

Modifying emotion perception in adults with autism spectrum conditions

Submission date	Recruitment status	<input type="checkbox"/> Prospectively registered
16/06/2012	No longer recruiting	<input type="checkbox"/> Protocol
Registration date	Overall study status	<input type="checkbox"/> Statistical analysis plan
30/07/2012	Completed	<input checked="" type="checkbox"/> Results
Last Edited	Condition category	<input type="checkbox"/> Individual participant data
04/02/2019	Mental and Behavioural Disorders	

Plain English summary of protocol

Background and study aims

Autism-spectrum conditions are characterised by a number of deficits in social cognition. This includes a relative difficulty identifying emotional expression in others. Our pilot work has indicated that it is possible to modify how individuals perceive emotional expression, such that when viewing computer-generated morph sequences running from one emotion to another, individuals see a change in the emotion somewhere in the middle. This balance point will be used to provide false feedback in the training phase, whereby participants will be trained to judge expressions previously judged as neutral as happy. In this way, sensitivity to a particular emotion can be increased. Pilot work in healthy volunteers shows that it is possible to sensitize (and desensitize) this population to individual emotions.

These early findings suggest that the emotion modification task could be beneficial for individuals with deficits in emotional processing. However, it remains unclear whether individuals with these deficits can engage with this type of task and show differences in processing after completing the task. We therefore propose to examine whether individuals with autism-spectrum conditions show similar changes in perception to individuals without an autism-related diagnosis.

Who can participate?

Participants will be 30 males and females aged 18 years or older with a diagnosis of an autism spectrum condition.

What does the study involve?

This is a computer-based intervention which presents faces on a neutral to happy morph sequence. Participants have to judge the emotion of the face presented. Feedback (informing participants whether they have made a correct or incorrect judgement) is used to train the participants after baseline measures of emotion perception have been taken. Participants will be randomly assigned to one of two groups: a treatment group, in which we attempt to change the perception of emotion, and a control group, in which feedback reflects their baseline performance (i.e. makes no attempt to change their perception of emotion).

What are the possible benefits and risks of participating?

A possible benefit would be an increased sensitivity to the perception of happy facial emotional expressions. There are no predicted risks of participating.

Where is the study run from?

The study is being run from The University of Bristol and the Bristol Autism Spectrum Service: Petherton Resource Centre (Bristol, UK).

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

June to September 2012

Who is funding the study?

University of Bristol (UK)

Who is the main contact?

Prof. Marcus Munafo

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Contact information

Type(s)

Scientific

Contact name

Prof Marcus Munafo

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Additional identifiers

Protocol serial number

UoB1692

Study information

Scientific Title

Modifying emotion perception in adults with autism spectrum conditions: a double-blind placebo-controlled study

Study objectives

Autism-spectrum conditions are characterised by a number of deficits in social cognition. This includes a relative difficulty to identify emotional expression in others. Our pilot work has indicated that it is possible to modify how individuals perceive emotional expression, such that when viewing computer generated morph sequences running from one emotion to another, individuals see a change in the emotion somewhere in the middle. This balance point will be used to provide false feedback in the training phase, whereby participants will be trained to judge expressions previously judged as neutral as happy. In this way, sensitivity to a particular emotion can be increased. Pilot work in healthy volunteers shows that it is possible to sensitize (and desensitize) this population to individual emotions.

These early findings suggest that the emotion modification task could be beneficial for individuals with deficits in emotional processing. However, it remains unclear whether individuals with these deficits can engage with this type of task and show differences in processing after completing the task. We therefore propose to examine whether individuals with autism-spectrum conditions show similar changes in perception to individuals without an autism-related diagnosis.

Ethics approval required

Old ethics approval format

Ethics approval(s)

National Research Ethics Service Committee South West - Frenchay, 8/05/2012, REC ref: 12/SW/0113

Study design

Double-blind placebo-controlled study

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Autism Spectrum Conditions

Interventions

Emotion recognition training versus control.

Participants will be randomly assigned to one of two groups

1. Treatment (in which we attempt to change the perception of emotion)
2. Control (in which feedback reflects their baseline performance i.e. makes no attempt to change their perception of emotion)

This is a computer-based intervention which presents faces on a neutral to happy morph sequence. Participants have to judge the emotion of the face presented.

Feedback (informing participants whether they have made a correct or incorrect judgement) is used to train the participants after baseline measures of emotion perception have been taken.

Intervention Type

Other

Phase

Not Applicable

Primary outcome(s)

Change in balance point on neutral to happy morph sequence

Key secondary outcome(s))

1. Reading the mind in the eyes test (Revised): Baron-Cohen, S., Wheelwright, S., Hill, J., Raste, Y., & Plumb, I. (2001). The "Reading the Mind in the Eyes" Test Revised Version: A Study with Normal Adults, and Adults with Asperger Syndrome or High-functioning Autism. *Journal of Child Psychology and Psychiatry*, 42(2), 241-251
2. Beck Depression Inventory ii (BDI-ii) score- Beck, A.T., Steer, R.A., & Brown, G.K. (1996), Manual for Beck Depression Inventory II (BDI-II). San Antonio, TX, Psychology Corporation.
3. Ritvo Autism Asperger Diagnostic Scale-Revised (RAADS-R). Ritvo et al. (2011). The Ritvo Autism Asperger Diagnostic Scale-Revised (RAADS-R): a scale to assist the diagnosis of Autism Spectrum Disorder in adults: an international validation study. *Journal of Autism and Developmental Disorders*, 41(8), 1076-1089.

Completion date

07/09/2012

Eligibility

Key inclusion criteria

1. Participants will be Service Users of the Bristol Autism Spectrum Service who have been diagnosed as having an Autism Spectrum Condition
2. Participants will be aged 18 years or over
3. Participants will have English as a first language or an equivalent level of fluency

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. Learning or intellectual disability
2. Severe enduring mental illness

3. History of severe head injury or trauma
4. Current use of antipsychotic medication
5. Uncorrected visual impairment
6. Participants deemed by the investigator or clinical team (Bristol Autism Spectrum Service) to be unable to complete the task
7. Participants deemed by the investigator or clinical team to be unable to give informed consent

Date of first enrolment

18/06/2012

Date of final enrolment

07/09/2012

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

School of Experimental Psychology

Bristol

United Kingdom

BS8 1TU

Sponsor information

Organisation

University of Bristol (UK)

ROR

<https://ror.org/0524sp257>

Funder(s)

Funder type

University/education

Funder Name

University of Bristol (UK)

Alternative Name(s)

Universitas Bristoliiensis, bristoluniversity, bristoluni

Funding Body Type

Government organisation

Funding Body Subtype

Universities (academic only)

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Preprint results	results	01/02/2019		No	No