

CURRICULUM VITAE

(5/25/23)

Alexandria Clay Zakrzewski

CONTACT INFORMATION

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 Department of Psychological Sciences
 Kansas State University
 Manhattan, KS 66506

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EDUCATION

2016 PhD University at Buffalo, The State University of New York (Buffalo, NY)
 Cognitive Psychology
Thesis Title: Testing generalization of metacognitive accuracy
Advisor: J. David Smith

2013 MA University at Buffalo, The State University of New York (Buffalo, NY)
 Psychology
Thesis Title: Decision deadlines and uncertainty monitoring: The effect of time limits on uncertainty and perceptual responses

2008 BA Saint Mary's College (Notre Dame, IN)
 Psychology, Philosophy, *cum laude*
Thesis Title: Private self-awareness and empathy: A statistical analysis of two developmental realms of consciousness

APPOINTMENTS AND RESEARCH EXPERIENCE

Cognitive Neuroscience Core Director (June 2019 – present) Cognitive and Neurobiological Approaches to Plasticity Center at Kansas State University (Manhattan, KS).

Research Assistant Professor (August 2018 – present) at Kansas State University (Manhattan, KS).

Oak Ridge Institute for Science and Education (ORISE) Postdoctoral Fellow (May 2018 – July 2018) **and Intern** (Feb 2016 – August 2016), at the Battlespace Acoustics, 711th Human Performance Wing, Air Force Research Laboratory (Wright-Patterson Air Force Base, OH).
Supervisors: Nandini Iyer, Brian D. Simpson

MacEldin Dunn Trawick Postdoctoral Fellow (September 2016 – August 2017), at University of Richmond, Richmond, VA. *Advisor:* Dr. Jane Berry, Professor of Psychology

Graduate Student (Sept. 2010 – May 2016), Cognitive Psychology, University at Buffalo, SUNY
Advisor: Dr. J. David Smith, Professor of Psychology.

Visiting Graduate Student Researcher (Summer 2014) at the Battlespace Acoustics, 711th Human Performance Wing, Air Force Research Laboratory (Wright-Patterson Air Force Base, OH).

Trainee (January 2014) in statistical modeling by Dr. F. Gregory Ashby and colleagues (Laboratory for Computational Cognitive Neuroscience, University of California, Santa Barbara).

Research Assistant (2008 – 2010). Traumatic Brain Injury Clinical Research Laboratory, Moss Rehabilitation Research Institute, Albert Einstein Healthcare Network (Elkins Park, PA).
Supervisor: Dr. Tessa Hart, Institute Scientist.

Undergraduate Research Grant Recipient (Summer 2007). Student Independent Study and Research (SISTAR) Grant (\$3500)

Project Title: Consciousness, Metacognition and “Theory of Mind”: A Scientific and Philosophical Search

Advisor: Dr. Thomas Parisi, Saint Mary’s College.

TEACHING EXPERIENCE

Instructor:

Cognitive Psychology (University at Buffalo: Spring 2014; Spring 2015)
Human Cognition (University of Richmond: Spring 2017)

Guest Lecturer:

Animal Cognition, Canisius College
Animal Cognition, University at Buffalo, SUNY
Cognitive Psychology, Kansas State University

Teaching Assistant (University at Buffalo: Fall 2010 – Fall 2013):

Cognitive Psychology
Social Psychology
Statistics (3 semesters)
Introductory Psychology

PEER-REVIEWED PUBLICATIONS

Submitted or In Preparation/Revision:

Bell, T., **Zakrzewski, A. C.**, Wisniewski, M. G., & Bailey, H. (in prep). Using Neural Oscillations to Differentiate Memory Strategies. Manuscript in preparation.

Zakrzewski, A. C., Bechtel, S. A., & Wisniewski, M. G. (in prep). Neural correlates of uncertainty monitoring. Manuscript in preparation.

Coutinho, M. V. C., **Zakrzewski, A. C.**, Boomer, J., & Berry, J. M. (in prep). The Dunning-Kruger Effect: Differences in Metacognitive Regulation between Low and High Performers in a Cue-recall Memory Test. Manuscript in preparation.

Published or In Press:

- Wisniewski, M. G., & **Zakrzewski, A. C.** (in press). Effortful listening relates to both enhancement and suppression of alpha power in the EEG. *Auditory Perception & Cognition*. Manuscript in press.
- Zakrzewski, A. C.**, Maniscalco, B., & Wisniewski, M. G. (2023). Neural correlates of metacognitive accuracy using electroencephalography. *Neuroscience Letters*, 137294. doi: 10.1016/j.neulet.2023.137294
- Wisniewski, M. G., Joyner, C. J., **Zakrzewski, A. C.**, & Anguiano, A. (2023). Learning to detect sounds in noise: changes in sensitivity, decision criteria, and auditory evoked potentials. *Journal of Experimental Psychology: Human Perception and Performance*, 49(3), 428-440. ***Editor's Choice Award**. doi: 10.1037/xhp0001082
- Wisniewski, M. G., **Zakrzewski, A. C.**, Bell, D. R., Wheeler, M. (2021). EEG power spectral dynamics associated with listening in adverse conditions. *Psychophysiology*, 58(9), e13877. doi: 10.1111/psyp.13877
- Zakrzewski, A. C.**, Sanders, E. & Berry, J. M. (2021). Evidence for age-equivalent and task-dissociative metacognition in the memory domain. *Frontiers in Psychology*, 12:630143. doi: 10.3389/fpsyg.2021.630143
- Wisniewski, M. G., & **Zakrzewski, A. C.** (2020). Effects of auditory training on low-pass filtered speech perception and listening-related cognitive load. *The Journal of the Acoustical Society of America*, 148(4), EL394-EL400. doi: 10.1121/10.0001742
- Wisniewski, M. G., Ball, N. J., **Zakrzewski, A. C.**, Iyer, N., Thompson, E. R., & Spencer, N. (2020). Auditory detection learning is accompanied by plasticity in the auditory evoked potential. *Neuroscience Letters*, 721, 134781. doi: 10.1016/j.neulet.2020.134781
- Zakrzewski A. C.**, Wisniewski M. G., Williams H. L., Berry J. M. (2019) Artificial neural networks reveal individual differences in metacognitive monitoring of memory. *PLoS ONE* 14(7): e0220526. doi: 10.1371/journal.pone.0220526
- Wisniewski, M. G., Church, B. A., Mercado, E., Radell, M. L., & **Zakrzewski, A. C.** (2019). Easy-to-hard effects in perceptual learning depend upon the degree to which initial trials are “easy”. *Psychonomic Bulletin & Review*, 1-7.
- Zakrzewski, A. C.**, Wisniewski, M. G., Iyer, N., & Simpson, B. D. (2019). Confidence tracks sensory- and decision-related ERP dynamics during auditory detection. *Brain and Cognition*, 129,49-58. doi: 10.1016/j.bandc.2018.10.007
- Smith, J. D., Boomer, J., Church, B. A., **Zakrzewski, A. C.**, Beran, M. J., & Baum, M. L. (2018). I scan, therefore I decline: The time course of difficulty monitoring in humans and animals. *Journal of Comparative Psychology*, 132(2), 152-165. doi: 10.1037/com0000100

- Zakrzewski, A. C.**, Church, B. A., & Smith, J. D. (2018). The Transfer of Category Knowledge by Macaques (*Macaca mulatta*) and Humans (*Homo sapiens*). *Journal of Comparative Psychology*, 132(1), 58-74. doi: 10.1037/com0000095
- Ball, N. J., Wisniewski, M. G., **Zakrzewski, A. C.**, Iyer, N., Simpson, B. D., Seccia, A., Thompson, E. R., Spencer, N. (2017). Learning-related improvements in auditory detection sensitivities correlate with neural changes observable during active and passive sound processing. In *Proceedings of Meetings on Acoustics 173EAA* (Vol. 30, No. 1, p. 050012). ASA.
- Ball, N. J., Wisniewski, M. G., **Zakrzewski, A. C.**, Iyer, N., Simpson, B., Thompson, E. R., & Spencer, N. (2017). Learning-related improvements in auditory detection sensitivities correlate with changes in sensory-and decision-related components of the event-related potential. *The Journal of the Acoustical Society of America*, 141(5), 3899-3899.
- Zakrzewski, A. C.**, Johnson, J. M., & Smith, J. D. (2017). The comparative psychology of metacognition. In J. Call, G. M. Burghardt, I. M. Pepperberg, C. T. Snowdon, & T. Zentall (Eds.), *APA handbook of comparative psychology: Perception, learning, and cognition* (pp. 703-721). Washington, DC, US: American Psychological Association. doi:10.1037/0000012-031
- Smith, J. D., **Zakrzewski, A. C.**, Johnson, J. M., & Valleau, J. C. (2016). Ecology, Fitness, Evolution: New Perspectives on Categorization. *Current Directions of Psychological Science*, 25(4), 266-274. doi: 10.1177/0963721416652393
- Smith, J. D., **Zakrzewski, A. C.**, Johnson, J. M., Valleau, J. C., & Church, B. A. (2016). Categorization: The view from animal cognition. *Behavioral Sciences*, 6, 12. doi: 10.3390/bs6020012.
- Coutinho, M. V. C., Redford, J. S., Church, B. A., **Zakrzewski, A. C.**, Couchman, J. J., & Smith, J. D. (2015). The interplay between uncertainty monitoring and working memory: Can metacognition become automatic? *Memory & Cognition*, 43(7), 990-1006. doi: 10.3758/s13421-015-0527-1.
- Smith, J. D., **Zakrzewski, A. C.**, Johnston, J. J. R., Roeder, J. L., Boomer, J., Ashby, F. G., & Church, B. A. (2015). Generalization of category knowledge and dimensional categorization in humans (*Homo sapiens*) and nonhuman primates (*Macaca mulatta*). *Journal of Experimental Psychology: Animal Learning & Cognition*, 41(4), 322-35. doi: 10.1037/xan0000071.
- Smith, J. D., **Zakrzewski, A. C.**, Herberger, E., Boomer, J., Roeder, J., Ashby, F. G., & Church, B. A. (2015). The time course of explicit and implicit categorization. *Attention, Perception, and Psychophysics*, 77(7), 2476-90. doi: 10.3758/s13414-015-0933-2.
- Zakrzewski, A. C.**, Perdue, B. M., Beran, M. J., Church, B. A., & Smith, J. D. (2014). Cashing out: The decisional flexibility of uncertainty responses in rhesus macaques (*Macaca mulatta*) and

humans (*Homo sapiens*). *Journal of Experimental Psychology: Animal Learning and Cognition*, 40(4), 490-501. doi: 10.1037/xan0000041.

- Smith, J. D., Boomer, J., **Zakrzewski, A. C.**, Roeder, J. L., Church, B. A., & Ashby, F. G. (2014). Deferred feedback sharply dissociates implicit and explicit category learning. *Psychological Science*, 25(2), 447-57. doi: 10.1177/0956797613509112.
- Smith, J. D., Johnston, J. J. R., Musgrave, R. D., **Zakrzewski, A. C.**, Boomer, J. Church, B. A., Ashby, F. G. (2014). Cross-modal information integration in category learning. *Attention, Perception, and Psychophysics*, 76(5), 1473-84. doi: 10.3758/s13414-014-0659-6.
- Zakrzewski, A. C.**, Coutinho, M. V. C., Boomer, J., Church, B. A., & Smith, J. D. (2014). Decision deadlines and uncertainty monitoring: The effect of time constraints on uncertainty and perceptual responses. *Psychonomic Bulletin & Review*, 21(3), 763-70. doi: 10.3758/s13423-013-0521-1.
- Couchman, J. J., Beran, M. J., Coutinho, M. V. C., Boomer, J., **Zakrzewski, A.**, Church, B., & Smith, J. D. (2012). Do actions speak louder than words? A comparative perspective on implicit versus explicit meta-cognition and theory of mind. *British Journal of Developmental Psychology*, 30(1), 210-21. doi: 10.1111/j.2044-835X.2011.02065.x.
- CONFERENCE PRESENTATIONS**
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- Bell, T. J., Anguiano, A., Krehbiel, K., Zakrzewski, A. C., Wisniewski, M. G., & Bailey, H. (November, 2022). Neural Oscillations Differentiate Effective and Less Effective Strategies. Poster presented at the 63rd Annual Meeting of the Psychonomic Society, Boston, MA.
- Wisniewski, M. G., Joyner, C., Zakrzewski, A. C., & Makeig, S. (November, 2022). *Analysis of auditory-related alpha oscillations (tau rhythms) in the EEG*. Talk given at the Auditory Perception, Cognition, and Action Meeting (APCAM), Boston, MA.
- Sanches, A., Church, B., Boomer, J. Zakrzewski, A., & Smith, J. (November, 2020). *Why Does the Presence of a Rule Suppress Learning of Correlated Information-Integration Structures: The Role of Selective Attention*. Poster presented at the 61st Annual Meeting of Psychonomic Society, Virtual Conference.
- Zakrzewski, A. C., Ball, N. J., Bell, D., Wheeler, M., & Wisniewski, M. G. (November, 2019). *Confidence, learning, and metacognitive accuracy track auditory ERP dynamics*. Poster presented at the Auditory Perception, Cognition, and Action Meeting (APCAM), Montreal, Québec.
- Zakrzewski, A. C., Sanders, E. & Berry, J. M. (November, 2018). *Metacognitive efficiency and associative memory in younger and older adults*. Poster presented at the 59th Annual Meeting of the Psychonomic Society, New Orleans, LA.

- Zakrzewski, A. C., & Berry, J. M. (March, 2018). *Post-decision confidence in associative memory: Metacognitive accuracy in an associative deficit task*. Poster presented at the Cognitive Aging Conference, Atlanta, GA.
- Zakrzewski, A. C., Williams, H. L., Wisniewski, M. G., & Berry, J. M. (August, 2017). *Individual differences in younger and older adults' recognition memory and metacognition*. Poster presented at the American Psychological Association Annual Convention, Washington D.C.
- Zakrzewski, A. C. (March, 2017). *Testing generalization of metacognitive accuracy*. Talk given at the 109th Annual Meeting of the Southern Society for Philosophy and Psychology, Savannah, GA.
- Zakrzewski, A. C., Wisniewski, M. G., Iyer, N., Simpson, B. (February, 2017). *Event-related Potential Correlates of Confidence in an Auditory Probe-signal Task*. Poster presented at the Association for Research in Otolaryngology's 40th MidWinter Meeting, Baltimore, MD.
- Zakrzewski, A. C., Church, B. A., Johnson, J. M, Boomer, J., Ashby, F. G., & Smith, J. D. (November, 2015). *Can rhesus macaques (Macaca mulatta) transfer category knowledge when reinforcement is deferred?* Poster presented at the 56th Annual Meeting of the Psychonomic Society, Chicago, IL.
- Johnson, J., Boomer, J., Zakrzewski, A., Church, B. A. & Smith, J. D. (April 2015). *Extending Garner classification tasks to non-human primates*. Paper presented at the 107th Annual Meeting of the Southern Society for Philosophy and Psychology, New Orleans, LA.
- Zakrzewski, A. C., Boomer, J., Valentin, V., Roeder, J. L., Ashby, F. G., Church, B. A., & Smith, J. D. (November, 2014). *Transferring category knowledge when reinforcement is deferred*. Poster presented at the Psychonomics Society Annual Scientific Meeting, Long Beach, CA.
- Boomer, J., Church, B., Zakrzewski, A. Baum, M., Beran, M., & Smith, J. D. (February 2014) *Chronometrics of action planning by humans and rhesus monkeys*. Paper presented at the 106th Annual Meeting of the Southern Society for Philosophy and Psychology, Charleston, SC.
- Zakrzewski, A. C., Perdue, B. M., Beran, M. J., Church, B. A., & Smith, J. D. (June, 2014). *Cashing out: The decisional flexibility of uncertainty responses in rhesus macaques (Macaca mulatta) and humans (Homo sapiens)*. Poster presented at the Psychology Graduate Student Association 3rd Annual Behavior and Brain Sciences Symposium, University at Buffalo, Buffalo, NY.
- Zakrzewski, A. C., Beran, M., Church, B., & Smith, J. D. (February, 2014). *Serial ordering and temporally extended reflection during problem solving*. Talk given at the 106th Annual Meeting of the Southern Society for Philosophy and Psychology, Charleston, SC.
- Boomer, J., Zakrzewski, A., Johnston, J. R., & Church, B. A. (November 2013) *Category learning strategies in two-dimensional, two-modality learning tasks*. Poster presented at the 54th Annual Meeting of the Psychonomic Society, Toronto, ON, Canada.

Zakrzewski, A. C., Johnston, J. J. R., Roeder, J., Boomer, J., Ashby, F. G., Church, B. A., & Smith, J. D. (November, 2013). *Analogical transfer of categorization in humans (Homo sapiens) and monkeys (Macaca mulatta)*. Talk given at the Fall Meeting of the Comparative Cognition Society, Toronto, Canada.

Boomer, J., Zakrzewski, A., Johnston J. J., Roeder, J., Ashby F.G., Church, B.A. & Smith, J.D. (March 2013) *Analogical transfer of decision rules in humans and rhesus monkeys*. Paper presented at the 105th Annual Meeting of the Southern Society for Philosophy and Psychology, Austin, TX.

Zakrzewski, A. C., Perdue, B. M., Beran, M. J., Church, B. A., & Smith, J. D. (November, 2012). *Cashing out: The decisional flexibility of uncertainty responses in rhesus macaques (Macaca mulatta) and humans (Homo sapiens)*. Poster presented at the Psychonomics Society Annual Scientific Meeting, Minneapolis, MN.

Zakrzewski, A. C., Church, B. A., & Smith, J. D. (June, 2012). *Speed and uncertainty monitoring: The effect of time limits on uncertainty and perceptual responses*. Poster presented at the Psychology Graduate Student Association 1st Annual Behavior and Brain Sciences Symposium, University at Buffalo, Buffalo, NY.

Zakrzewski, A. C., Church, B. A., & Smith, J. D. (March, 2012). *Decision deadlines and uncertainty monitoring: The effect of time limits on uncertainty and perceptual responses*. Talk given at the 104th Annual Meeting of the Southern Society for Philosophy and Psychology, Savannah, GA.

Zakrzewski, A. C., Church, B. A., & Smith, J. D. (November, 2011). *The time course of uncertainty and perceptual responses*. Poster presented at the Psychonomics Society Annual Scientific Meeting, Seattle, WA.

Zakrzewski, A., Ouzts, C., & Pietrzak P. (May, 2007). *Perception of interpersonal interaction*. Poster presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

INVITED TALKS

Fall 2018 through Spring 2023. *Metacognition from a Comparative Perspective*. Cognitive Psychology, Kansas State University, Manhattan KS.

October 2019. *My Career Path & Research Studying Metacognition from Comparative, Aging, and Electrophysiological Perspectives*. Junior Seminar, Missouri Southern State University, Joplin, MO.

February 2016. *Metacognitive Accuracy and Task Specificity*. Cognitive Modelers Brown Bag, Wright-Patterson Air Force Base, OH.

GRADUATE STUDENT COMMITTEE

Trevor Bell, Master's Thesis	Defended May 2022
Taylor Vargo, Dissertation	Proposed May 2023

AWARDS and HONORS

Postdoctoral Travel Award, APA Div. 20 (Adult Development and Aging)	August 2017
Griffith Award, Southern Society for Philosophy and Psychology	March 2017
Psychology Department Dissertation Award	April 2016
Outstanding Research Award, UB Psychology Graduate Student Association	Fall 2012, Fall 2014
Graduate Travel Grant, Southern Society for Philosophy and Psychology	March 2012
<i>Life of the Mind Award</i> , Saint Mary's College	May 2008
Student Independent Study and Research (SISTAR) Grant	Summer 2007
Midwestern Psychological Association (MPA) Research Award	May 2007
Dean's List	Fall 2006, Spring 2007, Fall 2007

WORKSHOPS and TRAINING

Creating Experiments in PsychoPy Workshop	November-December 2022
Transcranial Magnetic Stimulation (TMS) Motor Threshold Measurement Training	Summer 2021

GRANTS

Kansas State University, COBRE Pilot Grant (10/1/19-5/31/21) "Neural Correlates of Metacognitive Accuracy using Electroencephalography". Direct Costs - \$25,000

PROFESSIONAL SERVICE

Ad Hoc Reviewer for:

Journals: Attention, Perception, & Psychophysics; Journal of Experimental Psychology: Learning, Memory, and Cognition; Consciousness and Cognition; Journal of Gerontology: Psychological Sciences; Journal of Comparative Psychology

Consultant, Dept. of Psychology, Univ. of Richmond	March 2018
Graduate Studies Committee (UB Dept. of Psychology)	Student Representative 2014-2016
APA Division 3 (Experimental Psychology)	Graduate Student Representative 2014-2015
Association for Psychological Science	Student Caucus Campus Representative 2006-2008

PROFESSIONAL MEMBERSHIPS

Association for Research in Otolaryngology	Member 2017-present
Southern Society for Philosophy and Psychology	Associate Member 2011-present
The Psychonomic Society	Member 2014-present
Comparative Cognition Society	Student Member 2013-2016
American Psychological Association	Student Affiliate 2014-2015
Psi Chi National Honors Society in Psychology	Member 2008-2009
Association for the Scientific Study of Consciousness	Member 2007-2008

