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The Good Behaviour Game

Reviews: March 2017; January 2021

Note on provider involvement: This provider has agreed to EIF's terms of reference, and the assessment has been conducted and published with the full cooperation of the programme provider.

The Good Behaviour Game (GBG) is a universal preventive programme delivered by a teacher to a class of primary school students, normally between 15 and 30 children.

Each game lasts between 10 and 45 minutes. It is a behaviour management strategy that is designed to encourage prosocial behaviour and reduce disruptive behaviour. Teachers initiate GBG by dividing children into small teams that are balanced for gender and child temperament. Teams are rewarded with points for good behaviour, according to basic classroom rules which are reviewed in class. Short games are played several times per week.

GBG is underpinned by life course and social field theory which states that improving the way teachers socialise children in classrooms will result in improved social adaptation of the children in the classroom social field. The theory predicts that this early-improved social adaptation will lead to better adaptation to other social fields over the life course.

Evidence rating: **3+ ***

Cost rating: **1**

EIF Programme Assessment

The Good Behaviour Game has evidence of a **short-term positive impact** on child outcomes from at least one rigorous evaluation.

Evidence rating: **3+ ***

What does the evidence rating mean?

Level 3 indicates **evidence of efficacy**. This means the programme can be described as evidence-based: it has evidence from at least one rigorously conducted RCT or QED demonstrating a statistically significant positive impact on at least one child outcome.

This programme does not receive a rating of 4 as it has not yet replicated its results in another rigorously conducted study, where at least one study indicates long-term impacts, and at least one uses measures independent of study participants.

What does the plus mean?

The plus rating indicates that this programme has evidence from at least one level 3 study, along with evidence from other studies rated 2 or better.

What does the asterisk mean?

The asterisk indicates that this programme's evidence base includes mixed findings: that is, studies suggesting positive impact alongside studies that on balance indicate no effect or negative impact.

More detail on mixed findings for this programme

- **3+** reflects the strength of the international evidence-base suggesting positive impact (including Kellam et al (2008), Dolan et al (1993), and van Lier, Huizink, & Crijnen (2009).
- **Mixed findings** reflects the fact that there are also robust studies with more equivocal findings. Particularly, we have reviewed one study conducted in the UK (Humphrey et al. 2018), which demonstrated no significant main effects on any primary or secondary outcome.
- For more detail on EIF's assessment of this study and its findings, please see 'About the evidence'.

Cost rating

A rating of 1 indicates that a programme has a low cost to set up and deliver, compared with other interventions reviewed by EIF. This is equivalent to an estimated unit cost of less than£100.

Cost rating: **1**

Child outcomes

According to the best available evidence for this programme's impact, it can achieve the following positive outcomes for children:

Supporting children's mental health and wellbeing

Reduction in suicide ideation

Based on study 1

Reduced suicide ideation (measured using the Composite International Diagnostic Interview-University of Michigan version)

Long-term 14 years later

Preventing crime, violence and antisocial behaviour

Reduced aggressive and shy behaviour

Based on study 1

Reduced aggressive and shy behaviour (measured using the Teacher Observation of Classroom Adaptation-Revised (TOCA-R)

6 months later

Reduction in antisocial behaviour

Based on study 1

Reduced antisocial behaviour (measured using the Composite International Diagnostic Interview-University of Michigan version)

Long-term 14 years later

Preventing substance abuse

Reduction in lifetime alcohol abuse/dependence

Based on study 1

Reduced lifetime alcohol abuse/dependence (measured using the Composite International Diagnostic Interview-University of Michigan version)

Long-term 14 years later

Lower growth parameters of tobacco use (self-report) at 3-6-year follow up

Based on study 2

Lower growth parameters of alcohol use in the past week (self-report) at 3-6-year follow up

Based on study 2

Key programme characteristics

Who is it for?

The best available evidence for this programme relates to the following age-groups:

- Primary school

How is it delivered?

The best available evidence for this programme relates to implementation through these delivery models:

- Group

Where is it delivered?

The best available evidence for this programme relates to its implementation in these settings:

- Primary school

The programme may also be delivered in these settings:

- Primary school

How is it targeted?

The best available evidence for this programme relates to its implementation as:

- Universal

Where has it been implemented?

Belgium, Netherlands, United Kingdom, United States

UK provision

This programme has been implemented in the UK.

UK evaluation

This programme's best evidence includes evaluation conducted in the UK.

Spotlight sets

EIF includes this programme in the following Spotlight sets:

- school based social emotional learning

About the programme

What happens during delivery?

How is it delivered?

GBG is delivered by teachers in the classroom setting to a class of children. It consists of a game based on a set of classroom-wide rules encouraging good behaviour and discouraging aggressive or disruptive behaviour. GBG is implemented in three distinct phases:

Phase 1. Children and teachers become familiar with the basics of the game by playing it intermittently within the classroom for 10-20-minute periods.

Phase 2. The teacher introduces the game to settings beyond the classroom and children may play it for longer periods to target key behaviours.

Phase 3. Children are encouraged to generalise GBG's principles outside of the context of the game. Teachers accomplish this by beginning the game with no warning and at different times, so students are constantly monitoring behaviour and complying with classroom rules.

What happens during the intervention?

GBG is not a curriculum, but a strategy that can be applied to a variety of classroom activities (eg writing a story, drawing a picture, doing maths). The teacher divides the classroom into teams of four to seven pupils and introduces the game with the following four rules:

- We will work quietly
- We will be polite to others
- We will get out of seats with permission
- We will follow directions

The teacher then monitors the teams for rule breaking. Good behaviour and team cooperation are also rewarded with praise, stickers, and badges. The winning team(s) is announced at the end of the game with a high amount of praise.

What are the implementation requirements?

Who can deliver it?

- The practitioner who delivers this programme is a teacher with NFQ-7/8/9 qualifications.

What are the training requirements?

- Training in GBG consists of a two-day initial on-site course, followed by a one-and-a-half day readiness visit by a GBG trainer.
- During delivery, technical assistance provided by phone and email with GBG trainer. Implementation materials and training manual assist delivery of programme.
- Booster training of practitioners is recommended.

How are the practitioners supervised?

- It is recommended that practitioners are supervised by one host agency supervisor (qualified to NFQ-9/10 level), with 62 hours of programme training.
- In addition, host agency supervisors are coached by the programme developers.

What are the systems for maintaining fidelity?

- Training manual
- Other printed material
- Other online material
- Video or DVD training
- Face-to-face training
- Fidelity monitoring
- Both supervisors and practitioners complete fidelity checklists based on a consistent rubric to evaluate evidence of practice

Is there a licensing requirement?

Yes, there is a licence required to run this programme.

How does it work? (Theory of Change)

How does it work?

- Strong self-management skills and mastery of adult expectations in the primary school social field will protect children from misusing tobacco, alcohol, and illegal drugs as they enter adolescence and young adulthood.

- This programme uses interdependent group contingencies, clear classroom expectations, teacher and student self-monitoring and positive reinforcement to teach students self-management skills and reduce aggressive and disruptive behaviour.
- In the short term, children behave better in their classroom.
- In the longer term, children learn more at school, demonstrate more prosocial behaviour and engage in less antisocial and risky behaviour, including substance misuse.

Intended outcomes

Supporting children's mental health and wellbeing Preventing crime, violence and antisocial behaviour Preventing substance abuse Preventing risky sexual behaviour & teen pregnancy

Contact details

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About the evidence

The Good Behaviour Game's most rigorous evidence comes from three RCTs which were conducted in the United States, the Netherlands, and the United Kingdom.

The first study is a rigorously conducted RCT with evidence of long-term outcomes. It identified statistically significant positive impact on a number of young adult outcomes.

The second study is an RCT. This study identified statistically significant positive impact on a number of child outcomes. The conclusions that can be drawn from this study are limited due to a lack of clarity in terms of the adequacy of the sample size at the cluster level, which prevents this study from contributing to a higher rating.

The third study is a rigorously conducted RCT that showed no significant effects.

This programme has evidence from at least one rigorously conducted RCT along with evidence from an additional comparison group study. However, this programme's evidence base includes mixed findings with one rigorously conducted RCT suggesting no effects.

Consequently, the programme receives a 3+ (mixed) rating overall.

Study 1

Citation: Kellam et al (2008) Dolan et al (1993)

Design: RCT

Country: United States

Sample: 1,196 first grade children from 41 classrooms in 19 schools in Baltimore. Children were in first and second grade during the intervention and followed up at ages 19–21

Timing: Post-intervention and 14-year follow up

Child outcomes:

- Reduction in suicide ideation
- Reduced aggressive and shy behaviour
- Reduction in antisocial behaviour
- Reduction in lifetime alcohol abuse/dependence

Other outcomes:

- None measured

Study rating: 3

Kellam, S. G., Brown, C. H., Poduska, J. M., Ialongo, N. S., Wang, W., Toyinbo, P., Wilcox, H. C. (2008). Effects of a universal classroom behavior management program in first and second grades on young adult behavioral, psychiatric, and social outcomes. *Drug and Alcohol Dependence*, 95(S1), S5–S28.
Available athttps://www.ncbi.nlm.nih.gov/pubmed/18343607
Study design and sample

The first study is a rigorously conducted cluster RCT. This study involved random assignment of schools, and classrooms within schools, to one of three conditions: The Good Behaviour Game (GBG), Mastery Learning (a reading enrichment programme), and a control (neither GBG nor Mastery Learning). This study took place in Baltimore, the United States. The participants were children in first and second grade during the intervention, who were followed up at ages 19 to 21. Their follow-up analyses focus on 922 students who were either in GBG classrooms or a control group.
Measures

Child performance in primary school was measured using The Teacher Observation of Classroom Adaptation-Revised (TOCA-R) (teacher report). Key outcomes at age 19-21 were measured using The Composite International Diagnostic Interview-University of Michigan version (CIDI-UM). This paper presents results from the CIDI-UM on: lifetime drug abuse/dependence and alcohol abuse/dependence disorders, major depressive disorder, generalised anxiety disorder, antisocial personality disorder, and regular use of tobacco.
Findings

The programme found the following significant impacts on the whole sample (including as reported in other papers):

- Reduction in antisocial behaviour (self-report)
- Reduction in suicide ideation (self-report)
- Reduction in lifetime alcohol abuse/dependence (self-report)
- Reduced aggressive and shy behaviour (teacher-report)

GBG was found to be most effective with children who were most at risk: young boys who exhibit more aggressive and disruptive behaviours in early childhood. Additional significant findings were found for this subgroup.

Study 2

Citation:	van Lier, Huizink, & Crijnen (2009)
Design:	RCT
Country:	Netherlands
Sample:	666 pupils from 31 classrooms and 13 schools. Mean age was 6.9 years at baseline.
Timing:	Three to six-year follow up

Child outcomes:

- Lower growth parameters of tobacco use (self-report) at 3-6-year follow up
- Lower growth parameters of alcohol use in the past week (self-report) at 3-6-year follow up

Other outcomes:

- None measured

Study rating: 2+

van Lier, P. A., Huizink, A., & Crijnen, A. (2009). Impact of a preventive intervention targeting childhood disruptive behavior problems on tobacco and alcohol initiation from age 10 to 13 years. *Drug and Alcohol Dependence*, *100*(3), 228–233.

Available athttp://www.academia.edu/18924687/Impact_of_a_preventive_intervention_targeting_childhood_disruptive_be

Study design and sample

The second study is a cluster RCT. Classrooms were randomly assigned to receive the GBG (Dutch version) or a control condition. This study was conducted in the Netherlands. The sample consisted of 666 pupils from 31 classrooms and 13 schools. Mean age was 6.9 years at baseline. However, this paper reports follow-up data, gained when children were aged 10, 11, and 12. 69% of children were Caucasian with Turkish (10%) and Moroccan (9%) the next largest groups.

Measures

Use of alcohol, tobacco and other substances was measured using the Substance Use Questionnaire (child self-report).

Findings

This study identified statistically significant positive impact on the following child outcomes:

- Lower growth parameters of tobacco use (self-report).
- Lower growth parameters of alcohol use in the past week (self-report).

Study 3

Citation:	Humphrey et al., 2018
Design:	Cluster RCT
Country:	United Kingdom
Sample:	3014 third grade children from 77 schools in Greater Manchester, West and South Yorkshire, and the East Midlands
Timing:	Post-intervention
Child outcomes:	
Other outcomes:	

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Study rating: NE

Humphrey, N., Hennessey, A., Ashworth, E., Frearson, K., Black, L., Petersen, K., Wo, L., Panayiotou, M., Lendrum, A., Wigelsworth, M., Birchinall, L., Squires, G. & Pampaka, M. (2018). "Good Behaviour Game. Evaluation Report and Executive Summary". *Education Endowment Foundastion, London*.

Available athttps://educationendowmentfoundation.org.uk/public/files/GBG_evaluation_report.pdf

Study design and sample

The third study is a rigorously conducted cluster RCT.

This study involved random assignment of schools to a GBG treatment group and a business as usual group.

This study was conducted in the UK with a sample of 3014 children attending the third grade at one of 77 schools. The composition of the trial school sample is representative of primary schools in England in respect of size and the proportion of students speaking English as an additional language, but trial schools contained larger proportions of children with special education needs and more who are eligible for free school meals. Rates of absence and attainment were lower in the trial sample than in the general population.

Measures

Reading attainment was measured using data from the National Pupil Database end of Key Stage 1 teacher assessments and the Hodder Group Reading Test.

Children's behaviour (disruptive behaviour, concentration problems and pro-social behaviour) was assessed using the 21-item Teacher Observation of Children's Adaptation checklist.

Findings

This study found no statistically significant improvements for programme participants on all measured child outcomes.

Other studies

The following studies were identified for this programme but did not count towards the programme's overall evidence rating. A programme receives the same rating as its most robust study or studies.

Dolan, L. J., Kellam, S. G., Brown, C. H., Werthamer-Larsson, L., Rebok, G. W., Mayer, L. S., Laudolff, J.,

Turkkan, J. S., Ford, C., & Wheeler, L. (1993). The short-term impact of two classroom-based preventive interventions on aggressive and shy behaviours and poor achievement. Journal of Applied Developmental Psychology, 14, 317-345.
Kellam, S. G., Wang, W., Mackenzie, A. C., Brown, C. H., Ompad, D. C., Or, F., Windham, A. (2014). The impact of the Good Behavior Game, a universal classroom-based preventive intervention in first and second grades, on high-risk sexual behaviors and drug abuse and dependence disorders into young adulthood. Prevention Science, 15(1), 6–18.
Petras, H., Kellam, S. G., Brown, C. H., Muthén, B. O., Ialongo, N. S., & Poduska, J. M. (2008). Developmental epidemiological courses leading to antisocial personality disorder and violent and criminal behavior: Effects by young adulthood of a universal preventive intervention in first- and second-grade classrooms. Drug and Alcohol Dependence, 95(S1), S45–S59.
Poduska, J. M., Kellam, S. G., Wang, W., Brown, C. H., Ialongo, N. S., & Toyinbo, P. (2008). Impact of the Good Behavior Game, a universal classroom-based behavior intervention, on young adult service use for problems with emotions, behavior, or drugs or alcohol. Drug and Alcohol Dependence, 95(S1), S29–S44.
van Lier, P. A., Muthén, B. O., van der Sar, R. M., & Crijnen, A. A. (2004). Preventing disruptive behavior in elementary schoolchildren: Impact of a universal classroom-based intervention. Journal of Consulting and Clinical Psychology, 72(3), 467–478.
Vuijk, P., van Lier, P. A., Crijnen, A., & Huizink, A. (n.d.). Testing pathways towards anxiety and depression: Testing sex-specific pathways from peer victimization to anxiety and depression in early adolescents through a randomized intervention trial. Journal of Affective Disorders, in press.
Wilcox, H. C., Kellam, S. G., Brown, C. H., Poduska, J. M., Ialongo, N. S., Wang, W., & Anthony, J. C. (2008). The impact of two universal randomized first- and second-grade classroom interventions on young adult suicide ideation and attempts. Drug and Alcohol Dependence, 95(S1), S60–S73.
Bradshaw, C. P., Zmuda, J. H., Kellam, S. G., & Ialongo, N. S. (2009). Longitudinal impact of two universal preventive interventions in first grade on educational outcomes in high school. Journal of Educational Psychology, 101(4), 926–937.
Chan, G., Foxcroft, D., Coombes, L., & Allen, D. (2012). Improving child behaviour management: An evaluation of the Good Behaviour Game in UK primary schools.
Furr-Holden, C. D. M., Ialongo, N. S., Anthony, J. C., Petras, H., & Kellam, S. G. (2004). Developmentally inspired drug prevention: Middle school outcomes in a school-based randomized prevention trial. Drug and Alcohol Dependence, 73(2), 149–158.
Kleinman, K. E., & Saigh, P. A. (2011). The effects of the Good Behavior Game on the conduct of regular education New York City high school students. Behavior Modification, 35(1), 95–105.
Leflot, G., van Lier, P. A., Onghena, P., & Colpin, H. (2013). The role of children's on-task behavior in the prevention of aggressive behavior development and peer rejection: A randomized controlled study of the Good Behavior Game in Belgian elementary classrooms. Journal of School Psychology, 51(2), 187–199.
Leflot, G., van Lier, P. A., Onghena, P., & Colpin, H. (2010). The role of teacher behavior management in the development of disruptive behaviors: An intervention study with the good behavior game. Journal of Abnormal Child Psychology, 38(6), 869–882.
Mihalic, S., Huizinga, D., & Ladika, A. (2011). An evaluation of the Good Behavior Game intervention.
Mitchell, R. R., Tingstrom, D. H., Dufrene, B. A., Ford, W. B., & Sterling, H. E. (2015). The effects of the Good Behavior Game with general-education high school students. School Psychology Review, 44(2), 191–207.
Vuijk, P., Van Lier, P. A., Huizink, A. C., Verhulst, F. C., & Crijnen, A. A. (2006). Prenatal smoking predicts non?responsiveness to an intervention targeting attention?deficit/hyperactivity symptoms in elementary schoolchildren. Journal of Child Psychology and Psychiatry, 47(9), 891–901.
Wang, Y., Browne, D. C., Petras, H., Stuart, E. A., Wagner, F. A., Lambert, S. F., Ialongo, N. S. (2009). Depressed mood and the effect of two universal first grade preventive interventions on survival to the first tobacco cigarette smoked among urban youth. Drug and Alcohol Dependence, 100(3), 194–203.
Witvliet, M., van Lier, P. A., Cuijpers, P., & Koot, H. M. (2009). Testing links between childhood positive peer relations and externalizing outcomes through a randomized controlled intervention study. Journal of Consulting and Clinical Psychology, 77(5), 905
Ashworth, E., Panayiotou, M., Humphrey, N., & Hennessey, A. (2020). Game On—Complier Average Causal Effect Estimation Reveals Sleeper Effects on Academic Attainment in a Randomized Trial of the Good Behavior Game. Prevention Science, 21(2), 222-233.
Ashworth, E., Humphrey, N., & Hennessey, A. (2020). Game Over? No Main or Subgroup Effects of the Good Behavior Game in a Randomized Trial in English Primary Schools. Journal of Research on Educational Effectiveness, 13(2), 298-321.

Guidebook

The EIF Guidebook provides information about early intervention programmes that have at least preliminary evidence of achieving positive outcomes for children. It provides information based on EIF's assessment of the strength of evidence for a programme's effectiveness, and on detail about programmes shared with us by those who design, run and deliver them.

The Guidebook serves an important starting point for commissioners to find out more about effective early interventions, and for programme providers to find out more about what good evidence of impact looks like and how it can be captured. As just one of our key resources for commissioners and practitioners, the Guidebook is an essential part of EIF's work to support the development of and investment in effective early intervention programmes.

Our assessment of the evidence for a programme's effectiveness can inform and support certain parts of a commissioning decision, but it is not a substitute for professional judgment. Evidence about what has worked in the past offers no guarantee that an approach will work in all circumstances. Crucially, the Guidebook is not a market comparison website: ratings and other information should not be interpreted as a specific recommendation, kite mark or endorsement for any programme.

How to read the Guidebook

EIF evidence standards

About the EIF Guidebook

EIF

The Early Intervention Foundation (EIF) is an independent charity and a member of the What Works network. We support the use of effective early intervention for children, young people and their families: identifying signals of risk, and responding with effective interventions to improve outcomes, reduce hardship and save the public money in the long term.

We work by generating evidence and knowledge of what works in our field, putting this information in the hands of commissioners, practitioners and policymakers, and supporting the adoption of the evidence in local areas and relevant sectors.

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