Department for Education

Parental engagement and academic outcomes: evidence from longitudinal data

Research report

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Executive summary

This report examines how out-of-school factors – particularly parental engagement – are associated with children's educational outcomes across childhood, adolescence, and early adulthood. It draws on linked survey and administrative data from three large longitudinal studies: EOPS[1] Primary, which includes children at age five; EOPS Secondary, which covers young people in Year 8; and LSYPE2[2], which tracks a cohort from age 13 through to their early twenties. Together, these studies enable us to examine how home environments, parental engagement, school-family relationships, and educational expectations are associated with outcomes spanning literacy, cognitive development, school attendance, educational attainment, and early labour-market outcomes.

Key findings

- **Parental engagement is not a single influence on children's learning.** Different forms of engagement appear to operate in different ways and are associated with different outcomes. Activities that reflect a supportive learning environment, constructive engagement with schools, and high educational expectations tended to be associated with more favourable outcomes. In contrast, some forms of intensive involvement – such as frequent contact with teachers or direct help with homework – often appeared to reflect parental responses to existing difficulties rather than independent drivers of educational success.
- **A language-rich home learning environment is strongly associated with early educational development.** Children growing up in homes with more books, regular library visits, and frequent conversational interaction generally showed stronger vocabulary, phonics, and reasoning outcomes.
    - **Some of the largest associations were observed for books in the home**. Compared with households containing 0 to 10 books, children living in homes with more than 100 books scored around 29 percentage points higher on the phonics check and around 6 t-score points higher on naming vocabulary, and had around one-seventh the odds of persistent absence.
    - **Frequent conversational interaction was similarly important**. Children whose parents engaged them in back-and-forth conversations about feelings three to four days per week scored around 21 percentage points higher on the phonics check, while those having such conversations five to seven days per week scored around 23 percentage points higher, among the largest associations observed for any single home-learning activity.
- **Homework is consistently associated with attainment, attendance, and later earnings.** In LSYPE2, young people spending three to five hours per week on

[1] Education and Outcomes Pathways Studies
[2] Longitudinal Study of Young People in England II

homework in Year 9 achieved around 12 additional Attainment 8 points compared with those doing none. In Year 10, those spending eleven or more hours achieved advantages of up to 18 Attainment 8 points. Homework was also associated with longer-term outcomes. Young people spending six to ten hours per week on homework earned approximately £5000-£6300 more per year in their early twenties than those reporting no homework.

- **Parental engagement with schools showed consistently positive associations with attainment, attendance, and, in some cases, later-life outcomes.** For example, parental attendance at parents' evenings was associated with 5-7 additional Attainment 8 points, up to a 56% reduction in the odds of persistent absence, and higher odds of participation in education, employment, or training in early adulthood. Further, discussing Year 10 subject choices was associated with around 4 additional Attainment 8 points and 57% higher odds of being in education, employment, or training eight years after KS4.
- **Clear school-parent communication matters.** Parents who reported receiving clear information about their child's progress, understanding what schools expected their child to achieve, and receiving information about progress relative to those expectations tended to have children with higher attainment and lower rates of persistent absence.
    - Where parents reported that schools had communicated academic expectations and progress against them, children achieved around 6-7 additional Attainment 8 points and approximately 35-49% lower odds of persistent absence.
    - By contrast, frequent parent-teacher contact was consistently associated with lower attainment and higher absence. This pattern most likely reflects reactive communication in response to emerging difficulties rather than evidence that communication itself is harmful.
- **Educational expectations are closely associated with educational outcomes.** Compared with parents who expected their child to enter work directly after Year 11[3], parents who expected their child to continue in full-time education had children who achieved around 9-13 additional Attainment 8 points and had substantially lower odds of persistent absence. Positive associations were observed not only for academic routes but also for vocational pathways such as apprenticeships. This suggests that expectations may matter less because of the specific destination envisaged and more because they reflect an orientation towards continued learning and skill development after compulsory schooling.

[3] Note: Parents were asked about post-16 expectations across 2012/13 to 2014/15, spanning the phased implementation of the raising of the participation age: the duty to participate in education or training to 17 took effect from summer 2013 and to 18 from summer 2015, the year this cohort left Year 11.

Concluding thoughts

The findings suggest that the forms of parental engagement most consistently associated with positive outcomes are those that foster a language-rich home environment, encourage sustained engagement with learning, support educational planning, and promote constructive communication between families and schools. These associations extend beyond attainment to attendance and, in some cases, into early adulthood through links with earnings and participation in education, employment, and training. At the same time, parental engagement is shaped by wider social and educational contexts. Families facing disadvantage, and families supporting children with additional needs, often face structural barriers that influence both their opportunities to engage and the ways in which engagement manifests. The findings therefore suggest that meaningful parental engagement is shaped not only by parents' actions, but also by the broader conditions that support involvement, including clear communication, accessible opportunities for participation, and responsiveness to the circumstances of different families.

Limitations and future directions

The findings should be interpreted in light of several limitations. Most importantly, the analyses are observational and cannot establish causal relationships. Reverse causation is a plausible explanation for several associations, particularly those relating to parental help with homework, direct teaching activities, frequent parent-teacher contact, and parental expectations. Future research should build on these findings using newer waves of EOPS data as they become available. Longer follow-up periods will permit stronger longitudinal analyses and provide opportunities to examine whether these associations persist into adulthood. Future work should also explore causal approaches that can better distinguish whether parental engagement shapes educational outcomes or whether many forms of engagement primarily reflect educational trajectories that are already underway.

Background

In recent years, concerns have grown about widening educational inequalities, declining engagement with schooling, and persistent gaps in attainment between children from disadvantaged backgrounds and their more affluent peers (Hunt et al., 2025; Machin & Vignoles, 2004; Maisuria & Lally, 2024). Research has shown that children facing disadvantage report weaker feelings of belonging in school than their peers, and that levels of disengagement and persistent absence have increased among this group (Arnot, 2025; Hunt et al., 2025; National Children's Bureau, 2024; Palikara et al., 2025). These patterns have prompted renewed attention to the broader set of influences on children's learning, including the crucial role that families play in supporting educational progress (Department for Education, 2026a).

A substantial research base demonstrates that parental engagement with their child's education is consistently associated with improved academic outcomes, stronger motivation, and better attendance (Education Endowment Foundation, 2022; Goodall, 2017; McConnell & Kubina, 2014). Parental engagement encompasses a wide range of activities, from the quality of the home learning environment, to school-based involvement and the aspirations parents hold for their children's futures (Epstein, 1987, 1992; Goodall & Montgomery, 2014). Research drawing on large-scale longitudinal studies has found that early home learning activities such as shared reading, library visits, and back-and-forth conversations are among the strongest predictors of children's vocabulary and literacy development (Allen et al., 2026; Fish et al., 2026; Melhuish et al., 2008; Sylva et al., 2004). As children move into secondary education, parental practices around homework supervision, communication about school progress, and the cultivation of educational aspirations become increasingly important, with parental expectations about higher education associated with children's own academic motivation and eventual attainment, independently of prior achievement (Anderson et al., 2026; Gorard et al., 2012; Strand, 2014).

While there is strong evidence that parental engagement can support children's educational success, the capacity to engage is not evenly distributed. Families facing socioeconomic disadvantage often encounter structural barriers – including time poverty, financial pressures, and prior negative experiences with schools – that limit opportunities for involvement. Consequently, policies that rely solely on encouraging parental engagement may have limited impact unless these underlying barriers are also addressed (Benner et al., 2016; Tan et al., 2020). Moreover, parental engagement does not take the same form across all groups of pupils. For example, parents of children with special educational needs (SEN) typically have more frequent contact with schools, but much of this communication is driven by the identification of needs, planning and reviewing support, and monitoring progress (Croll, 2001). Such interactions may therefore be more reactive to existing needs than the proactive forms of engagement commonly associated with positive educational outcomes. Similarly, patterns of parental engagement and their relationship to attainment vary across ethnic groups in ways that reflect broader structural

inequalities and cannot be straightforwardly generalised from majority-White samples (Gillborn, 2008). Understanding how parental engagement operates within these wider social and educational contexts – and whether its benefits are equitably distributed – is therefore essential for designing interventions capable of narrowing persistent attainment gaps.

Longitudinal data linked to administrative records provide a valuable opportunity to address these questions. Much of the existing evidence base on parental engagement relies on small-scale or cross-sectional samples, limiting the extent to which findings can be generalised across populations and developmental stages. By linking survey data to administrative records on attainment, attendance, and longer-term labour market outcomes, large-scale longitudinal studies offer a more robust basis for understanding which forms of parental engagement are associated with positive outcomes, for whom, and under what circumstances. This report contributes to that evidence base by drawing on data from the Education and Outcomes Pathways Studies (EOPS) and the Longitudinal Study of Young People in England II (LSYPE2) linked to administrative data sources. This evidence is increasingly important as schools and policymakers seek approaches that not only raise academic standards, but also strengthen children's connection to education and ensure that all pupils – regardless of background – are able to achieve and thrive.

Methodology

Data

Data for this analysis are drawn from three longitudinal studies commissioned by the Department for Education (see Table 1). The first is LSYPE2 (also known as *Our Future*), which follows a cohort of pupils born between 1998 and 1999 who were first surveyed at age 13/14 and followed until age 24/25 (Arnot et al., 2026). For this analysis, we use the first three waves of social survey data, collected when participants were in Years 9 to 11. The second study is EOPS Primary[4] (also known as *Five to Twelve*), a cohort of children born in 2017/18 who were sampled when they were in Year 1 (age 5/6) (Allen et al., 2026). The third is EOPS Secondary (also known as *Growing Up in the 2020s*), which comprises pupils sampled in 2024/25 when they were in Year 8 (Stepanous et al., 2026).

Participating families in all three studies were asked for consent to link their survey responses to administrative data. For EOPS Primary and EOPS Secondary, linkage was made to the National Pupil Database (NPD), which provides detailed information on pupils' characteristics, schooling histories, and attainment (Jay et al., 2019), and which is used here to derive outcomes relating to attainment and persistent absence. For LSYPE2, linkage was made to both the NPD – again used for attainment and attendance outcomes – and to the Longitudinal Educational Outcomes (LEO) dataset, which links education records to later employment, earnings, and benefits data (Department for Education, 2026b), and which is used here to examine earnings and employment, education, or training (EET) status in participants' early twenties.

Following linkage based on provided consent, the final analysis samples comprised 7249[5] pupils in LSYPE2, 7146 in EOPS Primary, and 6005 in EOPS Secondary. Descriptive statistics for the analysis samples are provided in Appendix C. Associations between the sociodemographic covariates and each outcome are summarised in Appendix A.

Table 1. Timing of data used in analyses.

Dataset	Year of data collection	Age of students
LSYPE2, Wave 1	2012/13	Year 9 (13/14)
LSYPE2, Wave 2	2013/14	Year 10 (14/15)
LSYPE2, Wave 3	2014/15	Year 11 (15/16)

[4] EOPS Primary and EOPS Secondary are part of the Education and Outcomes Pathways Studies (EOPS).
[5] Where LEO-linked data were used as outcomes, a slightly reduced sample was analysed due to missing data. The sample size was 6471 for the in employment, education, or training outcome, and 6474 for total earnings measured eight years after Year 11.

Dataset	Year of data collection	Age of students
EOPS Primary, Wave 1	2023/24	Year 1 (5/6)
EOPS Secondary, Wave 1	2024/25	Year 8 (12/13)

Variables

A wide range of social survey data is collected across these studies, capturing parental involvement, home learning practices, family characteristics, and pupil attitudes and experiences. These survey measures are supplemented with administrative data from the NPD and LEO, providing consistent information on attainment, demographic characteristics, and longer-term outcomes.

The outcomes examined in this study were drawn from the study data, the NPD, and LEO. They span academic outcomes, cognitive measures related to academic performance (such as non-verbal reasoning), and longer-term outcomes that may reflect pupils' broader engagement with schooling, such as earnings and employment. These outcomes are presented in Table 2. All other variables used in the analyses – including out-of-school factors, parental engagement variables, and sociodemographic covariates – are described in Appendix B Table 1.

Table 2. Summary of outcome variables, data sources, and time points across study datasets.

Outcome	Dataset	Source	Brief description
Persistent absence in Year 1	EOPS Primary	NPD	Whether or not the pupil missed 10% or more of sessions in the 2023/24 academic year
Persistent absence in Year 8	EOPS Secondary	NPD	Whether or not the pupil missed 10% or more of sessions in Autumn and Spring term of the 2024/25 academic year[6]
Persistent absence in Year 11	LSYPE2	NPD	Whether or not the pupil missed 10% or more of sessions in the 2014/15 academic year

[6] Due to the timing of NPD data deposits and time of analysis, persistent absence for EOPS Secondary reflects persistent absence in the Autumn and Spring term of the 2024/25 academic year, rather than the whole academic year.

Outcome	Dataset	Source	Brief description
Phonics score	EOPS Primary	NPD	Year 1 Phonics Screening Check score in the 2023/24 academic year, modelled as a proportion of the 40-mark maximum
Phonics outcome	EOPS Primary	NPD	Whether the pupil met the expected standard (score of 32 or above out of 40) in the Year 1 Phonics Screening Check in the 2023/24 academic year
Attainment 8	LSYPE2	NPD	Total attainment score across eight qualifications at the end of Key Stage 4 in the 2014/15 academic year, including English and maths (with both subjects double weighted), three EBacc qualifications (such as sciences, languages, or history/geography), and three further approved qualifications.
Picture similarity t-score	EOPS Primary	Study	Standardised t-score on a picture similarity task measuring non-verbal reasoning ability
Naming vocabulary t-score	EOPS Primary	Study	Standardised t-score on a naming vocabulary task measuring expressive vocabulary
Matrix reasoning score	EOPS Secondary	Study	Score on a matrix reasoning task measuring non-verbal reasoning ability, modelled as a proportion of the 36-point maximum
Whether in employment, education, or training	LSYPE2	LEO	Whether the individual was in employment, education, or training at age 23/24
Total earnings	LSYPE2	LEO	Total earnings (£) in the tax year corresponding to age 23/24

Statistical approach

For each outcome variable, we estimated a series of survey-adjusted regression models using the *survey* package in R (Lumley, 2004, 2024; R Core Team, 2026), accounting for the complex sample design of each study. Because the outcome measures differ in scale and distribution, each was modelled using the regression family appropriate to its measurement properties. Binary outcomes (e.g., persistent absence; phonics outcome) were analysed using logistic regression. Bounded or proportion outcomes (e.g., matrix reasoning; phonics mark) were analysed using quasibinomial regression, with the outcome operationalised as score ÷ maximum score. Estimated log-odds were back-transformed, so results for these outcomes are reported as differences in the predicted proportion of the maximum score, expressed in percentage points and averaged over the observed covariate distribution. Because the back-transformation is non-linear, a given percentage-point difference corresponds to a different number of raw marks depending on where the comparison group sits on the scale. For reference, one percentage point corresponds to around 0.4 marks on the 40-mark phonics check and around 0.36 marks on the 36-point matrix reasoning task. Continuous outcomes (e.g., Attainment 8; annual earnings) were estimated using linear regression.

Each engagement measure was entered into a separate model. To establish whether the association between that measure and the outcome varied across sociodemographic groups (see Appendix B Table 1 for the covariates included), we used a targeted interaction-testing strategy. A model was first fitted including interaction terms between the engagement variable and all eligible sociodemographic characteristics simultaneously. Because these terms were estimated jointly within a single model, each test is mutually adjusted for the interactions involving the other characteristics.

Design-based Wald F-tests were then applied to each characteristic in turn, evaluating the joint significance of all interaction terms associated with it, that is, all levels of a given factor crossed with the engagement variable. This assesses whether a characteristic as a whole moderates the engagement-outcome association, while accounting for survey weights, clustering, and stratification. Since multiple characteristics were tested for each engagement variable, the family-wise error rate was controlled using the Holm correction, applied across the set of demographic tests within each specification. Holm is more powerful than Bonferroni while maintaining strict control of the family-wise error rate, which suits this step-down testing context. Characteristics whose interaction terms remained significant after correction were retained in the final model; those that did not were included as main effects only. This keeps the final model parsimonious while ensuring that reported moderation effects are unlikely to be artefacts of multiple testing.

Several measures were asked at more than one LSYPE2 wave, and the size or significance of an association sometimes differs between year groups. Such differences should not be read as evidence that the underlying relationship changes over time. We did not test formally whether estimates from different waves differ from one another, and

where confidence intervals overlap the estimates are compatible with a single association measured with varying precision. Achieved sample sizes also fall across successive waves through attrition and non-response, so later estimates are less precise, particularly for interaction terms within small subgroups.

Two features of the design compound this. First, question wording and response options are not identical at every wave (Appendix B). Second, the interval between measurement and outcome narrows as the waves progress: the KS4 outcomes are fixed at the end of Year 11, so a measure captured in Year 11 is close to contemporaneous with the outcome, while the same measure at Year 9 precedes it by two years. Later waves therefore offer less temporal separation and greater scope for reverse causation, and a larger estimate at Year 11 does not in itself indicate a stronger effect. Where a difference between year groups is instead better explained by the timing of the activity, such as discussion of subject choices in Year 10 or of post-16 destinations in Year 11, we say so in the relevant section.

How do out-of-school factors and parental engagement associate with academic outcomes?

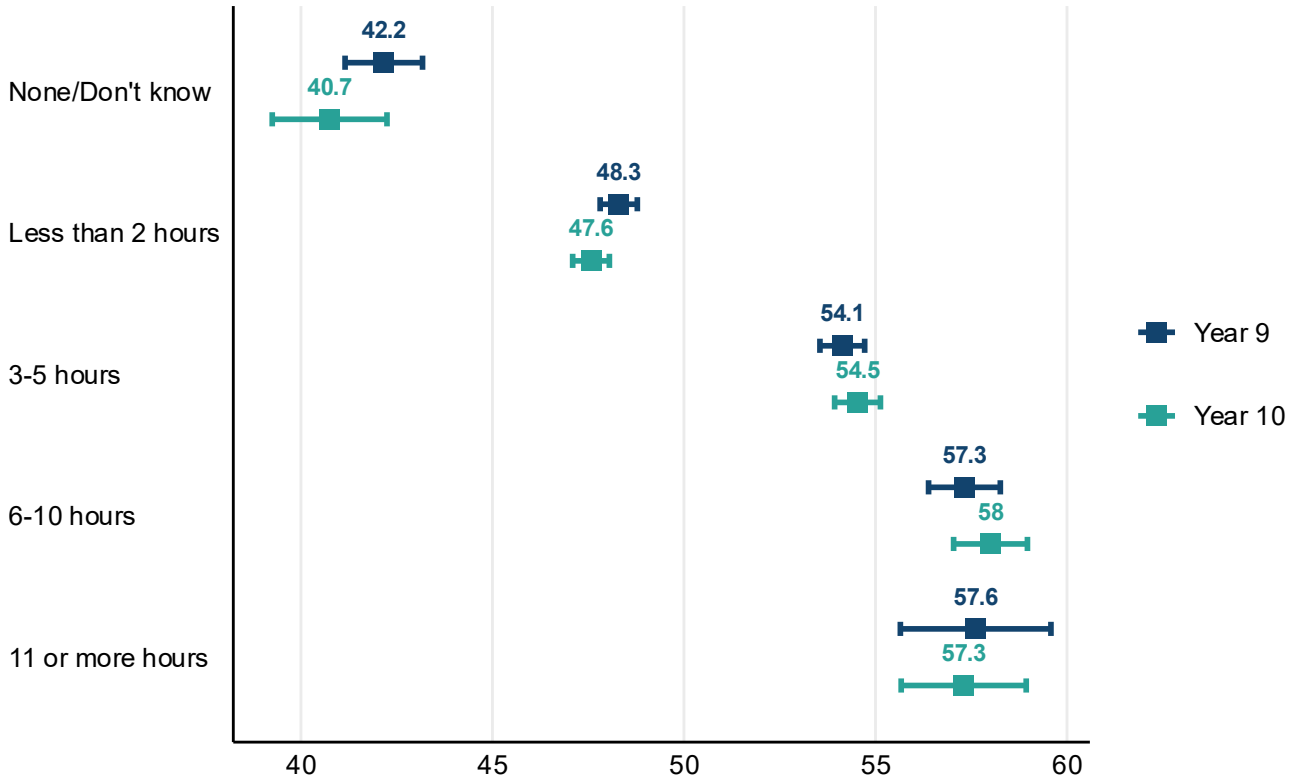
Homework

Time spent on homework

In EOPS Secondary, those who spent any time on homework had substantially lower odds of persistent absence than those not set any homework, regardless of the amount of time spent (e.g., less than an hour: OR = 0.29, 95% CI = 0.17, 0.47; three to five hours: OR = 0.14, 95% CI = 0.08, 0.25). At higher levels of homework time, there was also an association with higher matrix reasoning scores: young people spending three to five hours per week scored around 7 percentage points higher (95% CI = 1.2, 12.8), and those spending five or more hours around 10 percentage points higher (95% CI = 3.5, 17.0).

Consistent with the EOPS Secondary findings, young people in LSYPE2 who spent any time on homework had substantially lower odds of persistent absence than those spending

Figure 1. Predicted Attainment 8 score by time spent on homework a week. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 9, Year 10)

Box A: How to read the statistics

Understanding the model estimates

As the outcome measures differ in scale and distribution, different regression models are used depending on the type of outcome.

Binary outcomes (e.g., persistent absence; phonics outcome) were analysed using logistic regression and reported as odds ratios (ORs) with 95% confidence intervals (CIs). An OR of 2.0 indicates twice the odds of the outcome; an OR of 0.5 indicates half the odds.

Outcomes with fixed minimum and maximum scores (phonics mark; matrix reasoning) are modelled using quasibinomial regression, with scores expressed as a proportion of the maximum. Coefficients are estimated on the log-odds scale and back-transformed, so results are reported as differences in the predicted percentage of the maximum score.

Continuous outcomes (naming vocabulary t-score; picture similarities t-score; Attainment 8; annual earnings) were analysed using linear regression. Regression coefficients (β) represent the estimated difference in the outcome score associated with the predictor, expressed in the original units of each measure.

All results are presented with 95% CIs. For ORs, a CI that includes 1 indicates that the association cannot be distinguished from no association. For regression coefficients, a CI that includes 0 indicates the same.

Some models include interaction terms, which test whether an association differs between groups rather than holding constant across them – for example, whether the relationship between homework time and attendance is stronger for one group than another. The main effect gives the association in the reference group; the interaction term shows how this differs for the comparison group. A CI that includes 0 (or 1 for ORs) on the interaction term indicates no clear evidence that the association differs between groups, even where the associations within each group are themselves clear.

Understanding the figures

Each square shows the estimated outcome for a group after accounting for other factors in the model. The horizontal line shows the 95% CI: the range of values consistent with the data.

The direction that indicates a “better” outcome depends on how each measure is defined. Larger gaps between groups indicate larger differences in outcomes; where CIs overlap substantially, apparent differences should be interpreted with caution.

Full results can be found in Appendix C Tables 1-11.

no time. The odds of being persistently absent in Year 11 broadly decreased with hours spent, from less than two hours per week (OR = 0.73, 95% CI = 0.54, 0.98) to six to ten hours per week (OR = 0.49, 95% CI = 0.24, 0.97).

In LSYPE2, homework time in Year 9 was associated with substantial differences in Attainment 8 score (Figure 1). Compared with those who did no homework or did not know how much they did, young people spending less than two hours per week scored around 6 points higher (95% CI = 5.1, 7.2); those spending three to five hours scored around 12 points higher (95% CI = 10.8, 13.1); and those spending six to ten hours and eleven or more hours scored around 15 to 16 points higher. Associations of similar or somewhat larger magnitude were observed in Year 10, ranging from around 8 points for less than two hours to around 18 points for eleven or more hours. Here the association between homework time and Attainment 8 was moderated by status. For young people with a statement of SEN[7], spending three to five hours on homework was associated with around 12 additional Attainment 8 points relative to the baseline homework gradient for young people without SEN (β = 12.1, 95% CI = 4.5, 19.7), suggesting that the positive association with homework time was stronger for those with a statement of SEN. However, this finding should be interpreted cautiously, as pupils with statements of SEN represent a diverse population, and homework time may capture broader factors that are unmeasured in this analysis, such as access to specialist provision or level of need. The relatively small number of pupils with statements of SEN in this sample will also contribute to greater uncertainty around these estimates.

In LSYPE2, spending more time on homework in Year 9 and Year 10 was also associated with higher total earnings eight years after KS4. Young people who spent six to ten hours per week in Year 9 earned around £5000 more (β = 5028, 95% CI = 3422, 6635) and those doing so in Year 10 earned around £6300 more (β = 6332, 95% CI = 4411, 8254) than those who did not do homework or did not know how much they did.

Parental help with homework

In EOPS Secondary, parent-reported frequency of helping with homework was associated with lower persistent absence at every frequency level relative to young people who were not set homework, ranging from never helping (OR = 0.52, 95% CI = 0.36, 0.76) through to helping every day (OR = 0.28, 95% CI = 0.19, 0.42). Matrix reasoning showed no consistent association with frequency of parental help.

Young people's own report of whether someone at home helped them was similarly associated with lower persistent absence in EOPS Secondary. Those who strongly agreed that someone at home helped them had around one-quarter the odds of persistent

[7] Data were collected prior to the 2014 SEND reforms. Pupils recorded as having a statement of SEN were identified under the statutory SEN framework that preceded Education, Health and Care Plans (EHCPs), which replaced statements from September 2014.

Box B: A note on earnings and EET status

Several parental engagement variables examined in this report are associated not only with attainment and attendance during secondary school, but also with earnings and employment, education, or training (EET) status measured eight years after Key Stage 4. Interpreting these associations requires some care.

One plausible explanation is that the associations with later economic outcomes are entirely mediated by attainment: parental engagement improves GCSE performance, and higher GCSE grades in turn improve labour market prospects. On this account, the engagement–earnings association would not reflect any additional direct influence of engagement beyond its effect on KS4 outcomes.

Even if the associations reflect a mix of direct and mediated pathways, they remain informative about which families tend to achieve better economic outcomes for their children, and which forms of engagement are most consistently associated across the full range of outcomes examined.

Nonetheless, the limitations of an observational design apply here as elsewhere. The associations may be driven by other factors we have not measured or fully accounted for, such as parental socioeconomic resources or child ability, which could shape both engagement and earnings. This means the findings should not be interpreted as evidence of causal effects without further corroborating evidence.

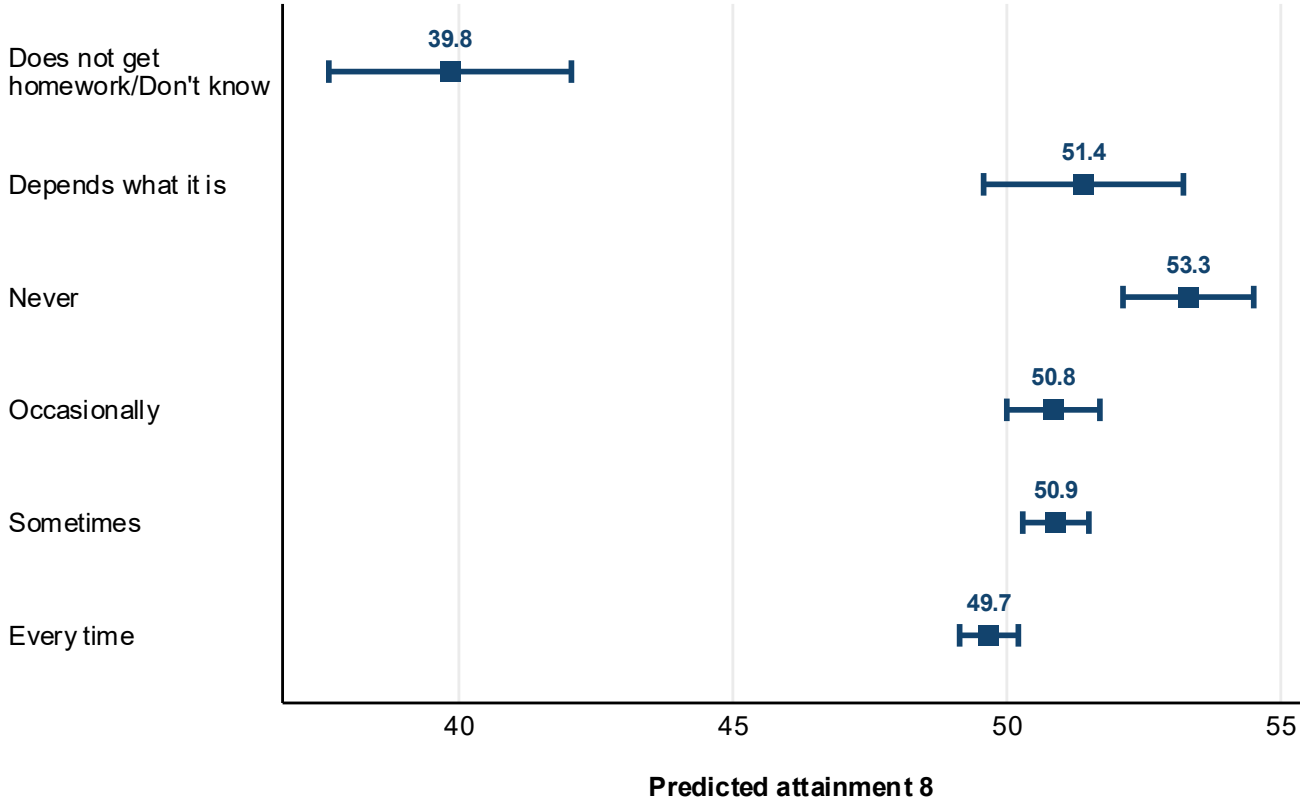
absence compared with those who were not set homework (OR = 0.23, 95% CI = 0.14, 0.38). No association with matrix reasoning was found at any response level.

In LSYPE2, having someone at home help with homework in Year 10 was associated with around 2 fewer Attainment 8 points (β = -2.0, 95% CI = -2.8, -1.2). In contrast, there was no overall association between receiving help with homework in Year 9 and Attainment 8 scores (β = 0.0, 95% CI = -2.3, 2.4). However, among pupils who had ever been eligible for free school meals (FSM), receiving help with homework in Year 9 was associated with around 3.7 fewer Attainment 8 points relative to non-FSM pupils (interaction β = -3.7, 95% CI = -5.6, -1.7). This suggests that the association between home help and attainment was more negative in Year 9 for disadvantaged young people. One possible explanation is that help is provided reactively when a young person is already experiencing academic difficulties, meaning the association may reflect pre-existing challenges rather than a detrimental effect of help itself. No statistically significant associations were observed between home help with homework and persistent absence.

Homework checking

Figure 2 shows associations between parental homework checking and Attainment 8, using as the reference group young people who either did not receive homework or did not

Figure 2. Predicted Attainment 8 score by whether someone at home checks if the young person has done homework. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 10)

know whether their homework was checked. Relative to this group, all homework-checking categories were associated with higher attainment in both Year 9 and Year 10. However, the relationship was not linear.

At Year 9, young people whose homework was never checked had the highest predicted Attainment 8 of any category (β = 11.9, 95% CI = 5.2, 18.7), closely followed by those whose homework was checked every time (β = 11.1, 95% CI = 6.1, 16.0). Those whose homework was checked occasionally or sometimes showed somewhat smaller associations (occasionally: β = 6.8, 95% CI = 1.7, 11.9; sometimes: β = 7.4, 95% CI = 2.4, 12.5). The pattern at Year 10 differed slightly (Figure 2). Rather than the highest estimates falling at both ends of the checking scale, attainment declined as checking became more frequent. Pupils whose homework was never checked had the highest predicted attainment of any group (β = 14.3, 95% CI = 11.9, 16.7), while those whose homework was checked every time had the lowest predicted attainment among the homework-checking categories (β = 10.9, 95% CI = 8.9, 13.0). The categories ‘depends what it is’, ‘occasionally’, and ‘sometimes’ fell between these two extremes (β = 11.9, 11.4, and 12.0 respectively).

This inverted pattern is unlikely to reflect a causal effect of homework checking. Rather, it is consistent with selection effects whereby high-attaining pupils who complete homework reliably require less parental oversight and are therefore less likely to have their homework checked. The finding that the ‘never checked’ group had the highest attainment is therefore more plausibly interpreted as reflecting pre-existing differences between pupils than evidence that parental monitoring is detrimental. The more informative comparison is between the reference group and all other categories. From this perspective, the results suggest that pupils living in households that engage with homework in some form have substantially higher attainment than those in the reference group. Because the reference group combines young people who received no homework with those who did not know whether their homework was checked, this contrast should be interpreted as capturing engagement with homework more broadly rather than the effect of checking alone.

The persistent absence findings are easier to interpret. At Year 9, pupils whose homework was checked every time had 56% lower odds of persistent absence in Year 11 than the reference group (OR = 0.44, 95% CI = 0.29, 0.65), and even those whose homework was never checked had lower absence odds (OR = 0.57, 95% CI = 0.34, 0.97). This again suggests that pupils who are more engaged with school and less likely to miss lessons may require less parental monitoring. At Year 10, the pattern was more consistent, with ‘occasionally’ (OR = 0.67, 95% CI = 0.47, 0.96), ‘sometimes’ (OR = 0.56, 95% CI = 0.39, 0.78), and ‘every time’ (OR = 0.43, 95% CI = 0.31, 0.60) all associated with substantially lower odds of persistent absence.

Homework checking in Year 9 was also associated with more favourable longer-term earnings outcomes, although interpretation again depends on the composition of the reference group. Relative to young people who either did not receive homework or did not know whether it was checked, all active checking categories were associated with higher predicted annual earnings. The ‘occasionally’ (β = 3684, 95% CI = 1427, 5941), ‘sometimes’ (β = 4074, 95% CI = 1952, 6196), and ‘every time’ (β = 4615, 95% CI = 2530, 6699) categories were all associated with earnings approximately £3700-£4600 higher per year than the reference group. However, the substantial overlap between confidence intervals provides little evidence that these categories differ meaningfully from one another. The ‘depends what it is’ category was also positively associated with earnings (β = 4609, 95% CI = 1505, 7713), albeit with greater uncertainty, while the ‘never checked’ category showed a positive but statistically uncertain association (β = 2873, 95% CI = -184, 5929).

As with attainment, the earnings findings are better interpreted as reflecting differences between households that engage with homework and those in the reference group rather than evidence that more frequent checking itself raises earnings. The high point estimate for the ‘never checked’ group is again consistent with a selection explanation, whereby higher-performing pupils are less likely to require parental monitoring. Overall, the findings suggest that engagement with homework is associated with more favourable labour-

market outcomes, but provide little evidence that finer gradations in checking frequency translate into meaningfully different earnings trajectories.

The EET findings show a clearer and more consistent pattern. Relative to the reference group, young people whose homework was checked 'sometimes' had more than twice the odds of being in education, employment, or training eight years after KS4 (OR = 2.10, 95% CI = 1.41, 3.12), while those whose homework was checked ‘every time’ showed very similar odds (OR = 2.22, 95% CI = 1.52, 3.23). ‘Occasionally’ (OR = 1.81, 95% CI = 1.19, 2.76) and ‘depends what it is’ (OR = 1.78, 95% CI = 1.03, 3.06) were also associated with substantially higher odds of being in EET. Together, these findings suggest that households displaying some degree of engagement with homework tend to be associated with more positive long-term educational and labour-market outcomes, although the results do not indicate a clear advantage of more intensive parental monitoring over less frequent forms of involvement.

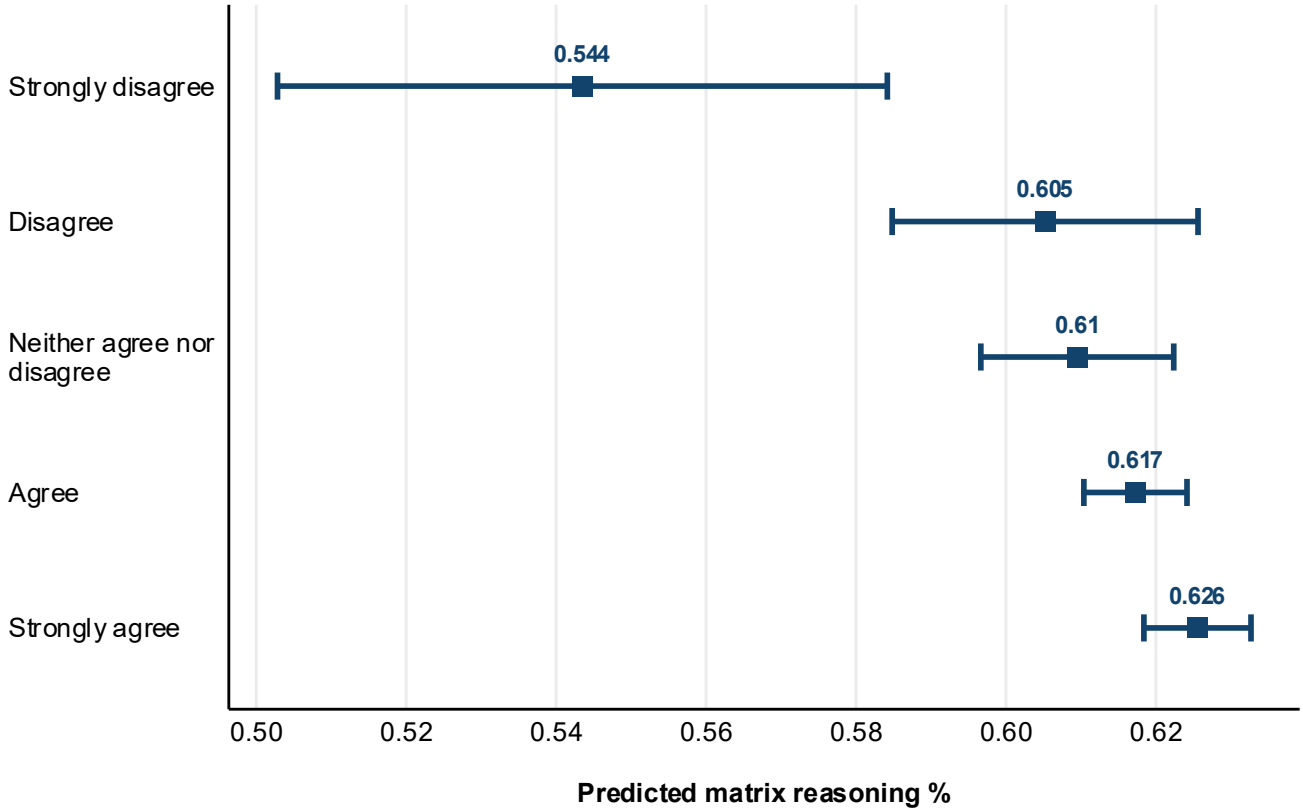
Quiet homework space

In EOPS Secondary, young people who agreed that they had access to a quiet homework space had lower odds of persistent absence than those who strongly disagreed, although the interval only just excludes no association (OR = 0.62, 95% CI = 0.40, 0.99). The estimate for those who strongly agreed was of similar size but was not statistically distinguishable from the reference group (OR = 0.66, 95% CI = 0.41, 1.04). For matrix reasoning, every response category scored higher than 'strongly disagree', suggesting the relevant contrast is between having no quiet space and having one at all, with even those who disagreed about having a quiet space scoring around 9 percentage points higher than those who strongly disagreed (β = 9.3, 95% CI = 2.6, 15.9); those who were ambivalent around 10 percentage points higher (β = 9.9, 95% CI = 3.6, 16.2); those who agreed around 11 percentage points higher (β = 11.1, 95% CI = 5.0, 17.3); and those who strongly agreed around 12 percentage points higher (β = 12.4, 95% CI = 6.3, 18.6). These four estimates are not distinguishable from one another, so the relevant contrast appears to be between strongly disagreeing that a quiet space is available and giving any other response, rather than a gradient across levels of agreement (Figure 3).

In LSYPE2, the pattern for quiet space depended on whether young people used the space rather than whether they had one. Compared with those who had no quiet space at all, young people who nearly always or always used one scored around 4 to 5 Attainment 8 points higher (β = 4.7, 95% CI = 3.3, 6.1; β = 4.1, 95% CI = 2.7, 5.5 respectively), while those who had a quiet space but never used it scored around 6 points lower (β = -5.7, 95% CI = -7.8, -3.7). Occasional or some-of-the-time use showed no distinguishable association with Attainment 8.

Persistent absence mirrored this. Young people who nearly always or always used a quiet space had around 33% lower odds of persistent absence than those without one (OR =

Figure 3. Predicted matrix reasoning score (expressed as a proportion of correct answers) by whether the young person has a quiet space at home to do homework. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: EOPS Secondary (Year 8)

0.67, 95% CI = 0.48, 0.95; OR = 0.67, 95% CI = 0.47, 0.95 respectively), while those who had a space but never used it had 76% higher odds (OR = 1.76, 95% CI = 1.12, 2.77). Earnings did not follow the same pattern. Only occasional use was associated with lower total earnings than having no quiet space (β = -2617, 95% CI = -4896, -337), and no other usage category was distinguishable from the no-space group.

Taken together, the attainment and attendance findings point to use of a quiet space, rather than its mere availability, as the relevant factor: active users did better than young people with no space, while those who had a space but never used it did worse. This most likely reflects usage as a marker of study habits and engagement rather than an effect of the space itself, which is also why having an unused space is associated with the poorest outcomes. The earnings results do not fit this picture and should be treated with caution.

School-based involvement

Attendance at parents' evenings

In EOPS Primary, parental attendance at a parents' evening was associated with around 3.5 naming vocabulary t-score points higher (β = 3.5, 95% CI = 1.6, 5.3) and around 2.8 picture similarities t-score points higher (β = 2.8, 95% CI = 1.0, 4.6) compared with schools where no parents' evening had taken place. No clear associations with phonics or persistent absence were found.

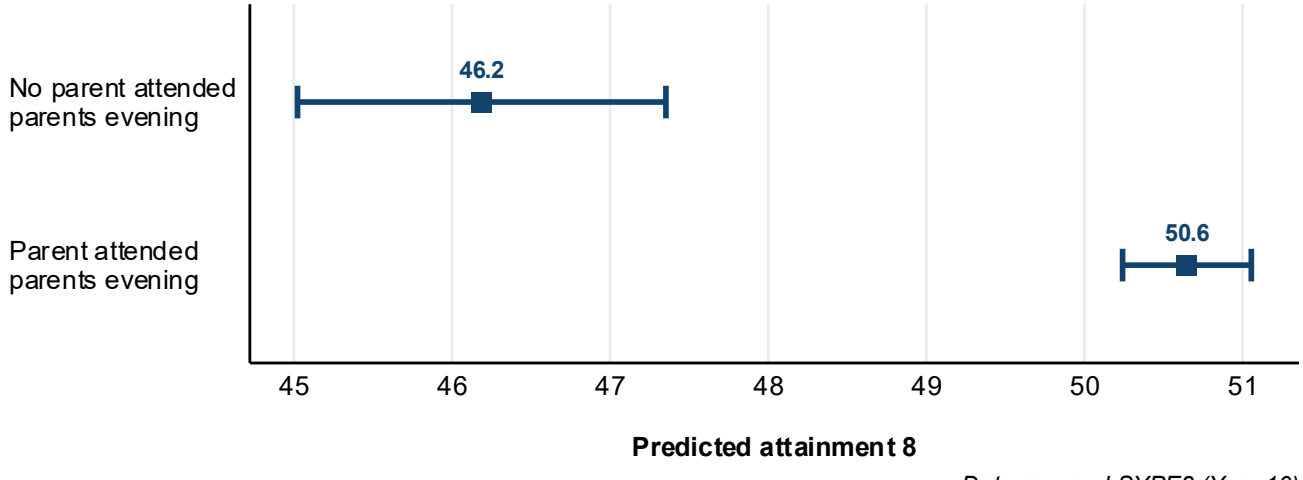
In LSYPE2, parental attendance at parents' evenings was associated with higher Attainment 8 scores across all three year groups, ranging from around 4.5 to 7.3 points (Figure 4). Parents' evening attendance measured at each of the three waves was also associated with lower odds of persistent absence in Year 11: Year 9, 50% lower (OR = 0.50, 95% CI = 0.38, 0.65), Year 10, 46% lower (OR = 0.54, 95% CI = 0.43, 0.66), and Year 11 56% lower (OR = 0.44, 95% CI = 0.35, 0.54).

Attending parents' evenings was also associated with positive economic outcomes. In Year 9, pupils whose parents attended had 42% higher odds of being EET eight years after KS4 (OR = 1.42, 95% CI = 1.05, 1.93), and in Year 11 they earned around £2200 more per year (β = 2206, 95% CI = 737, 3674).

Talking about school work and activities

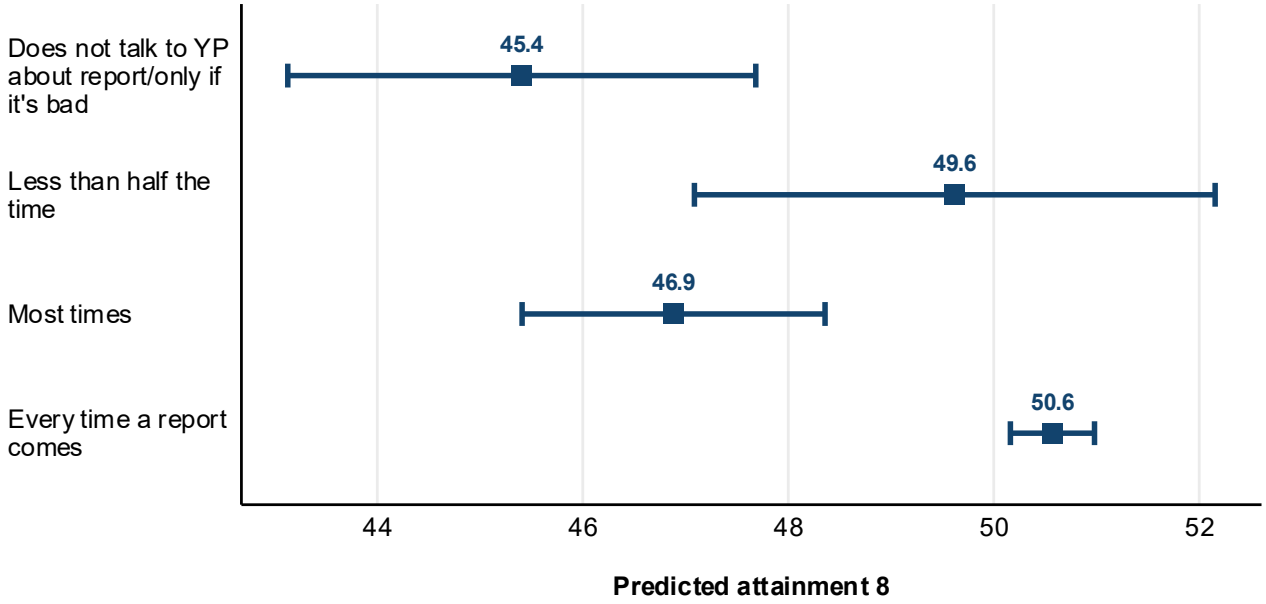
In EOPS Secondary, discussing school work a few times a week was associated with around half the odds of persistent absence (OR = 0.52, 95% CI = 0.36, 0.76), and daily discussion with just under half the odds (OR = 0.45, 95% CI = 0.32, 0.64). No significant main effects on matrix reasoning were found.

Figure 4. Predicted Attainment 8 score by whether a parents' evening has been attended. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 10)

Figure 5. Predicted Attainment 8 score by how often the parent talks to the young person about school reports. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 9)

In LSYPE2, parents who 'often' talked to their young person about what happened at school had children who scored around 3 additional Attainment 8 points compared with those who 'never' talked (β = 3.2, 95% CI = 1.3, 5.1). 'Often' talking was also associated with 41% lower odds of persistent absence (OR = 0.59, 95% CI = 0.40, 0.88), and with higher earnings (β = 2505, 95% CI = 260, 4750) and 86% higher odds of being EET (OR = 1.86, 95% CI = 1.2, 2.8) eight years after KS4.

Talking about school reports

In LSYPE2, discussing school reports with the young person every time one was issued was consistently associated with higher Attainment 8 across all year groups (Figure 5): in Year 9, around 6 additional points (β = 6.2, 95% CI = 2.9, 9.5); in Year 10, around 4 points (β = 3.8, 95% CI = 1.3, 6.3); and in Year 11, around 6 points (β = 6.5, 95% CI = 4.4, 8.6). Discussing reports less than half the time or most times was not statistically distinguishable from not discussing them at all.

Discussing school reports every time was also associated with lower odds of persistent absence. In Year 10, pupils who discussed every school report had 48% lower odds (OR = 0.52, 95% CI = 0.31, 0.89) of being persistently absent compared with those who never discussed or only discussed bad reports; in Year 11, this rose to 56% lower odds (OR = 0.44, 95% CI = 0.33, 0.60).

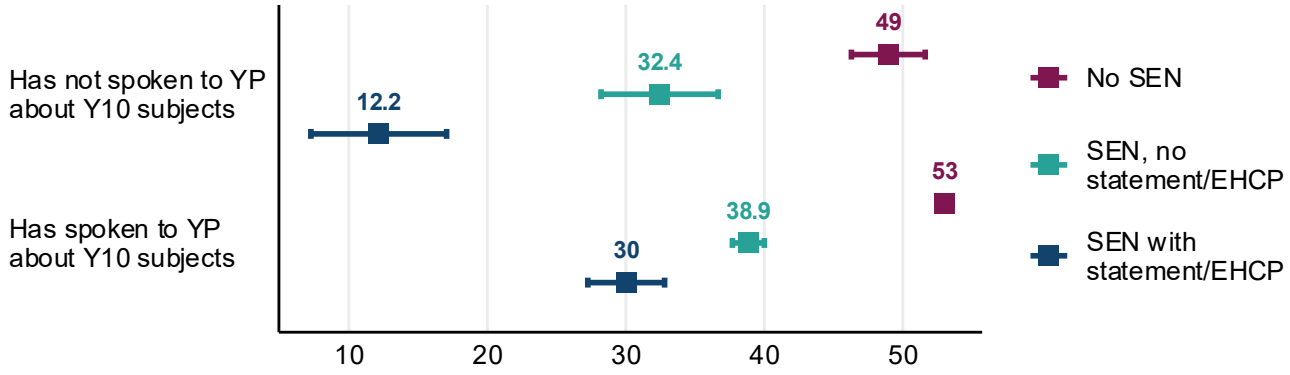
Discussing subject choices

In LSYPE2, having a conversation about which subjects the young person might study in Year 10 was associated with around 4 additional Attainment 8 points (β = 4.1, 95% CI = 1.4, 6.7), around £2000 higher earnings eight years after KS4 (β = 2061, 95% CI = 10, 4112), and 57% higher odds of being EET (OR = 1.57, 95% CI = 1.14, 2.18). For young people with a statement of SEN, the association with Attainment 8 was substantially larger, with an estimated additional 14 points above the association observed for peers without SEN (β = 13.8, 95% CI = 7.9, 19.7) (Figure 6). This may indicate that educational planning conversations are particularly important for young people with more complex needs. However, the finding should be interpreted cautiously, as such discussions may also capture wider factors including parental advocacy, the quality of school-home communication, or the intensity of support planning, rather than the effect of the conversation alone. Young people who had discussed their Year 10 subject choices also had 29% lower odds of being persistently absent (OR = 0.71, 95% CI = 0.51, 0.99).

Helping out at school and PTA involvement

In LSYPE2, the number of activities a parent had undertaken at their child's school was associated with around 1.3 additional Attainment 8 points per additional activity (β = 1.25, 95% CI = 1.05, 1.46). PTA involvement was associated with around 3.7 additional points (β = 3.7, 95% CI = 2.9, 4.5), and school governing body involvement with around 2.7 additional points (β = 2.7, 95% CI = 1.6, 3.8). Each additional school activity was associated with a 15% reduction in the odds of persistent absence (OR = 0.85, 95% CI = 0.77, 0.93). Pupils whose parents had helped at the school had 30% lower odds of persistent absence (OR = 0.70, 95% CI = 0.56, 0.87). These forms of involvement are

Figure 6. Predicted Attainment 8 score by whether the parent and young person have discussed Year 10 subject choices, by whether the young person has special educational needs (SEN). Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 9)

typically socially patterned: parents with more time, flexible employment, and the confidence to engage with school are more likely to join a PTA or governing body, and these families are also families whose children tend to have better academic outcomes (Montacute & Cullinane, 2018). The models adjust for parental education and FSM eligibility as proxies of socioeconomic status, but unmeasured differences in parental time and resources are likely to remain, so these associations may not be the result of the involvement itself.

Parental sense of involvement in school life

Parents' sense of involvement in school life in Years 10 and 11 showed modest but consistent positive associations with Attainment 8, with around 2 additional points at each level of involvement relative to feeling not at all involved (Year 10: β = 2.2, 2.7; Year 11: β = 1.9, 2.5). Large negative interactions with SEN with a statement in Year 9 (all involvement levels: β = -17, -25) likely reflect a reactive pattern in which parents of children with high needs are more heavily involved at this stage.

In Years 10 and 11, parental involvement in school life was generally associated with lower odds of persistent absence compared with parents who reported feeling not at all involved. In Year 10, the association was similar at every level of involvement, with pupils whose parents felt 'not very involved' (OR = 0.50, 95% CI = 0.32, 0.78), 'fairly involved' (OR = 0.54, 95% CI = 0.35, 0.83), and 'very involved' (OR = 0.56, 95% CI = 0.36, 0.88) all having around half the odds of persistent absence relative to the least involved group. This suggests that the contrast lies between some involvement and none, rather than increasing with the degree of involvement reported. In Year 11, pupils whose parents felt 'not very involved' had around half the odds of persistent absence (OR = 0.53, 95% CI = 0.34, 0.81) and 'fairly involved' also showed lower odds (OR = 0.63, 95% CI = 0.42, 0.94), while the estimate for 'very involved' was not statistically distinguishable from the reference group (OR = 0.73, 95% CI = 0.48, 1.12). Given the substantial overlap between this interval and the corresponding Year 10 estimate, the Year 11 result is more likely to reflect reduced precision than a change in the relationship between year groups.

Awareness of school work

In EOPS Secondary, parental awareness of school work showed no significant main effects on persistent absence or matrix reasoning. However, for young people with an Education, Health and Care Plan (EHCP), parents who were fairly or very aware of their child's school work had children who scored around 10 to 15 percentage points lower on matrix reasoning than SEN-with-statement young people whose parents were not aware (fairly aware: β = -10.1, 95% CI = -19.0, -1.3; very aware: β = -14.9, 95% CI = -24.6, -5.2). This likely reflects a reactive pattern in which parents become more informed about school work when their child is struggling, rather than awareness causing lower performance.

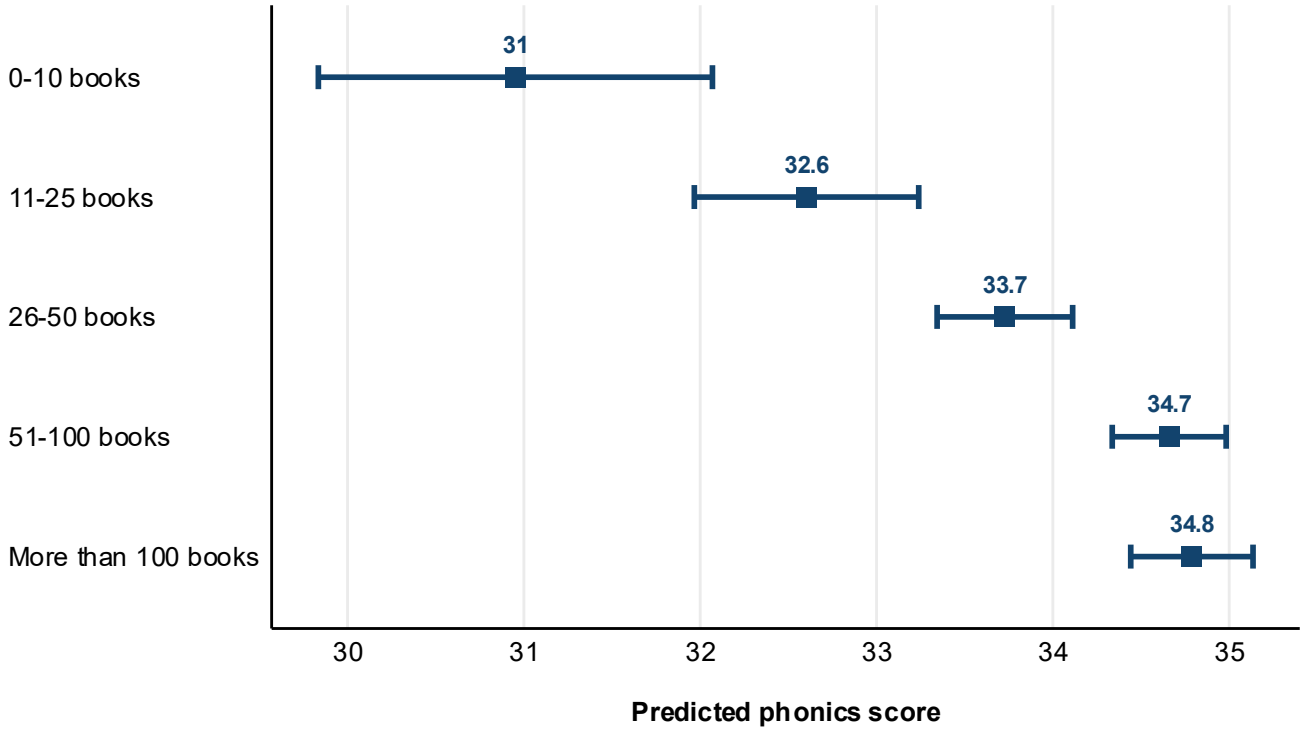
Reading and family learning

Number of books in the home

The number of children's books in the home was among the factors most strongly associated with academic outcomes in EOPS Primary (Figure 7). Compared with households with 0 to 10 books, having 26 to 50 books was associated with around one-third the odds of persistent absence (OR = 0.31, 95% CI = 0.18, 0.53), a higher naming vocabulary score (β = 2.4, 95% CI = 0.9, 3.9), and a phonics score around 20 percentage points higher (95% CI = 12.2, 27.2). Having 51 to 100 books was associated with around one-fifth the odds of persistent absence and a phonics score around 28 percentage points higher; having more than 100 books with around one-seventh the odds of persistent absence (OR = 0.15, 95% CI = 0.09, 0.26), around 6 additional naming vocabulary t-score points (95% CI = 4.4, 7.5), and a phonics score around 29 percentage points higher (95% CI = 20.9, 37.2). Odds of meeting the expected phonics standard were two to three times higher at book-count levels of 26 or more, and around one and a half times higher for 11 to 25 books (OR = 1.51, 95% CI = 1.06, 2.13).

Among non-FSM children, having more books at home was associated with substantially lower odds of persistent absence (OR = 0.31 for 26 to 50 books, OR = 0.19 for 51 to 100 books, and OR = 0.15 for more than 100 books, relative to 0 to 10 books). This association

Figure 7. Predicted phonics score by how many children's books there are in the household. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: EOPS Primary (Year 1)

was weaker among FSM-eligible children, as indicated by the interaction terms for 26 to 50 books (OR = 2.39, 95% CI = 1.29, 4.44), 51 to 100 books (OR = 4.26, 95% CI = 2.32, 7.82), and more than 100 books (OR = 4.18, 95% CI = 2.16, 8.12). Combining the main and interaction terms, FSM-eligible children in book-rich homes still had lower odds of persistent absence than those in homes with the fewest books, at around 0.74, 0.81 and 0.63 respectively; however, there was no clear gradient across book counts, unlike among their non-FSM peers. The interaction therefore indicates a weaker association among FSM-eligible children, not that book ownership was associated with higher absence in this group.

The pattern differed for cognitive outcomes. For picture similarities, the gradient across book counts was steeper among FSM-eligible children: at 51 to 100 books, the increment associated with book ownership was around 4 points larger than for non-FSM children (interaction β = 4.3, 95% CI = 1.5, 7.1). A similar pattern appeared for naming vocabulary among children with SEN but no EHCP, where increments were around 5 points larger than among children without SEN (e.g., 51 to 100 books: β = 5.9, 95% CI = 2.8, 9.0). FSM eligibility therefore moderates the attendance and picture similarities associations in opposite directions, and these data cannot establish why. All of these associations should be interpreted cautiously, as the direction of causality is uncertain. Children with stronger language skills may be more interested in books and therefore more likely to have books bought for them, meaning that higher book ownership could reflect existing differences in language development rather than causing them.

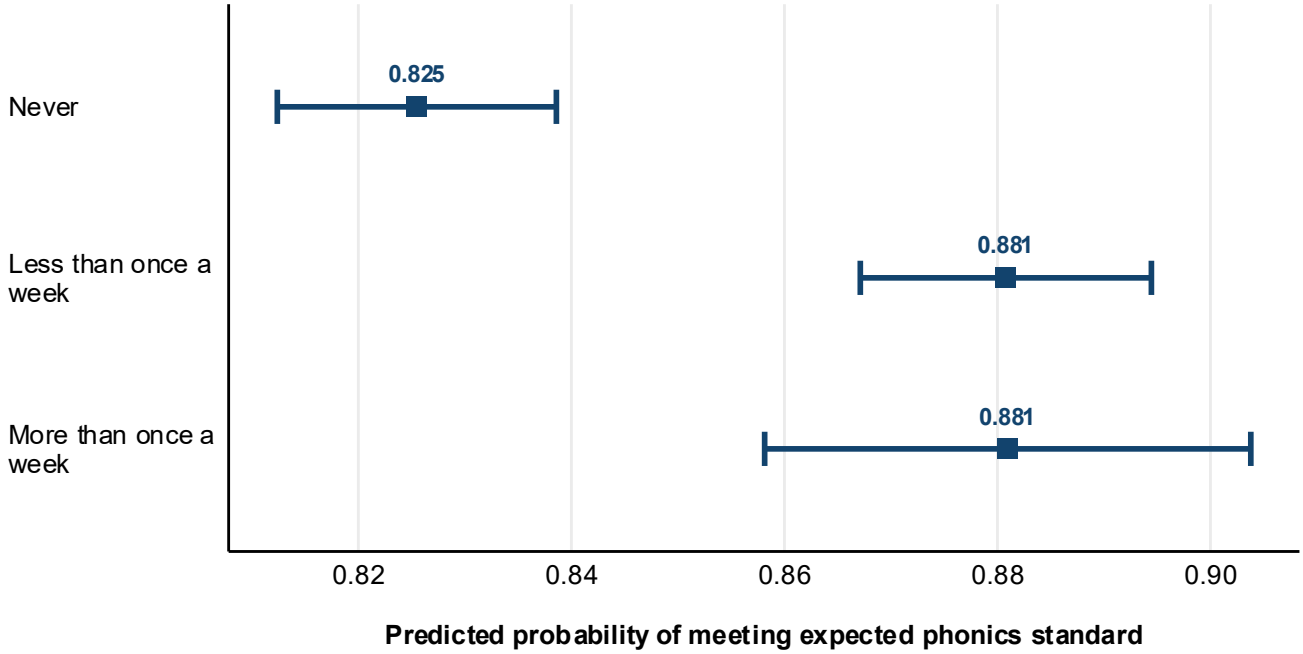
Reading aloud to children

Parental reading aloud showed limited associations with academic outcomes in EOPS Primary. The only statistically significant main effect was a negative association for reading less than once a week compared with never: a phonics score around 24 percentage points lower (95% CI = -45.3, -2.8). All other frequencies showed no clear associations with any outcome. Given the lack of a consistent gradient across reading frequencies, this isolated finding should be interpreted cautiously and may reflect chance variation or unmeasured differences between families rather than a meaningful negative effect of reading aloud.

Library visits

Compared with never visiting a library, going less than once a week was associated with around one-third lower odds of persistent absence (OR = 0.65, 95% CI = 0.53, 0.79), around 3 naming vocabulary t-score points higher (95% CI = 2.1, 3.4), a phonics score around 12 percentage points higher (95% CI = 8.1, 15.0), around 1.7 times the odds of meeting the expected phonics standard (OR = 1.7, 95% CI = 1.4, 2.1) (Figure 8), and around 1 picture similarities t-score point higher (95% CI = 0.3, 1.8). Visiting more than once a week showed similar or slightly larger benefits for vocabulary, phonics, and picture similarities.

Figure 8. Predicted probability of meeting expected phonics standard by frequency of library visits. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



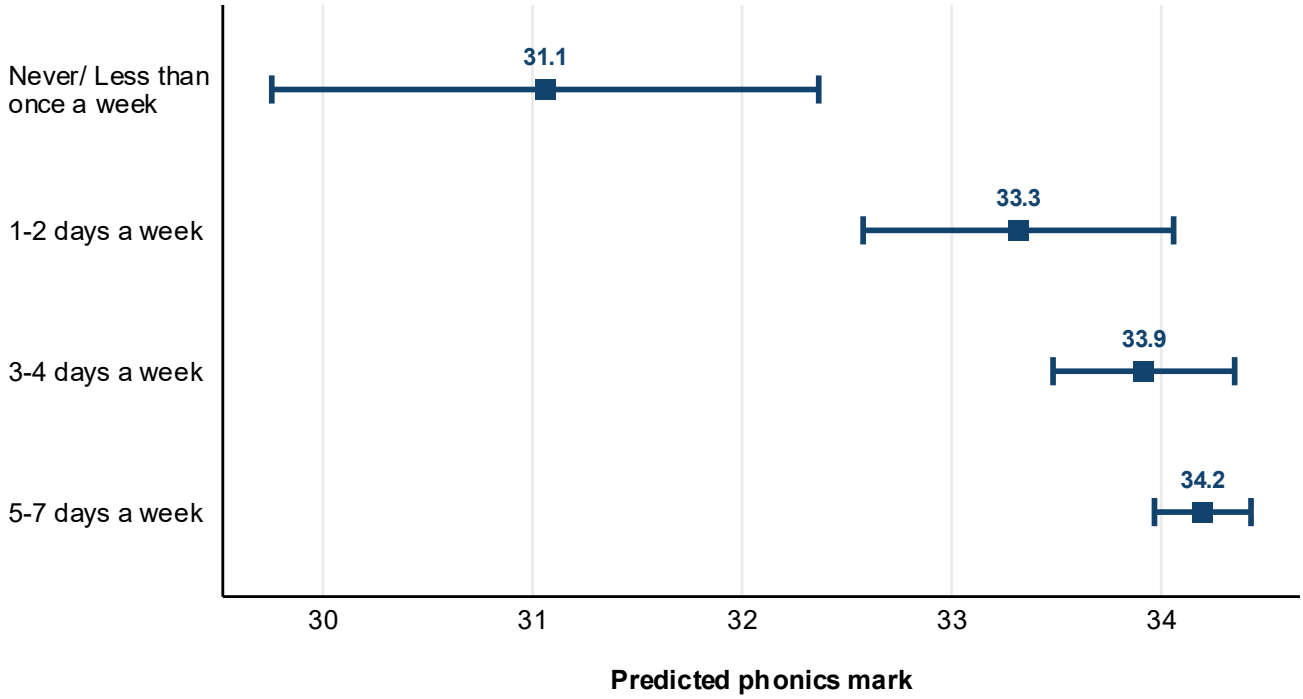
Data source: EOPS Primary (Year 1)

Back-and-forth conversations about feelings

Engaging the child in back-and-forth conversations about how they feel and why was among the most consistently positive predictors in EOPS Primary (Figure 9). Compared with never or less than once a week, doing this three to four days per week was associated with around 3 additional naming vocabulary t-score points (β = 2.7, 95% CI = 1.1, 4.3), a phonics score around 21 percentage points higher (β = 20.7, 95% CI = 11.5, 29.9), nearly twice the odds of meeting the expected phonics standard (OR = 1.80, 95% CI = 1.2, 2.7), and around 3 additional picture similarities t-score points (β = 3.1, 95% CI = 1.2, 4.9). At five to seven days per week, phonics scores were around 23 percentage points higher (β = 23.1, 95% CI = 14.5, 31.7), among the largest effects observed for any single home learning activity.

These findings may reflect the broader role of language-rich interactions in children's cognitive and literacy development. Conversations that encourage children to explain their thoughts, feelings, and reasoning expose them to a wider vocabulary, promote verbal expression, and provide opportunities to practise listening and comprehension skills. The particularly strong associations with phonics and vocabulary outcomes are therefore consistent with the idea that frequent, high-quality verbal interactions support the foundations of early literacy. As with all observational findings, however, these associations may also reflect wider differences between households, including parental confidence, communication styles, and the overall home learning environment.

Figure 9. Predicted phonics score by frequency of back-and-forth conversations. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: EOPS Primary (Year 1)

Teaching letters, numbers, and reading

Activities specifically designed to teach literacy and numeracy showed mixed associations with later outcomes. For letter-learning activities, all frequency categories were associated with lower phonics scores and lower odds of meeting the expected standard compared with those whose carers never did these activities (e.g., one to two days per week: β = -20.5 percentage points, 95% CI = -26.0, -15.0; OR = 0.41, 95% CI = 0.29, 0.56 for meeting the expected standard). For number-learning activities[8], the pattern was less consistent: lower phonics scores were observed only at lower participation frequencies, and lower odds of meeting the expected standard only at some frequency levels, with no clear association at the highest frequencies. Picture similarities scores were around 2 points higher across all number-learning frequency levels. Reading words and sentences showed minimal main effects. The negative associations observed for letter-learning activities may reflect parents targeting these activities at children who are already experiencing literacy difficulties, although the less consistent pattern for number-learning activities suggests this interpretation should be treated cautiously.

[8] *Number-learning activities* refers to purposeful activities intended to teach or practise numeracy skills, such as counting, number recognition, or simple calculations. By contrast, *playing with numbers, measuring, and shapes* captures informal, play-based engagement with mathematical concepts through exploration and everyday activities. The distinction is therefore between more structured numeracy instruction and learning through play.

Playing with numbers, measuring, and shapes

Unlike the more structured number-learning activities described above, this measure captures informal, play-based engagement with mathematical concepts. In EOPS Primary, playing with numbers, measuring, and shapes was associated with consistently higher picture similarities scores when undertaken at least once a week, with scores around 2 to 2.5 points higher than among children who never engaged in this activity (e.g., one to two days per week: β = 2.4, 95% CI = 0.8, 3.9; three to four days: β = 2.4, 95% CI = 0.8, 3.9; five to seven days: β = 2.5, 95% CI = 0.9, 4.1). A positive association with phonics scores was observed at five to seven days per week (β = 7.9 percentage points, 95% CI = 0.2, 15.5), although the confidence interval is wide and only just excludes zero. No clear associations were found with vocabulary or persistent absence.

Reading for enjoyment

In EOPS Secondary, compared with young people who never read for enjoyment, even those reading less than once a month had around two-fifths lower odds of persistent absence (OR = 0.59, 95% CI = 0.46, 0.75) and scored around 4 percentage points higher on matrix reasoning (β = 3.7, 95% CI = 1.4, 6.0). Those reading on most days had just under half the odds of persistent absence (OR = 0.48, 95% CI = 0.38, 0.60) and scored around 11 percentage points higher on matrix reasoning (β = 11.0, 95% CI = 8.9, 13.1).

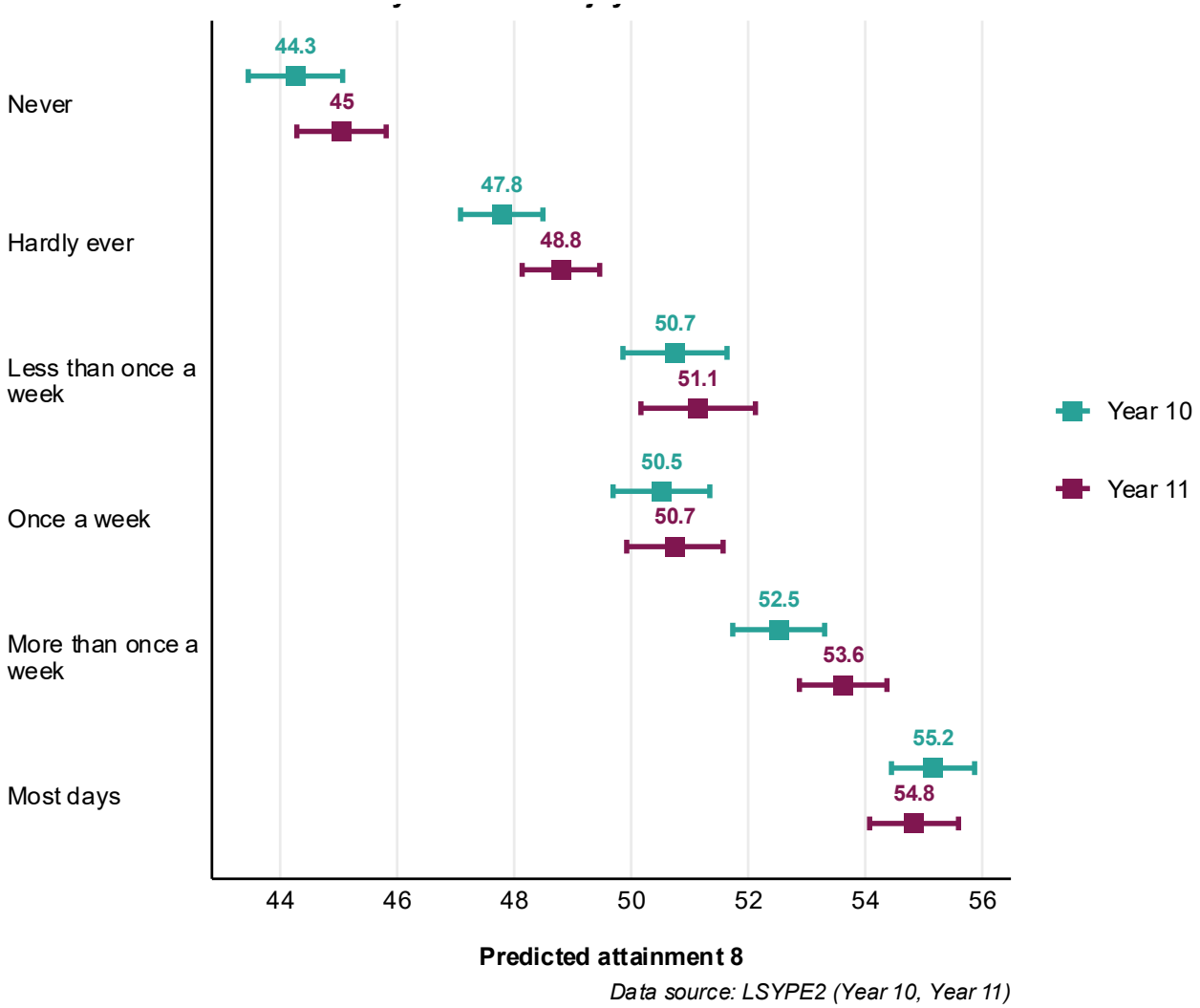
In LSYPE2, a similar dose-response pattern was observed (Figure 10). In both Year 10 and Year 11, compared with those who never read for enjoyment, those reading most days scored around 11 Attainment 8 points higher (Year 10: 95% CI = 9.8, 12.0; Year 11: 95% CI = 9.5, 11.7).

The consistency of these findings across datasets and outcomes suggests that reading for enjoyment may be an important marker of educational engagement. Reading regularly exposes young people to a wider vocabulary, more complex language structures, and a broader range of knowledge and ideas, which may contribute to both cognitive development and academic attainment. At the same time, reading for enjoyment is likely to reflect wider individual and family characteristics, including motivation, parental support, and the availability of books and other learning resources.

Outdoor activities

In EOPS Primary, doing outdoor activities with the child one to two days per week was associated with around one-third lower odds of persistent absence compared with doing them never or less than once a week (OR = 0.66, 95% CI = 0.49, 0.88). No clear associations were found with any cognitive outcome.

Figure 10. Predicted Attainment 8 score by frequency of reading for enjoyment. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 10, Year 11)

Home Learning Environment index

In EOPS Primary, the continuous Home Learning Environment (HLE) index showed small positive associations with naming vocabulary (β = 0.03 per unit, 95% CI = 0.00, 0.07) and picture similarities (β = 0.07, 95% CI = 0.02, 0.12), although the vocabulary interval includes zero. When the index was grouped into three bands, only the high HLE category was significantly associated with picture similarities, scoring around 1.2 points higher than the low HLE group (β = 1.23, 95% CI = 0.10, 2.35). This pattern suggests a broadly positive relationship across the HLE distribution, with the clearest differences observed between children in the highest and lowest HLE group. No clear associations with phonics or persistent absence were found at any level.

Expectations

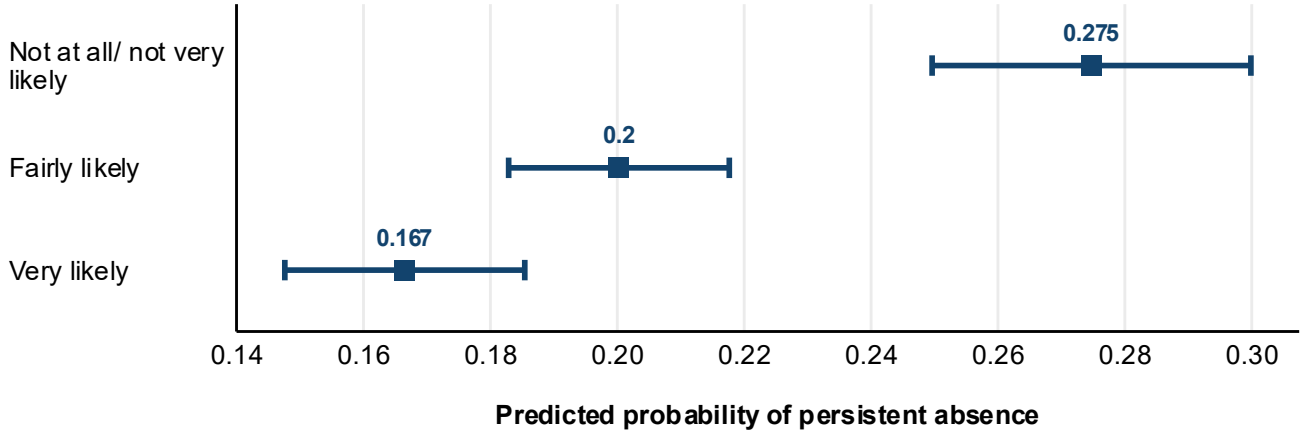
University expectations and beliefs about opportunities

In EOPS Secondary, compared with parents who thought university attendance was not at all or not very likely, those who thought it fairly likely had around half the odds of persistent absence (OR = 0.52, 95% CI = 0.39, 0.71) (Figure 11) and their children scored around 9 percentage points higher on matrix reasoning (β = 9.2, 95% CI = 7.4, 11.1). Those who thought it very likely had around three-fifths the odds of persistent absence (OR = 0.62, 95% CI = 0.46, 0.83) and their children scored around 16 percentage points higher on matrix reasoning (β = 16.5, 95% CI = 14.5, 18.5). The two absence estimates overlap, so these results do not show a clear gradient in persistent absence across levels of

Parents who believed academic results, or a mixture of academic and practical skills, were the most important route to opportunities in life had children scoring around 7 percentage points higher on matrix reasoning than those who valued only practical skills (academic results: β = 7.4, 95% CI = 3.5, 11.3; mixture: β = 7.2, 95% CI = 4.9, 9.5). No clear associations with persistent absence were found for this variable.

Parents who agreed or strongly agreed that their child's classroom performance was important to them had children with substantially lower odds of persistent absence (agreeing: OR = 0.51, 95% CI = 0.31, 0.85; strongly agreeing: OR = 0.36, 95% CI = 0.22, 0.60). Parental belief that school teaches important life skills was associated with both lower persistent absence (agreeing: OR = 0.50, 95% CI = 0.41, 0.60; strongly agreeing: OR = 0.47, 95% CI = 0.37, 0.59) and higher matrix reasoning (agreeing: β = 4.3 percentage points, 95% CI = 1.9, 6.7; strongly agreeing: β = 6.1, 95% CI = 3.5, 8.7).

Figure 11. Predicted probability of being persistently absent by how likely a parent thinks it is their child will attend university. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



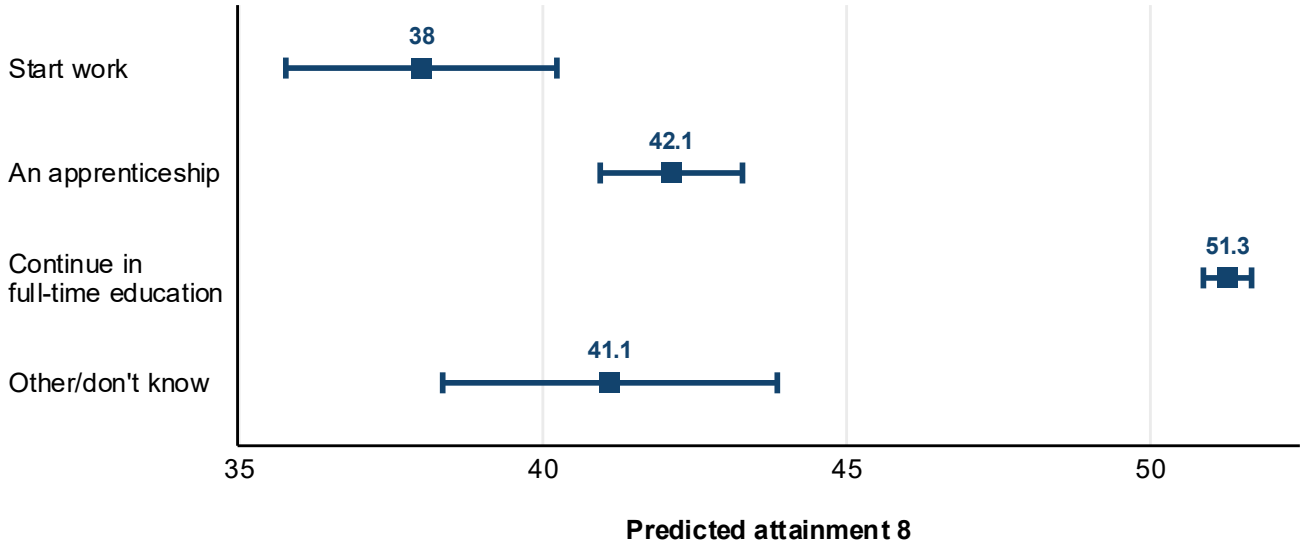
Data source: EOPS Secondary (Year 8)

Parental expectations and aspirations for after Year 11

In LSYPE2, parents were asked both what they thought their child would do after Year 11 and what they would like their child to do after Year 11[9]. Both measures were strongly associated with attainment and attendance outcomes. Compared with parents who thought their child would enter work directly after Year 11, parents who thought their child would continue in full-time education had children with substantially higher Attainment 8 scores across all three survey waves (Year 9: β = 10.3, 95% CI = 9.0, 11.6; Year 10: β = 9.3, 95% CI = 6.3, 12.3; Year 11: β = 13.3, 95% CI = 11.0, 15.5). Parents who thought their child would undertake an apprenticeship also had children with higher attainment than those expected to enter work directly (Year 11 β = 4.1, 95% CI = 1.6, 6.6) (Figure 12). A similar pattern was observed for aspirations: compared with parents who would like their child to enter work directly, parents who would like their child to continue in full-time education had children with Attainment 8 scores around 8 to 10 points higher across all three survey waves (Year 9: β = 8.1, 95% CI = 6.2, 10.1; Year 10: β = 9.0, 95% CI = 6.9, 11.2; Year 11: β = 10.1, 95% CI = 7.9, 12.2).

Expectations and aspirations were also associated with attendance. Parents who thought their child would continue in full-time education had lower odds of persistent absence than those who thought their child would enter work directly (Year 9: OR = 0.62, 95% CI = 0.48, 0.80; Year 10: OR = 0.54, 95% CI = 0.39, 0.73), while parents who would like their child to continue in full-time education also had lower odds of persistent absence in Year 11 than those who would prefer their child to enter work (Year 10: OR = 0.52, 95% CI = 0.27,

Figure 12. Predicted Attainment 8 score by what the parent thinks the young person will do when they finish Year 11. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 11)

[9] Note: Parents were asked about post-16 expectations across 2012/13 to 2014/15, spanning the phased implementation of the raising of the participation age: the duty to participate in education or training to 17 took effect from summer 2013 and to 18 from summer 2015, the year this cohort left Year 11.

Box C: A note on interpreting school-parent communication measures

All measures in this section are parent-reported, but they differ in whose behaviour they describe. Most ask the parent to report on the school: how often it sends updates, whether it has told them what it expects the young person to achieve and how the young person is progressing against those expectations, and how clear that information is. Two ask about the parent's own behaviour: how often they are in contact with teachers, and whether they have spoken to staff about plans after Year 11. Neither type can be read as causal, but the most likely alternative explanation differs between them.

For the parent's own contact, the concern is reverse causation: parents are often in more frequent contact when their child is already struggling, so the negative association with attainment likely reflects the child's difficulties prompting the contact rather than the reverse.

For the measures of the school's behaviour, the concern is confounding by school quality. A school that updates parents and communicates expectations clearly is likely to differ in many unmeasured ways, including teaching, leadership, resourcing and intake, and these independently affect attainment, attendance and later earnings. An association may therefore reflect the school's overall quality rather than the specific communication. Because all measures are parent-reported, they also partly capture how attentive a parent is, which is itself linked to the outcomes.

0.99). As with several other findings in this report, these associations should not be interpreted as causal, as parents may adjust both their expectations and aspirations in response to their child's existing attainment and engagement with school.

School-parent communication

Frequency of contact with teachers

Frequency of contact with teachers showed a consistent negative association with Attainment 8 across all three LSYPE2 waves. In Year 9, compared with parents who were never in contact with teachers, those in contact at least once a term scored around 2 points lower (β = -1.8, 95% CI = -2.6, -1.0); those in contact every two to three weeks around 4 points lower (β = -4.0, 95% CI = -5.5, -2.6); and those in contact at least once a week around 8 points lower (β = -7.5, 95% CI = -9.6, -5.4). This pattern was replicated with near-identical magnitudes in Years 10 and 11.

More frequent contact was also associated with higher odds of persistent absence. In Year 9, contact with teachers at least once a term was associated with 36% higher odds (OR =

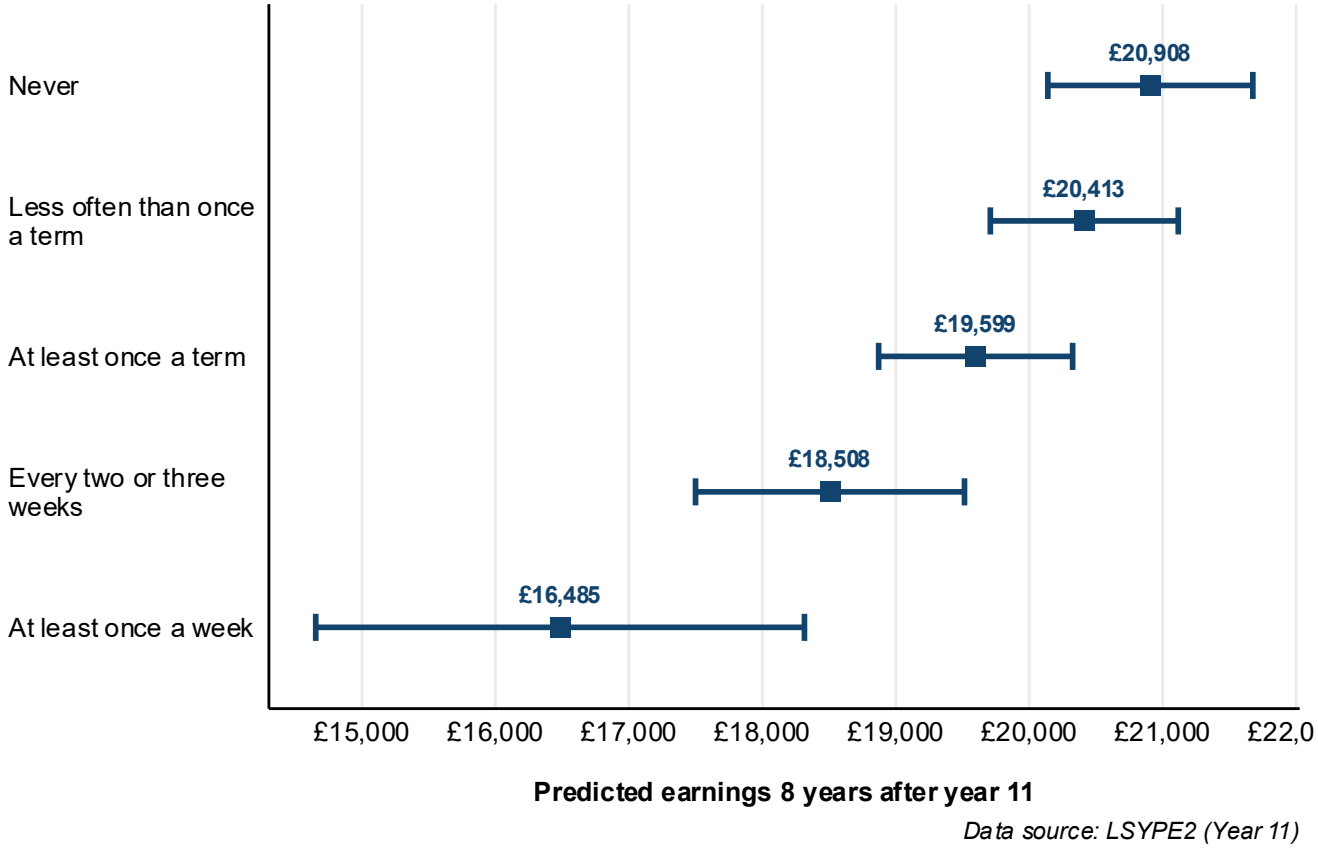
1.36, 95% CI = 1.11, 1.65); every two to three weeks with around twice the odds (OR = 2.09, 95% CI = 1.6, 2.7); and at least once a week with more than three times the odds (OR = 3.26, 95% CI = 2.35, 4.53). The pattern was broadly consistent in Year 11 (every two to three weeks: OR = 1.84, 95% CI = 1.42, 2.38; at least once a week: OR = 2.81, 95% CI = 2.04, 3.89), although in Year 10 only weekly contact showed a clear association with higher absence odds (OR = 2.24, 95% CI = 1.30, 3.85).

The same negative pattern held for longer-term outcomes: Year 11 pupils whose parents had contact at least once a week had 38% lower odds of being EET (OR = 0.62, 95% CI = 0.43, 0.89) and earned around £4400 less eight years after KS4 (β = -4423, 95% CI = -6410, -2436) than those whose parents never had contact (Figure 13). These associations likely reflect reverse causation: parents who contact teachers frequently may do so because their child is struggling, rather than frequent contact leading to worse outcomes.

Frequency of school-initiated updates on progress

In LSYPE2, no consistent association between school update frequency and persistent absence was found across the year groups. For Attainment 8, no clear associations emerged in Year 9. In Year 10, receiving updates between once a week and once every two to three weeks was associated with around 3 fewer Attainment 8 points (β = -3.2, 95%

Figure 13. Predicted earnings at 23/24 by frequency of contact with teachers in Year 11. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 11)

CI = -5.1, -1.2), while once-a-term updates showed no clear difference. In Year 11, at-least-once-a-term updates were associated with around 1.4 additional points (β = 1.4, 95% CI = 0.5, 2.4), while very frequent updates remained negatively associated (β = -2.4, 95% CI = -4.4, -0.4).

The lack of a consistent pattern is itself informative. Unlike deliberate parental action, school-initiated updates are likely to be sent for two opposing reasons: routine reporting that applies to all pupils, and targeted contact prompted by concerns about a pupil. These pull in opposite directions, which would tend to cancel out into the weak associations seen here, and the differences between year groups are small relative to the confidence intervals around them. The negative association with very frequent updates in particular is consistent with the latter: schools update parents most often when a pupil is struggling, so the direction of the relationship likely runs from lower attainment to more frequent updates, rather than the reverse.

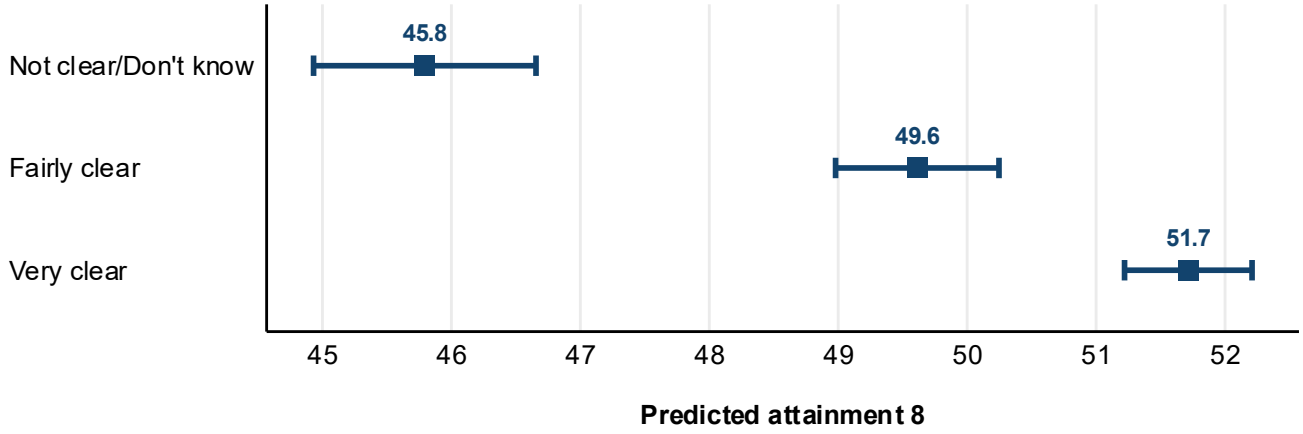
Clarity of information about progress

Parent-reported clarity about their child's academic progress showed a consistent positive pattern in LSYPE2. At Year 10, compared with parents who found information not clear or did not know how clear the information was, those who reported the information was 'fairly clear' or 'very clear' had children who scored an additional 3 or 4 Attainment 8 points, respectively (fairly clear: β = 3.0, 95% CI = 2.0, 4.0; very clear: β = 4.1, 95% CI = 3.2, 5.1). The Year 11 estimates were of similar size, with 'fairly clear' information associated with around 4 additional Attainment 8 points (β = 3.8, 95% CI = 2.8, 4.9) and 'very clear' information around 6 additional Attainment 8 points (β = 5.9, 95% CI = 5.0, 6.9) (Figure 14).

Parents' ratings of the clarity of school information in Year 10 were associated with lower odds of persistent absence in Year 11. Pupils at schools where parents rated information as 'very clear' had 23% lower odds of being persistently absent compared with those who rated information as not clear or did not know (OR = 0.77, 95% CI = 0.64, 0.92), while those in the 'fairly clear' category were not statistically distinguishable from the baseline (OR = 0.85, 95% CI = 0.69, 1.05). In Year 11, both 'fairly clear' (OR = 0.76, 95% CI = 0.61, 0.94) and 'very clear' (OR = 0.73, 95% CI = 0.61, 0.87) were associated with lower odds of persistent absence.

Where parents rated information as very clear in Year 11, young people had 28% higher odds of being EET (OR = 1.28, 95% CI = 1.05, 1.57) and earned around £1300 more per year (β = 1281, 95% CI = 172, 2391) than those whose parents rated information as not clear or who did not know.

Figure 14. Predicted Attainment 8 by clarity of information from young person's school in Year 11. Estimates are marginal predicted means adjusted for sociodemographic covariates. Error bars represent 95% confidence intervals.



Data source: LSYPE2 (Year 11)

School communication of academic expectations and progress

Parents who reported that the school had told them how well it expected the young person to perform academically was associated with around 6 additional Attainment 8 points at Year 10 (β = 6.0, 95% CI = 4.6, 7.4) and around 7 points at Year 11 (β = 6.8, 95% CI = 5.2, 8.5). Schools communicating how the young person had progressed relative to those expectations showed a near-identical pattern (Year 10: β = 6.0, 95% CI = 4.5, 7.6; Year 11: β = 7.1, 95% CI = 5.5, 8.7).

Parent-reported communication of academic expectations was associated with 35% lower odds of persistent absence in Year 10 (OR = 0.65, 95% CI = 0.51, 0.83) and 47% lower odds in Year 11 (OR = 0.53, 95% CI = 0.41, 0.68). Parent-reported communication of progress against expectations showed similar patterns (Year 10: OR = 0.62, 95% CI = 0.47, 0.81; Year 11: OR = 0.51, 95% CI = 0.40, 0.67).

Parent-child communication

Parenting style

Three continuous parenting style subscales from the Parenting Styles and Dimensions Questionnaire (Robinson et al., 2001) were used as exposures for EOPS Primary. Each parenting style is scored continuously, so a parent received a score on all three rather than being assigned to a single type (see Table 3).

Authoritarian parenting was associated with slightly lower odds of persistent absence per unit increase (OR = 0.98, 95% CI = 0.96, 0.99) and a slightly lower phonics score (β = -0.57 percentage points per unit, 95% CI = -0.93, -0.22), equivalent to around 6 percentage points across a 10-unit increase in the authoritarianism score. The association with meeting the expected phonics standard was in the same direction but not statistically

distinguishable from no association (OR = 0.98, 95% CI = 0.96, 1.00). Authoritative parenting showed no association with persistent absence that was distinguishable from no association (OR = 1.01, 95% CI = 1.00, 1.02), and no clear associations were found with vocabulary, phonics, or picture similarities. Permissive parenting was associated with slightly higher odds of persistent absence per unit (OR = 1.04, 95% CI = 1.01, 1.06), slightly higher naming vocabulary (β = 0.11, 95% CI = 0.01, 0.21), a slightly lower phonics score (β = -1.05 percentage points per unit, 95% CI = -1.58, -0.52), and lower odds of meeting the expected standard (OR = 0.96, 95% CI = 0.93, 0.98).

Table 3. The three parenting style subscales of the Parenting Styles and Dimensions Questionnaire.

Subscale	What a higher score reflects	Typical behaviours measured
Authoritative	Warm but firm parenting that combines support with clear expectations and reasoning	Showing affection and warmth, explaining reasons for rules, encouraging the child to express views, responsive to the child's needs
Authoritarian	Controlling, directive parenting that emphasises obedience over explanation	Demanding obedience without explanation, verbal reprimands, punitive or physical discipline, little negotiation
Permissive	Lenient, low-control parenting with limited follow-through on rules	Few firm rules, inconsistent discipline, giving in to the child, avoiding confrontation over misbehaviour

Relationship quality and closeness

In EOPS Secondary, parents who reported being very close to their child had children with slightly lower odds of persistent absence than those who described the relationship as not very or fairly close (OR = 0.77, 95% CI = 0.59, 0.99). The parent-child attachment scale showed a positive association with matrix reasoning that was very small and imprecisely estimated (β = 0.43 percentage points per unit, 95% CI = 0.00, 0.86). This association was smaller for girls than boys (interaction β = -0.70, 95% CI = -1.24, -0.16), and for young people with an EHCP, higher attachment was associated with lower matrix reasoning (β = -2.95, 95% CI = -4.54, -1.35).

When young people reported that their parent often listened to what they had to say, matrix reasoning was around 4 percentage points higher (β = 4.4, 95% CI = 2.3, 6.5); when this was always true, both lower persistent absence (OR = 0.81, 95% CI = 0.66, 0.99) and higher matrix reasoning (β = 3.2 percentage points, 95% CI = 1.2, 5.1) were found. Young people whose parents often or always showed interest in their education

similarly scored higher on matrix reasoning (often: β = 3.7, 95% CI = 0.8, 6.7; always: β = 2.9, 95% CI = 0.2, 5.5).

Young people who reported becoming upset with a parent less often showed lower persistent absence and higher matrix reasoning than those who reported always becoming upset with a parent. Those who were 'sometimes' upset had around half the odds of persistent absence (OR = 0.45, 95% CI = 0.31, 0.65) and scored around 7 percentage points higher on matrix reasoning (95% CI = 2.7, 11.8); those who were 'never' upset had around two-fifths the odds of persistent absence (OR = 0.40, 95% CI = 0.27, 0.59) and scored around 8 percentage points higher (95% CI = 3.1, 12.5).

Conversations about things that matter

In EOPS Secondary, how often parents and young people talked about things that matter showed no statistically significant associations with either persistent absence or matrix reasoning at any frequency, after accounting for other aspects of the parent-child relationship.

Other home environment factors

Family meals

In LSYPE2, frequency of eating a family meal together in Year 9 was associated with later attainment and attendance outcomes. Eating a family meal together six to seven days per week in Year 9 was associated with around 3 additional Attainment 8 points compared with no family meals (β = 2.8, 95% CI = 1.1, 4.4). Eating together three to five times per week showed an association of similar direction but the confidence interval just included zero (β = 1.7, 95% CI = 0.00, 3.4), and eating together one to two times per week showed no clear association. For persistent absence, eating together three to five times a week was associated with 31% lower odds (OR = 0.69, 95% CI = 0.51, 0.94), and six to seven times a week with 44% lower odds (OR = 0.56, 95% CI = 0.42, 0.75), compared with no family meals. Eating together one to two times per week was not associated with a statistically distinguishable reduction in absence odds (OR = 0.81, 95% CI = 0.59, 1.10), suggesting a threshold effect whereby only more regular shared mealtimes show a clear association with attendance.

Confusion, hubbub, and order

In EOPS Primary, the Confusion, Hubbub, and Order (CHAOS) scale was used to measure household environmental unpredictability. Compared with high CHAOS households, those with moderate CHAOS had a phonics score around 7 percentage points higher (β = 6.9, 95% CI = 1.3, 12.6); those with low CHAOS around 15 percentage points higher (β = 14.8, 95% CI = 8.8, 20.9) and around one and a half times the odds of meeting the expected phonics standard (OR = 1.59, 95% CI = 1.2, 2.1).

Discussion

This analysis examined associations between parental engagement, out-of-school factors, and children's educational outcomes across three developmental stages using linked longitudinal and administrative data from EOPS Primary, EOPS Secondary, and LSYPE2. The findings highlight that parental engagement is not a single influence on children's learning. Rather, results suggest that different forms of engagement operate in distinct ways. Some activities appeared to reflect a rich and supportive learning environment and were consistently associated with positive outcomes. Others were linked to educational planning, expectations, and communication between families and schools. A third group of measures appeared to capture parental responses to existing difficulties, producing associations that are unlikely to reflect the causal effects of engagement itself. Distinguishing between these different forms of engagement is essential when interpreting the findings and considering their implications. Where we suggest mechanisms that might produce these associations, we are explicit about which interpretations have support in the existing literature, and which are consistent with the data but could not be tested in this analysis.

The home learning environment in early childhood

Across EOPS Primary, some of the strongest and most consistent associations were observed for measures capturing the broader home learning environment. The number of children's books in the home was among the most powerful predictors of vocabulary, phonics, and attendance outcomes. Children growing up in book-rich homes tended to show stronger literacy development and lower rates of persistent absence than those living in households with relatively few books. Library visits and frequent back-and-forth conversations between parents and children showed similarly positive patterns.

Taken together, these findings suggest that the features of home environments most strongly associated with positive outcomes are those that expose children to language, ideas, discussion, and literacy-related experiences as part of everyday life. Activities characterised by rich interaction and communication generally showed stronger and more consistent associations than activities specifically designed to teach academic skills. For example, frequent conversations about feelings and experiences were associated with some of the largest advantages observed for vocabulary and phonics outcomes. This is consistent with the idea that children's language and literacy development is embedded within wider patterns of communication and interaction rather than being driven solely by formal instruction (Romeo et al., 2018).

A contrast between informal and formal learning activities also emerged, though it was clearer for some activities than others. Activities intended to teach letters showed negative associations with phonics outcomes at every frequency, while informal activities such as library visits and back-and-forth conversation were associated with more positive outcomes. The picture for number-learning activities was less consistent: lower phonics

scores appeared only at lower frequencies, with no clear association at the highest, and picture similarities scores were around 2 points higher at every level. Activities focused on reading words and sentences showed little association with any outcome. It is unlikely that teaching letters is genuinely harmful. Rather, a more plausible interpretation – whose direction we could not test – is that parents intensify literacy-focused activities when they perceive their child to be struggling, a reactive pattern that has previously been documented in longitudinal studies of parental teaching in the early years (Silinskas et al., 2012). In this case, the observed association reflects the child's underlying difficulties rather than the effect of the activity itself.

The findings relating to books in the home also highlight the complexity of subgroup differences. Children with SEN but no EHCP appeared to gain a larger vocabulary benefit from living in book-rich homes than children without SEN, although this finding should be interpreted cautiously. Families may respond to children's developing interests and abilities by purchasing more books, meaning that children's existing language skills could influence book ownership just as easily as book ownership influences language skills (Evans et al., 2010; Mol & Bus, 2011; Sénéchal & LeFevre, 2002), though our data cannot establish the direction of this relationship. Similarly, the interaction observed among FSM-eligible children suggests that access to educational resources does not operate independently of broader socioeconomic circumstances. Families experiencing disadvantage often face constraints and pressures that may limit the extent to which educational resources translate into improved outcomes.

Homework and secondary education

Across both EOPS Secondary and LSYPE2, homework emerged as one of the factors most consistently associated with positive educational outcomes. Young people who spent more time completing homework generally had higher attainment and lower rates of persistent absence, with the relationship displaying a broad dose-response pattern. Unlike many parental engagement measures, this pattern was evident across multiple outcomes and datasets, suggesting that homework time may capture an underlying dimension of educational engagement that remains important throughout adolescence.

At the same time, the findings do not support a simple interpretation that more homework directly causes improved outcomes. Young people who complete substantial amounts of homework are also likely to differ in motivation, self-regulation, educational aspiration, and school engagement. Homework may therefore operate as both a learning activity and a marker of wider educational orientation. The associations with later earnings further reinforce the possibility that the behaviours reflected in homework completion extend beyond immediate academic performance and may be linked to longer-term attitudes towards learning and achievement.

The findings relating to parental involvement in homework present a more complex picture. Direct parental help with homework was generally associated with lower

attainment, while pupils whose homework was never checked often displayed the highest attainment. One explanation is that parental assistance and monitoring in adolescence are often responses to existing challenges, which is supported by evidence that parental involvement in homework tends to increase where children are struggling and that its association with attainment depends on the form it takes (Moroni et al., 2015). High-attaining pupils who complete work independently are less likely to require support, whereas pupils who are struggling are more likely to prompt parental intervention. The results therefore highlight the importance of distinguishing between proactive engagement and engagement that arises in response to difficulty.

The findings on quiet study space point to a similar conclusion. In LSYPE2, the strongest associations were observed not for simply having access to a quiet space but for using one. This suggests that study habits and educational engagement may be more important than physical resources alone. A quiet workspace may support learning, but it may also be that motivated and engaged students are more likely to make use of the study resources available to them. The two explanations are not mutually exclusive and cannot be distinguished with these data.

An exception to the broader pattern concerned pupils with statements of SEN. For this group, the association between homework time and attainment was stronger than for pupils without SEN. This finding should be interpreted cautiously, as it may reflect differences in the characteristics of pupils who are able to engage in homework, including levels of support, motivation, or need, rather than evidence that homework has a larger effect for pupils with statements. This suggests that the meaning and interpretation of parental engagement measures may differ for pupils with additional needs, underscoring the importance of avoiding one-size-fits-all assumptions about effective engagement.

School-based involvement

School-based forms of parental engagement were among the most consistently positive predictors of educational outcomes in LSYPE2. Attendance at parents' evenings, talking about school reports, conversations about subject choices, and participation in school activities were all associated with higher attainment and, in many cases, lower rates of persistent absence and more favourable longer-term outcomes.

One interpretation is that these activities strengthen links between families and schools, helping parents to remain informed about their child's progress and educational choices. However, the findings are also likely to reflect broader differences between families. Parents who attend events, volunteer in schools, or participate in governing bodies often possess greater time, confidence, flexibility, and familiarity with educational institutions, and differences of this kind are well documented in research on how families of differing socioeconomic statuses engage with schools (Benner et al., 2016; Tan et al., 2020). While the analyses adjusted for several indicators of socioeconomic disadvantage, differences in family resources and capacity for engagement are likely to remain. These associations

therefore should not be interpreted as evidence that simply increasing attendance at a particular school event will necessarily improve outcomes.

Forms of school involvement that take place at home rather than at school showed a similar pattern. Conversations about Year 10 subject choices were associated with higher attainment, lower absence, better labour-market outcomes, and higher odds of being in education, employment, or training several years later. The particularly large association observed for young people with statements of SEN may indicate that educational planning and advocacy are especially important during key transition points for pupils with additional needs. Equally, these discussions may be acting as markers of wider support, coordination, and parental engagement rather than representing the influence of the conversation itself. We could not separate these possibilities, since we did not observe the wider support arrangements around these young people.

School-parent communication

Measures capturing the quality, clarity, and content of information provided by schools were among the most consistently positive findings in this domain. Parents who reported receiving clear information about their child's progress, being informed about academic expectations, and receiving feedback on progress relative to those expectations tended to have children with higher attainment and lower rates of persistent absence. Across these measures, the associations were consistent, suggesting that communication which provides parents with clear, actionable information may be an important feature of effective school-family relationships. Equally, schools that communicate effectively may differ in other important respects, including leadership, organisation, and overall effectiveness, meaning that communication itself may partly act as a marker of wider school quality. We could not test this, as no measure of school quality or effectiveness was available in these data.

By contrast, the frequency of contact between parents and teachers showed a consistently negative association with attainment, attendance, and longer-term outcomes. Here, it is unlikely that communication itself causes these outcomes. Rather, and consistent with the reactive pattern of school contact described earlier (Croll, 2001), parents and schools are likely to communicate more frequently when concerns arise about the student (e.g., attendance, behaviour, progress, wellbeing). In this sense, high levels of contact may function as indicators of educational difficulty rather than productive engagement.

The contrast between these findings highlights the importance of distinguishing between communication that is structured, routine, and focused on supporting progress, and communication that is initiated in response to emerging problems. The former was consistently associated with more favourable outcomes, while the latter appeared largely reactive.

A similar distinction appeared in several of the SEN findings. Greater parental awareness of school work and stronger parental involvement in school life were often associated with poorer outcomes for pupils with statements, whereas more structured forms of planning and communication appeared more positively associated with attainment. Taken together, these findings are consistent with parental engagement among families of pupils with additional needs being shaped by efforts to manage existing challenges, though this interpretation rests on the pattern of associations rather than on any direct measure of why parents engaged. Identical engagement measures may therefore carry very different meanings across different groups of families.

Expectations and aspirations

Parental expectations showed some of the largest and most consistent associations with educational outcomes observed in the analysis. Parents who expected their child to continue in education beyond Year 11[10] generally had children with substantially higher attainment and lower absence than parents who expected a direct transition into work.

Parental aspirations showed a similar pattern, although expectations tended to display somewhat stronger and more consistent associations than aspirations. This distinction is potentially important, as aspirations reflect what parents would like to happen, whereas expectations capture what they realistically believe will happen given their child's circumstances and performance. This gap between what parents want and what they anticipate has been shown to be socially patterned and to predict outcomes independently of aspirations themselves (Gutman & Schoon, 2018). Expectations may therefore be more closely aligned with children's educational trajectories and may incorporate information about prior attainment, engagement, and progress.

As with several other findings in this report, reverse causation remains a plausible explanation. Parents may develop expectations in response to children's existing educational performance rather than expectations driving that performance, and longitudinal evidence suggests the relationship runs in both directions (Zhang et al., 2011). Nevertheless, the consistency of the associations suggests that educational expectations form part of a broader family orientation towards education. Families who anticipate continued learning beyond compulsory schooling may be more likely to engage in behaviours that support long-term educational progression, while young people growing up in such environments may themselves internalise higher educational expectations.

The apprenticeship findings are particularly informative in this regard. Parents who expected their child to enter an apprenticeship after Year 11 also tended to have children with higher attainment than parents who expected an immediate transition into work. This suggests that the key distinction may not be between academic and vocational routes, but

[10] Note: Parents were asked about post-16 expectations across 2012/13 to 2014/15, spanning the phased implementation of the raising of the participation age: the duty to participate in education or training to 17 took effect from summer 2013 and to 18 from summer 2015, the year this cohort left Year 11.

between pathways that involve continued learning and skill development and those that involve leaving education entirely. Expectations of an apprenticeship may therefore reflect a commitment to ongoing training, qualifications, and progression, rather than a preference for a specific occupational route. This reading goes beyond what the data can demonstrate. We did not observe why parents held particular expectations, and the comparison rests on a relatively small group of parents anticipating an apprenticeship.

These findings indicate that expectations may matter less because of the specific destination envisaged and more because they reflect an orientation towards continued learning. The positive associations observed for both academic and vocational post-16 pathways suggest that continuing engagement in education or training, rather than the specific route taken, may be the more important distinction.

Limitations and future directions

Several limitations of this study should be noted. First, despite the strengths of linked longitudinal data, the analysis remains observational and cannot establish causal relationships. As discussed throughout the report, reverse causation is a plausible explanation for a number of associations, and – more broadly – parental engagement is often responsive to children's existing needs, difficulties, and progress, making it challenging to disentangle whether engagement is driving outcomes or reacting to them. Although models adjusted for a wide range of demographic and socioeconomic characteristics, unmeasured factors – such as parental motivation, family relationships, school effectiveness, and children's prior attitudes towards learning – will likely still contribute to the observed associations. Relatedly, the analysis compares associations across year groups descriptively and does not test whether they differ, so the report does not provide evidence on whether the importance of particular forms of engagement changes as children move through secondary school.

Second, while the samples are large and drawn from nationally representative studies, attrition and non-consent to data linkage may have introduced selective biases that affect the generalisability of the findings. Families experiencing greater disadvantage or instability are often less likely to remain in longitudinal studies over time, meaning that the final analytic samples may underrepresent some of the groups most at risk of poor educational outcomes.

Third, several parental engagement measures are derived from self-report. Such measures are vulnerable to recall error and social desirability bias, and may also be influenced by the same unobserved characteristics – such as parental capacity, child difficulty, family stress, or household organisation – that independently affect educational outcomes. Consequently, some measures may capture broader aspects of family functioning rather than the specific behaviours they were intended to measure.

Fourth, the LSYPE2 analyses are based on data collected during the early 2010s. Although many of the underlying mechanisms linking parental engagement and educational outcomes are unlikely to have changed fundamentally, the educational landscape has evolved considerably since the data were collected. Changes in school accountability, parenting practices, SEND policy, and patterns of post-16 participation may mean that some associations differ for more recent cohorts. In addition, the COVID-19 pandemic disrupted schooling and reshaped interactions between families and school, potentially altering both opportunities for parental engagement and its relationship with educational outcomes (Carrión-Martínez et al., 2021; Davies et al., 2026; Jones & Palikara, 2023). Findings from LSYPE2 should therefore be interpreted as evidence regarding the relationships observed for a particular generation of young people rather than as a definitive account of contemporary parental engagement.

Fifth, the analyses identify which factors are associated with outcomes after adjustment for other characteristics, but they do not provide a direct assessment of the relative importance of different forms of parental engagement. Many engagement measures are correlated with one another and likely operate together as part of broader family environments and educational orientations. Consequently, the results should not be interpreted as evidence that one activity is necessarily more influential than another. Rather, the analysis identifies a set of factors that appear to be linked to more favourable educational trajectories.

Finally, many of the subgroup findings rest on interaction terms estimated within relatively small groups, most notably young people with a statement of SEN. While these analyses provide useful evidence, estimates are necessarily less precise, as reflected in the wider confidence intervals, and may be sensitive to the particular composition of the subgroup. Such findings should therefore be interpreted cautiously until replicated in other datasets.

Future research should seek to build on these findings in two ways. First, as additional waves of EOPS Primary and EOPS Secondary become available, there will be opportunities to conduct stronger longitudinal analyses that better establish temporal ordering between parental engagement and later outcomes. Following young people over longer periods will also make it possible to examine whether associations observed during childhood and adolescence persist into adulthood and the labour market. Second, the availability of more recent cohort data offers opportunities to move beyond descriptive association and towards more rigorous causal approaches. Methods such as cross-lagged longitudinal models, fixed-effects approaches, and other quasi-experimental designs may help disentangle whether parental engagement itself influences outcomes, or whether many of the observed relationships primarily reflect pre-existing differences between children, families, and schools. Together, these developments would provide a stronger evidence base for identifying which forms of parental engagement are most likely to improve educational outcomes and reduce inequalities.

Concluding thoughts

Taken together, these findings highlight that parental engagement is not a single behaviour but a diverse set of practices that operate differently across children's developmental stages and educational contexts. Further, the forms of engagement most consistently associated with positive outcomes were not necessarily the most intensive, but those that reflected a supportive learning environment, sustained engagement with education, clear educational expectations, and constructive communication between families and schools. Across the analyses, activities such as reading for enjoyment, discussing educational plans, maintaining a language-rich home environment, and receiving clear information about progress and expectations were associated with more favourable educational trajectories. By contrast, several forms of intensive involvement – such as frequent contact with teachers or direct assistance with homework – often appeared to reflect parental responses to existing difficulties rather than independent drivers of outcomes.

At the same time, the capacity to engage is not evenly distributed. Families facing socioeconomic disadvantage, and families supporting children with additional needs, often encounter structural constraints that shape both the forms of engagement available to them and the returns those forms of engagement may generate. The results repeatedly demonstrate that identical measures of parental engagement can have different meanings across groups, with some forms of involvement appearing proactive and supportive, while others appear primarily reactive to existing challenges. Understanding these differences is essential if parental engagement is to be used as a tool for reducing, rather than inadvertently reinforcing, educational inequalities.

These findings do not indicate that outcomes would improve if all parents simply did more. The forms of engagement most consistently associated with better outcomes were also those most dependent on wider conditions – clear school communication, accessible opportunities to participate, and family time and resources – which is relevant context for interpreting any policy that seeks to raise parental engagement. Approached in this way, parental engagement has the potential to contribute not only to higher educational attainment, but also to improved attendance, stronger educational aspirations, and more positive long-term life outcomes.

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Appendices

Appendix A. Associations with sociodemographic covariates

The associations between key sociodemographic characteristics and the outcomes of interest are summarised below; descriptive statistics for each sample are provided in Appendix C (supplementary file). Relationships were broadly consistent across all three datasets and developmental stages. Although these variables were included as covariates rather than predictors of substantive interest, their patterns provide important context for interpreting the main findings.

- Gender: In EOPS Primary, girls outperformed boys on literacy-related measures, recording higher naming vocabulary and phonics scores, and greater odds of meeting the expected phonics standard in Year 1. In EOPS Secondary, girls scored lower on matrix reasoning but showed little difference in persistent absence. In LSYPE2, girls achieved higher Attainment 8 scores than boys, but had consistently higher odds of persistent absence across all year groups. Girls had lower total earnings in their early twenties than boys. No clear difference in EET status was found between girls and boys.
- Ethnicity: Ethnicity showed a complex set of associations that varied across developmental stages. In EOPS Primary, non-White pupils had lower naming vocabulary scores than White pupils. Phonics scores showed no consistent differences by ethnicity, and only pupils from Mixed/Other backgrounds showed greater odds of meeting the expected phonics standard. In EOPS Secondary, Black pupils had lower rates of persistent absence but lower matrix reasoning scores than White pupils. In LSYPE2, Black pupils had lower Attainment 8 scores on average, whereas Asian pupils had higher scores, and both groups had lower rates of persistent absence than White pupils.
- FSM eligibility: FSM eligibility was among the most powerful and consistent predictors across all datasets. In EOPS Primary, children who had ever been FSM-eligible had lower naming vocabulary and picture similarities scores, lower phonics scores, and higher odds of both persistent absence and not meeting the expected phonics standard. Similar patterns were found in EOPS Secondary, where FSM eligibility was associated with higher persistent absence and lower matrix reasoning. In LSYPE2, FSM-eligible pupils had markedly lower Attainment 8 scores and higher rates of persistent absence. FSM eligibility was also associated with substantially worse longer-term outcomes: FSM-eligible young people earned less per year in their early twenties and had 45-48% lower odds of being EET.
- SEN: In EOPS Primary, children identified as having SEN – whether or not they had an EHCP – had higher odds of persistent absence, lower odds of meeting the expected phonics standard, and lower naming vocabulary, picture similarities, and phonics scores. These patterns persisted in EOPS Secondary, where SEN status

was associated with higher persistent absence and lower matrix reasoning, with stronger associations for those with EHCPs. In LSYPE2, pupils with SEN had considerably lower Attainment 8 scores and higher rates of persistent absence, again with the largest gaps for those with a statement. Young people with SEN earned less per year than those without SEN and had lower odds of being EET.

- Parental education: Children from households with more highly qualified parents showed better outcomes at every stage. In EOPS Primary, higher parental qualifications were associated with higher naming vocabulary and picture similarities, higher phonics scores, and lower odds of persistent absence or not meeting the expected phonics standard; for picture similarities, a clear advantage was present only at the highest qualification level (Level 6 or above). These patterns were replicated in EOPS Secondary and in LSYPE2, where parental education remained a strong and positive predictor of Attainment 8 and attendance. Associations between parental qualification level and earnings or EET status in LSYPE2 were less consistent: Level 3, Level 4/5, and Level 6 or above qualifications were all associated with higher annual earnings, while Level 2 showed no statistically distinguishable earnings difference. No clear gradient in EET status by parental qualification was found.

- Region: Regional differences were modest but consistent in direction across the three datasets. In EOPS Primary, London pupils scored around 8 to 9 percentage points higher on the phonics check than those in the South East across all models, and had around 1.6 times the odds of meeting the expected phonics standard. No clear regional differences were found for persistent absence in primary school. In EOPS Secondary, matrix reasoning scores were lower in the East Midlands, Yorkshire and The Humber, the North West, and the North East compared with the South East. In LSYPE2, pupils in London scored around 2.5 to 3.5 additional Attainment 8 points compared with the South East, a consistent advantage across all year groups and model specifications, while pupils in Yorkshire and The Humber scored around 1 to 2 points lower than the South East in most models.

Appendix B. Variables included in analyses

Appendix B Table 1. List of variables used in analyses, and the dataset from which they are derived.

Category	Variable	EOPS Primary	EOPS Secondary	LSYPE2
Outcome	Persistent absence (10%)	X	X	X
Outcome	Phonics score	X		
Outcome	Phonics outcome	X		
Outcome	Naming Vocabulary t-score	X		
Outcome	Picture Similarities t-score	X		
Outcome	Matrix reasoning %		X	
Outcome	Attainment 8			X
Outcome	Whether in education, employment, or training 8 years after Year 11			X
Outcome	Earnings 8 years after Year 11			X
Sociodemographic	Gender	X	X	X
Sociodemographic	Ethnicity	X	X	X
Sociodemographic	Special educational needs	X	X	X
Sociodemographic	Free school meals	X	X	X
Sociodemographic	Highest household qualification	X		X
Sociodemographic	Region	X	X	X
Sociodemographic	Highest main parent qualification		X	
Homework help	How much time spent on homework a week		X	X
Homework help	Whether anyone at home helps young person with homework		X	X

Category	Variable	EOPS Primary	EOPS Secondary	LSYPE2
Homework help	Whether young person has/uses a quiet space at home to do homework		X	X
Homework help	How often do you help your child with their homework?		X	
Homework help	Whether anyone at home checks young person has done homework			X
School-based involvement	Whether a parents' evening has been attended	X		X
School-based involvement	How often parent and young person talk about school work/activities		X	
School-based involvement	How aware are you of the work your child does at school?		X	
School-based involvement	How aware are you of your child's social life at school?		X	
School-based involvement	Young person feels like their parent shows interest in education and learning		X	
School-based involvement	How often YP's parents talk to YP about the day's events at school			X
School-based involvement	Whether the parent has attended PTA			X
School-based involvement	Whether the parent is part of the School's Governing Body			X
School-based involvement	Number of activities parent has done at child's school			X
School-based involvement	Whether parent has helped out at child's school			X

Category	Variable	EOPS Primary	EOPS Secondary	LSYPE2
School-based involvement	Whether parent talks to young person about their school reports			X
School-based involvement	How often parent talks to young person about their school reports			X
School-based involvement	How involved parent feels in young person's school life			X
School-based involvement	Whether parent has talked with young person about what subjects they might do in Year 10			X
Reading and family learning	How often does someone read to the child from a book/e-book?	X		
Reading and family learning	How often does someone tell the child a story (not reading from a book)?	X		
Reading and family learning	How often does someone draw pictures/paint with the child?	X		
Reading and family learning	How often does someone have a back-and-forth conversation about how they feel and why with the child?	X		
Reading and family learning	How often does someone sing songs/nursery rhymes/poems with the child?	X		
Reading and family learning	How often does someone do imaginative/pretend play with the child?	X		
Reading and family learning	How often does someone play with numbers/measuring/shapes with the child?	X		

Category	Variable	EOPS Primary	EOPS Secondary	LSYPE2
Reading and family learning	How often does someone do things outside with the child (e.g., walking/ball games/swimming)?	X		
Reading and family learning	How often does someone do activities with the child that helps them learn letters?	X		
Reading and family learning	How often does someone do activities with the child that helps them to learn to read words/sentences?	X		
Reading and family learning	How often does someone do activities with the child that helps them to learn numbers?	X		
Reading and family learning	How often does someone do educational activities with the child on a device?	X		
Reading and family learning	How often does someone take the child to the library?	X		
Reading and family learning	Home learning environment index score	X		
Reading and family learning	About how many children's books are there in your home?	X		
Reading and family learning	How often do you read for enjoyment?		X	X
Expectations	What main parent thinks gives people more opportunities and choices in life?		X	
Expectations	To what extent the main parent agrees with the statement: my child learns important life skills at school		X	
Expectations	To what extent the main parent agrees with the statement: how		X	

Category	Variable	EOPS Primary	EOPS Secondary	LSYPE2
	my child performs in class is important to me			
Expectations	How likely do you think it is that your child will attend university?		X	
Expectations	What parent thinks the young person will do when they finish Year 11			X
Expectations	What parent would like the young person to do when they finish Year 11			X
School-parent communication	How often young person's school sends updates on how they are getting on			X
School-parent communication	How often parent has contact with or from young person's teachers about how young person is getting on at school			X
School-parent communication	Whether young person's school has let parent know how well they expect them to do academically			X
School-parent communication	Whether young person's school has let parent know how they have progressed compared to expectations			X
School-parent communication	How clear information from school about young person's progress was			X
School-parent communication	Whether parent has spoken to teachers or other staff at school either face to face or by telephone about what young person might do after the end of Year 11			X

Category	Variable	EOPS Primary	EOPS Secondary	LSYPE2
Parent-child communication	Parenting styles and dimensions questionnaire	X		
Parent-child communication	Parent-child attachment scale		X	
Parent-child communication	How close would you say you are to your child?		X	
Parent-child communication	How often do you talk to your child about things that matter?		X	
Parent-child communication	Young person feels like their parent listens to what they have to say		X	
Parent-child communication	Young person gets easily upset with their parent		X	
Other home learning environment factors	CHAOS score	X		
Other home learning environment factors	How many days has the young person eaten a meal with their family in the last week			X

Appendix C. Descriptive statistics and model results

For Appendix C Tables 1-11, see the supplementary file.

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