

DRUG AND ALCOHOL FINDINGS Your selected document

This entry is our account of a selected by Drug and Alcohol Findings as particularly relevant to improving outcomes from drug or alcohol interventions in the UK. Unless indicated otherwise, permission is given to distribute this entry or incorporate passages in other documents as long as the source is acknowledged including the web address <http://findings.org.uk>. The original was not published by Findings; click on the [Title](#) to obtain copies. Free reprints may also be available from the authors – click [Request reprint](#) to send or adapt the pre-prepared e-mail message. Links to source documents are in [blue](#). Hover mouse over [orange](#) text for explanatory notes. The Summary is intended to convey the findings and views expressed in the . Below are some comments from Drug and Alcohol Findings.

Click [HERE](#) and enter e-mail address to be alerted to new studies and reviews

► [Effects of a universal classroom behavior management program in first and second grades on young adult behavioral, psychiatric, and social outcomes.](#)



Kellam S.G., Brown C.H., Poduska J.M. et al.

Drug and Alcohol Dependence: 2008, 95(suppl. 1), p. S5–S28.

[Request reprint](#) using your default e-mail program or write to Dr Kellam at skellam@jhsph.edu

In their first years at school, Baltimore pupils formed teams which could earn prizes and praise for good behaviour; 14 years later many fewer young lives were marred by substance-related problems, threatened by smoking, or on track to cause serious social problems.

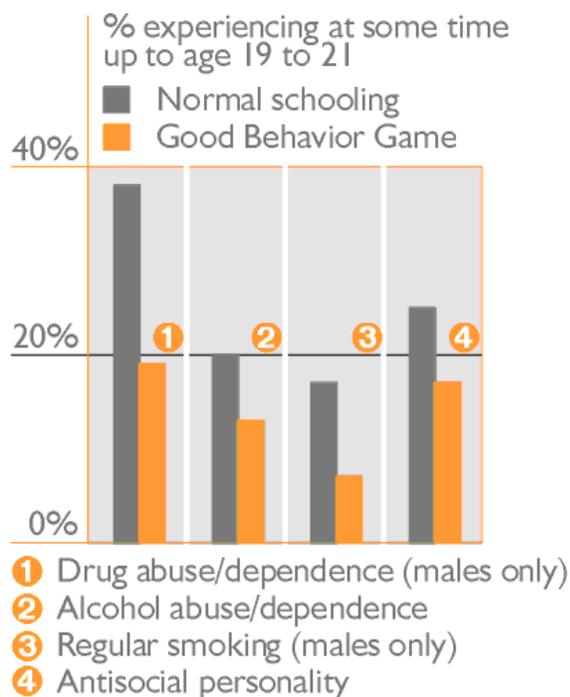
Summary In the first long-term randomised trial, the Good Behavior Game was tested in first- and second-grade (ages 6–8) classes in primary schools run by the US city of Baltimore beginning in the 1985–86 school year. The featured report documents impacts on substance-related and other problems roughly 14 years later, when the children were aged 19–21. Click [here](#) for more on the research and for a link to the Good Behavior Game manual used in the study.

The game is not a lesson as such, but a way of managing whole classes during lessons. It aims to socialise children to the role of being a school pupil and to reduce aggression or disruptive behaviour, which are known to be related to later substance abuse and dependence and antisocial behaviour. Children are divided into teams which can win prizes depending on the good behaviour of the team as a whole. In the featured study, teams did not compete against each other; each could independently gain rewards. Class teachers used the research team's assessments of their pupils (themselves largely based on the teachers' ratings) to assign them to three teams with the same numbers of boys and girls, and of aggressive/disruptive or shy, socially isolated children. The good behaviour rules (such as not talking out of turn or leaving your seat without permission) teams had to adhere to win prizes were displayed to the class. During a game period, a mark was placed on the chalkboard next to the name of a team whenever one of its members broke a rule. Teams won if they chalked up no more than four marks by the

end of the game period. At first teachers announced the start of game periods, which occurred at no set time but initially for 10 minutes three times a week. Praise plus tangible rewards such as such as colourful stickers or rubbers were awarded immediately after the game. Over the school year, game time increased to three hours a week at more varied and unpredictable times, periods became unannounced, and rewards delayed until the end of the day or week. Rewards changed from tangible objects to valued activities intrinsically related to the classroom setting, such as extra quiet time to read during the school day. In preparation, **Good Behavior Game teachers** were trained for 40 hours, their teaching was monitored, and they received continued mentoring.

The most stringent test of the game involved comparing children who had been in eight Good Behavior Game classes with comparable children from six control classes at the same schools who had not experienced the game. Game classes were also compared with classes in similar schools where the game was not implemented. Additionally, it was implemented twice in succeeding intakes of first-grade children who were taught using it in the first two years of primary schooling. Details in [background notes](#).

Three quarters of the first intake of children **were interviewed** by telephone when aged 19–21, using a standard questionnaire which yields mental health diagnoses based on the US classification system known as **DSM-IV**. The general pattern was that among young men, and especially those who in their initial school years had been rated as the most aggressive or disruptive, exposure to the Good Behavior Game had substantially curbed the development of proscribed and anti-social behaviours. Substance abuse and dependence were among those most strongly affected. However, among children (including girls) not predisposed at an early age to developing these behaviours, the game made less or no difference. Neither did it affect the development of pathological anxiety or depression, relatively unrelated to the aggressive and disruptive tendencies the game was intended to manage. Effects were greater and more consistent in the first set of pupils whose teachers were freshly trained and subject to continued monitoring and mentoring, suggesting that these supports **may be needed** to maximise implementation and benefits, and in particular to focus benefits on the pupils most in need. For detailed findings see [background notes](#).



- 3 Regular smoking (males only)
- 4 Antisocial personality

Based on the significant results from the first set of pupils, the authors derived estimates of the proportions of children who would as young adults have developed problems with versus without experience of the game as tested in the trial – that is, consistently applied over the first two years of primary schooling by freshly trained and continually supported teachers ► chart. Estimates were that the game would: halve the proportion of boys later meeting criteria for drug abuse or dependence (from 38% to 19%); across both genders, do nearly as well in cutting rates of alcohol abuse or dependence from 20% to 13%; reduce the prevalence of regular smoking among boys from 17% to 7%; across both genders, cut the proportion exhibiting serious and pervasive antisocial behaviour from 25% to 17%; and halve this rate (from 86% to 41%) among boys whose early classroom behaviour indicated they were most likely to develop this behaviour.

FINDINGS

See this [Findings analysis](#) for a practitioner-friendly account of the implications of their work from the researchers involved in the Good Behavior Game trials.

Findings from the featured study represent some of the most substantial effects ever recorded from a school-based prevention programme. Unusually, the study's design was able to test whether effects persisted through to young adulthood. There are some key points about both the intervention and the findings. First, unlike most other school programmes, the Good Behavior Game does not occupy precious curriculum time. It is a way of managing a class while teaching the school's usual curriculum. To the degree that it works, teachers can expect to be able to teach less disruptive classes more effectively.

Secondly, partly because there is no 'subject' content, the intervention intercedes at the level of how the pupil relates to the social world around them and vice versa. The result is a range of beneficial effects. These are most easily documented for the minority of youngsters most likely to develop unhealthy relationships, but the benefits should extend to their friends, families, neighbours and colleagues, and to the broader society which is relieved of responding to proscribed and/or antisocial behaviour. The strategy is consistent with [the observation](#) that typically children develop a constellation of mutually aggravating problems, related the further back one looks to a shared set of factors affecting children's mental and physical well-being. Among these is a positive school environment, found in [other studies](#) to be strongly related to substance use.

Thirdly, and again unusually, the study directly measured *problem* substance use outcomes, not use as such, so sidestepped the criticism that experimentation with substances is relatively normal behaviour sometimes falsely dubbed a problem. However, this raises its own problems, primarily to do with the [questionable applicability](#) to young people of diagnostic criteria developed largely from experience with adults in clinical settings, issues which have been raised in respect of both [alcohol](#) and [drug](#) diagnoses. It is, for example, possible that the game led to fewer children meeting abuse criteria because it curbed antisocial tendencies, not because it did anything to curb substance use as such. Also the [diagnoses](#) were to do with *ever* having met the relevant criteria. By definition this is not necessarily indicative of a continuing problem, particularly as major life changes after the end of compulsory schooling (such as starting to drive, getting a job, starting a family, leaving home) could lead to transition in to and out of diagnostic categories, regardless of any changes in substance use.

However, the Good Behavior Game also led to 'real world' impacts of the kind which would be expected from the outcomes in the featured report, lending substance to its diagnoses. [Another report](#) from the same study [found](#) that in both the first and second sets of pupils, 19–21-year-old young men previously exposed to the game said they had significantly less often had contact with services intended to deal with behavioural, emotional, or substance use problems. Again the greatest impact was among those most prone in their early years to developing these problems. Of most interest in the current context were reductions in drug treatment interventions. Without the game, around a tenth of the former pupils recalled this kind of intervention; with the game, this figure was more than halved, though the results fell short of statistical significance. Among the [first set](#) of pupils the game was also [associated](#) with halved risks of thinking about or attempting suicide. Finally, stepping beyond the youths' own accounts, reductions [were found](#) among high-risk youth in official records of violent or criminal behaviour.

Among other studies of the game, the most relevant is a [recent trial in the Netherlands](#). This followed up primary school pupils in classes randomly allocated the game to age 13, possibly too young to expect substantial impacts on substance use. Nevertheless it did find a [significant reduction](#) in smoking. There were also hints of a reduction in drinking, which reached statistical significance only in respect of past-week drinking, the most serious level assessed in the study. See [background notes](#) for further considerations relevant to whether results would be similar in other schools and cultures, risks of harnessing pupil peer pressure, and how the game works to prevent disrupted classes propelling aggressive and disruptive boys in to seriously antisocial and problematic teenagers.

The Good Behavior Game is [not the only](#) early school intervention to have shown promising effects across a range of behaviours, nor is it a complete solution to adjustment problems and developmental inequality. The team behind the Baltimore studies have themselves combined it with interventions to develop fundamental intellectual competencies such as maths and critical thinking. As measured [up to about age 13–14](#), these curbed the incidence of smoking and use of [drugs like heroin and cocaine](#) but not cannabis use or drinking.

The principles embodied in the game (such as harnessing positive peer pressure, everyone can win, spotting and rewarding good behaviour, setting achievable objectives, mechanisms for internalising this reward structure, children setting their own rules, counteracting counterproductive cliques) do however seem a valuable element and can be widely implemented. The game itself has [been found](#) feasible and effective in terms of classroom behaviour control in British schools. In broader form, these principles are embodied in the strand of personal, social, health and economic education (PSHE) which aims to create a climate in the classroom within which sensitive issues (including disruptive and aggressive behaviour) can be explored openly and honestly without fear of ridicule or betrayal of confidence, based on standards which the children themselves have helped generate. They can also be found in the [SEAL](#) (social and emotional aspects of learning) curriculum widely used in British primary schools.

Where these UK initiatives differ from the Good Behavior Game is in their rejection of approaches based purely on a mechanical system of rules, rewards and sanctions, seen

as failing to encourage pupils to learn social and emotional skills or take responsibility for their own behaviour. Though not a substitute, the game might have a place within such an approach. But in schools which have successfully created this healthy climate, it may be superfluous. In Baltimore, in respect of preventing later [aggression](#), the game was most influential in grade one classes characterised by disruption and aggression, where existing classroom management was presumably less adequate. When teachers and/or pupils had created a more congenial early years climate, the game was less influential and possibly ineffective.

Where the game scores, at least in its initial Baltimore application, is in lending itself to consistent application aided by its being very concrete and easy to codify in a step by step manual. Consistently maintaining a climate may be more important, but is less easy to do without wholesale and sustained change across all levels of authority in the school.

Thanks for their comments on this entry in draft to Adrian King of the InForm consultancy. Commentators bear no responsibility for the text including the interpretations and any remaining errors.

Last revised 12 March 2012

▶ [Background notes](#)

▶ [Comment on this entry](#) ▶ [Give us your feedback on the site \(one-minute survey\)](#)

Unable to obtain the document from the suggested source? Here's an [alternative](#).

Top 10 most closely related documents on this site. For more try a [subject or free text search](#)

[The Good Behavior Game and the future of prevention and treatment](#) REVIEW 2011

[Evaluating mediators of the impact of the Linking the Interests of Families and Teachers \(LIFT\) multimodal preventive intervention on substance use initiation](#) STUDY 2009

[Effects of the Positive Action programme on problem behaviours in elementary school students: a matched-pair randomised control trial in Chicago](#) STUDY 2011

[Early teaching boost pays off six years later](#) STUDY 2004

[Confident kids ... like to party](#) NASTY SURPRISES 2004

[The effectiveness of a school-based substance abuse prevention program: 18-month follow-up of the EU-Dap cluster randomized controlled trial](#) STUDY 2010

[It's magic: prevent substance use problems without mentioning drugs](#) HOT TOPIC 2011

[Early intervention: the next steps. An independent report to Her Majesty's Government](#) REVIEW 2011

[Long-term effects of prenatal and infancy nurse home visitation on the life course of youths: 19-year follow-up of a randomized trial](#) STUDY 2010

[Universal school-based prevention programs for alcohol misuse in young people](#) REVIEW 2011