

Nicholas J.A. Wan

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Current research

Effects of Blowout Losses on Subsequent Games in Sports

Nov 2015 – Present

This is a data science analysis of whether the so-called “demoralizing loss” in sports, where a team losses by a large margin (a “blowout” loss) and this loss generates psychological carryover effects upon the next game played. Using data from the National Basketball Association, NCAA Division-I Men’s Basketball, and Major League Baseball, I argue that there is no definitive quantitative evidence that supports the concept of the demoralizing loss, and rather statistical evidence indicates demoralizing losses are rather a fallacy that is perpetuated by media.

A Functional Near-Infrared Spectroscopic Investigation into Artifact Removal During Speech Production Task

Aug 2015 – Present

This is an investigation into the nature of the hemodynamic response function during naturalistic speech production. Current results indicate an increased activity for oral reading when compared to silent reading, which may indicate there are possible artifacts affecting language areas (inferior parietal, superior temporal) that are normally not associated with speech-motor movement. Is it possible to use a subtraction method using a silent-mouthing task to eliminate speech-motor artifacts from an oral reading task to produce activity similar to a silent reading task?

Cooperation and Strategy Formation: An EEG investigation

Jan 2015 – Present

The purpose of this study is to determine if different strategies elicit different brain activation. We know choice on a moment-by-moment basis show similar neural activation, but the pathway (both behaviorally and neurally) we use arrive at a choice may be different. How predictable is a choice based off of neural information, and how much of that is guided by the neural correlates of strategy formation?

Recent publications

Wan, N. J. A., Wilson, A.J., Robinson, B.S., & Jordan, K.E. (2016). Strategy Usage During Social Dilemmas: An EEG Spectral Analysis. *In prep.*

Wan, N. J. A., Hancock, A.S., & Gillam, R.B. (2016). A Functional Near-Infrared Spectroscopic Investigation into Artifact Removal During Speech Production Tasks. *In prep.*

Fu, G., **Wan, N.J.A.**, Baker, J.M., Montgomery, J.W., Evans, J.L., & Gillam, R.B. (2016) Function-based Statistical Analysis of fNIRS Data: A Proof of Concept Study of Sentence Comprehension in Children with Specific Language Impairment (SLI) and Their Typically-Developing Controls. *PLoS One. Under review.*

Call, B. J., Goodridge, W. H., Villanueva, I., **Wan, N. J. A.**, & Jordan, K.E. (2015). Utilizing Electroencephalography Measurements for Comparison of Task-Specific Neural Efficiencies: Spatial Intelligence Tasks. *JOVE. In press.*

Work experience

*Instructor, Utah State
(May 2015 – Present)*

In person: Cognitive psychology (lecture/lab)
Online: Neuroscience 1

*Graduate assistant in Multisensory Cognition
Laboratory, Utah State
(May 2013 – Present)*

Decision-making, environmental psychology, and numerical cognition research. Study design, data collection and analysis, manuscript writing. Training and management of multiple research assistants.

*Research assistant in Center for
Interdisciplinary Brain Science Research,
Stanford University
(June 2015 – Sep 2015)*

Decision-making, cognition and autonomous vehicle research. Data collection and analysis, literature review.

*Graduate assistant in LEAP Brain Imaging
Laboratory, Utah State
(May 2013 – Dec 2015)*

Language and development research. Study design, data collection and analysis, manuscript writing. Training and management of multiple research assistants.

Recent presentations

Mar 2016 Cognitive Neuroscience Society

Professional networking and social media

Oct 2015 Society for Neuroscience

Differences in People Choosing Cooperatively Versus Competitively During Social Dilemmas: an EEG Spectral Analysis

Oct 2015 Society for Neuroscience

The Use of Strategy During Social Dilemmas: an EEG Spectral Analysis

Mar 2015 Cognitive Neuroscience Society

Effects of Concussion on Working Memory, Selective Attention, and Hemodynamic Response

Education

2013 - Present Utah State University

Ph.D in Psychology
(Expected graduation: May 2017)

2010 - 2012 Saint Mary's College of California

B.S. in Experimental Psychology and Neuroscience

2006 - 2010 Santa Rosa Junior College