

# Can out of school activities close the education gap?

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This is the fourth and final research brief from the Out of School Activities project, funded by the Nuffield Foundation. The project set out to investigate whether participation in structured activities outside of school hours was associated with academic and other outcomes at the end of primary school and to explore the different ways that these activities might have an effect. The focus was particularly on economically disadvantaged children, to find out whether out of school activities could help close the attainment gap. This brief summarises the main findings from the analysis of the Millennium Cohort Study and qualitative case studies in schools in the North East and South East of England.



- Economically disadvantaged pupils had lower take-up of most organised activities than their more affluent peers except for after school clubs.
- The reasons for take-up of after school clubs included the low cost, convenience associated with them taking place at school and the reassuring familiarity of staff and location.
- After school club attendance was associated with positive academic and social outcomes for disadvantaged children in particular.
- Organised physical activities were associated with higher attainment and better social, emotional and behavioural outcomes at age 11.
- School staff, parents and pupils identified a wide range of perceived benefits from taking part in after school clubs covering academic as well as social and emotional outcomes.
- The findings highlight the potential value of after school clubs for increasing opportunities for disadvantaged pupils as well as supporting positive outcomes.

## Policy context

This research was prompted by the attainment gap between children from different economic backgrounds that is evident at the end of primary school. A quarter of children from the most disadvantaged backgrounds achieve below expected levels at age 11 compared to just 3% of children from affluent backgrounds<sup>1</sup>. Children who fall behind struggle to catch up, affecting their educational and economic outcomes as adults.

The extent to which schools can and should support pupils' learning outside school hours has been widely debated in recent years. Although the full service extended schools of the early 2000s<sup>2</sup> are no longer compulsory, many schools continue to provide educational enrichment opportunities before or after school and the Pupil Premium funding available for disadvantaged pupils provides one funding mechanism to do this.

The motivation for providing extra-curricular activities ranges from an explicitly educational focus (such as homework clubs) to a wider understanding of what is increasingly being referred to as 'character education' encompassing virtues such as honesty, self-control, fairness, gratitude and respect<sup>3</sup>. Proponents argue that character education underpins successful educational outcomes as well as being important in its own right.

## Research aims

This project aimed to contribute to this debate by investigating participation in out of school activities and the relationship between different kinds of activities and outcomes at the end of primary school. The research took into account academic as well as social, emotional and behavioural outcomes.

## Theoretical explanations

The research aimed to go beyond identifying relationships between activities and outcomes to explore the reasons with the intention that this

could influence decisions at a school and policy making level about how to tailor support to pupils from different backgrounds. The research was designed with reference to the theories in the research literature which attempt to explain the positive benefits of out of school activities.

Among the mechanisms suggested are the following:

**Identification/commitment model.** Extra-curricular activities taking place in school can increase a pupil's positive identification with school and teachers' positive perceptions of pupils, with beneficial impacts for classroom based learning.

**Capability and self-belief.** Experiencing success in activities outside the curriculum can build self-confidence with positive spill-over effects into academic learning. Related to this, pupils can build resilience through facing different kinds of challenges and learning to overcome them.

**Competition.** Participation in sports and activities can boost a competitive spirit and the desire to succeed.

**Academic.** Out of school activities can provide additional opportunities for academic learning with direct benefits for attainment outcomes.

Underpinning many of the theories is the argument that children from more disadvantaged backgrounds have more to gain from out of school activities either because they have fewer opportunities for enrichment or because their attainment and other outcomes are lower without such intervention.

## Scope of this research brief

This is the fourth and final research brief from the Nuffield Foundation funded project and aims to summarise the main findings. It draws together the findings from the analysis of the Millennium Cohort Study (MCS), linked with the National Pupil Database, and from the qualitative case studies with schools, providers, parents and pupils. It offers explanations for the findings in relation to the literature outlined above and suggests policy implications arising from the research.

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<sup>1</sup> Gregg, P. and Goodman, A. (2010) Poorer children's educational attainment: how important are attitudes and behaviours? JRF.

<sup>2</sup> Cummings, C., Todd, L., Dyson, A., Muijs, D., Papps, I., Pearson, D., Raffo, C., Tiplady, L., Crowther, D. (2007) Evaluation of the full service extended schools initiative: final report. DfES RR852.

<sup>3</sup> Arthur, J., Kristjansson, K., Walker, D., Sanderse, W. and Jones, C. (2015) Character Education in UK schools. Jubilee Centre & University of Birmingham.

## Variations in take-up

The findings from our analysis of the MCS data concurred with other research in finding unequal participation in out of school activities. We looked at take-up of formal activities by a range of family background characteristics in our first and second research briefs, including how participation changed with age, but here we focus specifically on how participation differs by the economic circumstances of the children’s families.

In this study we have defined children as economically disadvantaged if their family’s total income was below the poverty line<sup>4</sup> in at least two of the three MCS interviews during primary school. Figure 1 summarises the percentage of children taking part in each of the organised activities at age 11, by whether or not the child was from a disadvantaged or a more affluent family.

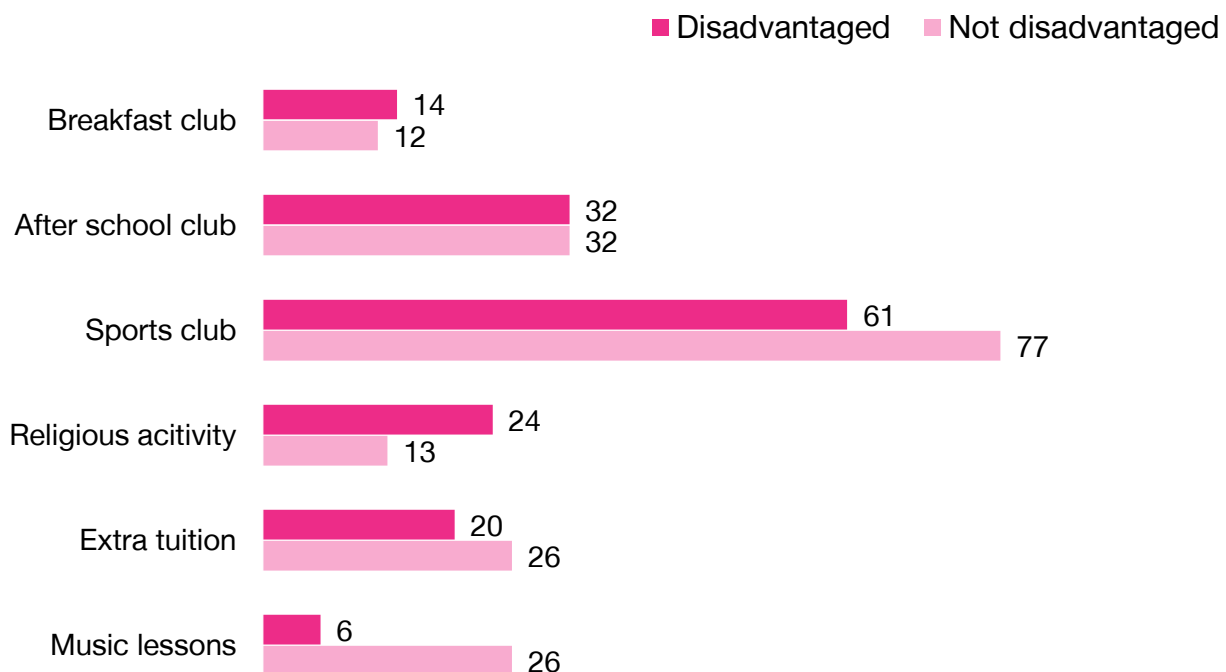
Generally, disadvantaged children were less likely to take part in organised out of school activities. The difference was especially noticeable for music lessons paid for by the family.

While about a quarter (26%) of 11 year olds from more affluent families had music lessons, this compares with 6% of disadvantaged children.

However, there are two exceptions to this pattern; similar proportions of disadvantaged and more affluent children took part in school-based clubs and a higher proportion of disadvantaged children than non-disadvantaged children regularly attended religious activities and classes.

The similar level of take-up of breakfast clubs and after school clubs among disadvantaged children and more affluent children suggests that this is a more accessible and inclusive out of school activity setting. In the MCS analysis we are limited to the questions that have been asked of parents in the survey and unfortunately motivations for taking up or opting out of such activities are not asked, so we turn to other sources of information to help us explore families’ motivations and barriers to out of school activities for their children.

**Figure 1 Taking part in out of school activities at age 11, by disadvantage**



Notes: Extra tuition relates to any tuition received since the last interview (age 7) and includes extra lessons in English, maths, science or for a secondary school selection test (not necessarily paid for). Breakfast club, after school club, sports club and religious activity/ lessons all counted if the child participated at least weekly. Frequency was not specified in the MCS question wording regarding extra tuition or music lessons. Base: children in England who responded in all three sweeps and agreed to the NPD linkage.

<sup>4</sup> Below 60% of the median equivalised household income. In the dataset, the maximum income for a family of two children and two adults in this category was £16,084.

## Reasons for take-up of school-based clubs

In the case study interviews with school staff, providers, pupils and parents, we explored the factors that may explain how after school clubs have overcome barriers to take-up for disadvantaged pupils. The key themes that came up were affordability, ease of access and familiarity and trust in the staff and the setting.

- Parents and pupils identified after school clubs that were either **free** or **very low cost** as a key facilitator to take-up. The low cost of school-based options compared favourably to other organised activity settings, e.g. music instrument tuition and sports activities in the community, that had higher associated costs.
- Parents and pupils spoke positively of the **convenience** of attending after school clubs on the school site, avoiding the time and costs associated with travelling to activities. This was particularly valued by parents whose circumstances made the logistics and costs of taking their children to out of school activities difficult (e.g. as a result of working patterns, other caring commitments, limited access to transport, health difficulties and low incomes).
- **Familiarity** with the staff and school setting was another key facilitator to take-up of after school clubs. Pupils described feeling 'comfortable' and 'relaxed' on school premises with familiar staff, while parents highlighted the importance of trust in staff and confidence in the safety of the environment.

## Activities and outcomes

The linking of the MCS survey data with the National Pupil Database makes it possible to investigate whether taking part in different activities during primary school is associated with educational attainment at Key Stage 2 (KS2), at the end of primary school. We looked at the whole range of activity types available in the data, and in addition to school attainment we also explored whether activity participation was associated with two measures of children's social, emotional and behavioural outcomes at age 11. For this we used regression analysis, which allowed us to statistically allow for differences between children that may

drive both their different take-up of activities and variation in child outcomes<sup>5</sup>.

When all children were considered together, we found that participation in physical activities was associated with both higher attainment and better social, emotional and behavioural outcomes at age 11. We also found that participation in 'other clubs' at age 7 was associated with higher attainment at age 11. As there is no detail on what activities are captured under the label 'other club' this could cover a whole host of activities other than sports, academic tuition, religious lessons and school-based clubs, such as for example, Cub Scouts and Brownies, choir, arts, crafts, chess or drama clubs.

When we focused the analysis specifically on disadvantaged children we found that attendance at after school clubs was the only organised activity that was significantly related to disadvantaged children's KS2 attainment. Compared with disadvantaged children who had never attended after school club, those who had either attended after school club at ages 5, 7 and 11 or who attended at the age of 11 having started after the age of 5 or after the age of 7, had significantly higher total point scores on average. This effect was strengthened when controlling for KS1 attainment. Figure 2 illustrates this finding using the predicted KS2 total point scores based on the regression model for disadvantaged children who never went to after school club during primary school and those who started after the age of 5 or who attended after school club at each of the three time points.

The difference may at first sight appear quite small on average, just two points. However, this should be interpreted in relation to size of the overall 'attainment gap' between all disadvantaged children and children who are not from a disadvantaged background, which is 5 points. In other words, the difference between disadvantaged children who attended after school club during primary school, and those who did not, is equivalent to two-fifths of the 5-point 'attainment gap' between disadvantaged children and children from a more affluent background.

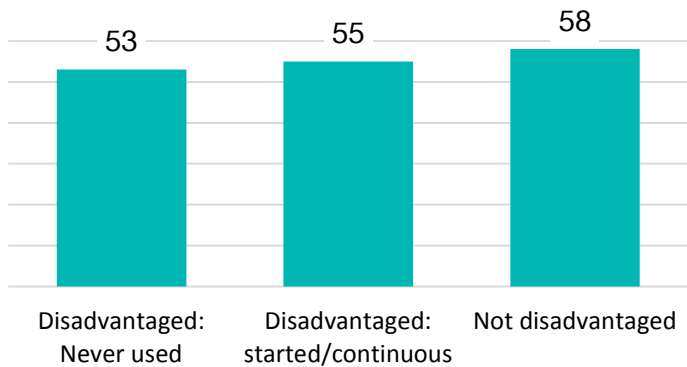
After school club was also the only organised activity to be significantly related to social outcomes, with attendance being significantly

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<sup>5</sup> For more details about these analyses and a full discussion of findings, please see:  
<http://www.natcen.ac.uk/media/1123192/cls-wp-2016-1-out-of-school-activities-during-primary-school-and-ks2-attainment.pdf>

associated with prosocial<sup>6</sup> skills among disadvantaged children.

**Figure 2 Average predicted KS2 total point score among disadvantaged children, by after school club use, and non-disadvantaged children**



Notes: The chart shows the total point score predicted by the regression model for two groups of disadvantaged children, those who never used after school clubs and those who started attending after age 5 or attended at ages 5, 7 and 11, with all other characteristics set the same for the two groups. It also shows the average score for non-disadvantaged children. Base: children in England who responded in all three sweeps and agreed to the NPD linkage.

## Perceived value

In the qualitative case study interviews with school staff, pupils and parents, we explored the perceived value of participating in after school clubs. School staff, parents and children listed a whole range of ways in which they felt that participation in out of school activities could have an impact on children and families. In some cases, a direct link was made with children's attainment, and in others, interviewees felt that the impact centred around the emotional and social impacts that might be associated with effective learning. In these cases, the link with attainment was less clear cut and impacts were often described as interlinked. These findings are explored in more detail in our third research brief,<sup>7</sup> but as an example, school staff told us that many of the children they worked with came from disadvantaged backgrounds where access to opportunities to see different places, and encounter new situations and experiences was limited. By

<sup>6</sup> Prosocial skills captures social skills and empathy towards others. See the technical notes for further details about the measures.

<sup>7</sup> <http://www.natcen.ac.uk/media/1135452/the-value-of-after-school-clubs-for-disadvantage-children.pdf>

taking part in out of school activities children could broaden their horizons and learn more about the world. This was seen as vital in enabling children to be able to participate in learning activity in the classroom in terms of having experiences to talk and write about, and being able to contextualise what they were reading.

## Limitations and future research

The MCS analysis has allowed us to identify associations between participation in out of school activities and child outcomes but we cannot conclude that the relationship is causal. We have used analysis techniques on longitudinal data that enable us to take into account individual and family characteristics at an earlier time-point, however we cannot rule out the possibility that the relationships we have identified may be accounted for by an unmeasured characteristic that explains both the participation in activities and the positive outcomes.

To confidently attribute positive outcomes to out of school activities would require an evaluation design using experimental or quasi-experimental techniques with a counterfactual. While many such studies exist for individual programmes, it would be difficult to imagine how such a study could be conducted across the breadth of activities in which primary school pupils participate.

The second limitation to observe is the time difference between the collection of the MCS data (2012 for the 11 year old survey) and the qualitative case studies (2015). Key policy changes over the period from when MCS children started primary school to the present include the ending of the extended schools agenda, the introduction of Pupil Premium funding, the extension of early years education, and changes in the primary school curriculum. Nevertheless, recent evidence suggests that the disparities in access to activities that we identified persists so the up-to-date qualitative findings are relevant.

Finally, as we noted above, we have a limited understanding of after school club provision. In order to understand and replicate its value, it would be important to know the types of activities in which pupils engage, the intended aims, any targeting of particular pupils, the qualifications of provider staff, the quality of provision and patterns of take-up. In the context of supporting pupils' life chances in terms of academic attainment, social skills and emotional well-being, there is a strong case for further research in this area.

## Policy implications

The primary policy and practical implication to be drawn from these findings is the potential value of after school clubs for the positive outcomes for pupils from disadvantaged backgrounds. The findings show that structured activities provided on the school site are more accessible to children from lower income families than other activities and therefore provide a framework within which pupils can experience opportunities outside of the curriculum that might otherwise be outside of their reach. Pupil Premium funding provides a much needed avenue for resourcing after school clubs and ensuring they are accessible regardless of family income.

There was also evidence that after school clubs had positive effects on pupils' academic outcomes. This was not because it was the only activity in which disadvantaged pupils participated in sufficient numbers. However, what we don't know from the MCS data is what activities pupils were engaging in when they were at the after school club. Evidence from the case studies suggested that activities were wide-ranging, including sports, arts and creative hobbies, games and chess, music, ICT and academic clubs, and often in the form of 'taster' sessions to provide exposure to different activities rather than focusing on developing specific skills. Further evidence gathering, for example through the Education Endowment Foundation interventions and evaluations<sup>8</sup>, would be valuable for understanding more about what kinds of activities are beneficial in these settings.

The second implication to highlight is that the evidence supports the current emphasis on character education. Parents, staff and pupils referred to the positive impact of after school clubs on social and emotional aspects of child development and this was supported by the MCS analysis that found an association between after school clubs and prosocial skills. This suggests that the activities build skills relating to social interaction and self-belief that may contribute to pupils' emotional wellbeing as well as supporting their academic learning.

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<sup>8</sup> <https://educationendowmentfoundation.org.uk/>

## Technical notes on the analysis

This research briefing presents findings from analysis of The Millennium Cohort Study (MCS) and qualitative case studies. The MCS is a national longitudinal birth cohort study with five sweeps of data currently available spanning from birth to the end of primary school (age 11). Importantly for this study, the survey has been linked to National Pupil Database (NPD) for cohort children attending schools in England. This allows for analysis of the relationship between out of school activities and attainment while controlling for a range of individual, family and contextual characteristics. The attainment analysis presented here relates to the 6,430 cohort children who attended school in England, responded in all three sweeps conducted during primary school, whose parent(s) gave permission for linkage to the NPD and for whom the records were successfully linked.<sup>1</sup> The results presented in this paper are based on multiple linear regression analysis for continuous outcomes such as the KS2 'total point score' attainment measure, and binary logistic regression analysis for binary outcomes such as whether or not the child attained a certain level in English by the end of primary school.

### Child outcome measures

We used three different attainment measures at Key Stage 2: the total point score and an indicator of whether the child had achieved a Level 5 in English and in maths, respectively. The level children are expected to attain in these subjects at the end of primary school is a Level 4, which most children in England achieve so for English and maths our analysis focused on whether participation in organised activities was associated with attainment above the standard level expected at age 11. We also used two measures of social, emotional and behavioural outcomes using the prosocial sub-scale score and the total difficulties score from the Strengths and Difficulties Questionnaire which parents of the MCS children were asked to complete about their 11-year olds. The SDQ (<http://www.sdqinfo.com/norms/UKNorm3.pdf>) has been designed for use by researchers as well as clinical and educational professionals and consists of five sub-scales covering emotional symptoms, conduct / behavioural problems, hyperactivity / inattention and problems with peer relationships, which taken together form the measure of total difficulties, as well as a prosocial behaviour scale (covering items such as social skills and showing empathy towards others).

### Qualitative case studies

The MCS analysis was complemented by qualitative school case studies on 10 primary schools (four in the North East and six in the South East of England) carried out in 2015 by the University of Newcastle and NatCen Social Research. In case study schools we spoke to the Head teacher about their school's policies and approach to out of school activities and to out of school activity providers and teachers leading activity clubs. We also had small group discussions with primary school children about their activities out of school, and parents about their thoughts on activities.

## More about the study

This study has multiple strands and is conducted by NatCen Social Research, in collaboration with co-principal investigator Professor Liz Todd and Karen Laing at **Newcastle University**, and with Amy Skipp at **ASK Research**.

To find out more about the study and to read the other research briefs, visit our project webpage <http://www.natcen.ac.uk/our-research/research/out-of-school-activities/>. For more information contact project director Dr Emily Tanner ([Emily.Tanner@NatCen.ac.uk](mailto:Emily.Tanner@NatCen.ac.uk)).

<sup>1</sup> University of London. Institute of Education. Centre for Longitudinal Studies, *Millennium Cohort Study: Third Survey, 2006* [computer file]. 6th Edition. Colchester, Essex: UK Data Archive [distributor], December 2012. SN: 5795 , <http://dx.doi.org/10.5255/UKDA-SN-5795-3>; *Millennium Cohort Study: Fourth Survey, 2008* [computer file]. 4th Edition. Colchester, Essex: UK Data Archive [distributor], December 2012. SN: 6411 , <http://dx.doi.org/10.5255/UKDA-SN-6411-3>; *Millennium Cohort Study: Fifth Survey, 2012* [computer file]. Colchester, Essex: UK Data Archive [distributor], February 2014. SN: 7464 , <http://dx.doi.org/10.5255/UKDA-SN-7464-1> University of London. Institute of Education. Centre for Longitudinal Studies. (2015). *Millennium Cohort Study: Linked Education Administrative Dataset (KS2), England: Secure Access.* [data collection]. UK Data Service. SN: 7712, <http://dx.doi.org/10.5255/UKDA-SN-7712-1>.

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