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The Good Behaviour Game

Submission date	Recruitment status
12/06/2015	No longer recruiting
Registration date	**Overall study status**
14/07/2015	Completed
Last Edited	**Condition category**
02/09/2024	Mental and Behavioural Disorders

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

Plain English summary of protocol

Background and study aims
Emotional and behavioural problems in children are a major concern - they interfere with their progress in school and in many cases, the negative effects can still be seen in adulthood. 'Universal' school-based interventions - in which every child in a given class takes part - may be a very good way of preventing such problems before they take root. However, there is very little high quality research on such approaches in the UK. The Good Behaviour Game (GBG) is a universal intervention developed in the USA. Children in a given class are divided into teams. Each team is then rewarded for following four basic rules of behaviour: (1) We will work quietly, (2) We will be polite to others, (3) We will get out of seats with permission, and (4) We will follow directions. The game is won by any team with fewer than four infractions to these rules. Initially, the GBG is played 3 times a week for a short period of time (e.g. 10 minutes). The rewards are very concrete (e.g. stickers) and given immediately. Over time, the game evolves so that it is played for longer periods (e.g. a whole lesson), more frequently (e.g. every day), and for more abstract rewards (e.g. free time) that are given at the end of the day or week. The international evidence base for the GBG is very strong, but we do not know if it will be effective in the UK (although a recent pilot in Oxfordshire indicated that schools like it and could implement it). Our team is to run a major trial of the GBG in England that focuses on (i) its effects on children's educational (e.g. reading, behaviour) and health-related outcomes (e.g. mental health), and in particular (ii) its impact on boys who are showing the early signs of behaviour problems, (iii) examining whether the way in which the GBG is implemented influences the outcomes noted in (i) above, (iv) finding out if any effects of the GBG are maintained in the longer term (e.g. 12 and 24 months after the intervention is completed), (v) exploring the nature and strength of the relationship between children's educational and health-related outcomes over time and (vi) determining if the GBG provides 'value for money'.

Who can participate?
All children who are on a given participating school's full-time roll in each of the Year 3 classes at the start of the trial (school year 2015/16) will be considered as potential participants.

What does the study involve?
Our research uses a 'randomised controlled trial' (RCT) design - this is the gold standard method for testing if an intervention works. We randomly allocate schools to either deliver the GBG or carry on as usual with children in Year 3. The schools that deliver the GBG are trained and supported by coaches from Mentor UK. We take a range of measures at regular intervals to help

us find out if the GBG is effective. We analyse the data collected using a variety of statistical tests to help us Our answer six key questions: (1) What is the impact of the GBG on children's education and health-related outcomes? (2) Is the impact of the GBG greater for boys who are considered to be 'at risk' of developing behaviour problems? (3) Are the effects of the GBG influenced by how well it is implemented? (4) Are the effects of the GBG maintained over time? (5) Are children's educational and health-related outcomes related to each other over time? (6) Does the GBG represent good value for money?

What are the possible benefits and risks of participating?
The project presents the opportunity to participate in a large and rigorous educational research study which will lead to significant advancements in theory, research and practice in improving behaviour in the classroom; furthermore, the procurement of aggregated survey data for each school is extremely useful for school planning and other (e.g. school inspections) requirements. All participating schools will receive bespoke aggregated feedback following each wave of outcome data collection. This information is extremely useful to schools in helping them to plan their provision for pupils. The research team opted to offer this feedback following experience on other projects that indicated that it was something that schools valued. It is highly unlikely that the interviews or surveys will raise any sensitive issues. However, the design of the proposed research minimises the risk of harm to participants. As a failsafe, members of our research team will have reviewed participating schools' health and safety protocols and will act accordingly in the event of such an incident. In terms of emotional harm, in the event of a participant becoming upset or distressed at any point in the research, the researcher will immediately cease data collection and contact an a-priori nominated member of school staff to provide support. Preventive measures will also be in place – for example, contact details of organisations who can provide independent support and advice on social and emotional issues (e. g. Childline) will be made available to all participants.

Where is the study run from?
Primary schools in Greater Manchester, West and South Yorkshire and the Midlands.

When is the study starting and how long is it expected to run for?
March 2013 to July 2019

Who is funding the project?
The project is funded by The Education Endowment Foundation and The National Institute for Health Research (UK)

Who is the main contact?
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Scientific

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Additional identifiers

Protocol serial number
14/52/38

Study information

Scientific Title
Universal school-based prevention: examining the impact of the Good Behaviour Game (GBG) on educational and health-related outcomes for children.

Acronym
GBG – Good Behaviour Game

Study objectives
The primary aims of the proposed research are to examine the impact of the Good Behaviour Game on: 1. Educational
2. Health-related outcomes for children in primary schools in England through a cluster-randomised controlled trial.

Our aims will be achieved by addressing the following objectives:

Hypotheses associated with research objective A
H1: Children in primary schools implementing the GBG over a two-year period will demonstrate measurable improvements in reading (1a) and behaviour (1b) when compared to those children attending control schools
H2: The effects outlined in H1 above will be amplified for boys exhibiting borderline/abnormal levels of conduct problems at baseline
H3: The effects outlined in H1 above will be amplified for children eligible for free school meals
H4: Variation in implementation fidelity (H3a), adaptations (H3b), quality (H3c), dosage (H3d), programme differentiation (H3e), reach (H3f) and participant responsiveness (H3g) will moderate education-related outcomes in schools implementing the GBG
H5: Teachers implementing the GBG will demonstrate measurable improvements in efficacy in classroom management (5a) classroom stress (5b) and retention (5c) when compared to teachers in control schools

Hypotheses associated with research objective B

H1: Children in primary schools implementing the GBG over a two-year period will demonstrate significantly better mental health (H1a), health-related quality of life (H1b), resilience (H1c) and attendance (H1d), and significantly lower rates of bullying (H1e) and exclusion (H1f) when compared
to those children attending control schools
H2: The effects outlined in H1 above will be amplified for boys exhibiting borderline/abnormal levels of conduct problems at baseline
H3: Variation in implementation fidelity (H3a), adaptations (H3b), quality (H3c), dosage (H3d), programme differentiation (H3e), reach (H3f) and participant responsiveness (H3g) will moderate health-related outcomes in schools implementing the GBG
H4: The effects outlined in H1 (H4a) and H2 (H4b) will be sustained at two-year post-intervention follow-up
H5: Children's educational and health-related outcomes will influence one another over time.
H6: The GBG will represent an efficient use of resources when considered from the perspective of
the UK Treasury, resulting in a social rate of return that is considered acceptable

Ethics approval required
Old ethics approval format

Ethics approval(s)
University of Manchester Research Ethics Committee, UREC, ref: 15126

Study design
A cluster-randomised controlled trial

Primary study design
Interventional

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Behaviour in the classroom – concentration, disruptive and pro-social

Interventions

The Good Behaviour Game (GBG) is one of the most popular behaviour management systems for primary-aged children. It has an extensive evidence base supporting its use. Since its initial development over 40 years ago multiple trials across the United States, the Netherlands and Belgium have attested to its effectiveness in promoting a range of positive outcomes (e.g. increased pro-social behaviour, reduced substance abuse, aggression and criminality). This has led to a number of endorsements from agencies such as the Substance Abuse and Mental Health Services Administration (who have included it on their National Registry of Evidence-Based Programmes and Practices) and the University of Colorado Blueprints For Healthy Youth Development (who have classified it as a 'promising programme' in their database).

The GBG itself can be described as an, "interdependent group-oriented contingency management procedure". Pupils in a given class are divided into mixed teams with up to 7 members. Strata can include a range of factors such as behaviour, academic ability, and gender. The teams then attempt to win the game as a means to access particular privileges/rewards. During the game period, the class teacher records the number of infractions to the following four rules among the teams:

1. We will work quietly
2. We will be polite to others
3. We will get out of seats with permission
4. We will follow directions

The game is 'won' by the team with the lowest number of infractions when it ends, although any team with fewer than four infractions also accesses the agreed reward.

Over the course of implementation of the GBG, there is a natural evolution in terms of the types of rewards used (from tangible rewards such as stickers to more abstract rewards such as free time), how long the game is played for (from 10 minutes to a whole lesson), at what frequency (from three times a week to every day), and when rewards are given (at the end of the game, end of the day, and at end of the week). At face value, the GBG draws upon the principles of behaviour management – children receive reinforcement when they engage in appropriate behaviours. However, the group-orientation means that the intervention also uses principles of social learning theory – pupils at-risk of developing behaviour problems are able to learn from the appropriate behaviour being modelled by other team members. Finally, the GBG is informed by social field theory, which posits that successful adaptation at different life stages is contingent upon an individual's ability to meet particular social task demands. In school, these task demands include being able to pay attention, work well with others, and obey rules. Success in social adaptation is rated both formally and informally by other members of the social field (e. g. teachers, peers). Social field theory predicts that improving the way in which teachers socialise children will improve their social adaptation. It is also predicted that early improvements in social adaptation will lead to better adaptation to other social fields later in life.

The control condition is practice as usual. This essentially encompasses any approach to behaviour management used in English primary schools that is not the Good Behaviour Game. Based on experience this is best characterized by a combination of proprietary behaviour management initiatives (e.g. Behaviour2Learn) and related interventions (e.g. Social and Emotional Aspects of Learning) used throughout a given school, approaches at the whole class level (e.g. using behaviour contracts), rewards systems (e.g. token rewards systems, such as 'house points') and specific behaviour management techniques (e.g. time out). Our annual survey of usual practice will document this in detail in all participating schools.

Intervention Type

Behavioural

Primary outcome(s)

The primary outcome measure for this study is children's attainment in reading. The primary outcome will be assessed at pre-test (T1), post-test (T3) and at follow-up (T4 and T5). The primary outcome measure at T1 will be derived from the National Pupil Database (see below). At T3, T4 and T5 it will be administered via on-site whole-class testing.

The baseline period for the trial coincides with the end of Key Stage 1 teacher assessments for the study cohort and so children's KS1 National Curriculum reading levels will be used as the pre-test covariate.

Post-test assessment of reading will utilize the Hodder Group Reading Test (www.hoddertests.co.uk). This paper-based measure produces National Curriculum levels, reading ages and standardized scores. It can be administered in a whole-class/group context and takes 30-35 minutes to complete, minimizing the data burden for participating schools.

Key secondary outcome(s))

1. Pupil secondary outcome measures are children's behaviour which will be assessed at pre-test (T1), after 12 months (T2), and at post-test (T3) and at follow-up at (T4) and (T5) and children's health-related outcomes which will be assessed at post-test (T3) and follow-up (T4 and T5)
2. Teacher secondary measures are teacher efficacy in classroom management, classroom stress, and retention which will be assessed at pre-test (T1), after 12 months (T2), and at post-test (T3)

Behaviour:
Children's behaviour will be assessed using the Teacher Observation of Children's Adaptation checklist (TOCA-C). At T1 only we will also employ the teacher-rated conduct problems subscale of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) in order to identify our at-risk sample.

Health-related outcomes:
Children's health-related outcomes will be assessed by a host of measures including:
1. Mental health (Me and My School scale, MMS - Deighton et al, 2013; emotional symptoms and conduct problems subscales of the Strengths and Difficulties Questionnaire, SDQ - Goodman, 1997).
2. Health-related quality of life (Child Health Utilities 9D – CHU9D; Stevens, 2012).
3. Resilience (Child and Youth Resilience Measure 12 – CYRM; Liebernberg, Ungar & Leblanc, 2013).
4. Bullying (Bullying Behaviour and Experience Scale - BBES; Fink, Deighton, Humphrey & Wolpert, 2015
5. School attendance (% half-days missed due to unauthorized absence) and exclusions (fixed-term and permanent), derived from the National Pupil Database.

All proposed outcome measures have been selected above alternatives on the basis of their brevity, ease of administration and scoring, age appropriateness, psychometric properties, and use in similar or related research. Administration of the measures will be randomly counterbalanced to prevent order/fatigue effects.

Teacher efficacy in classroom management:
Teacher efficacy in classroom management will be assessed using the 4-item subscale of the short-form Teachers' Sense of Efficacy Scale (TES; Tschannen-Moran & Hoy, 2001).

Teacher classroom stress:
Teacher stress will be captured using the 3-item classroom stress subscale of the Teacher Stress Inventory (TSI; Boyle, Borg, Falzon, & Baglioni, 1995).

Teacher retention:
Teacher retention will be assessed through the use of a single item measure, as follows: “How likely are you to leave the teaching profession in the next 5 years?” Participating teachers will respond on a 6-item scale (Definitely/Highly Likely/Likely/Unlikely/Highly Unlikely/Definitely Not).

Completion date
31/07/2019

Eligibility

Key inclusion criteria
1. Our target population are children aged 7-8 years of age (Year 3) attending said primary schools at the beginning of the 2015/16 school year
2. All children who are on a given school’s full-time roll in each of the Year 3 classes at the start of the main trial will be considered as potential participants
3. Parental consent will need to be provided for each potential pupil to participate

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Child

Lower age limit
7 years

Upper age limit
8 years

Sex
All

Total final enrolment
3084

Key exclusion criteria
Any children who do not meet the inclusion criteria specified above will be excluded from the study

Date of first enrolment
01/03/2015

Date of final enrolment
17/06/2015

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
University of Manchester
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Sponsor information

Organisation
University of Manchester

ROR
https://ror.org/027m9bs27

Funder(s)

Funder type
Government

Funder Name
Education Endowment Foundation

Funder Name
National Institute for Health Research

Alternative Name(s)

National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

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

IPD sharing plan summary
Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/02/2020	22/01/2020	Yes	No
Results article		01/05/2022	02/09/2024	Yes	No
Results article	behaviour	01/10/2021	02/09/2024	Yes	No
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Protocol file		01/06/2021	04/10/2022	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes