DC.

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.

**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.

**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.

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.

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.

**TRAINING**

Master’s Students

2021-Present Thadeus, Kailee, Baldwin Wallace University, Speech & Language Pathology

2020-2021 Semanik, Alexis, Baldwin Wallace University, Speech & Language Pathology

Undergraduate Senior Theses Supervised: *Neuroscience*

2021-Present Laughner, Alyssa. “Implications of Undiagnosed Depression on Attention & Memory”

2021-Present Castro, Elizabeth. “Effects of TBI in Contact vs. Non-Contact Sports on the Default Mode Network”

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 N4oo 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**

2021-Present Thesis in Psychology (PSY 281), Baldwin Wallace University

2021-Present Research Methods in Psychology (PSY 280), Baldwin Wallace University

2020-Present Introduction to Brain & Behavior (NRO 110), Baldwin Wallace University

2019-Present Lab in Statistical Methods (PSY 279), Baldwin Wallace University

2019-Present Neurocognitive Disorders (PSY 463), Baldwin Wallace University

2019-Present iThink: How “smart” technology is shaping the mind (FYE 100), BWU

2018-Present Neuroscience Senior Thesis (NRO 491-493), Baldwin Wallace University

2018-Present Psychology Senior Thesis (PSY 492), Baldwin Wallace University

2018-Present Faculty-Student Research Collaboration (PSY 459), Baldwin Wallace University

2018-Present Cognitive Neuroscience (PSY 363), Baldwin Wallace University

2018-Present Physiological Psychology (PSY 303), Baldwin Wallace University

2017-Present Elements of Statistics (PSY 278), Baldwin Wallace University

2017-Present Principles of Psychological Science (PSY 100), Baldwin Wallace University

2014 Behavioral Neuroscience (PSY 465/BIOS 419), University of Nebraska-Lincoln