

Accepted Manuscript

Research report

Indices of repetitive behaviour are correlated with patterns of intrinsic functional connectivity in youth with autism spectrum disorder

J.M. Traynor, K.A.R. Doyle-Thomas, L.C. Hanford, N.E. Foster, A. Tryfon, K.L. Hyde, E. Anagnostou, A.C. Evans, L. Zwaigenbaum, G.B.C. Hall, NeuroDevNet ASD Imaging Group

PII: S0006-8993(18)30067-2

DOI: <https://doi.org/10.1016/j.brainres.2018.02.009>

Reference: BRES 45663

To appear in: *Brain Research*

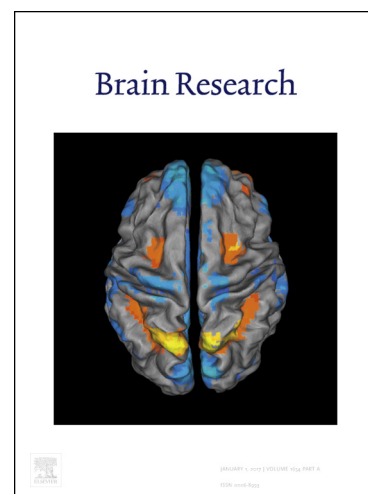
Received Date: 2 October 2017

Revised Date: 11 January 2018

Accepted Date: 5 February 2018

Please cite this article as: J.M. Traynor, K.A.R. Doyle-Thomas, L.C. Hanford, N.E. Foster, A. Tryfon, K.L. Hyde, E. Anagnostou, A.C. Evans, L. Zwaigenbaum, G.B.C. Hall, N. ASD Imaging Group, Indices of repetitive behaviour are correlated with patterns of intrinsic functional connectivity in youth with autism spectrum disorder, *Brain Research* (2018), doi: <https://doi.org/10.1016/j.brainres.2018.02.009>

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.



TITLE: Indices of repetitive behaviour are correlated with patterns of intrinsic functional connectivity in youth with autism spectrum disorder

AUTHORS: Traynor, J.M.^a, Doyle-Thomas, K.A.R.^b, Hanford, L.C.^a, Foster, N.E.^{c,d}, Tryfon, A.^{c,d}, Hyde, K.L.^{c,d}, Anagnostou, E.^{b,e}, Evans, A.C.^f, Zwaigenbaum, L.^g, and Hall, G.B.C.^a; NeuroDevNet ASD Imaging Group^h

^a McMaster University, Department of Psychology, Neuroscience & Behaviour, Hamilton, Ontario, Canada

^b Bloorview Research Institute, Holland Bloorview Kids Rehabilitation Hospital, University of Toronto, Toronto, Ontario, Canada

^c International Laboratory for Brain Music and Sound (BRAMS), University of Montreal, Montreal, Quebec, Canada

^d Faculty of Medicine, McGill University, Montreal, Quebec, Canada

^e Department of Pediatrics, University of Toronto, Toronto, Ontario, Canada

^f Montreal Neurological Institute, Montreal, Quebec, Canada

^g Department of Pediatrics, University of Alberta, Edmonton, Alberta, Canada

^h <http://www.neurodevnet.ca/research/asd>, Vancouver, British Columbia, Canada

CORRESPONDING AUTHOR: Geoffrey B.C. Hall, Psychology Building (PC) Room 307, McMaster University, 1280 Main Street West, Hamilton, Ontario, Canada, L8S 4K1. phone: 1.905.525.9140 x 23033. email: hallg@mcmaster.ca

ABSTRACT: The purpose of the current study was to examine how repetitive behaviour in Autism Spectrum Disorder (ASD) is related to intrinsic functional connectivity patterns in a number of large-scale, neural networks. Resting-state fMRI scans from thirty subjects with ASD and thirty-two age-matched, typically developing control subjects were analysed. Seed-to-voxel and ROI-to-ROI functional connectivity analyses were used to examine resting-state connectivity in a number of cortical and subcortical neural networks. Bivariate correlation analysis was performed to examine the relationship between repetitive behaviour scores from the Repetitive Behaviour Scale – Revised and intrinsic functional connectivity in ASD subjects. Compared to control subjects, ASD subjects displayed marked over-connectivity of the thalamus with several cortical sensory processing areas, as well as over-connectivity of the basal ganglia with somatosensory and motor cortices. Within the ASD group, significant correlations were found between functional connectivity patterns and total RBS-R scores as well as one principal component analysis-derived score from the RBS-R. These results suggest that thalamocortical resting-state connectivity is altered in individuals with ASD, and that resting-state functional connectivity is associated with ASD symptomatology.

KEYWORDS: autism spectrum disorder; repetitive behaviour; resting-state functional magnetic resonance imaging; intrinsic functional connectivity

متن کامل مقاله

دریافت فوری ←

ISIArticles

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