## Accepted Manuscript

Title: Chasing the zone: Reduced beta power predicts baseball

batting performance

Authors: Anthony Pluta, Chad C. Williams, Gordon Binsted,

Kent G. Hecker, Olave E. Krigolson

PII: S0304-3940(18)30603-7

DOI: https://doi.org/10.1016/j.neulet.2018.09.004

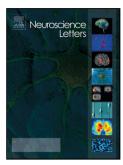
Reference: NSL 33792

To appear in: Neuroscience Letters

Received date: 25-6-2018 Revised date: 20-8-2018 Accepted date: 4-9-2018

Please cite this article as: Pluta A, Williams CC, Binsted G, Hecker KG, Krigolson OE, Chasing the zone: Reduced beta power predicts baseball batting performance, *Neuroscience Letters* (2018), https://doi.org/10.1016/j.neulet.2018.09.004

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Running head: BETA POWER PREDICTS BASEBALL PERFORMANCE

Chasing the zone: Reduced beta power predicts baseball batting performance

Anthony Pluta<sup>a</sup>, Chad C. Williams<sup>a</sup>, Gordon Binsted<sup>b</sup>, Kent G. Hecker<sup>c</sup>, and Olave E. Krigolson<sup>a</sup>

a. Centre for Biomedical Research, University of Victoria, Victoria, B.C., Canada

b. Faculty of Health Science, University of British Columbia Okanagan, Kelowna, B.C., Canada

c. Faculty of Veterinary Medicine and Cumming School of Medicine, University of Calgary,

Calgary, AB, Canada

Corresponding Author:

Olave E. Krigolson

Associate Director, Centre for Biomedical Research, University of Victoria, Victoria, British

Columbia, Canada, V8W 2Y2. P.O. Box 1700 STN CSC

E-mail address: krigolson@uvic.ca

Highlights

• Beta band EEG power predicts baseball batting performance

• Demonstrates use of mobile EEG

• Provides insight in performance prediction

Beta power reflective of the "sports zone"

**Abstract** 

Mental state prior to sports skill execution is related to subsequent performance. For

example, relationships between pre-performance electroencephalogram (EEG) power and

subsequent movement outcomes in golf putting, pistol shooting, and basketball free throw

shooting have been previously reported. With that said, the existing body of research examining

the pre-performance EEG – performance relationship has been focused on the execution of

internally as opposed to externally-paced motor skills. Given that the execution of internally and

externally-paced movements are dependent on different neural pathways, in the present study we

## Download English Version:

## https://daneshyari.com/en/article/10149416

Download Persian Version:

https://daneshyari.com/article/10149416

<u>Daneshyari.com</u>