

# Author's Accepted Manuscript

Neural signatures of phonological deficits in Chinese developmental dyslexia

Fan Cao, Xin Yan, Zhao Wang, Yanni Liu, Jin Wang, Gregory J. Spray, Yuan Deng



PII: S1053-8119(16)30669-3

DOI: <http://dx.doi.org/10.1016/j.neuroimage.2016.11.051>

Reference: YNIMG13599

To appear in: *NeuroImage*

Received date: 30 March 2016

Revised date: 7 November 2016

Accepted date: 21 November 2016

Cite this article as: Fan Cao, Xin Yan, Zhao Wang, Yanni Liu, Jin Wang, Gregory J. Spray and Yuan Deng, Neural signatures of phonological deficits in Chinese developmental dyslexia, *NeuroImage* <http://dx.doi.org/10.1016/j.neuroimage.2016.11.051>

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 galley proof before it is published in its final citable 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

## Neural signatures of phonological deficits in Chinese developmental dyslexia

Fan Cao<sup>1\*</sup>, Xin Yan<sup>1</sup>, Zhao Wang<sup>2</sup>, Yanni Liu<sup>3</sup>, Jin Wang<sup>4</sup>, Gregory J. Spray<sup>1</sup>, Yuan Deng<sup>4\*</sup><sup>1</sup>Communicative Sciences and Disorders, Michigan State University, East Lansing, Michigan<sup>2</sup>Beijing Normal University, Beijing<sup>3</sup>University of Michigan, Ann Arbor, Michigan<sup>4</sup>Institute of Psychology, Chinese Academy of Sciences, Beijing

fcao@msu.edu

dengy@psych.ac.cn

\*Correspondence to: Michigan State University, 1026 Red Cedar Road, East Lansing, MI, 48824

\*Correspondence to: 16 Lincui Road, Chaoyang District, Beijing 100101, China

## Abstract

There has been debate on whether phonological deficits explain reading difficulty in Chinese, since Chinese is a logographic language which does not employ grapheme-phoneme-correspondence rules and remote memorization seems to be the main method to acquire reading. In the current study, we present neuroimaging evidence that the phonological deficit is also a signature of Chinese dyslexia. Specifically, we found that Chinese children with dyslexia (DD) showed reduced brain activation in the left dorsal inferior frontal gyrus (dIFG) when compared to both age-matched controls (AC) and reading-matched controls (RC) during an auditory rhyming judgment task. This suggests that the phonological processing deficit in this region may be a signature of dyslexia in Chinese, rather than a difference due to task performance or reading ability, which was matched on DD and RC. At exactly the same region of the left dIFG, we found a positive correlation between brain activation and reading skill in DD, suggesting

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات