DRUG & ALCOHOL FINDINGS *Research analysis*

This entry is our analysis of a study added to the Effectiveness Bank. The original study was not published by Findings; click Title to order a copy. Free reprints may be available from the authors – click prepared e-mail. Links to other documents. Hover over for notes. Click to highlight passage referred to. Unfold extra text The Summary conveys the findings and views expressed in the study. Below is a commentary from Drug and Alcohol Findings.

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Long-term effects of the Strong African American Families program on youths' alcohol use.

Brody G.H., Chen Y-F., Kogan S.M. et al.

Journal of Consulting and Clinical Psychology: 2010, 78(2), p. 281–285.

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Five years later a parent-and-child alcohol use prevention programme developed for poor black families with 11-year-old children in the USA's rural south was found to have retarded the growth in average drinking frequency. Results were consistently positive, but methodological issues limit confidence in the findings.

SUMMARY A study of alcohol use prevention among 11-year-old African American school pupils whose initial results have been reported for the Effectiveness Bank has found that reductions in drinking lasted up to nearly five years after the programme ended, and that these were associated with earlier delays in the onset of drinking.

Key points
From summary and commentary

Five years later a parent-and-child alcohol use prevention programme developed for poor black families with 11-year-old children in the USA's rural south was found to have retarded growth in average drinking frequency.

In turn these results were partly attributable to the programme preventing initiation into drinking as assessed several years before.

Persuasive though the results were, methodological issues limit confidence in the findings.

Background and initial findings

The Strong African American Families intervention is primarily based on the Strengthening Families Program judged by UK analysts to be the most promising intervention over the longer term for the primary prevention of alcohol misuse. The original programme has been extensively analysed for the Effectiveness Bank. As implemented in the featured study, over seven weekly sessions parallel groups of parents and their 11-year-old children from about 10 families developed their parenting and related understandings and skills, led by the programme's trainers. In the second half of each session, parents and children came together to practice the principles they had learned. Families were also invited to a booster session six months after the end of the core programme.

This programme was evaluated in nine rural and predominantly poor counties in Georgia in the USA. After amalgamating two neighbouring and similar counties, four of the areas were randomly assigned to the Strong African American Families programme. Another four formed a control set against which to benchmark the programme's effects; in these areas families participating in the study were merely mailed three leaflets on early adolescent development, stress management, and exercise. The families had been recruited via lists of 11-year-old African American pupils provided by all the schools in the counties.

There were two waves of recruitment to the study. In the first wave 915 families were randomly selected to be asked to consider joining. Results were based on data from the 305 who were eligible and agreed, and completed all research assessments, a third of those invited to join the study. Based on the children's responses in a private interview conducted in the home, two years later 19% of the programme-assigned children had started to drink compared to 29% of the controls, a significant difference. Further analysis confirmed that the impact on drinking was due to the programme enhancing parental monitoring and rule-making in relation to drinking, and fostering less attractive images of young drinkers among their children.

The featured article

The featured article took in the results from a second wave of recruitment to the study and extended the follow-up period to 65 months after baseline assessments, nearly five years (4.7 years) after completion of the Strong African American Families programme. These long-term follow-up results were based on data from the 571 families who completed baseline assessments and all five follow-up assessments. At issue was whether among families allocated to the programme, in confidential research interviews how much these now on average 16-year-old children said they drank had increased less steeply than among control children, and if it had, whether these results were due to the earlier impact of the programme in delaying the initiation of drinking.

Main findings

Over the 4.7 years from the programme's end, the average number of times they drank over the past month increased significantly less steeply among children assigned to Strong African American Families than among comparison children. By the end of the follow-up period, children assigned to the programme admitted drinking on average 0.68 times over the past month, while comparison children averaged 1.41 times – twice as often, and equivalent to drinking on about four days in a three-month period.

About three years before the final follow-ups – around two years after the end of the programme – it had led to significantly fewer children assigned to it having taken a full drink – 37% versus 43% among comparison children. Once this effect was taken into account, three years later there was no longer a statistically significant difference in average drinking frequency. This pattern is compatible with the early effects of the programme on delaying initiation into drinking accounting for the less steep increase in average drinking frequency up to age 16.

The authors' conclusions

The results of this study suggest that participation in the Strong African American Families programme slowed the growth in alcohol use over a period of 4.7 years after its ending. Few prevention studies have spanned such a long follow-up. An exception is studies of the Iowa Strengthening Families Program, evaluated mainly among white families in the US Midwest, a programme which shares many characteristics with Strong African American Families. Together, these studies demonstrate the power of family-centred preventive interventions in deterring alcohol use in two diverse populations.

The findings have important clinical and public health implications. Such programmes aim to shift the alcohol consumption curve so that fewer youths in the population are frequent drinkers, reducing drunk-driving fatalities and other threats to mental health, academic engagement and achievement, and family relationships. From a clinical perspective, the results suggest that an inoculation of protective parenting processes and self-regulatory skills during *pre*-adolescence – a time when preoccupation with peer group acceptance increases – may contribute to a self-sustaining trajectory of disinterest in and avoidance of alcohol use during adolescence, when friends and acquaintances begin to model and sanction it.

An advantage of imparting these protective processes through a universal programme such as Strong African American Families is its avoidance of stigma. Neither youths nor their caregivers are enrolled on the basis of pre-existing problems. Instead they participate to promote youth well-being, an aim more likely to be embraced.

This study also confirmed that delaying the start of drinking would carry forward to lower rates of alcohol use across adolescence, and that this delay may be partially responsible for the long-term effects of family-centred preventive interventions.

We do not know whether Strong African American Families would remain effective outside of the rural southern US areas for which it was developed, because some of its components were selected to match the particular needs of youths in that region, though it could perhaps be adapted for other settings. It is also not known whether the programme itself was responsible for the outcomes, or non-specific factors, such as the disparities in time and personal attention devoted to children and families allocated to Strong African American Families versus comparison children and families.

FINDINGS **COMMENTARY** In the context of previous evaluations of similar programmes, the results of this study reinforce the potential of an approach which engages parents and children to systematically improve their behaviour and how they relate to each other in ways which bolster effective parenting. But with small if statistically significant differences, methodological issues could have played a hand in the findings as well as the impact of the intervention.

It's known from another report on the same study that families assigned to Strong African American Families attended about an average 4.7 out of the 7 sessions, and that only around 14% attended none of the sessions. This report also found that the programme's preventive impacts on drinking two years after it ended were apparent only among youngsters with a genetic make-up thought to predispose

them to substance use problems and other risky behaviours due to its association with high activity, low attentiveness, and high levels of negative emotions.

A further report from the featured study assessed impacts not on drinking, the main target of the intervention, but on the frequency of conduct problems during the past year involving theft, truancy, or suspension from school. Growth in the frequency of these problems was less steep among 11-year-olds in families allocated to Strong African American Families, an effect seen only among those at high risk at the start of the trial due to relatively low self-control or having a relatively high proportion of friends involved in these problems.

Sexual activity was also intended to be affected by the programme but does not seem to have been reported on. Nevertheless, a consistent pattern of positive effects on the variables which have been assessed bolsters confidence that Strong African American Families is active in improving the prospects of the more at-risk of these under-privileged youngsters.

Methodological issues limit confidence in the findings

The authors' cautioned that the extra attention paid to families allocated to Strong African American Families might have been a factor in the outcomes. This concern has been tested in a similar study of a version of the same programme adapted for black American teenagers older than the 11-year-olds in the featured study, but living in the same areas and in also in predominantly poor families. Averaging age 16 when they started the study, the children and their families (502 in all) were randomly assigned to the Strong African American Families–Teen programme, or to one of the same structure and duration, but designed to promote good nutrition, exercise, and informed consumer behaviour among adolescents, lacking the elements of the focal programme intended to prevent substance use and behavioural problems.

Nearly two years later re-assessments showed that relative to the comparison group, children assigned to the Strong African American Families–Teen programme recorded statistically significant reductions of 36% in the frequency of conduct problems, 32% on a composite measure of alcohol, cannabis and tobacco use, and (among children using substances at the start of the trial) a 47% decrease in the frequency of problems related to substance use, such as using in hazardous situations or failing to meet one's obligations. There was also a small extra 4.5% decrease in the frequency of symptoms of depression. In the context of this somewhat different intervention further up the age range, it seems then that extra attention was not the sole cause of the programme's effects. Only a similar study could show whether this is also the case for the intervention and the age range addressed by the featured study.

Incidentally, the Strong African American Families–Teen study also showed that the comparison programme was itself an effective intervention. Relative to children assigned to Strong African American Families–Teen, there were greater increases in some of the targeted healthy behaviours, including physical activity and healthy eating. These results demonstrate that there is an 'opportunity cost' involved in mounting programmes focused on substance use; the same resources could have been used to promote other health-improving outcomes.

This study also avoided one quirk in the methodology of the featured study. Unusually, the featured study randomly allocated families to the focal programme versus the control group *before* assessing whether they were eligible for the study and before they had agreed to join it. It meant that the playing field intended to have been levelled by randomisation could subsequently have become tilted as families were found ineligible or refused the study. Among the families who were included in the study, there were several significant differences between those who were versus were not in counties allocated to Strong African American Families. In the featured report there is no mention of whether these differences were taken into account in the analysis of drinking outcomes.

The 571 families who completed all the follow-ups and were included in the analyses comprised 60% of the 951 families assessed by the study's interviewers as eligible to join the study. However, these will have been a subset of all the families randomly selected to be asked to consider joining the study. Based on earlier reports, it seems likely that the final sample was only about a third of the randomly selected families, a high degree of selection and self-selection which calls into question the applicability of the results to the entire population of families with 11-year-old African American children at schools in the nine counties where the study was conducted.

It was important that even families who attended no intervention programme sessions were included in the analysis, meaning the outcomes could not be biased by selecting only families relatively keen on preventing substance use among their children. But to strengthen their assertion that "SAAF [Strong African American Families] participation slowed the growth in alcohol use", the authors might have tested whether this was equally apparent among families

who really did fully participate in the programme versus those allocated to it but who did not attend or came only one or two times.

The assertion that the results have important clinical implications is undermined by the study's failure to assess heavy or 'binge' drinking versus drinking as such, a decision taken because less than 3% of the sample had ever drunk five or more alcoholic drinks at one time, the report's criterion for binge drinking. However, it was unclear whether this figure applied only to the pre-programme assessments. If it did, then an opportunity was missed to evaluate whether over the next five years the growth of 'bingeing' was retarded by the Strong African American Families programme. If, on the other hand, the 'less than 3%' figure related to the entire study period, it calls into question the clinical significance of findings that drinking as such was reduced from the equivalent of about four days to about two in a three-month period, because very little of such drinking could have been of the most worrying kind. Also, the 'less than 3%' figure which led to the exclusion of binge drinking from the assessments was dependent on the cut-off used to define 'bingeing'. In an earlier report from the same study, the cut-off was not five or more drinks on a single occasion, but three or more. Why this was changed is not clear, but if it had not been, presumably more children would have been assessed as having 'binged', perhaps enough to warrant including this in the analysis.

The early preventive effect (at the follow-up two years after the end of the programme) which the featured report found at least partly accounted for the programme's later effects on drinking was a small difference in the proportion of youngsters who had started drinking – 43% in the comparison group versus 37% among intervention children. A greater difference may have been found if the preventive effect had instead been expressed as alcohol use initiation among youngsters who *had not yet* drunk alcohol at the start of the trial. This was the alcohol-initiation measure used to assess the programme's preventive impact in an earlier report from the same study. It is not explained why it was decided to alter this measure for the later report, nor do we know what the results would have been in both the reports had the alternative measure been adopted. Such moving of the goalposts (apparent also in the change in the definition of 'bingeing') affords scope for concern that measures are being chosen and changed in a way which gives the best impression of the programme's impacts.

In the featured report no mention is made of accounting for the fact that the individual pupils whose drinking was assessed were 'nested' together in schools, and those schools in counties. Failure to take account of the impact of this kind of grouping can lead to an intervention being falsely found effective. The possibility of grouping effects was tacitly acknowledged by the researchers themselves in their decision to allocate counties rather than schools or families to the intervention versus the comparison group in order to "avoid contamination of the intervention in close-knit communities". Other reports (1 2) on the study do mention testing for county-level grouping effects, but seemingly only in relation to baseline measures, not how these were affected by the intervention. Even if these reassurances did apply to intervention effects, none of the reports say that among the sample analysed in the featured report, an assessment was made of whether grouping affected the development of drinking. Also, no mention is made in any of the reports of assessing school-level grouping effects.

Confidence that improved parenting was an active ingredient in the programme's success would have been greater if the improvements could have been directly observed rather than based on the parents' own accounts.

The lead researcher also seems to have been the developer of the programme being evaluated, giving rise to the possibility of so-called 'researcher allegiance' effects influencing the outcomes. These effects are a concern in several social research areas (1 2 3), where programme developers and other researchers with an interest in an intervention's success have been found to record more positive findings than fully independent researchers. Such overlaps between developers and researchers are endemic in substance use prevention research.

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REVIEW 2012 Universal alcohol misuse prevention programmes for children and adolescents: Cochrane systematic reviews

STUDY 2008 Substance use outcomes 5½ years past baseline for partnership-based, family-school preventive interventions

REVIEW 2014 Interventions to reduce substance misuse among vulnerable young people

STUDY 2015 Alcohol prevention and school students: findings from an Australian 2-year trial of integrated harm minimization school drug education

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

STUDY 2012 Brief intervention for drug-abusing adolescents in a school setting: outcomes and mediating factors

STUDY 2004 Doing it together strengthens families and helps prevent substance use

REVIEW 2015 Prevention of addictive behaviours

STUDY 2012 Alcohol prevention: What can be expected of a harm reduction focused school drug education programme?

STUDY 2000 Education's uncertain saviour