Education Endowment Foundation

Homework Clubs

School Choices Scoping Phase

Lessons Learnt Report

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NFER
National Foundation for Educational Research

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About the evaluator

This research was conducted by a team from the National Foundation for Education Research (NFER). The principal investigator for this study was Stephen Welbourne. Katherine Aston led the evaluation team, with Jose Liht leading the web-scraping, GenAI classification, and survey analysis, and Lillian Flemons leading the survey design. Sophie Ainsby led research operations for the survey, Lydia Wallis was our operations researcher, and Kamaljit Ahitan coordinated the project.

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Executive Summary

This document summarises key methodological lessons learnt during the scoping phase of the Homework Club School Choices Project, with the aim to share methodological insights with other researchers in the sector and the EEF. The scoping phase typically involves i) research to refine the choices dilemma and to understand the factors that drive schools to adopt certain choices; ii) methodological feasibility and assumption testing to inform the design of the impact evaluation; and iii) identifying the parameters and challenges around selecting the sample for the impact evaluation. Given that School/Setting Choices studies are based around more unknowns in terms of research questions, sample and assumptions, the scoping phase has proven to be a useful and important step in fine-tuning the research questions and methodology, as well as assessing the risks and challenges before committing to a full impact evaluation.

Where a full impact evaluation is deemed infeasible through the project's scoping phase, a detailed explanation of the decision and considerations are documented to contribute to the wider evidence base and support learning in future trials.

The scoping phase for this project commenced in February 2025 and was concluded in March 2026. A separate practitioner-facing output from the scoping phase will be published, which only includes practice-related insights and learnings.

Overall the scoping phase concluded that an impact evaluation would not be feasible. An overview of the feasibility assessment against the feasibility criteria documented in the study plan is presented in Table 1 below. The criteria that resulted in the decision not to proceed to a full impact evaluation was the assumption that classification of provision based on website data would reflect actual practice. For the schools that responded to the survey a large proportion (circa 50%) gave different answers about the provision of homework clubs to the answers that could reasonably be deduced from the available website data.

Table 1:Overview of feasibility assessment

Feasibility criterion	Summary of findings and RAG rating
1. Sufficient variation in homework club provision.	92% of surveyed schools reported a Homework Club, however the available hours varied substantially.
2. Minimum survey sample of ~150 schools (to draw conclusions about whether web-scraping reflects actual practice).	Achieved survey responses from 187 schools, including 177 from senior leaders.
3. Possible to classify most English secondary schools (>95%) based on website information alone using either semi-automatic classification (for the full population of schools) or manual classification (for a random sample of schools).	Based on early web-scraping tests, there was insufficient detail on some websites to establish the number of hours of Homework Club available.
4. Classification of provision reflects actual practice (90%+ alignment of web-scraping approach and actual practice reported by survey schools).	Up to half of schools had a difference between what was reported on the website and the survey response. This shows an insufficient match between website data and actual practice to proceed.
5. Sufficient contrast between treatment and counterfactual group.	Not assessed, given the red rating above.

Key recommendations

We recommend that this study should not proceed to an impact evaluation, given the differences between what is reported on school websites and what is reported by schools via the survey.

As it was possible to extract information from school websites efficiently using web-scraping, we recommend that this methodology be considered in future research. However, it should only be considered in cases where schools are legally required to publish key information, and schools are held to account for this requirement, for example the statutory publication of Pupil Premium policies. This restriction should help ensure a greater congruence between what is reported on the website and actual practice.

Background and scoping objectives

This study is a 'School Choices' project. School leaders make choices about school-wide practices and approaches that are intended to produce positive outcomes for pupils, such as how to organise the school day or communicate with families. However, many school-level practices have limited or no research evidence for them, which means leaders must make decisions using other information. The aim of School Choices research is to produce causal evidence about the impact of different school-level approaches and policies on outcomes of interest, with particular attention to impact on pupils from socioeconomically disadvantaged backgrounds.

Homework completion and engagement has been found to be an important predictor of attainment (Eren and Henderson, 2008; EEF, 2021; Guo *et al.*, 2024; Harland *et al.*, 2024). Time spent on homework also appears to play a role, including in relation to maths attainment specifically. An analysis of the PISA 2022 data found that pupils who reported spending over one hour per day on homework (across all subjects) had significantly higher mathematics performance than pupils who reported spending less time than this (Ingram et al., 2023). Pupils who spent between 30 minutes and 1 hour a day on maths homework specifically had higher mathematics scores than pupils who spent less time. EEF's review of homework (EEF, 2021), which includes 'flipped learning' approaches[1], found that published studies of homework in secondary education had an average positive impact, broadly equivalent to an additional five months of progress. However, EEF's security rating for this evidence is low, due to concerns with study design and lack of independent evaluations.

Some pupils experience substantial barriers to homework completion, and these barriers are more prevalent for disadvantaged pupils (Jerrim, 2017; Calarco, Horn and Chen, 2022; Kennewell et al., 2022). Homework clubs are widely recommended to address this gap (Jerrim, 2017; EEF, 2021), and are commonly provided by schools (Ingram et al., 2023). However, we do not know about the extent and nature of homework club provision in schools, or whether they improve attainment.

The Education Endowment Foundation (EEF) commissioned the NFER to research homework club provision in secondary schools. The research involved a robust scoping phase to assess the feasibility of an impact evaluation. This included testing the viability of using web-scraping and GenAI to classify schools' provision of homework clubs, in order to run an impact evaluation on homework clubs. Methodological findings from this work are presented in this report. As a comparator dataset for the web-scraping data, we undertook a survey of state-funded secondary schools in England to understand the nature and variation of homework club provision. Detailed findings from the survey are presented in the practitioner-facing summary of the scoping phase.

Intended impact evaluation design

Homework clubs are available over the course of the pupil's time at secondary school, so any effect was expected to be cumulative across academic years. Therefore, the impact evaluation intended to estimate the impact of the choice on Year 11 pupils, who would have had the opportunity to benefit from homework clubs for their entire secondary school career.

To enable as large a school sample as possible the impact evaluation intended to focus on attainment outcomes available from administrative data, specifically KS4 attainment in Maths GCSE national assessments.

We anticipated three questions of general interest:

[1] 'Flipped learning' refers to 'flipping' the usual model of introducing new learning during class and following up with homework. In flipped learning, the first stage of learning involves pupils working through learning materials as 'homework', for example explanatory videos or worked examples, and using class time for discussion and application activities.

What is the impact of schools choosing to **make homework clubs a key part of their homework completion culture** on KS4 attainment in maths for:

1. *Year 11 pupils?*
2. *Year 11 FSM-eligible pupils?*
3. *Year 11 high-attaining FSM-eligible pupils?*

As a proxy for this choice, we proposed to use evidence from schools' websites that they provide actively promoted homework clubs that are accessible outside of normal school hours for at least 3 hours per week.

We intended to construct the control group from matched schools who had not made homework club a key part of their homework completion culture. The scoping phase was designed to inform the choice of control group, comprising either:

(1) schools who did not offer any homework club provision (based on the proxy of evidence from the school website). This choice would have offer maximum contrast, but was contingent on a sufficient number of schools making this choice.

(2) schools who either (a) did not offer any homework club provision, as above, or (b) did not provide a club that is available for at least 3 hours outside normal school hours.

The impact evaluation design was a Clustered Observational Study[2], (Page, Lenard and Keele, 2020) with variation in choices across schools. The sample was intended to comprise all open secondary schools in England (n = 3215), and to include GCSE outcomes data for two consecutive cohorts, to improve statistical power. The intended analysis was an Intention-to-Treat (ITT) analysis comparing variation in maths attainment between the above groups. Defining the groups in this way avoided the problem of pupil-level selection bias, but treatment effects would be diluted as not all of the pupils included in the analysis would have accessed the homework club. Given the large pool of schools which would be included, our estimates of the MDESs which may have been achieved by the analysis are very small (0.024 – 0.027), suggesting the dilution is unlikely to be too great to detect an effect. However, we anticipated that the dilution would be a significant issue for an evaluation which depended on a smaller number of schools (e.g. if limited to survey respondents). Apart from increasing statistical power, using data from all English schools also removes a significant potential source of bias arising from the relatively low survey response rates which mean that survey samples may not be representative of the full population of schools and pupils.

Scoping phase objectives

The principal aim of the scoping phase was to determine the nature of homework club provision in English secondary schools, i.e. to classify each school according to whether it provides pupils with a homework club which is actively promoted and accessible outside of normal school hours for at least 3 hours per week. We planned web-scraping of school websites, semi-automated AI classification, and a concurrent school leader survey, to collect and cross-check data about homework clubs. The scoping research questions test the methodological and empirical uncertainties relating to the impact evaluation:

[2] Strictly speaking the study will be observational (despite the application of what are commonly referred to as quasi-experimental methods), without any evaluator manipulated allocation of the choice to different schools.

1. Is the school choice sufficiently defined? (i.e. there is sufficient information available to easily categorise schools into providing a homework club or not, with the definition provided above, and there is sufficient evidence to suggest that the categorisation reflects actual practice).
2. Is there a pool of potential comparison schools that are not providing at least three hours of staffed homework space outside of normal school hours per week? Is it possible to classify most English secondary schools based on website information alone?
3. Is the information provided by schools' websites about homework clubs highly correlated with actual practice (as reported by surveyed schools)?
4. What is the nature and variation of homework club provision in secondary schools?

The scoping phase aimed to:

- understand the nature and variation of homework club provision across secondary schools;
- test the viability of the theory of change mechanisms (for example, how much time pupils spend on maths homework during these clubs versus other subjects)
- test the feasibility of using trained artificial intelligence (AI) tools to accurately classify schools' homework provision; and
- test the feasibility of adopting a QED methodology (for example, sample size, assumption testing)

Evaluation feasibility criteria

The key deciding factors for whether the study would proceed to an impact evaluation were:

1. There is sufficient variation in homework club provision and a sufficient proportion of schools are currently not structuring homework clubs as recommended in research evidence (i.e. staffed, outside normal school hours and 3+ hours per week).
2. Feasibility of accurately classifying schools by homework club provision: a minimum targeted scoping survey sample size of ~150 schools (5%) achieved. The aim is for a sample of ~200. Not having this target met would mean we are unable to draw conclusions about whether web-scraping reflects actual practice.
3. It is possible to classify most English secondary schools (>95%) based on website information alone using either semi-automatic classification (for the full population of schools) or manual classification (for a random sample of schools)
4. Classification of provision reflects actual practice. This will be determined by alignment between the web-scraping approach and actual practice reported by surveyed schools in over 90% of the schools surveyed.
5. There is sufficient contrast between treatment and counterfactual group, as informed by analysis of survey responses and website documents. This would consider the distribution of homework club hours within each proposed group, supported by the expert judgement of the Study Advisory Group to ensure the contrast was credible with practitioners. (In practice, this criterion was not assessed because the impact evaluation was ruled out using the preceding criteria.)

Methods

Table 2 provides an overview of the scoping phase activities.

Table 2: Scoping phase activities

Related Objective(s)				Activity	Methodological Approach	Evaluation Feasibility Criteria *(Where relevant)*	Degree of risk to the impact evaluation if evaluation feasibility criteria is not met? (High/Medium/Low)
Understand nature and variation of homework club provision	Test viability of ToC mechanisms	Test feasibility of AI classification	Test feasibility of QED methodology				
✓		✓		Web-scraping to identify schools with evidence of homework clubs	Web-scraping of school websites (all state-funded secondary schools in England, n=3,215)	Sufficient variation in homework club provision (1) Most schools (>95%) can be classified using AI classification or manual classification (3) Sufficient contrast between choices (5)	High High High
✓		✓	✓	Classification of homework club provision	Semi-automated AI classification of presence/absence of homework club, and number of hours. Comparison with manual classification of data for 50 schools.		
✓	✓		✓	Leader survey to explore homework club provision (concurrent with web-scraping)	Survey of all state-funded secondary schools in England (n=3,215), target response of 200 schools. Used to check accuracy of website data and AI classification, and to understand schools' homework practice and implementation of any homework club.	Minimum response of 150 schools (2) Classification of provision (based on website data) reflects practice (based on survey data) (4) Sufficient contrast between choices (5)	Medium High High

Web-scraping and classification

We iteratively developed and tested a web-scraping approach to interrogate school websites. Our code looked for a list of search terms[3] relating to homework clubs (see Table 3), in both the web content and downloadable documents (e.g. PDF policies and prospectuses), saving text segments around those search terms. Our code also deleted any personal data it detected (for example, names of staff who ran homework club). This produced a labelled dataset of text segments which could then be categorised. Where no text segments were retrieved, the school was categorised as having 'no homework club'.

Table 3: Search terms used in web scraping

Search terms retained throughout web scraping	**Search terms removed because they commonly referred to provision other than homework clubs**	**Search terms removed because they were not present in scraped school websites**
Homework club	Homework support	Academic support club
Study club	Study support	Achievement hour
Sparx maths club	Home learning club	Independent study club
Learning hub	Homework hub	Supervised study
	Extended learning	Maths Exam Paper society
		Bright Sparx club
		Extended learning club
		Homework drop-in
		Prep club
		Study hub

While we planned to test and iterate semi-automatic classification of the web-scraped data using a GenAI tool, this activity was not undertaken because the data from school websites was not sufficiently accurate to proceed (see Findings below). Therefore, we cannot comment on the feasibility of using GenAI to classify schools.

Scoping phase survey

We wanted to be confident that the categorisation resulting from web-scraping and classification accurately represented schools' practice. We anticipated that classification of schools could differ from actual practice in two ways:

[3] The list of terms was consulted on by the Study Advisory Board, and also included any terms for homework clubs reported by schools via the survey. The list was iterated in response to the web scraped data from school websites.

i) Web-scraping and/or semi-automated classification were not 100% accurate, resulting in the misclassification of some schools.

ii) Practices indicated by schools' websites (or the apparent absence of a homework club) did not align with what the school is actually doing.

The survey allowed us to understand the degree to which these two issues threaten the accuracy of the classification process. In addition, we used the survey to collect additional information on the implementation of homework clubs and related homework policies, including how long the club has been in place, maths homework quantity and homework enforcement policy. The short online survey was sent to all secondary schools (n=3.215), with incentives for survey completion[4].. We received responses from 187 schools, including 177 where the survey was completed by a senior leader. All responses (n=187) were analysed.

Comparison of data

We tested web-scraping and classification with a sample of 50 schools who responded to the survey: all schools reporting no homework club (n=12) at the time of sampling, and a random sample of those reporting a homework club (n=38).

We tried three approaches to classifying these schools as with OR without a Homework Club, based on their websites:

1. Web-scraping text snippets, followed by automatic classification: any school with no scraped text is considered to have no Homework Club, any school with scraped text is considered to have a Homework Club.
2. Web-scraping text snippets, followed by manual classification based on reading the text snippets.
3. Manual website checks, followed by manual classification

These activities were conducted without reference to survey responses and then cross-checked for consistency. This helped us to understand whether schools' websites were likely to contain the required information about homework clubs.

Findings

This report presents findings from the tests which compared different approaches to obtaining data about the presence of a homework club from school websites, in comparison with survey data (see Methods above). A separate practitioner-facing output from the scoping phase reports detailed findings from the scoping survey. These results are shown in Tables 4-6.

Table 4: Comparison of survey responses with method 1

		Survey response		
		No	Yes	Total
Method 1: Automatic classification of web-scraped snippets	No	3	16	19
	Yes	9	22	31
	Total	12	38	50

[4] The first 200 surveys completed received a £20 book voucher. All survey respondents were entered into a prize draw for five prizes of £200.

Table 5: Comparison of survey responses with method 2

		Survey response		
		No	Yes	Total
Method 2: Manual classification of web-scraped snippets	No	6	21	27
	Unclear	3	2	5
	Yes	3	15	18
	Total	12	38	50

Table 6: Comparison of survey responses with method 3

		Survey response		
		No	Yes	Total
Method 3: Manual website check and classification	No	5	15	20
	Yes	7	23	30
	Total	12	38	50

Table 7 shows the percentage agreement between each method and the survey responses. For this analysis, the survey response is treated as accurate information about the school's current practice.

Table 7: Agreement of websites with survey responses

Method	Description	Agreement with survey	
		N	%
1	Automatic classification of web-scraped snippets	25	50%
2	Manual classification of web-scraped snippets	21	42%
3	Manual website check	28	56%

Agreement of automatic classification (method 1) with manual website checks (method 3)

Comparing different ways of obtaining data from websites, automatic classification of web-scraping only agreed with manual checks in 62% of cases (n=31), as shown in Table 8. However, it is possible that this could be improved with further iterations of the methodology. We did not explore this further as the disparity between the manual website check and the survey responses suggested that the website information was not accurate enough to warrant further exploration.

Table 8: Agreement of automatic classification (method 1) with manual website checks (method 3)

		Method 3: Manual website check		
		No	Yes	Total
Method 1: Automatic classification of web-scraped snippets	No	10	9	19
	Yes	10	21	31
	Total	20	30	50

In about a quarter of schools (26%, n=13) the web-scraping and manual classification (method 2) and website check (method 3) agreed with each other, but disagreed with the survey. These represent schools where we are as sure as possible that the website information (checked in two different ways) does not match the survey response. Of these schools, the most common case was that the survey reported a Homework Club which neither web-scraping (method 2) or a manual website search (method 3) was able to find evidence for (n=11 of 13).

In considering these findings, it is important to note that website classification was limited to a sample of surveyed schools, and the achieved survey sample may not be representative of the broader population of schools.

Methodological Learnings

Feasibility

We recommend that this study **should not** proceed to an impact evaluation, given the differences between what is reported on school websites and what is reported by schools via the survey. As we do not have confidence in the accuracy of information from school websites, the impact evaluation is considered unfeasible.

While we considered other methodological approaches which do not rely on websites/web scraping, we were concerned by the lower statistical power and potential bias of a non-population approach (e.g. a survey). In addition, we were not confident about achieving a substantial contrast between the choices, given that almost all schools who responded to the survey said they offered a homework club.

Implementation considerations

Our scoping phase showed that almost all schools report having some form of homework club provision. However, schools varied widely in the number of hours available to pupils, the extent of specialist staffing and active support for pupils during homework club, and how homework clubs were promoted and encouraged (see Scoping Phase research brief for further detail). This multidimensional heterogeneity makes it challenging to establish a clear and compelling contrast between choices.

Data availability and quality

Our scoping phase showed that it was possible to extract text from websites to a dataset. As discussed above, for this use case, the match between website information about homework clubs, and corresponding responses from surveyed schools, was insufficient proceed to an impact evaluation.

The web scraping process we followed used a combination of four Python libraries to retrieve web content (requests), navigate HTML (beautifulsoup), automate browser interactions (selenium) and extract content from PDFs (pypdf). The process included the following steps:

1. Extract all text in the HTML and downloadable .doc/.docx and PDF files from each selected school home webpage and internal pages within three clicks of distance from the homepage.

2. Identify the location where key terms denoting a homework club (that we defined in an earlier phase) occurred in the extracted text and extract the sentence where it occurred and 10 sentences previous and posterior to that. Retain this and delete all other text.

3. Mask all personal and organisation names, as well as all email addresses and phone numbers.

The main lessons learned related to these steps were:

1. It took significant time to develop code that could read the HTML and downloadable files. It was necessary to be flexible and try different approaches to obtain the text. Some schools use dynamic websites and thus a browser simulator was needed, which takes much longer. Consequently, it was necessary to first approach the websites that could be obtained without a browser and then run a browser for the unsuccessful sites.

2. The text obtained from PDF files lost its formatting if it was embedded within graphics or tables. This made it harder to identify the sentences contiguous to identified key terms. We envisage that AI tools might be able to decode these files more successfully than linear extraction.

3. The presence of key terms denoting a homework club within a school's website did not necessarily indicate that a homework club was present. Classifying schools based solely on the presence or absence of key terms, without further analysis of the relevant text, would have resulted in false positives. For example, some websites contained externally produced PDF documents describing a range of possible strategies for supporting pupils with SEND, including homework clubs or homework support. However, references to these strategies within generic guidance documents did not provide evidence that the school itself offered a homework club.

4. Scraping the text could take up to three hours for some schools due to the large number of documents that were available in some webpages. Moreover, computer memory was exhausted in some cases and required limiting the number of webpages visited in a small number of schools. While this was not a significant problem within the tested dataset of 50 schools, at a larger scale limiting the number of webpages visited could cause information about homework clubs to be missed.

Ethical issues

In order to mask all personal and organisation names as well as all email addresses and phone numbers, we used web scraping packages that rely on NLP (natural language processing) libraries which contain lists of proper names. Compared with REGEX (general expressions) which look for patterns (e.g., capitalised words and use of the ampersand), this approach masked information efficiently. Relying on patterns was not viable as this eliminated too many words that were not personal identifiers.

Operational constraints

The web scraping test took 9 days to complete scraping for 50 schools. As this included time to refine the code during the process, we anticipate this time would be reduced once the code was finalised. Due to the length of time needed to extract all the text in a website, it was not viable to work with one personal computer. We found it necessary to line up a series of networked computers for the second phase of the project (which did not proceed in the end). Nevertheless, the most practical solution for this might be to run the extraction code on a cloud service provider that can run a script from one master computer in a cluster of secondary computers and centralise all information into a single database.

Evaluation considerations for future trials

We recommend that web scraping is considered as a potential methodology for future evaluations, but only where the information being scraped is legally required to be posted online. Compared with surveys, which tend to have low response rates (c.10%), web scraping for the population of schools offers much higher statistical power, and reduces the risk of bias in the research findings, particularly if non-response is correlated with the effectiveness of the implementation of the choice. Practically, web scraping reduces evaluation costs and burden to schools.

We recommend that evaluators who wish to use this methodology consider running the extraction code on a cloud service provider that can scale the number of virtual machines allocated to performing the task.

Within scoping phases, web scraping can be used to understand the range of choices schools are making, and to refine a choice contrast based on their prevalence in schools. As web scraping can be used to collect qualitative data, it can potentially provide contextual understanding of schools' choices.

Web scraping is only suited to cases where schools are required to publish key information, and schools are held to account for this requirement, for example the statutory publication of Pupil Premium policies. To confirm the accuracy of web scraped data, we recommend checking the accuracy of data with a sample of schools at scoping stage (e.g. via a survey).

References

Calarco, J.M., Horn, I.S. and Chen, G.A. (2022) '"You need to be more responsible": the myth of meritocracy and teachers' accounts of homework inequalities', *Educational Researcher*, 51(8), pp. 515–523. Available at: https://doi.org/10.3102/0013189X221111337.

EEF (2021) *Homework*, *EEF*. Available at: https://educationendowmentfoundation.org.uk/education-evidence/teaching-learning-toolkit/homework (Accessed: 16 October 2024).

Eren, O. and Henderson, D.J. (2008) 'The impact of homework on student achievement', *The Econometrics Journal*, 11(2), pp. 326–348. Available at: https://doi.org/10.1111/j.1368-423X.2008.00244.x.

Guo, L. *et al.* (2024) 'The relationship between homework time and academic performance among K-12: a systematic review', *Campbell Systematic Reviews*, 20(3), p. 1431. Available at: https://doi.org/10.1002/cl2.1431.

Hainmueller, J. (2012) 'Entropy balancing for causal effects: a multivariate reweighting method to produce balanced samples in observational studies', *Political Analysis*, 20(1), pp. 25–46. Available at: https://doi.org/10.1093/pan/mpr025.

Harland, J. *et al.* (2024) *Factors influencing secondary school pupils' educational outcomes*. London: Department for Education. Available at: https://assets.publishing.service.gov.uk/media/66e4006e3f1299ce5d5c3e11/Factors_influencing_secondary_school_pupils__educational_outcomes.pdf.

Ingram, J. *et al.* (2023) *PISA 2022: National Report for England*. Research report. London: Department for Education. Available at: https://assets.publishing.service.gov.uk/media/656dc3321104cf0013fa742f/PISA_2022_England_National_Report.pdf.

Jerrim, J. (2017) *Extra Time: Private tuition and out-of-school study, new international evidence*. London: The Sutton Trust. Available at: https://www.suttontrust.com/wp-content/uploads/2017/09/Extra-time-report_FINAL.pdf.

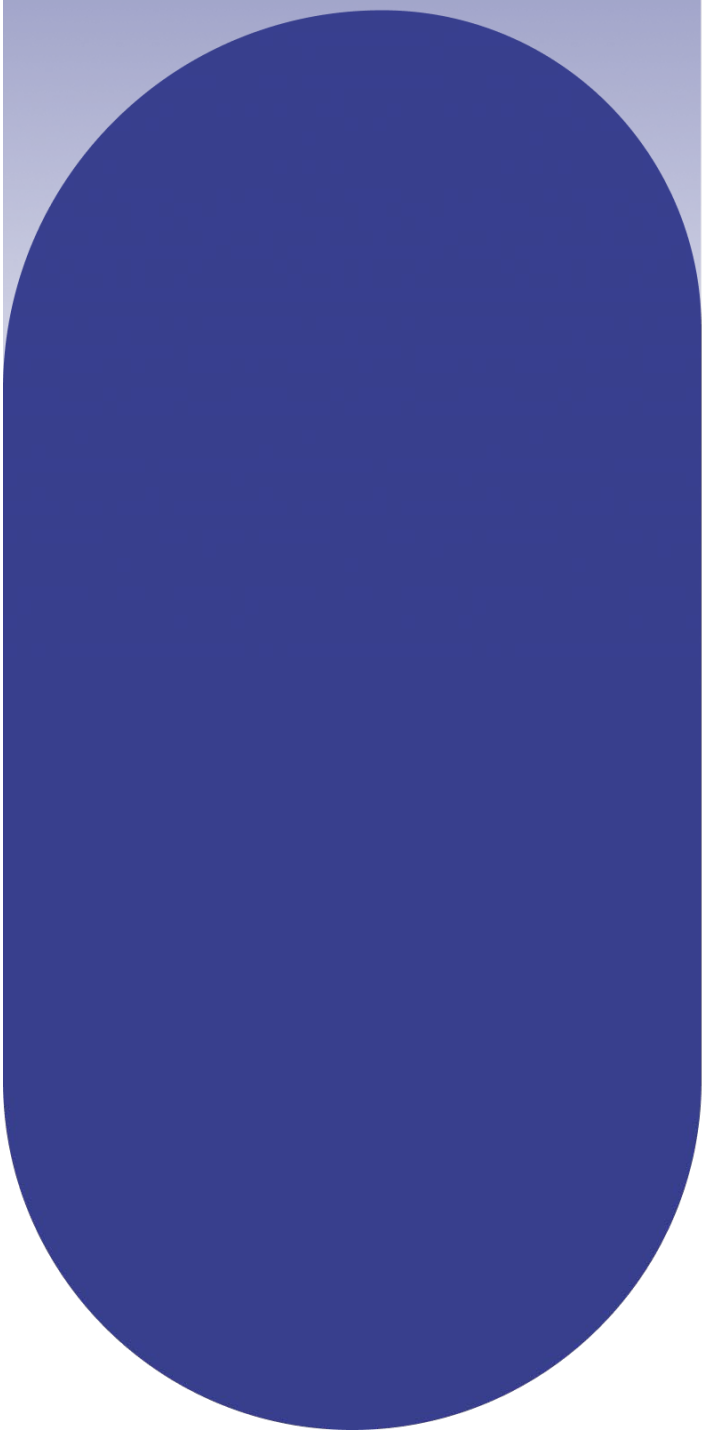
Kennewell, E. *et al.* (2022) 'The relationships between school children's wellbeing, socio-economic disadvantage and after-school activities: a cross-sectional study', *BMC Pediatrics*, 22(1), p. 297. Available at: https://doi.org/10.1186/s12887-022-03322-1.

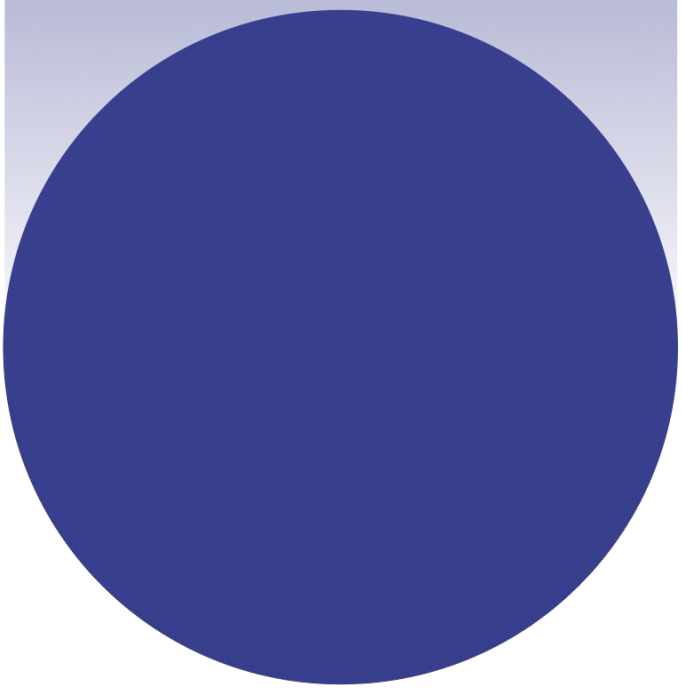
Page, L.C., Lenard, M.A. and Keele, L. (2020) 'The design of clustered observational studies in education', *AERA Open*, 6(3). Available at: https://doi.org/10.1177/2332858420954401.

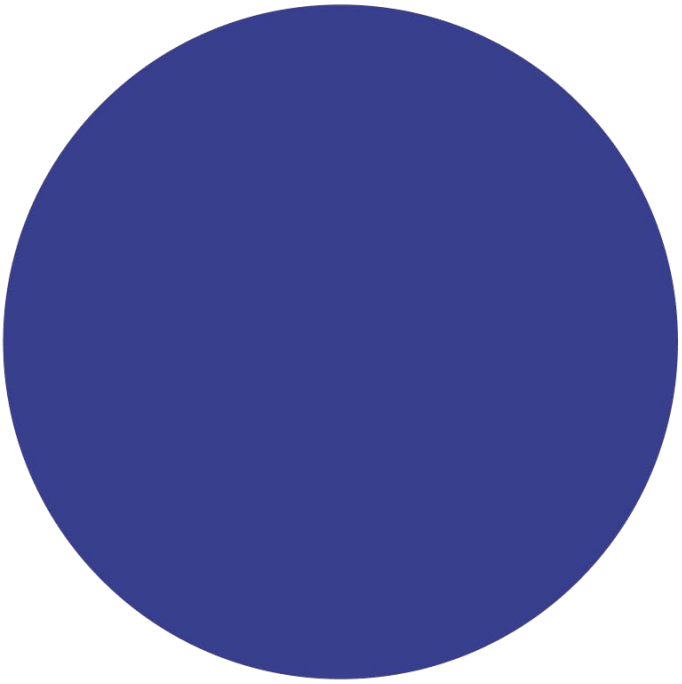
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