
EFFECTIVE PRE-SCHOOL, PRIMARY AND SECONDARY EDUCATION PROJECT (EPPSE 3-16+)

Students' views of school in Key Stage 4 age 16

Research Brief

Pam Sammons[§], Kathy Sylva[§], Edward Melhuish^{+§}, Iram Siraj[†], Brenda Taggart[†], Rebecca Smees[§] and Katalin Toth[†] with Wesley Welcomme

[†]Institute of Education, University of London, ⁺Birkbeck, University of London, [§]University of Oxford

Introduction

The Effective Pre-school, Primary and Secondary Education project (EPPSE) has investigated the academic attainment and progress, social-behavioural development and affective outcomes of approximately 3,000 children followed across different phases of education, from the age of 3+ years into adolescence up to the end of compulsory education at age 16. This Research Brief (RB) summarises some of the main findings about students' views of their secondary schools based on a questionnaire survey administered in Year 11. It also investigates how views of school vary for different groups of students. Analyses identified five underlying factors related to students' experiences of secondary school in Key Stage 4 (KS4); *Teachers professional focus*, *Positive relationships*, *Monitoring students*, *Formative Feedback* and *Academic ethos*. The KS4 analyses build on similar research undertaken during KS3 and KS2 (Sammons et al 2011a, b, c, d, Sammons et al 2008). For the full details of the KS4 findings and analyses of other important academic, social behavioural and affective outcomes at age 16 for the student sample see Sammons et al., 2014a, 2014b, 2014c, 2014d; Siraj et al, 2014; Sylva et al., 2014 and Taggart et al., 2014. This research was funded by the Department for Education (DfE).

Summary of findings

Overall experiences of school in Year 11

Five underlying dimensions (factors) were identified from students' questionnaire responses that tapped distinct features of their KS 4 experiences.

- *Teacher professional focus*, relates to perceptions of teachers' focus on day to day teaching responsibilities such as learning and behaviour within the classroom.
- *Positive relationships*, covers how well students and teachers get on, such as students feeling they are treated fairly and respected and teachers showing an interest in students.
- *Monitoring students* relates to the extent to which teachers monitor the progress students are making, set targets and reward hard work.
- *Formative feedback*, relates to students' experiences of practical support from teachers, helping students when they are stuck and guiding them on how to improve their work.
- *Academic ethos*, measures the extent to which students feel that other students within the school are interested in learning, doing well and continuing their education past compulsory schooling age.

Students were generally positive in their reports of their secondary school experiences in terms of how well they got on with school staff (*Positive relationships*), the provision of *Formative feedback* and the *Academic ethos* of their school. Eight out of ten felt that teachers were interested in them as a person and that

teachers and students generally got on well in school (68% agreed, 16% agreed strongly). A substantial minority were less positive about behaviour and discipline. A third of students did not think teachers in their school applied rules for behaviour consistently (33%), or that their teachers marked and returned homework promptly (32%)

Most students felt they got on well with teachers and that teachers treated them fairly, as individuals and with respect. Similarly, most students thought their teachers had a strong *Professional focus*, and the vast majority felt their teachers believed that learning was important. Most also felt their teachers provided helpful *Formative feedback* assisting them to improve their work. Nonetheless, it is a concern that a quarter of students did not think teachers would be approachable if they were being bullied.

Nearly all students believed other students at their school thought it was important to do well in exams and wanted to stay in education beyond GCSEs.

Difference between student groups

Questionnaire responses were compared for different groups of students based on the following student and family characteristics: gender, Free School Meals status (eligibility for FSM is an important indicator of family poverty), parental qualification levels, Special Educational Needs (SEN) status and the home learning environment (HLE). Some of the main findings from these analyses are summarised below.

Boys rated their secondary school experiences somewhat more favourably than girls for three factors, *Formative feedback*, *Positive relationships* and *Teacher professional focus*. They were more likely to indicate that their teachers arrived on time to lessons, marked and returned homework promptly and treated students fairly. In contrast girls were more likely to think their school peers wanted to continue their education beyond GCSEs than boys which may reflect gender differences in friendship patterns.

Students recoded as having a SEN (School Action plus) showed less favourable views of school whereas those eligible for FSM were more likely to think that teachers applied consistent rules of behaviour.

Students whose parents were more highly qualified had more positive views of their secondary schools, especially for *Positive relationships* and *Academic ethos*.

The early years HLE was not associated with differences in students' views in Year 11. However, two measures of the KS3 HLE (Academic supervision and Academic enrichment activities at home) were associated with differences in students' views of their schools at age 16. Students whose parents provided higher levels of Academic supervision reported their school had more positive *Teacher professional focus*, *Monitoring students*, and *Formative feedback*.

The combined influence of student, family and HLE

The differences in responses described above do not take into account the relationship between individual, family and HLE characteristics. EPPSE used multilevel models to test the effects of different characteristics both separately and in combination. The findings reported below therefore show the 'net' influence of a factor in predicting the different views of school measures (e.g., the effect of gender is net of that attributed to other predictors such as FSM or SEN status, parents' qualifications etc.).

Gender was a significant predictor, with boys giving more positive ratings about their schools in terms of *Teacher professional focus*, *Positive relationships* and *Formative feedback*. Students who had shown

behavioural problems in their early years were less positive about the *Teacher professional focus* at age 16.

Ethnic group was also significant, though due to small numbers in some ethnic groups the results should be treated with caution. Indian and Pakistani heritage students tended to show more positive views of school when compared to UK White heritage students.

Students from single parent families rather than those whose parents were married showed less positive views of school. A similar pattern was found for students living in a reconstituted family (with a step parent) who also had less favourable views of their secondary school experiences

Learning outside of school was a particularly strong predictor of views of school. Those students with higher HLE scores in KS3 in terms of Academic Enrichment (engagement in academic related activities outside school like reading for pleasure, being taken on educational trips/visits) and Academic Supervision (parents monitoring of academic work) had more positive views of their secondary schools.

Academic achievement

Higher attaining students in Year 11 reported better relationships with teachers and had more positive views of *Teacher professional focus*, *Monitoring students* and *Formative feedback*.

School context

Students in schools with a higher proportion of White UK heritage students reported significantly less favourable views of their school in terms of *Academic ethos* and *Positive relationships*.

Pre-school and primary school

Students who had attended a pre-school that combined education and care (e.g. Children's Centres) showed more favourable views of their secondary school experiences in Year 11 for *Positive relationships*, *Monitoring students* and *Formative feedback*.

Students who had attended academically effective primary schools (high versus low) reported more favourable secondary school experiences for *Academic ethos* and *Teacher professional focus*.

Secondary school quality and effectiveness

Students from more academically effective secondary schools (measured by DfE Contextualised Value Added [CVA] indicators) generally showed more positive views of their secondary schools for *Academic ethos*, *Teacher professional focus* and *Positive relationships* compared to those who attended less academically effective secondary schools. They also had higher scores for *School enjoyment* and lower scores for *Disaffected behaviours*.

Office for Standards in Education (Ofsted) inspection judgements on the quality of a secondary school attended also predicted students' views. Students' views of *Academic ethos* showed the strongest association with Ofsted quality ratings. Attending a school where 'the standards reached by learners' and the 'attendance' were judged by inspectors to be higher, predicted more favourable student reports of *Academic ethos*. Inspection judgements of achievement and standards also predicted students' views of *Teacher professional focus*, *Positive relationships* and *Academic ethos*..

School type

The views of students attending comprehensive secondary schools were compared to students from independent, selective and other maintained schools. Students from 'independent schools'¹ had significantly more positive views of their secondary school than students from 'comprehensive schools' for *Teacher professional focus*, *Positive relationships*, *Formative feedback* and *Academic ethos*. Students from 'other maintained' schools (mainly special schools) had positive views of *Teacher professional focus* and *Formative feedback* than students from 'comprehensives'. Students from 'selective schools' were more positive for *Academic ethos* than those from 'comprehensives'. In interpreting these results it should be noted that independent schools are socially and academically selective and although grammar schools are intended to be academically selective only research consistently shows that disadvantaged groups are very under-represented in grammar schools.

Variation between schools

Once intake differences (student, family, neighbourhood etc.) were controlled for, students reports of *Academic ethos* showed the greatest variation between schools. There was also evidence of significant variation between secondary schools in other areas such as *Teacher professional focus*, *Positive relationships*, and *Monitoring* students although differences were not as great as for *Academic ethos*.

Aims and methodology

The overall aims of this aspect of the EPPSE study were to explore:

- students' experiences and views of school at age 16;
- the views of different student groups (gender, SES etc);
- the relationships between individual, family, HLE and educational characteristics and students' views and experiences of school.

Methodology

The findings reported here are taken from an analyses of responses by 1675 students (60% of the tracked sample of 2810 EPPSE members) to the 'Life in Year 11' questionnaire. Previous questionnaires to parents and Pupil Profiles completed by school personnel provided data about students' and family background characteristics and were complemented by information from administrative datasets (e.g., GCSE results were matched in from the NPD and neighbourhood data via post codes). A range of statistical techniques including exploratory and confirmatory factor analyses and multilevel regression were used explore students' questionnaire responses and identify measures of students' dispositions and school processes. Models investigated, variations in students' views across the sample and identified the strength of the influence (in Effect Sizes: ES) of background characteristics in predicting different student outcomes. It should be noted that an ES of 0.2 is considered small, 0.5 'medium' and 0.8 as 'large' (Cohen 1969).

¹ Schools were classified by the DfE as: Comprehensive, Selective, Other maintained or Independent. It was not possible to study differences for free schools or academies as these new types of school were not in operation (there were relatively few academies before 2009 when EPPSE students were in secondary education).

The findings explained

Overall experiences of school in Year 11 age 16.

Students were overall very positive about their school experiences in Year 9 (Sammons et al., 2011a) and this remained evident in Year 11. The majority showed favourable views of their secondary schools for the three factors *Positive relationships*, *Formative feedback* and the *Academic ethos*. However, behaviour and discipline were rated less favourably. A third of students did not think teachers applied behaviour rules consistently or marked and returned homework promptly (32%). Just over a quarter (26%) reported lesson to be noisy and disorderly. A quarter of students did not feel that their teachers would be approachable if they were being bullied (24%). By contrast, approximately nine out of ten felt they were treated fairly by teachers and that teachers treated them with respect (71% agreed, 18% agreed strongly). Eight out of ten felt that teachers were interested in them as a person and that teachers and students generally got on well in school (68% agreed, 16% agreed strongly).

Over 95 per cent of students agreed that 'Teachers in this school believe that learning is important', which relates to the factor *Teachers' professional focus* (55% agreed, and 43% agreed strongly). Approximately nine out of ten students reported that teachers helped them when they were stuck, made helpful comments and provided information to improve their work (e.g. 32% strongly agreed, 63% agreed that teachers helped them when they were stuck). These items related to the factor *Formative feedback*.

Nearly all students believed that their peers thought it was important to do well in exams (66% agreed, 30% agreed strongly) and wanted to carry on with their education after GCSEs (67% agreed, 28% agreed strongly). In all, less than one in five thought other students in their school weren't really interested in learning (15%).

Differences between student groups

Questionnaire responses were compared for different student groups classified by: gender, FSM, parental qualifications, SEN and the HLE.

Gender differences were fairly small but boys expressed more favourable views than girls for a number of teacher-student relationships items (linked to the *Positive relationships* and *Teacher professional focus* factors). Boys were more likely to report their teachers arrived on time to lesson, marked and returned homework promptly and treated students fairly. Boys were significantly more positive than girls about the three factors *Teacher professional focus*, *Positive relationships* and *Formative feedback*. However, girls were more likely to think students in their school wanted to carry on their education after GCSEs (30% strongly agree compared to 25% of boys). This may relate to differences in boys and girls own plans and their friendship patterns as nationally more girls enter higher education.

As found in Year 9, SEN was associated with views of school, but not consistently across the stages of the Code of Practice. Students on School Action plus had less favourable views of school than those at the other stages (School Action, Full statement) of the Code of Practice.

There were no differences in views in terms of the five factors for eligibility according to FSM status but some large differences were evident for individual items. For instance, nearly 25 per cent of FSM students strongly agreed that 'Teachers have the same rules about behaviour' compared to only 13 per cent of non-FSM students.

In general, students whose parents were more highly qualified showed more positive views of school than others for *Positive relationships* and *Academic ethos* whereas students from households where parents had no qualifications showed more positive views for only a few individual questionnaire items such as; the approachability of teachers if they were bullied and the consistency of teachers in applying behaviour rules.

Learning activities at home and outside school have been collected by EPPSE at regular intervals since the sample were in the early years. Only the KS3 (age 14) HLE measures of 'Academic supervision' and 'Academic enrichment activities at home' showed a significant association with views of school at age 16. Students whose parents provided higher levels of 'Academic supervision' and 'Academic enrichment activities' in KS3 showed more positive views at age 16. Students with higher levels of Academic supervision reported more favourable views of their secondary schools for *Teacher professional focus*, *Monitoring students*, *Formative feedback* and *Academic ethos*.

The combined influence of student, family and HLE

The differences in responses described for different student groups above do not take into account the relationship between individual, family and HLE characteristics, so that the strongest predictors of views cannot be identified easily. Analyses using multilevel models (hierarchical linear regression) allows for these potential predictors to be tested in combination, and therefore provide estimates of the 'net' influence of one predictor, once other variables are controlled. The strength of a predictor is shown in Effect Sizes (ES) where an ES of 0.2 is considered small, 0.5 'medium' and 0.8 as 'large' (Cohen 1969).

Gender was a weak but significantly predictor of differences in student reports on the factors with girls reporting less favourable views compared to boys for *Teacher professional focus* (ES=-0.15), *Positive relationships* (ES=-0.10, $p < 0.10$) and *Formative feedback* (ES=-0.12). It should be noted that the size of the effects are small.

Students who had shown behavioural problems in their early years were less positive about the *Teacher professional focus* at age 16 (ES=-0.17) but again the effect was weak.

Some ethnic group differences remain evident, with Indian and Pakistani heritage students being more positive than White UK students for many or all of the views of school outcomes (Indian: *Monitoring students* ES=0.36, *Academic ethos* ES=0.53; Pakistani: *Teacher professional focus* ES=0.48, *Positive relationships* ES=0.43, *Monitoring students* ES=0.35, *Formative feedback* ES=0.32, *Academic ethos* ES=0.48). For Black Caribbean students views were more favourable (*Monitoring students* ES=0.48, *Academic ethos* ES=0.35).

Students from single parent or reconstituted (with a step parent) families had slightly less positive views (Single parent: *Positive relationships* ES=-0.14, *Monitoring students* ES=-0.13, *Academic ethos* ES=-0.16; Reconstituted family: *Formative feedback* ES=-0.16) than students from families with both natural parents in the house.

Students who experienced higher levels of 'Creative play' at home during the primary school period were more likely to report higher levels of *Positive relationships* (ES=0.24). Students with higher KS3 HLE scores in for 'Academic Enrichment' (academic related activities outside school) and 'Academic Supervision' (parents monitoring academic work) had more positive views of school and the effects were moderately large for some factors. The effects for Academic supervision on different factors were *Teacher professional focus* ES=0.56, *Positive relationships* ES=0.37, *Monitoring students* ES=0.40, *Formative feedback* ES=0.50, *Academic ethos* ES=0.22; Academic enrichment = *Teacher professional focus* ES=0.24, *Positive*

relationships ES=0.21, *Monitoring students* ES=0.19, *Formative feedback* ES=0.20). The ES for these home learning measures was the strongest predictors of more favourable views of school. The analyses on Year 11 academic outcomes (Sammons et al., 2014b) show how different HLE measures in the early years and in KLS3 also predict students' GCSE attainment and progress from KS2 to KS4.

Academic achievement

Separate analyses investigated the relationship between EPPSE students' own GCSE achievement and their views of secondary school (Sammons et al., 2014b). In Year 11, higher attaining students reported better relationships with teachers (*Positive relationships*: ES=0.31) and slightly more positive views of *Teacher professional focus* (ES=0.19), *Monitoring students* (ES=0.13) and *Formative feedback* (ES=0.16). In contrast, prior attainment (in Year 6 and Year 9) only weakly predicted differences in later views in Year 11 for *Positive relationships* (ES=0.16). Interestingly, higher attainers in Year 11 also reported better experiences of schooling but did not rate the academic ethos of students in their school more favourably than other students. It seems from these findings that reciprocal relationships between students' views of school and their attainment are likely to emerge and be mutually reinforcing in secondary school.

School context

The school ethnic composition was associated with some factors related to students' views. Students in schools with a higher proportion of White UK heritage students reported significantly less favourable views of their school for *Academic ethos* and *Positive relationships*. Other school context measures (the percentage of students' eligible for FSM, or on the SEN register) were not found to predict the views of school factors after controlling for other influences.

Pre-school and primary school

Pre-school attendance (going to pre-school or not), pre-school quality and pre-school effectiveness did not predict any differences in students' views at age 16 which is in contrast to findings for GCSE (Sammons et al 2014b), but in line with findings for student dispositions (Sammons et al 2014d). However, students who had attended a pre-school that combined education and care (e.g. Children's Centres) had more favourable views in Year 11 (compared to the no pre-school group) for *Positive relationships* (ES=0.23), *Monitoring students* (ES=0.41) and *Formative feedback* (ES=0.33).

The academic effectiveness of the primary school a student attended was related to views of school in Year 11. Students who had attended more academically effective primary schools (for English) had more favourable views of their secondary school for *Academic ethos* (ES=0.25) and *Teacher professional focus* (ES=0.20). Attending an academically effective primary school was also associated with greater *General Academic Self-concept* at age 16 (Sammons et al 2014d). Attending an academically effective primary school boosted attainment at age 11 and 14 and progress between ages 11-14. This better attainment at entry to secondary school may have shaped such students' later secondary school experiences in KS3 and KS4 in ways that reinforced more positive experiences and views. The latest findings on GCSE outcomes at age 16 also show that having attended a more academic effective primary school predicted better GCSE outcomes and greater academic progress from Year 6 to Year 11.

Secondary school quality and effectiveness

Attending a more academically effective secondary school (measured by the DfE Contextualised Value Added indicators) predicted more positive views of school for *Academic ethos* (ES=0.24), *Teacher professional focus* (ES=0.34) and *Positive relationships* (ES=0.27) in comparison to attending a less academically effective secondary schools. EPPSE also found that attending a more academically effective

secondary schools predicted higher scores for *School enjoyment* and lower scores for *Disaffected behaviours* (Sammons et al 2014d), and better overall GCSE attainment and progress between Year 6 and Year 11 (Sammons et al., 2014b)

EPPSE students' views of school were more positive in secondary schools that had been rated more favourable by Ofsted inspectors' judgements. Students' views of *Academic ethos* showed the strongest association with Ofsted quality ratings, followed by *Teacher professional focus* and *Positive relationships*. For example, EPPSE students' reports of *Academic ethos* were more favourable in secondary schools where 'the standards reached by learners' were judged by inspectors to be higher (ES=0.80, outstanding compared to Inadequate), where learners achieved (ES=0.57), and where attendance was judged as better (ES=0.73). Similarly, students' reports of *Teacher professional focus* were more favourable in secondary schools where 'the standards reached by learners' were higher (ES=0.47), and where learners achieved (ES=0.63). Reports of *Positive relationships* were also more favourable in secondary schools where 'the standards reached by learners' were higher (ES=0.46), and where learners achieved (ES=0.53). Inspection judgements of achievement and standards showed the most consistent association with EPPSE students' views of school for *Teacher professional focus*, *Positive relationships* and *Academic ethos*. By contrast, students' reports of two other factors *Monitoring students* and *Formative feedback* showed no statistically significant association with Ofsted quality and CVA effectiveness measures.

School type

Students from 'independent schools'² had significantly more positive views of their secondary school than students from schools classed as 'comprehensive' by the DfE for all factors except *Monitoring students*, where no significant differences were found (*Teacher professional focus*: ES=0.33, *Positive relationships* ES=0.31, *Formative feedback* ES=0.31, *Academic ethos* ES=0.91). Students from 'other maintained' schools (mainly special schools) had significantly more positive views of *Teacher professional focus* (ES=0.44) and reported higher levels of *Formative feedback* (ES=0.50) than students from 'comprehensives'. Students from 'selective' schools rated *Academic ethos* as much higher (ES=1.30) than students from 'comprehensives'. In interpreting these results it should be noted that independent schools are socially and academically selective and although grammar schools are intended to be academically selective only research consistently shows that disadvantaged groups are very under-represented in grammar schools.

Variation between schools

As was found in previous analyses of EPPSE students' views in Year 9 (Sammons et al., 2011a), most factors related to students' views of school in Year 11 varied significantly between schools. This is in contrast to variation in dispositions (Sammons et al., 2014d), which show little or no school level variation. Once intake differences (student, family and HLE variables) were controlled for, *Academic ethos* showed the greatest variation between schools. A substantial 15 per cent of variance was found at the school level. School level variation was smaller but still significant for *Teacher professional focus*, *Positive relationships*, and *Monitoring students* at between 4-6 per cent. These areas of secondary school processes have been identified as important features of educational effectiveness in past research (Sammons, Thomas & Mortimore, 1997).

² Schools were classified by the DfE as: Comprehensive, Selective, Other maintained or Independent.

Conclusions

EPPSE students' views about their secondary school experiences continue to be largely favourable at the end of compulsory education, yet there are some significant differences between schools. In Year 9, EPPSE found substantial variation in measures related to the school structure, ethos and management (*Head teacher qualities, Poor behaviour climate* and the *School environment*). In Year 11 different measures were obtained and *Academic ethos* showed the largest variation between schools (although all measures showed significant variation). EPPSE students who had the benefit of attending more academically effective secondary schools (as measured by external DfE CVA indicators) and schools judged as of higher quality by Ofsted were more positive in their views of their secondary school experiences. This implies that students are influenced by different aspects of the quality of education in their school. In particular, highly effective schools were ones in which academic success was perceived to be highly valued by students (*Academic ethos*), behaviour and discipline was better (*Poor behaviour climate, Teacher discipline*) and students and teachers got on well (*Positive relationships, Valuing students*). *Teacher professional focus* and the *School environment* also appeared to be viewed more favourably in more effective schools. This emphasises once more the importance of students' opinion and experience in the evaluation of school performance.

As in Year 9, student and family background characteristics accounted for only a relatively small amount of variance in student views (in contrast to their stronger effects on attainment in GCSEs). The HLE was an exception with more supportive and stimulating KS3 HLE ('Academic supervision' and 'Academic enrichment') home learning experiences predicting more positive views of school in Year 11, over and beyond the role of family SES, income or parental qualifications. The relationship between 'Academic supervision' and more favourable views is complex and causation should not be inferred. Students whose parents spend more time monitoring their children's schoolwork report more favourable school experiences in terms of *Teacher professional focus, Monitoring students, Formative feedback* and *Positive relationships*³. HLE predicted attainment and social-behavioural outcomes across the educational phases of this longitudinal study and it is possible that students with this kind of home support may also be more responsive to school opportunities and support from teachers.

There may be a complex interplay between school processes and the HLE. Students attending more effective and higher quality secondary schools had significantly higher HLE at the end of primary schooling and engaged in more educational enrichment activities in Year 9. It is possible such parents who provide a more stimulating HLE may have chosen more effective and higher quality secondary schools for their children. However, schools with a greater focus on *Teacher professional focus, Monitoring students, Formative feedback* and *Positive relationships* may well also have an influence on both student and parental behaviour, for example through practices such as setting and marking homework, and expectations of behaviour and work. It is not possible to tease out such potentially reciprocal relationships in this research. However, by controlling for the influence of parental qualifications and support (measured by the HLE), it is possible to identify the net role of other school influences in shaping differences in

³ This relationship was also found for views of school in Year 9. When tested without controlling for other factors, students with higher scores for Academic supervision at home also had more favourable views of school. This was particularly marked for views related to their experiences in the classroom and their relationship with teachers (*Emphasis on learning, Valuing students, Teacher discipline, Teacher support*). Higher levels of academic enrichment were associated more with a more positive behaviour climate (*Poor behaviour climate* measure) and a better *School environment*.

students' academic, social-behaviour and other outcomes and their views and experiences of school (Sammons et al., 2014b: c). The KS4 research has shown that, controlling for prior attainment or prior social behaviour, and other student and family characteristics including HLE differences, students' secondary school experiences (as measured by the views of school factors outlined in this RB) still shape students' GCSE outcomes and progress and their social behavioural development up to the end of Year 11.

Table 1: Summary of background influences on views of school in Year 11

Factors	Teacher professional focus	Positive relationships	Monitoring students	Formative feedback	Academic ethos
Student Factors					
Gender (Girls)	-0.15	ns	ns	-0.12	ns
Early behavioural problems					
One or more	-0.17	ns	ns	ns	ns
Ethnicity (White UK heritage)					
White European heritage	ns	ns	ns	ns	ns
Black Caribbean heritage	ns	ns	0.48	ns	0.35
Black African heritage	ns	ns	ns	ns	0.50
Any other ethnic minority	ns	ns	ns	ns	ns
Indian heritage	ns	ns	0.36	ns	0.53
Pakistani heritage	0.48	0.43	0.35	0.32	0.48
Bangladeshi heritage	ns	ns	ns	ns	ns
Mixed race	ns	-0.25	ns	ns	ns
Family factors					
Parent's Highest SES at age3/5 (professional non-manual)					
Other Professional, Non-Manual	ns	-0.38	ns	ns	ns
Skilled; Non-manual	ns	-0.41	ns	-0.21	-0.33
Skilled; manual	ns	-0.33	ns	-0.23	-0.28
Semi-skilled	ns	ns	0.27	ns	-0.23
Unskilled	ns	ns	0.60	ns	ns
Not working/never worked	ns	ns	0.39	ns	ns
Family structure in Year 11 (living with both natural parents)					
Living in reconstituted family	ns	ns	ns	-0.16	ns
Living with single parent	ns	-0.14	-0.13	ns	-0.16
Other arrangement	ns	ns	ns	ns	ns
Home Learning Environment					
KS1 Creative play (grouped) (low)					
Medium	ns	0.20	ns	ns	ns
High	ns	0.24	ns	ns	ns
KS1 Outings (grouped) (low)					
Medium	ns	ns	ns	ns	ns
High	ns	ns	0.21	ns	ns
KS3 Academic supervision (Grouped) (Low)					
Medium	0.27	0.16	0.22	0.27	ns
High	0.56	0.37	0.40	0.50	0.22
KS3 Academic enrichment (Grouped) (Low)					
Medium	ns	ns	ns	ns	ns
High	0.24	0.21	0.19	0.20	ns

N.B. Table only displays significant effects at the $p < 0.05$ level or above

References

- Cohen, J (1969) *Statistical Power Analysis for the Behavioral Sciences*. NY: Academic Press.
- Sammons, P., Sylva, K., Melhuish, E., Siraj, I., Taggart, B., Smees, R. and Toth, K. (2014a) The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3-16+) *Students' views of school in Key Stage 4 at age 16*. Institute of Education, University of London / Department for Education <http://www.ioe.ac.uk/research/153.html>
- Sammons, P., Sylva, K., Melhuish, E., Siraj, I., Taggart, B., Toth, K. and Smees R., (2014b) The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3-16+) *Influences on students' GCSE attainment and progress at age 16*. Department for Education RR 352.
- Sammons, P., Sylva, K., Melhuish, E., Siraj, I., Taggart, B., Smees, R. and Toth, K. (2014c) The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3-16+) *Influences on students' social-behavioural development at age 16*. Department for Education RR 351.
- Sammons, P., Sylva, K., Melhuish, E., Siraj, I., Taggart, B., Smees, R. and Toth, K. (2014d) The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3-16+) *Influences on students' dispositions and well-being in Key Stage 4 at age 16*. Institute of Education, University of London / Department for Education <http://www.ioe.ac.uk/research/153.html>
- Sammons, P., Sylva, K., Melhuish, E., Siraj-Blatchford, I., Taggart, B., Smees, R., Draghici, D. and Toth, K. (2011a) The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3-14) *Students' reports of their experiences of school in Year 9* Institute of Education, University of London / Department for Education <http://www.ioe.ac.uk/research/153.html>
- Sammons, P., Sylva, K., Melhuish, E., Siraj-Blatchford, I., Taggart, B., Jelacic, H., Barreau, S., Grabbe, Y. and Smees, R. (2008) The Effective Pre-school and Primary and Education Project (EPPE 3-11) *Relationship between pupils' self-perceptions, views of primary school and their development in Year 5*. Institute of Education, University of London / Teaching and Learning Research Programme //Department for Children, Schools and Families <http://www.ioe.ac.uk/research/153.html>
- Sammons, P., Sylva, K., Melhuish, E., Siraj, I., Taggart, B., Smees, R. and Toth, K. (2011a) The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3-14) *Students' reports of their experiences of school in Year 9* Institute of Education, University of London / Department for Education <http://www.ioe.ac.uk/research/153.html>
- Sammons, P., Thomas, S. and Mortimore, P. (1997) *Forging Links: Effective Schools and Effective Departments*. London: Paul Chapman
- Sylva, K., Melhuish, E., Sammons, P., Siraj, I. and Taggart, B. (2014) The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3-16+) *Students' educational outcomes at age 16*. Department for Education. RR 354
- Sylva, K., Siraj-Blatchford, I. and Taggart, B. (2003) *The Early Childhood Environment Rating Scale-Extension (ECERS-E): Four Curricular Subscales*. Stafford, Trentham Books
- Taggart, B., Sammons, P., Siraj, I., Sylva, K., Melhuish, E., Toth, K. Smees, R. and Hollingworth, K. (2014) The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3-16+) *Report on post 16 destinations*. Institute of Education, University of London / Department for Education <http://www.ioe.ac.uk/research/153.html>