Presentation Outline

- What is Autism?
- What is local and global perception
  - ...in the visual domain?
  - ...in the auditory domain?
  - ...in the tactile domain?
  - ...in language?
- What do we hope to achieve?
- How we plan on achieving it?
- What are the next steps?
- References
What is Autism?

- Autism is also called the Autistic Spectrum Disorder (ASD)
- It is classed as a neurodevelopmental disorder
- 1.1% of people in the UK have ASD (0.6% worldwide)
- 5.5 males to 1 female

One theory explaining (some of) the symptoms is the Weak Central Coherence Theory
What is Local and Global Perception?

**Visual Domain**

Seeing separate items but not the overall form. Better in noticing details.
What is Local and Global Perception?

Auditory Domain

Hearing pitch direction but not contour direction. Better in discriminating pitches.
What is Local and Global Perception?

Tactile Domain

Being more sensitive to touch.
Better in discriminating touch.
What is Local and Global Perception?

**Language Domain**

Understanding words but not metaphors. Not processing context information.

“His mother was boiling mad, because the house was a disaster area.”

“There was a big tear on her cheek.”

“There was a big tear in her dress.”
What do we want to achieve?

This project aims to:

- Explore the associations between local and global processing in visual, auditory and tactile perception, and language in the same participants.
- Analyse which areas in the brain are engaged during local and global processing in the different domains.
- Clarify whether the processing in ASD reflects a cognitive style, developmental delay or impairment.
- Inform possible interventions for improving global perception in developmental disorders including ASD.
How do we want to achieve it?

**Methods**
- Perceptual Tasks
- Language Tasks
- Brain Imaging (MEG)

**Cross-sectional Sample**
Typically developed (TD) individuals of different age groups

**ASD Sample**
Individuals with ASD

Can we help individuals with ASD to perceive the world more globally?
What next?

- Ethics Application
- Decision on the tasks
- Construction of the Experiments
- Recruitment of TD
References

Page 3:
• http://labspace.open.ac.uk/file.php/8398/DSE232_1_001i.jpg

Page 4:
• Pellicano et al. (2005). Abnormal global processing along the dorsal visual pathway in autism: a possible mechanism for weak visuospatial coherence? Neuropsychologia, 43(7), 1044-1053

Page 5

Page 6

Page 7

Page 9
• http://www.sciencespacerobots.com/2012pics/emotions_synchronized_brain_activity.jpg