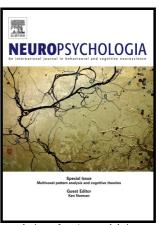
Author's Accepted Manuscript

Neural Responses to Visually Observed Social Interactions

Jon Walbrin, Paul Downing, Kami Koldewyn



www.elsevier.com/locate/neuropsychologia

PII: S0028-3932(18)30080-0

DOI: https://doi.org/10.1016/j.neuropsychologia.2018.02.023

Reference: NSY6696

To appear in: Neuropsychologia

Received date: 4 September 2017 Revised date: 2 February 2018 Accepted date: 19 February 2018

Cite this article as: Jon Walbrin, Paul Downing and Kami Koldewyn, Neural Responses to Visually Observed Social Interactions, *Neuropsychologia*, https://doi.org/10.1016/j.neuropsychologia.2018.02.023

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.

Title: Neural Responses to Visually Observed Social Interactions

Authors: Jon Walbrin^a, Paul Downing^a, & Kami Koldewyn^a a. School of Psychology, Bangor University

Correspondence to: School of Psychology, Adeilad Brigantia, Penrallt Rd, Bangor, Wales, LL57 2AS

Email address: j.walbrin@bangor.ac.uk (J.Walbrin)

Highlights:

- The pSTS is sensitive to visual dynamic social interactions
- We show that the pSTS is sensitive to both the presence & contents of interactions
- This effect is independent of face & body information

Abstract:

Success in the social world requires the ability to perceive not just individuals and their actions, but pairs of people and the interactions between them. Despite the complexity of social interactions, humans are adept at interpreting those interactions they observe. Although the brain basis of this remarkable ability has remained relatively unexplored, converging functional MRI evidence suggests the posterior superior temporal sulcus (pSTS) is centrally involved. Here, we sought to determine whether this region is sensitive to both the presence of interactive information, as well as to the content of qualitatively different interactions (i.e. competition vs. cooperation). Using point-light human figure stimuli, we demonstrate that the right pSTS is maximally activated when contrasting dyadic interactions vs. dyads performing independent, non-interactive actions. We then used this task to localize the same pSTS region in an independent participant group, and tested responses to non-human moving shape stimuli (i.e. two circles' movements conveying either interactive or non-interactive behaviour). We observed significant support vector machine classification for both the presence and type of interaction (i.e. interaction vs. non-interaction, and competition vs. cooperation, respectively) in the pSTS, as well as neighbouring temporo-parietal junction (TPJ). These findings demonstrate the important role that these regions play in perceiving and understanding social interactions, and lay the foundations for further research to fully characterize interaction responses in these areas.

Keywords: Social interaction; Person Perception; fMRI; Vision; Shapes; pSTS

Download English Version:

https://daneshyari.com/en/article/7317746

Download Persian Version:

https://daneshyari.com/article/7317746

<u>Daneshyari.com</u>