Benjamin Bogart Rickles

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EDUCATION

University of Maryland
Ph.D. Program, Neuroscience and Cognitive Science (NACS) program, 2017-present

University of Oregon
M.S., Psychology, June 2017

Georgia State University
Ph.D. Program, Cognitive Psychology (2014-2016)
Honors: 2014-2016, Recipient of Georgia State University Language and Literacy Initiative Graduate Student Fellowship

University of Pittsburgh
B.A., Psychology, May 2009

RESEARCH EXPERIENCE

November 2008 – June 2009 **University of Pittsburgh**
Research Assistant I. Learning and Research Development Center, Cognitive Psychology Department, Pittsburgh Science of Learning Center.
Supervisor: Gwen A. Frishkoff, PhD.
Responsibilities: Cognitive Task Design, ERP data preprocessing

February 2010 – July 2014 **University of Pittsburgh**
Research Assistant II. Learning Research and Development Center, Cognitive Psychology Department, Pittsburgh Science of Learning Center.
Supervisor: Charles Perfetti
Responsibilities: Training other researchers in ERP and EEG techniques, EEG/ERP data analysis, & interpretation.

August 2014 – 2016 **Georgia State University** Doctoral
Student. Department of Psychology

Supervisor: Gwen A. Frishkoff

Responsibilities: Training, Cognitive Task Design, EEG/ERP and fMRI Data Analysis. Analyzed ERP data looking at differences in memory retrieval between words that varied on lexical variables including frequency of occurrence and orthographic neighborhood. Analyzed ERP data looking at correlations between behavioral indicators of literacy and the N170 ERP. Designed an ERP experiment to examine neural indices of lexical processing and sentence comprehension. Trained undergraduate researchers in ERP recording, processing, and analysis.

August 2015 – June 2016 **University of Oregon** Masters
Student. Department of Psychology
Supervisor: Don Tucker
Responsibilities: Writing Research protocol. Data collection.

August 2016 – Present **University of Maryland**
Graduate Student Researcher, Department of Human Development and Quantitative Methodologies, Pittsburgh Science of Learning Center.
Supervisor: Donald Bolger, PhD.
Responsibilities: Cognitive Task Design, Data Collection, ERP data preprocessing

PUBLICATIONS

Harris, L., Creed, B., Perfetti, C., Rickles, B. (2022). The role of knowledge in error detection: a challenge to the broken error monitor account of dyslexia. *Annals of Dyslexia*. 1-19.

Harris, L., **Rickles, B**., Perfetti, C. (2018) Expertise seeks rewards: Error-related negativities and defensive motivation in spelling decisions. 40th annual meeting of the Cognitive Science Society. July 25-28, 2018.

Stafura, J. Z., **Rickles, B.**, & Perfetti, C. A. (2015). ERP evidence for memory and predictive mechanisms in word-to-text integration. *Language, Cognition and Neuroscience*, *30*(10), 1273-1290.

Chang, L.Y., Stafura, J.Z., **Rickles, B.B.**, Chen, H.C., & Perfetti, C.A. (2014) Incremental learning of Chinese orthography: ERP indicators of animated and static stroke displays on character form and meaning acquisition. Journal of Neurolinguistics. 1-18.

Elgort, I., Perfetti, C. A., **Rickles**, B., & Stafura, J. Z. (2014). Contextual learning of L2 word meanings: second language proficiency modulates behavioural and event-related brain potential (ERP) indicators of learning. *Language, Cognition and Neuroscience*, (ahead-ofprint), 1-23.

Harris, L.N., **Rickles, B.**, Perfetti, C.A. (2014). Error-Related Negativities During Spelling Judgments Expose Orthographic Knowledge. *Neuropsicologia, 54*,112-128.

Cao, F., **Rickles, B.**, Vu, M., Zhu, Z., Chan, D.H.L., Harris, L.N., Stafura, J., Xu, Y., Perfetti, C.A. (2013). Early stage visual-orthographic processes predict long-term retention of word form and meaning: A visual encoding training study. *Journal of Neurolinguistics, 26* (4), 440-461.

CONFERENCE PRESENTATIONS

(* undergraduate mentees)

Mohan, S., Weisman, H., Bowman, E., Bolger, D., & **Rickles, B**. (2020). The effects of attention and executive function on working memory performance under varying levels of emotional load. 61st annual meeting of the Psychonomic Society. [Virtual]. November, 2020.

Womack, J.*, **Rickles, B.**, Bolger, D.J., & Prather, R. (2019). An EEG Study of number sense and arithmetic. Louis Stokes alliance for minority participation Summer research symposium. University of Maryland, College Park, MD. July, 2019.

Rickles, B., Dien, J., Carpuat, M., Bolger, D.J., & Prather, R. (2019). ERP indices of numerosity and arithmetic. Brain and Behavior Initiative Kavli Day poster session. University of Maryland, College Park. May, 2019.

Rickles, B., Balass, M,. & Bolger, D.J. (2018). Episodic and semantic priming from novel words learned from context. 59th annual meeting of the Psychonomic Society. New Orleans, LA. November, 2018.

Rickles, B., Frishkoff, G. (2017). Verb constraints and semantic integration. Society for the Neurobiology of Language (SNL). Baltimore, MD. November, 2017.

Rickles, B., Moore, S., & Frishkoff, G. (2016). The N250 ERP correlated with phoneme, but not letter length during visual word recognition. 11th meeting of the Georgia Psychological Society. Atlanta, GA. April, 2016.

Smith, G.N.L., **Rickles, B.**, Galvis, J., Valdez, G.E., & Conway, C.M. (2016). The electrophysiological and behavioral effects of computerized training on structured sequence processing. *Cognitive Neuroscience Society 23rd Annual Meeting*, New York, NY, April 2016.

Jacob, G., Ross, S.*, **Rickles, B.**, Frishkoff, G., (2016) Event-Related Potentials in Episodic and Semantic Memory for Concrete and Abstract Words. *Atlanta Neuroscience Symposium, Atlanta, GA, 2016.*

Rickles, B., Harris, L., Frishkoff, G., Perfetti,C. (2015) N170 expertise effects differ among skilled and less-skilled adult native English speakers. Society for the Neurobiology of Language (SNL). Chicago, IL, October, 2015.

Laing, E.J., **Rickles, B.**, Muth, K., Perfetti, C. (2015) Neural Oscillation Patterns during natural reading vary with text complexity and reading skill. Society for the Neurobiology of Language (SNL). Chicago, IL, October, 2015.

Bello, N.*, **Rickles, B.**, Amin, J., and Frishkoff, G., (2015). Altering brain activity and working memory through cortical entrainment: A study of binaural beat stimulation during a two back task. Poster presented at the 61th annual Southeastern Psychological Association Conference. Hilton Head, SC, March 20, 2015.

Rickles, B.B., Harris, L.H., Frishkoff, G.A., & Perfetti, C.A. (2014) N170 word effect related to individual differences in reading skill. *Society for Psychophysiological Research (SPR*), Atlanta, GA, September, 2014.

Frishkoff, G.A., **Rickles**, B.B., Frank, R.M., Bird, C., Curran, T., Mah, R., Connolly, J., Connell, S. Kilborn, K., & Perfetti, C.A. (2014) Meta-analysis of event- related potentials in episodic and semantic memory: a cross-lab study. *Society for Psychophysiological Research (SPR),* Atlanta, GA, September, 2014.

Stafura, J.Z., **Rickles, B.**, Perfetti, C.A. (2013) Which way to integration? Examining Directional association in word-to-text integration using ERPs. *Psychonomic Society Convention*. Toronto, CA, November, 2013.

Bhide, A., Stafura, J., **Rickles, B.**, Perfetti, C.A. (2013). Examining the effects of lexical quality on masked form priming effects using event-related potentials. *Society for the Neurobiology of Language Conference*, San Diego, CA, November, 2013.

Elgort, I., Perfetti, C.A., **Rickles, B.**, & Stafura, J.Z. (2013). Second language proficiency modulates ERP and behavioral indicators of contextual word learning. Society for the Scientific Study of Reading (SSSR) Annual Meeting, Hong Kong, July, 2013.

Rickles, B., Elgort, I., and Perfetti, C.A. (2012). Individual differences associated with EEG frequency band power during sentence reading in L2. *Second Language Research Forum (SLRF),* Pittsburgh, PA, October, 2012.

PROFESSIONAL SERVICE AND AFFILIATION Journal Reviews in Collaboration with Advisor

       Brain & Language

       Journal of Cognitive Neuroscience

Member of Professional Societies
Society for the Neurobiology of Language, 2018
Psi Chi National Honor Society in Psychology, 2016

TECHNICAL SKILLS

- Programming in E-prime, MATLAB, R, python.
- Data processing using NetStation, R, MATLAB, EEGlab, Fieldtrip, Brainstorm, MNE-python, Evoked Potential (EP) toolkit.
- Implementation of Independent Components Analysis (ICA), Principal Components Analysis (PCA), and wavelet analysis techniques using EEGLAB, FieldTrip, NetStation, and Evoked Potential (EP) toolkits.
- Statistical analysis in SPSS,.
- June 2011 Electrical Geodesics Incorporated advanced ERP analysis course
- June 2013 MATLAB signal processing training course