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Infant Specific Training of Attention Research Study - training infant attention control in children's centres in East London

Submission date
10/02/2012

Recruitment status
No longer recruiting

Registration date
26/04/2012

Overall study status
Completed

Last Edited
04/04/2023

Condition category
Mental and Behavioural Disorders

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Attentional control can be described as an individual's ability to choose what they pay attention to and what they ignore. We are conducting a study to see whether it is possible to deliver a five-week-long training programme that uses eye-tracking technology to improve attention control during infancy. This is a key ability that is thought to be required for learning language and in academic settings. The primary aim is to find out whether it is possible to conduct such a targeted short-term intervention in Children's Centres.

Who can participate?
11-month-old typically developing healthy infants

What does the study involve?
Before the first visit we send caregivers two questionnaires that assess their infant's temperament and communication (word learning and other early gestures). The five visits then take place over five weeks. At each visit the infant watches things happening on the screen while sitting on their caregiver's lap. Infants are randomly assigned to one of two groups - training or control - that watch different kinds of presentations during the visits. Infants in the training group are required to exercise control over what they pay attention to, as the cartoons displayed on the screen change/move depending on where the infant is looking. The control group infants view a variety of infant-appropriate TV clips and animations in front of the eye-tracker for a matched amount of time. These TV clips and animations include short clips from infant-directed television programmes such as In the Night Garden and Sesame Street, clips from appropriate adult-directed television programmes such as the BBC News and clips of tennis matches, as well as camcorder shots of urban and rural scenes. After the study is completed, parents are debriefed to explain which group their infant was allocated to and what effects we are hoping to find.

What are the possible benefits and risks of participating?
The successful completion of this study will allow the development of a new programme for infants and will provide a good basis for conducting a larger study of its effectiveness. There is

no evidence of any risks from this sort of training early in development. Related forms of training are in widespread use with older (pre-school age) children, including children with ADHD.

Where is the study run from?
Birkbeck College, University of London (UK)

When is the study starting and how long is it expected to run for?
March 2012 to June 2012

Who is funding the study?
Nuffield Foundation (UK)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Study information

Scientific Title
Training 11-month-old infants' visual attention control in a community setting: a pilot study using eye tracking technology to deliver gaze-contingency training in children's centres in East London

Acronym
iSTARS

Study objectives

Determine whether it is possible to conduct a targeted short-term training of visual attention of 11-month-old infants in Children's Centres in two areas in East London with significant socio-economic deprivation.

Establish whether infants from areas with significant socio-economic deprivation can improve their attention control in the same way as infants with middle-to-high income parents trained in a lab context.

Ethics approval required
Old ethics approval format

Ethics approval(s)
University of East London Research Ethics Committee, 15/02/2012

Primary study design
Interventional

Study design
Randomised double-blind multicentre interventional design

Study type(s)
Other

Health condition(s) or problem(s) studied
Visual attention control in infants

Interventions
Using eye-tracking technology to train visual attention control in infants based on their own eye movements. The study structure is a close replication of a previously approved and published pilot study (Wass et al., 2011). Before the first visit caregivers will be sent two questionnaires that assess the infant's temperament (IBQ-VeryShort) and communication (Oxford CDI, word learning and other early gestures).

Visit 1 and 5 - Visit 1 entails a pre-assessment and the first training session. The infant will view a number of cartoons and eye-tracking 'games' on the eye-tracker screen, examining aspects of attention skills. Each visit will last about 1.5 hours in total. Visit 5 includes the final training session and a post-test.

Visits 2 to 4 - These visits entail training sessions only, and will last 30 minutes to 1 hour. The infant will be watching things happen on the screen, while sitting on the caregiver's lap. Infants are randomly assigned to one of two groups - training or control - that will be watching different kinds of presentations during training visits.

Pre- and post-assessment
The pre-post measures are a gap-overlap task, cognitive control task, habituation task, and a free-viewing task. Infants' behaviour will also be video recorded during administration of the tests and coded/analyzed post hoc.

Training
The attention control training is based on cognitive training techniques that are in widespread use throughout the cognitive neuroscience community (Klingberg et al., 2005; Rueda et al., 2005;

Holmes et al., 2009). Infants in the training group will be presented with paradigms in which they are required to exercise volitional control over what they attend to. In this group cartoons displayed on the screen will change/move depending on where the infant is looking. This programme is aimed at training the following cognitive skills: interference resolution, inhibition, and focused attention. We will administer about 75 minutes of training per infant in sessions 1-5 together.

The control participants will view a variety of infant-appropriate TV clips and animations in front the eye-tracker for a matched amount of time. These TV clips and animations will include short (<2 minute) clips from commercially available infant-directed television programmes, clips from appropriate adult-directed television programmes, clips of tennis matches, and naturalistic camcorder shots of urban and rural scenes.

Intervention Type
Other

Phase
Not Applicable

Primary outcome(s)
Visual attention control (specifically interference resolution, inhibition, and focused attention), measured once a week for a 5-week period (same day of the week every time) through administration of a gap-overlap task, cognitive control task, habituation task, and free-viewing task.

Key secondary outcome(s)
No secondary outcome measures

Completion date
30/06/2012

Eligibility

Key inclusion criteria
11-month-old typically developing healthy infants (both boys and girls)

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Neonate

Sex
All

Total final enrolment
33

Key exclusion criteria
1. Major medical condition in the first 6 months of life
2. Extreme prematurity (<36 weeks)
3. Major delivery complications (e.g. asphyxia, low Apgar score, gestational diabetes)
4. First degree relative with any diagnosed psychiatric disorder

Date of first enrolment
01/03/2012

Date of final enrolment
30/06/2012

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
University of East London
London
United Kingdom
E15 4LZ

Sponsor information

Organisation
University of East London (UK)

ROR
https://ror.org/057jrqr44

Funder(s)

Funder type
Charity

Funder Name
Nuffield Foundation (UK)

Alternative Name(s)

NuffieldFound

Funding Body Type
Private sector organisation

Funding Body Subtype
Trusts, charities, foundations (both public and private)

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
Not provided at time of registration

IPD sharing plan summary

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Funder report results		01/12/2018	04/04/2023	No	No