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Effects of emotion recognition training on aggressive behaviour in antisocial youth

Submission date
27/02/2012

Recruitment status
No longer recruiting

Registration date
09/05/2012

Overall study status
Completed

Last Edited
17/01/2019

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
Previous research has shown that juvenile offenders overestimate the presence of anger in ambiguous facial expressions. This might result in inappropriate social responses, such as reacting aggressively or violently, which might help explain adolescent offender aggression. Using a computer-generated facial expression sequence that runs from anger to happiness, training can change the point at which an ambiguous expression changes from being perceived as angry to being perceived as happy. In pilot work, training was associated with a reduction in aggressive behaviour. The aim of our new study is to repeat and extend this work over a longer period. We think that modifying emotion perception to induce a shift towards perceiving an expression as happy instead of angry will reduce subsequent aggressive behaviour.

Who can participate?
The study will recruit participants detained at a secure childrens home in South Wales, aged between 13 and 17 years old.

What does the study involve?
The participants will be randomly allocated to either a treatment group, which will receive feedback designed to shift their perceptions of ambiguous faces as displaying happiness rather than anger, or a control group, which will receive feedback not designed to shift their perceptions.

What are the possible benefits and risks of participating?
Participants in the treatment group may display reduced levels of aggression following completion of the computer-based intervention. There is no evidence to suggest that completing this type of intervention will lead to an increase in displays of aggressive behaviour. As the study will use data that are collected as part of the daily running of the children's home, the intervention should have minimal adverse impact on the daily routine of the participants.

Where is the study run from?
Hillside Secure Children's Home in Neath, South Wales, UK

When is study starting and how long is it expected to run for?
April 2012 to September 2012

Who is funding the study?
Investigator initiated and funded

Who is the main contact?
Professor Marcus Munafò
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Contact information

Type(s)
Scientific

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Additional identifiers

Study information

Scientific Title
Effects of emotion recognition training on aggressive behaviour in antisocial youth

Study objectives
Previous research has found that juvenile offenders have a perceptual bias for overestimating the presence of anger in ambiguous facial expressions. Allied with the growing evidence to suggest that a misinterpretation of ambiguous emotional cues can result in inappropriate social responses, such as reacting aggressively or violently this suggests a possible explanatory pathway for adolescent offender aggression.

Our research has shown that it is possible to modify how aggressive young people perceive ambiguous facial expressions of emotion. Using a computer-generated morph facial expression sequence that runs from anger to happiness, training can change the point at which an ambiguous expression changes from being perceived as angry to being perceived as happy. In pilot work, training was associated with a reduction in both self- and staff-rated aggressive

behaviour. The aim of this study is to replicate and extend these results using objective measures of aggression over a longer follow-up period.

We hypothesise that the modification of emotion perception, designed to induce a shift towards perceiving an expression as happy instead of angry, will lead to a reduction in subsequent aggressive behaviour compared with those in a control condition.

Ethics approval required
Old ethics approval format

Ethics approval(s)
University of Nottingham, Institute of Work, Health and Organisation

Primary study design
Interventional

Study design
Double-blind placebo-controlled trial

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Aggression among juvenile offenders.

Interventions
Participants will be randomised to receive either active or placebo emotion recognition training.

The computerised intervention comprises three phases: first assessment, training and second assessment. In all three phases, faces on a happy to angry morph sequence are presented briefly, and participants have to make a two-alternative forced-choice judgement about the emotion of the face. In the first assessment phase, the point at which the participant changes from perceiving ambiguous faces as happy rather than angry is calculated. In the training phase the procedure is similar but feedback is provided after each trial. In the active condition this feedback is designed to shift the point at which the participant changes from perceiving ambiguous faces as happy rather than angry. In the placebo condition this feedback is designed not to change this point. In the second assessment phase, the point at which the participant changes from perceiving ambiguous faces as happy rather than angry is again calculated, to confirm the effect of the training phase.

Participants will complete the computerised intervention four times over the course of one week.

Intervention Type
Behavioural

Primary outcome(s)
Staff Rating Scale of Young Persons Aggression - this scale is based on a measure used by McMurran (2007), which examined aggression in adult male offenders, modified for use with adolescents. It comprises six behavioural categories:
1. Looking at someone in an aggressive way

2. Deliberately getting in someones way
3. Being verbally aggressive
4. Being aggressive in front of someone without touching them (throwing objects, spitting, slamming doors etc.)
5. Hitting, punching or kicking someone
6. Using something as a weapon to hit someone

Each participants key worker will be required to make a judgment about how often the participant has displayed the corresponding aggressive behaviour during the day, and rate each of the six items on a scale of 0 (not present at all) to 100 (present all the time). The measure will be completed daily for a month pre-intervention to establish a base rate of aggression, and daily for a month post-intervention to assess whether there has been any behaviour change.

Key secondary outcome(s)

1. Participant Behaviour Diary
This diary is a self-report version of the Staff Rating Scale described above. The participants record any instances of aggressive behaviour they display during each day of the week and are instructed to tick the appropriate box each time they acted in an aggressive manner, defined by one of the six categories. The measure will be completed daily for a month pre-intervention to establish a base rate of aggression, and daily for a month post-intervention to assess whether there has been any behaviour change.

2. Frequency of Talk-Times
A talk-time is an early intervention strategy used by members of staff when they identify that a young person is starting to become disruptive or unruly. Each talk-time is noted in the staff daily recordings on each of the young people and this record will be summarized daily for a period of one month pre-intervention to establish a base rate of aggression, and or a month post-intervention to assess whether there has been any behaviour change.

3. Frequency of Sanctions
A sanction is a formal means of reproving the young people for any infringement of the unit rules. This record will be summarized daily for a period of one month prior to the intervention to establish a base rate of aggressive behaviour, and for a month after completion of the intervention to assess whether there has been any change in aggressive behaviour over this period.

4. Frequency of Restraints
A restraint is defined as any occasion when one or more staff members have to physically manage the behaviour of a young person. When a restraint takes place an official incident form is completed detailing the specifics of the event. This record will be summarized daily for a period of one month pre-intervention to establish a base rate of aggression, and for a month post-intervention to assess whether there has been any behaviour change.

5. Frequency of Bedroom Isolations
If a young persons behaviour on the unit is placing himself/herself or others in risk of harm he or she may be isolated in his or her bedroom. As soon as a young person is isolated in his or her bedroom a monitoring form is initiated. This record will be summarized daily for a period of one month pre-intervention to establish a base rate of aggression, and or a month post-intervention to assess whether there has been any behaviour change.

6. Early Release Decision
Those young people sentenced to custody by the courts and serving terms of six months or

more are eligible to apply for early release. A decision on whether to grant this is taken by the Youth Justice Board and is based on the young persons progress whilst in custody, including the number of aggressive or violent incidents he or she has been involved in. Information about this decision will be collected from official records.

Completion date
31/12/2012

Eligibility

Key inclusion criteria
1. Juvenile offenders detained at a secure childrens home in South Wales
2. Aged between 10 and 17 years old
3. A score of at least 20 on an aggression rating scale

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Child

Lower age limit
10 Years

Upper age limit
17 Years

Sex
All

Key exclusion criteria
1. Participants with current psychotic symptoms, mood disorder or autism spectrum disorder
2. Concerns of the care planning team about the young persons ability to participate

Date of first enrolment
01/03/2012

Date of final enrolment
31/12/2012

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
University of Bristol
Bristol
United Kingdom
BS8 1TU

Sponsor information

Organisation
University of Nottingham (UK)

ROR
https://ror.org/01ee9ar58

Funder(s)

Funder type
University/education

Funder Name
University of Nottingham (UK)

Alternative Name(s)
The University of Nottingham

Funding Body Type
Private sector organisation

Funding Body Subtype
Universities (academic only)

Location
United Kingdom

Funder Name
University of Bristol (UK)

Alternative Name(s)
Universitas Bristolliensis, 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

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/05/2013	17/01/2019	Yes	No