

Do parental involvement interventions increase attainment?

A review of the evidence

Stephen Gorard and Beng Huat See



About the authors

Professor Stephen Gorard is Professor of Education and Well-being, and Fellow of the Wolfson Research Institute at Durham University, and Honorary Professorial Fellow at the University of Birmingham. He has previously held chairs in social science and education at Cardiff and York. He is a Methods Expert for the US government Institute of Education Sciences, member of the ESRC grants-awarding panel, and Academician of the Academy of Social Sciences.

Dr Beng Huat See is a Research Associate in the School of Education at Durham University. Previously she was a researcher at the University of Birmingham, where she was involved in a wide range of research from character education, the development of critical thinking skills, to systematic reviews and rigorous evaluations of programmes. Her research interests stem from her desire to help children of all ages, gender, abilities and ethnicity to enjoy school and to achieve their full potential.

About the Nuffield Foundation

The Nuffield Foundation is an endowed charitable trust that aims to improve social well-being in the widest sense. It funds research and innovation in education and social policy and also works to build capacity in education, science and social science research. The Nuffield Foundation has funded this project, but the views expressed are those of the authors and not necessarily those of the Foundation.



Extracts from this document may be reproduced for non-commercial purposes on condition that the source is acknowledged.

Copyright © Nuffield Foundation 2013
Registered charity 206601
ISBN 978-0-904956-91-7

Contents

Foreword	2
The need for this review	3
Methods used in the review	3
Key findings	4
Detailed findings by age group	5
Recommendations for further research	8

Foreword from the Nuffield Foundation

This briefing paper presents the main findings from a review of parental involvement interventions. There is an instinctive tendency to assume that initiatives aimed at increasing parents' engagement with their children's education must be a good thing. It seems logical that children whose parents are involved in their schooling will be better supported and therefore perform well. Indeed, previous studies have shown that children whose parents are engaged with their education score higher in attainment tests than those without such parents. But what we do not know is whether there is a causal link between the two, and therefore whether increasing parental involvement has the potential to raise children's attainment.

Stephen Gorard and Beng Huat See have sought to address this question by reviewing the international evidence on interventions specifically designed to raise attainment by increasing parental involvement. Their findings are summarised in this briefing paper, and in more detail in their full report. The overall message is clear: we do not know whether these interventions work or not, because there are no high quality evaluations available. Of the 68 studies that met the inclusion criteria for review, none were of sufficient quality to provide a reliable evaluation of the impact of parental involvement interventions on attainment.

This is important because successive governments in the UK have invested in programmes designed to increase parental involvement, at least partly on the basis that it will improve school outcomes. Yet, as this review shows, there is no evidence base for this. It seems that investment has been justified on the basis of the association between parental involvement and attainment rather than on any evidence that one leads to the other.

This does not mean that we should stop trying to increase parental involvement in education. Rather, it means that if we are going to invest in significant interventions, we also need to invest in high quality, rigorous research that will show to what extent they are effective in raising attainment and other outcomes. The authors are forthright in their negative assessment of existing research in this area. They call for

researchers – and those who commission and fund them – to take action to address the gap, through well-designed and tough-minded research projects.

As a funder, the Nuffield Foundation shares this concern about the shortage of rigorous research evidence, not only in education, but across many areas of social policy. This is partly a problem of research skills and capacity, and we are taking steps to address this in the longer term, for example by investing in quantitative skills training for social scientists through our Q-Step programme. This is not to say there aren't excellent researchers working in many disciplinary contexts related to education. We want to support them to undertake high quality projects with the potential for significant impact on policy and practice. Parental involvement is one of many areas where such research is needed.

I would like to thank the authors for undertaking this review, which has important implications both for the design and evaluation of parental involvement interventions, and for the education research community more widely.



Josh Hillman
Director of Education

Do parental involvement interventions increase attainment? A review of the evidence

This briefing paper summarises a review of the evidence linking interventions to improve parental engagement in their children's education with improved attainment.

The review illustrates that there is not yet enough evidence that any intervention will work, and also that a far higher standard of basic evaluation is required, and should be expected by those who commission and fund research.

Full findings are presented in the report: *What do rigorous evaluations tell us about the most promising parental involvement interventions? A critical review of what works for disadvantaged children in different age groups*. The report is available to download from www.nuffieldfoundation.org/parental-involvement

The need for this review

Closing the social class achievement gap or 'poverty gradient' in education is a prominent policy reform issue in the UK. Research evidence shows a strong association between the involvement of parents in their child's education and that child's subsequent attainment. This means that, on average, a child with parent(s) fully engaged in their learning will do better on standardised tests of attainment than a child without such parents.

However, we do not know the reasons for this association. Various interventions have been designed to increase parental involvement and assess the impact of this on children's attainment, but there are very few robust evaluations of these interventions. This means that the evidence base for a genuine causal link between parental involvement and attainment is weak.

Despite this, considerable public funding has been devoted to increasing parental involvement in England precisely in order to improve school outcomes. At present, these actions are not evidence-informed (or rather they are 'informed' by over-claiming on the basis of studies of association). These actions could be wasteful, an inefficient use of public funds or even harmful to the intended beneficiaries. The review summarised here was designed to clarify the situation

Methods used in the review

Most of the studies in the review came from searching the main online databases for education, psychology and sociology: ERIC, PsycINFO, ASSIA, Australian Education Index, British Education Index, Social Services Abstracts, Sociological Abstracts, International Bibliography of the Social Sciences, and ProQuest Dissertations and Theses. The results were extended by medical databases, key contacts, existing knowledge, hand-searching of journals, bibliographies, and websites including Google Scholar, PsycARTICLES, MEDLINE and the Cochrane Library. The search was as inclusive as possible in identifying a wide range of both published and unpublished literature, to prevent publication bias, but was limited to studies reported on in English between 1990 and 2012.

This search yielded 756 distinct reports, which were checked to see that they were indeed relevant (i.e. a randomised controlled trial or similar reasonably robust design for evaluation of a parental intervention to improve children's attainment). Any studies thought not to meet the inclusion criteria were reviewed by the other members of the research team for consensus. On this simple basis, 688 of these studies were excluded, leaving 68. These 68 were judged to be relevant, empirical and described in sufficient clarity to make judgements about the quality of the evidence.

Each study was then summarised in terms of its purpose, methods, outcomes, and limitations.

Studies will have been missed due to imperfections in the search, and the necessary time limits on applying exclusion criteria. However, it is very unlikely that the studies not found in the search were disproportionately high-quality ones, or that they would alter the picture below. The findings of the review are secure.

Key findings

1. There is no good-quality evidence that parental involvement interventions result in improved educational outcomes, in most age groups and for most approaches.

Our previous work has shown that there is plenty of reasonable descriptive evidence associating levels of parental involvement with levels of child attainment.¹ But to find out whether the act of enhancing parental involvement through intervention leads to improved educational outcomes requires a different kind of research design, of a substantial size, with a clear and fair counterfactual. We found no such study. Despite all of the practitioner, policy and state-funded investment in enhancing parental engagement in education across the world, we could not find one high quality study that evaluated its impact.

None of the 68 studies in our review were of high quality, or even anywhere near high quality. Each of them had two or more serious flaws, such as a sample size that was too small (most had fewer than 30 cases), no baseline equivalence between comparator groups, high or unequal dropout after allocation to groups, and misuse of statistical techniques. Seven studies were deemed to be large enough with some attempt at creating a suitable comparator, and so were rated as medium in quality. The remaining studies were all of low quality with three or more serious flaws. There are so few studies of consequence that a traditional meta-analysis is not possible.

2. The 68 studies present a mixed and far from encouraging picture for the success of parental involvement interventions. Of the seven studies rated medium quality, four evaluated the same two interventions and suggested positive effects on attainment. One study concluded the

programme in question had no effect on attainment, and two evaluations found that the relevant parental involvement programmes may have had a negative effect on the children's attainment.

Many of the studies with positive outcomes involve complex interventions including more than parental involvement (such as additional classes at school as well). Where these different elements have been separated, it is those other aspects that are shown to be effective rather than parental involvement.

This means that the promise of improving attainment by enhancing parental involvement is less than appeared to be the case when we began this review. However, our previous work has shown that the situation for many other possible interventions is even worse. In terms of individual behaviours and attitudes, parental involvement remains the most promising approach.

3. The most promising phase for parental intervention is pre-school and preparation for primary school.

The most effective programme in this review, with long term results, and based on some of the best evaluations, mixes parental involvement with an array of other intervention elements. Therefore, it is not possible to conclude that the parental involvement element has been effective. Nevertheless, it is worth noting that this programme is based on providing institutional support for parents and bringing them into the care centres and early classrooms. Overall, the impression from the review (and it can only be an impression) is that interventions are most likely to succeed when they are aimed at young children, and involve parents and staff meeting regularly in an institution, with parental training, on-going support, and co-operative working with teachers.

There is very little evidence of promise from evaluations of parental interventions for children of later primary age, secondary age or across phases of schooling.

4. Some specific kinds of intervention have so little evidence of promise that they can be abandoned safely (if the concern is chiefly with academic outcomes).

Programmes that merely encourage parents to work with their children at home (i.e. without direct support or skills training), or seek to improve parent-child relationships appear to be ineffective – at least in terms of raising attainment. If neither the parent nor the child knows how

to improve a skill like reading comprehension then mere aspiration or motivation is not going to help. Effective parental engagement is not just about getting parents to be interested in their children's education or to help them with their school work. Many parents from all socio-economic backgrounds are already routinely helping with their children's school work, with low-income families reportedly just as likely to be involved as those from higher-income homes. Such involvement does not significantly affect children's performance. Therefore, merely increasing parental involvement is not the answer in itself.

In some instances, the lack of efficacy may have had more to do with the recruitment and retention of participants than the intervention itself. An intervention to involve parents more, by definition, can only work if the parents wish to be involved. In fact, this difference in motivation could be the reason for the widely noted association between parental engagement and child attainment in the first place. Perhaps interventions will never be successful with the unwilling. Potential barriers to enhanced parental involvement include issues with parents' work schedule and lifestyle, lack of confidence in communicating with school, language, health problems, embarrassment about their own education, negative learner identities, inconsistent enthusiasm of teachers for the process, and a general lack of interest among some parents.

Detailed findings by age group

Pre-school age children

There were 10 studies relevant to pre-school age that claimed or reported unclear or negative impact from increased parental interventions, and all were deemed of low quality. Many of these were tiny, with group sizes for analysis as low as eight, as well as high drop out of cases after allocation to groups. One had a control group but ignored it. One researcher used their own test without calibration, one used changes in behaviour rather than tests to make claims about attainment, and one claimed positive results for teacher-reported outcomes but found no gains using a standardised test. These four studies are instructive because they suggest we should not rely on bespoke tests, indirect indications or simple self- or teacher-reports.

There were 13 studies relevant to pre-school age reporting largely positive results, and 10 of these were deemed low quality. Again, many were small, with treatment groups as small as 14 pupils, without randomisation or clear prior matching

between treatment and comparison groups. One study had clearly unbalanced comparator groups from the outset. Another had 45% dropout after allocation to groups. One even quoted effect sizes for gains in a parental volunteer group compared to those parents who refused to participate, and claimed that these were the 'effects' of the programme.

The three medium-quality studies with positive outcomes were all of the same intervention, reporting after different time periods had elapsed. The successful intervention was the Chicago Child-Parent Centre Programme (CPC), which was a federally funded pre-school programme for families in high poverty areas in Chicago. It included parental training with a child-centred focus on developing reading and language skills. However, it also included teacher-directed whole class instruction, small group activities, field trips and play, low child-to-staff ratios in kindergartens, outreach activities including home visits, staff development activities, and an enriched classroom environment for developing reading and maths skills, plus health and nutrition services.

This complex intervention took place for three hours each day, five days a week, over nine months in addition to a six-week summer programme (in most cases), plus the provision of 'continuing services'. The programme was originally meant for pre-school children and was run within pre-school centres. These centres are now part of the Chicago Public School system. In every CPC there is a staffed parent resource room, and the programme requires active parental participation. Parents must commit to volunteer at the CPC on a weekly basis. Around 1,400 mostly African American children were tracked through to age 28, with about 15 to 20% dropout. The researchers claimed that CPC had positive effects on the Iowa Test of Basic Skills (ITBS), attendance and high school completion.

However because of the multiple components of the programme it was not clear what the specific impact of parental involvement was, or even if it had any impact at all. The intervention has also altered since its inception, moving from pre-school to school-age (up to age nine) and becoming more institutionalised. What is needed now is a much clearer evaluation of only the parental involvement component of this intervention for a specific age group, and in a pre-specified format.

This is the most promising set of results, largely because of three studies of one intervention in Chicago. Despite this, it is difficult to conclude that there is much solid evidence of effective parental interventions for pre-school children despite the widely-held belief that early interventions will be the most effective.

Primary age children

The review found nine studies of parental involvement with primary age children that showed unclear or negative outcomes. Six of these were deemed of low quality. Two were so small as to be negligible (five cases for each arm), and another was so poorly described in terms of the sample reported that it is not possible to say how large or small it was. One, like so many summarised, completely misused the technique of significance testing. One tried to dredge for a positive result through the removal of 'outliers' (possibly inconvenient results). In perhaps the best of these weak studies, the comparison group performed substantially better than the treatment group.

The other three studies that showed unclear or negative outcomes were deemed of medium quality. The Family-School Partnership programme improved parent-teacher communication. It involved using teachers and health professionals to train parents in teaching literacy and numeracy, and child behaviour management skills. It started with a three-day seminar for teachers and relevant school personnel, training them in parent-teacher communication and partnership building. Teachers received a training manual, videotape, and training aids, plus additional support after the training. Programme experts visited schools during the intervention to supervise and offer feedback. There were nine parent workshops run by the 1st grade teachers, social workers and school psychologists, with weekly home-school learning and communication activities.

The evaluation was a longitudinal study involving 678 students from nine schools. Classes were randomly allocated to one of three groups who were tracked from 1st grade to age 19. One group received the parental intervention, one a classroom intervention, and one acted as a control. Around 16% dropped out after allocation. Regression analysis suggested that the classroom intervention had positive effects on reading and maths performance using the Kaufman Tests of Educational Achievement, but no impact on high school graduation. There was no overall difference on any outcome due to the family intervention.

The LiFuS programme involved training parents to support their children at home with their reading homework, and training teachers in co-operative learning activities at school to enhance children's reading motivation and comprehension. The home reading programme was for 20 minutes three times per week, using 4th grade students in Switzerland. It emphasised supporting the child's autonomy in reading, by avoiding controlling and interfering behavior, and using strategies to support autonomy. It advised parents to provide reading materials such as dictionaries and to

remain nearby to answer questions, but also to allow the child to read silently at their own pace. Instead of giving their child the complete solutions to queries, parents were instructed to provide strategies for the child to use. Parents needed to familiarise themselves with three strategies (background knowledge, predicting and summarising) to facilitate pre- and post-reading discussions.

Before implementation, parents attended two training sessions each lasting three hours, held in the evening in the child's school. In the first training session, parents were shown a video demonstrating the theoretical aspects of the homework intervention. In the second training session, parents practised strategies with their child on how to support their reading homework in a semi-authentic homework situation. Parents were supported throughout the intervention with personal coaching. In addition, they received instructional booklets with the content of the training session (to refer to whenever they needed). Children were given a checklist to help them remember the steps of the strategy used. A total of 713 children took part in the evaluation, divided into three groups: school intervention, school/home intervention and a control group. The control group was merely matched with the intervention groups, and known differences between the groups controlled for.

Although the authors reported that the programme had significant effects on students' enjoyment in reading and reading motivation, it did not have any positive effect on reading comprehension tests. Both interventions (school only and home/school) actually had small negative effects on text comprehension compared to the control group, suggesting that students might have been better off without the intervention. Perhaps increased enjoyment of reading itself did not translate into performance in reading comprehension because comprehension requires certain skills which needed to be taught. This means that students can be motivated to do well, but to actually do well they need the competence to do so.

An earlier study evaluated a school-collaborated programme involving parents helping their children to read at home using prescribed activities. The aim of the intervention was to help enhance children's vocabulary and comprehension, as well as their self-esteem. Parents in the experimental group attended one training session, where they had to commit to a 14-week parental involvement programme. At the sessions they were given materials, and discussed the topics in these handouts. The topics were about issues like building self-esteem, how to support their child in their reading, how to help their child to cope with stress and to create a stress-free environment for the child. Parents also received vocabulary and comprehension exercises and were shown, using role play, how to reinforce reading skills at home.

This is an important study because it is a straight comparison between parental involvement or not (and is the only such study of medium quality found in the review). In five schools, teachers and their 230 students were allocated in an unspecified manner to the 'treatment' or 'comparator' group, but around 15% dropped out after allocation. The comparison group made slightly greater improvements in reading attainment than the treatment children ($ES = -0.20$), as assessed by the standardised Gates-MacGinitie Reading Test (GMRT). This suggests that increasing parental involvement was harmful.

There were a further 14 studies with positive results, or elements of positive results. All of these were of low quality. Again many of these studies were negligible in scale, with as few as seven pupils in each arm of the study. One study used a total of three cases. Other studies had high levels of attrition such as 31% in one of the groups after allocation. Three had no matching comparator (or maybe just a nearby school), one used a bespoke test that did not translate into real-life achievement and another relied on self-reported achievements only.

Overall, we found no evidence that primary-age interventions to enhance parental involvement are generally effective in increasing children's attainment. In fact, the better studies suggest the interventions can be harmful.

It may be important that all of the medium-quality negative studies are largely about training parents to act a little like teachers at home, whereas the medium-quality positive study involves parents and other adults meeting and working together in an institution of some sort. It is also noteworthy that when parental involvement has been compared to a classroom intervention with the same purpose, if there is a difference it is the classroom programme that is more successful.

Secondary age children

The review found fewer interventions aimed solely at young people of secondary school age. This is presumably because of the widespread belief that earlier interventions will be more effective. There were six studies reporting unclear or negative results overall, and all of these were of low quality. Problems with these studies included very small samples, and confusion about what the results really are. One study suggested that prior attainment was the key to outcomes. The latter is important because, if true, it means we cannot trust any studies that either do not take prior attainment into account, or that fail to have large randomly allocated groups (which would make prior attainment irrelevant).

There were five studies reporting positive results. Four of these were of low quality, including some very small samples – with as few as 14 pupils per group. This particular study also contains some negative results not clearly presented. One study is substantially larger but has no comparator.

One study with positive results was of near-medium quality. Bridges to High School/Puentes was a family-focused programme to reduce problems associated with transition to secondary school. It lasted for nine weeks in the 8th grade, and combined parent and child education with family support. It involved a parenting intervention, adolescent sessions and family sessions, plus two home visits (one before and one during intervention).

Parenting sessions were aimed at helping parents understand school expectations, improving parent-teacher communication, enhancing parenting skills using positive reinforcement, monitoring and appropriate discipline, and reducing harsh parenting. In adolescent sessions, students were taught coping strategies, and how to manage interpersonal and school problems, explore goals and motivations, and balance family relationships with other obligations and interests. Family sessions provided structured opportunities for mutual understanding, enjoyment and communication, and to practise skills learnt in parent and adolescent sessions. The leaders of sessions were trained in the intervention for 45 hours beforehand, and for five additional hours per week during the intervention. A school liaison officer was available to support families.

Around 500 students were randomly allocated to treatment or not, and around 27% dropped out, especially in the non-treatment group. The authors reported positive effects on students' grade point average (GPA). It is difficult to isolate the active ingredient as there are so many aspects to the intervention including parental training, home visits and adolescent behaviour training. The outcome measures are heavily dependent on self-reporting scales with less emphasis on independent observation and records, and in the analysis no account was taken of the differential dropout.

Overall, on this evidence, it is currently not possible to conclude that the kinds of parental involvement interventions covered here will be effective in secondary phases.

Across age groups

There were a small number of studies about interventions for children across age groups (e.g. from primary to the first year of secondary school). Three of these included a combination of strategies, two were about training parents,

and two involved getting parents to work with their children at home. One was a home-school collaboration intervention. Five of the reports had unclear or negative outcomes, and all were deemed low quality. Two studies of the same intervention had very high dropout, another had clearly tried to dredge for positive results and did not report the negative ones properly. The others also had problems both with high dropout and apparently selective reporting of results.

The four reports claiming positive outcomes were generally just as poor. Two had small cell sizes (as low as 15). One had no match between classes in the two groups, and another had a conflict of interest and reported only the successful results.

This is a very unpromising set of studies of parental involvement for children in transition between school phases. **On balance, they provide no sound basis for claiming the success of all-age interventions to increase parental involvement.** The largest study in this group by some way (445+ cases) reported no difference in outcomes between the parental intervention treatment group and the others.

Recommendations for further research

Commissioners and funders should call for new primary research with specific characteristics, and cease to fund mere associational or supposedly explanatory work in this area. While exploratory work is perfectly proper, when the results show promise, researchers must continue to developmental work, leading eventually to a fully-fledged trial.

Commissioners and funders should monitor programmes and fields of research and withdraw funding if they are not making progress. Currently too much work is mired in a repetitive phase of exploration without progress. This is an unethical use of taxpayer and charitable funding.

This new kind of research should:

- Be a fair test of whether the most promising approaches to enhancing parental involvement actually work in the sense of cost-effectively improving children's subsequent attainment.
- Involve several studies, both direct replications and of differing age groups, based in real-world settings. The design for each should be either a simple randomised

comparison of a treatment and control group, or of an allocation using regression discontinuity.

- Include around 1,000 pupils or more in each study, with very low attrition, perhaps through using a waiting-list design or other incentive to reduce post-allocation demoralisation, followed by an intention-to-treat analysis.
- Be 'blinded' as far as possible, and for many steps this is simple (for example, by conducting the pre-test for all cases before randomisation).
- Be conducted by individuals with no concern for whether the intervention works or not, but concern only for finding out.
- Use an outcome measure, such as a test of student learning, that is standardised, independent of the innovators of the intervention, and has real-world meaning (such as a link to Key Stage results).
- Be as simple as possible (the intervention itself), not mixing parental involvement with any other elements of change or intervention (and applied only to the treatment group). After the intervention has been completed for one large group but not the other, both groups should be assessed or measured for the single pre-specified outcome that the intervention was intended to improve. The result should be based on a simple comparison of the outcomes or gain scores for each group.
- Be seen by those undertaking it to be part of an ongoing and larger research cycle working towards an evaluation (of what works, a theory, or an artefact such as curriculum materials).
- Move to a trial or other suitably rigorous evaluation phase if promising and cease if unpromising. If early work is unpromising, researchers should report this, so as to discourage wasteful investment of time and money by others.
- Eschew causal terms like 'impact' or 'influence' except where research designs permit or where the use is clearly speculative.

This advice is quite generic, and will apply to other topic areas as well, but it is necessary because of the very low level of quality found, even among the best evaluations. The level of work encountered is so far from the level needed to answer relevant questions for public policy that even adopting these rather basic recommendations would lead to a considerable improvement.

Common problems identified in the evaluation studies in this review:

- Quoting of statistical significance and p-values with samples not randomly allocated to groups. This is as prevalent in supposedly peer-reviewed articles as in unpublished reports.
- Use of the 'significance' levels to try and decide whether an intervention has been effective or not. This is a widespread error, based on ignorance of sampling theory.
- Presentation of such analyses based on individual cases when researchers have allocated cases to treatment groups by classes, or even when there has been no allocation at all (such as when a matched comparator is created post hoc).
- A slightly less widespread but still important and dangerous problem is dredging for success. Many reports, even the better ones, are vague or incomplete about basic facts such as numbers of cases, how they were selected and allocated, and how much dropout or refusal there was. This may be carelessness. But some reports describe wider studies and several possible outcomes, but only present the findings for outcomes that are deemed positive or desirable. This goes far beyond the possible file-drawer problem of unpublished negative findings. Authors themselves seem to want to bias the evidence base by cherry-picking their own results before publication.

Published by the Nuffield Foundation, 28 Bedford Square,
London WC1B 3JS
Copyright © Nuffield Foundation 2013
ISBN 978-0-904956-91-7

This briefing paper is also available to download at
www.nuffieldfoundation.org