

Why are Ethnic Minority Teacher Paid Differently in England: A Preliminary Analysis of the School Workforce Census

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ABSTRACT

This paper uses data from the School Workforce Census in England, 2015-2022, to examine differential pay rates for teachers of different ethnic groups. Part of the reason for this is to help understand why ethnic minority teachers are under-represented in the teacher workforce. There are surface differences between the pay of different groups. Black African and Black Caribbean teachers tend to be paid more than average, and Pakistani teachers tend to be paid less. But there are also differences in age, qualifications, region, and phase of education. Taking all of the background and context variables into account, there is no evidence that ethnicity is a clear factor in determining pay. Of course, the reasons why teachers of different ethnicity teach in particular phases and regions may be part of that explanation. However, we will have to look elsewhere to explain the disproportion between ethnic minority teachers and pupils in England, and for the most effective policy levers to increase the supply and retention of minority ethnic teachers. Policymakers and schools could still consider salary incentives to try and attract more minority ethnic undergraduate students to a teaching career, where recruitment and retention of minority ethnic teachers is a challenge.

INTRODUCTION

A well-paid teaching workforce can be an important factor in teacher supply and long-term retention. Existing evidence has shown that raising teacher salaries can attract more skilled individuals in the profession (Chelwa et al. 2019). However, disproportionate salary differences on the basis of teacher characteristics such as their gender, ethnicity, language, country of origin, and route to teaching qualifications can make teaching profession less attractive and reduce retention (D'Amico et al. 2017, Akiba et al. 2012).

According to teacher workforce data in England 21% teachers identified themselves as from minority ethnic backgrounds (DfE 2024), and this has been increasing over time (Kelly 2024). Teachers from minority ethnic groups are underrepresented in leadership positions such as heads, deputy heads, and assistant heads. In 2023/24, 15.9% of White British teachers held leadership roles, compared to 11.1% of White minorities, 10.0% of Black or Black British, and 8.3% of Asian or Asian British teachers (DfE 2023). The disparities in teachers' salaries may be attributed to bottlenecks in the workforce pipeline, where minority ethnic teachers encounter obstacles in obtaining promotions or deployments to higher-salary leadership roles (McNamara et al. 2009). What about the pay of classroom teachers?

The analysis presented here is part of a larger project looking at the recruitment and retention of minority ethnic teachers in England, involving three systematic reviews of prior evidence, a national survey of teachers, interviews, case studies, and secondary analyses of the School Workforce Census, National Pupil Database, and UCAS and TALIS figures on the recruitment of teachers.

We have shown that minority ethnic teachers in England are far less common as a proportion than minority ethnic pupils are (Gorard et al. 2023a). And that this disproportion is related to the recruitment and retention

of minority ethnic teachers (See et al. 2024), and to the treatment, behaviour and outcomes of minority ethnic pupils (Gorard et al. 2003b). This disproportion matters. Therefore, we are exploring why the disproportion occurs, and how the recruitment and retention of ethnic minority teachers could be improved. One relevant issue could be differential pay – if ethnic minority teachers are paid less than their peers, *ceteris paribus*, this could be a factor in their under-representation.

This paper looks at patterns of differential pay for minority ethnic teachers. Following this introduction, the paper includes a summary of the methods used, comparative findings of pay by ethnicity and other factors, and a logistic regression analysis explaining high and low pay in terms of teacher background characteristics and qualifications. The paper ends with a brief discussion of the implications and next steps.

METHODS USED

The dataset used in this paper is the Schools Workforce Census for England, 2015-2022, containing individual records of teachers and other educational staff. It contains information on training and qualifications, contracts, role, phase, promotion, pay, and background characteristics such as region, sex and ethnicity. This paper focuses on teacher pay by ethnic group, and potential explanatory factors for any differences.

This is achieved through comparisons of means, and cross-tabulations of frequencies, and a logistic regression model using all available variables to explain whether teachers have relatively high or low pay. In this way, we can begin to assess whether any ethnic groups are high or low paid once other factors are accounted for. For this regression analysis only, missing cases for age and months since achieving qualified teacher status (QTS) are replaced with the overall mean for that variable.

The first degree qualification, the first QTS qualification, and Masters or PhD qualification, are retained for each candidate (some had 33 or more qualifications listed). The qualification codes are converted to broad subject areas for each qualification level. NQF unspecified qualifications are listed as first degree equivalent where no other degree is listed. The eight subject areas are:

- Art including Media Studies, crafts, joining
- English including Welsh literature, creative writing
- Services including Youth Work, Careers
- Social sciences including Politics, Policy, Social Work
- Engineering including Design, Technology, Ceramics, Textiles
- Agriculture including Land management, Forestry, Food Production
- Health including Veterinary
- MFL and culture including Asian studies

COMPARATIVE RESULTS

This analysis is based on full-time classroom teachers in England, with a particular focus on the pay and ethnicity of teachers. There are no suitable figures for 2019, but we have retained the empty column for clarity. There are just over 300,000 cases in the dataset in each year (Table 1). There are too few teachers from a Traveller/Roma background to report analyses on (this is a stipulation of the data owner). Travellers have consistently low average pay.

Table 1 – Number of full-time classroom teachers in England, 2015-2022

	2015	2016	2017	2018	2019	2020	2021	2022
Number of valid cases	313,649	311,722	308,702	307,380		314,292	312,858	317,575

Table 2 shows the actual average salary for each minority ethnic group, in pounds Sterling (£). This gives a sense of salary scale, growth over time, and differences between groups. As the clear majority, the pay of White British teachers is roughly equivalent to the overall national figure, but slightly below average in every year except 2020. There is no sign of any particular trend over time. The lowest pay is consistently for Pakistani teachers, below the national average in every year but with no particular sign of a trend. Black African and Black Caribbean teachers clearly have clearly had the highest pay in every year.

Table 2 – Base pay by ethnicity of teachers, 2015-2022

Ethnic sub-category	2015	2016	2017	2018	2019	2020	2021	2022
Any other Asian	32584	33464	33786	35482		36038	36971	37859
Any other Black	34590	34412	35209	36454		36982	38502	38907
Any other ethnicity	34119	33415	33656	35487		36570	37121	37549
Any other mixed	32388	32976	33458	35368		36405	37184	37950
Any other White	33067	33152	33665	35893		36814	37713	38706
Bangladeshi	32272	32525	33151	35335		36573	37457	39138
Black African	34605	35262	35250	36990		38123	38648	39620
Black Caribbean	35235	35226	35740	37617		38469	39216	40245
Chinese	32133	32810	33097	34716		35552	35751	37134
Indian	33005	33411	33755	35812		37024	37550	38791
Not known	31118	31618	31947	33740		34365	35550	36664
Pakistani	31064	31187	31512	33528		34438	35660	36587
Traveller								
White and Asian	31513	31947	32464	34401		35364	36179	37219
White and Black	31341	31534	32002	34208		35400	35832	37015
White British	32258	32555	32939	34771		35985	36507	37562
Total	32285	32587	32970	34811		35942	36555	37603

Overall, the standard deviation of base pay is £8,626

Future tables will mostly not present these actual salary figures. Instead, they will show the differences between the pay for each sub-group and year, compared to the overall pay for that year, and divided by the overall standard deviation of pay. This is a standard “effect” size. Table 3 is an example, and it shows the same data as Table 2. It is clearer to see the main differences and trends. Teachers of Pakistani origin, for example, always have considerably lower than average pay, with perhaps a slight improvement over time. Teachers of Black Caribbean origin have pay which is substantially higher than average each year (“effect” size of around +0.3).

Table 3 – Effect sizes for differences in base pay by ethnicity of teachers, 2015-2022

Ethnic sub-category	2015	2016	2017	2018	2019	2020	2021	2022
Any other Asian	0.035	0.102	0.095	0.078		0.011	0.048	0.030
Any other Black	0.267	0.212	0.260	0.190		0.121	0.226	0.151
Any other ethnicity	0.213	0.096	0.080	0.078		0.073	0.066	-0.006
Any other mixed	0.012	0.045	0.057	0.065		0.054	0.073	0.040
Any other White	0.091	0.065	0.081	0.125		0.101	0.134	0.128
Bangladeshi	-0.002	-0.007	0.021	0.061		0.073	0.105	0.178
Black African	0.269	0.310	0.264	0.253		0.253	0.243	0.234

Black Caribbean	0.342	0.306	0.321	0.325		0.293	0.308	0.306
Chinese	-0.018	0.026	0.015	-0.011		-0.045	-0.093	-0.054
Indian	0.083	0.096	0.091	0.116		0.125	0.115	0.138
Not known	-0.135	-0.112	-0.119	-0.124		-0.183	-0.117	-0.109
Pakistani	-0.142	-0.162	-0.169	-0.149		-0.174	-0.104	-0.118
Traveller								
White and Asian	-0.089	-0.074	-0.059	-0.048		-0.067	-0.044	-0.045
White and Black	-0.109	-0.122	-0.112	-0.070		-0.063	-0.084	-0.068
White British	-0.003	-0.004	-0.004	-0.005		0.005	-0.006	-0.005

Compared to overall pay each year

There will be several reasons for these differences in teacher pay by ethnicity, including regional geography (Table 4). Teachers in London, for example, will tend to have higher pay and/or a London allowance, although it is not entirely clear that this “incentive” to teach in London is needed or justified given that this is not the region with greatest teacher shortages (Gorard 2018). This higher pay is represented in base pay, gross pay, and additional payments.

Table 4 – Effect sizes for differences in base pay by economic region, 2015-2022

Region	2015	2016	2017	2018	2019	2020	2021	2022
East Midlands	-0.068	-0.058	-0.075	-0.067		-0.042	-0.087	-0.099
East of England	-0.060	-0.072	-0.065	-0.089		-0.126	-0.102	-0.114
Inner London	0.455	0.464	0.491	0.529		0.522	0.572	0.572
North East	0.004	-0.008	-0.006	0.016		-0.014	-0.020	-0.002
North West	-0.045	-0.048	-0.042	-0.048		-0.032	-0.035	-0.063
Outer London	0.267	0.269	0.290	0.299		0.283	0.329	0.359
South East	-0.093	-0.097	-0.095	-0.102		-0.075	-0.100	-0.109
South West	-0.042	-0.045	-0.046	-0.062		-0.064	-0.078	-0.075
West Midlands	-0.111	-0.097	-0.136	-0.110		-0.142	-0.129	-0.086
Yorkshire and Humber	-0.108	-0.108	-0.107	-0.126		-0.109	-0.117	-0.109

Only two areas in England have above average pay for teachers (Table 5). Teachers in Inner London have pay which is a massive +0.57 of a standard deviation above average, and this difference has been growing over time. Teachers in Outer London have pay 0.36 of a standard deviation above average, again increasing over time. If teachers in other regions had the same level of pay as in London then there would likely be no shortages in the schools there. The idea of using financial incentives appears reasonable to encourage teachers to work in hard-to-staff or disadvantaged schools (See et al. 2020), but it is nowhere near as clear that extra payments should be given to teachers to teach in what are already the most popular areas to live in. Weighting teacher pay towards London in this way, and the damage it causes to teacher supply elsewhere, is a national policy, although it is not clear that policy-makers are aware of it, or that it has been properly debated.

The lowest pay is in Yorkshire and the Humber, and this has been relatively static over time, along with the East of England, and the South East, where pay has decreased relative to other areas over time. These regional differences, coupled with residential figures for ethnic minority teachers in England (Gorard et al. 2023), can help explain at least part of the differences in pay by ethnic group. Black African and Black Caribbean teachers live disproportionately in London, compared to White British, Chinese, Indian and Pakistani. Bangladeshi teachers are also disproportionately in Inner London.

Low pay in the South East may somehow be linked to the much higher and growing pay in London, but it clearly shows that regional pay is not directly linked to local house prices. The South East and the East of England have the highest house prices in England outside of London, and so if pay were related to house prices then we would expect to see these two regions have somewhat higher than average pay. They do not. In fact they have substantially lower than average pay for England, and so London remains a highly-paid anomaly (Table 5).

Table 5 – House prices by region of England, January 2023

Region	January 2023
East Midlands	251,177
East of England	358,114
London	533,986
North East	163,371
North West	214,431
South East	398,368
South West	329,691
West Midlands	256,694
Yorkshire and Humber	207,635
Total	310,159

Male teachers are paid slightly more than female teachers, and the gap has increased slightly over time, rather than reducing. This will be examined further in later analyses. Additionally, there are more male teachers who are Black African (40.4%) than in other ethnic groups (overall 28.2%). This could also explain part of the difference in pay by ethnicity, but does not apply to Black Caribbean teachers (24.1% male); nor can it explain the low pay of Pakistani teachers (26.6% male).

Understandably, whether a teacher has qualified teacher status (QTS) is related to their pay (Table 6). The gap between teachers with QTS and those without has remained quite similar over time. As with all of the characteristics considered so far, if QTS is linked to ethnicity then this could help explain at least part of the pay gap.

Table 6 - Effect sizes for differences in base pay by QTS status, 2015-2022

QTS status	2015	2016	2017	2018	2019	2020	2021	2022
No QTS	-1.150	-1.150	-1.161	-1.232		-1.319	-1.276	-1.305
QTS	0.041	0.042	0.042	0.045		0.047	0.040	0.040

All figures are similar, but the percentage of teachers with QTS is somewhat lower for Black Caribbean teachers, which does not help to explain their higher average pay (Table 7).

Table 7 – Percentages for QTS by ethnicity, all years combined

Ethnic sub-category	No QTS	QTS
Any other Asian	4.5	95.5
Any other Black	7.5	92.5
Any other ethnicity	6.3	93.7
Any other mixed	6.0	94.0
Any other White	7.4	92.6

Bangladeshi	3.8	96.2
Black African	5.5	94.5
Black Caribbean	8.4	91.6
Chinese	5.9	94.1
Indian	4.0	96.0
Not known	4.5	95.5
Pakistani	4.0	96.0
Traveller		
White and Asian	3.6	96.4
White and Black	6.8	93.2
White British	2.9	97.1
Total	3.4	96.6

In England, there is a range of ways in which teachers are trained initially, including traditional university routes, school-based development, and recognition of overseas training. The lowest paid teachers, in terms of how they got their qualified teacher status, are those who started on Teach First, or who trained via a School Direct or School Direct salaried route (Table 8). Teachers from all three of these “on the job” training routes have been catching up with average pay over time, but are still paid substantially below average. Teachers trained overseas, or in Northern Ireland, are paid substantially more than average. And this higher payment has increased hugely over time. Those qualifying via a PGCE (postgraduate) have been consistently paid slightly above average in every year.

Table 8 - Base salary by QTS route, 2015-2022

QTS route	2015	2016	2017	2018	2019	2020	2021	2022
Not known	32,389	32,625	32,930	33,681		35,637	36,498	37,661
Undergraduate	32,930	33,277	33,912	34,691		36,972	37,389	38,268
Postgraduate	329,47	33,421	34,103	35,079		37,490	37,764	38,601
Flexible routes	30,856	30,668	30,957	32,120		34,162	35,429	36,306
Graduate Teacher Programme	31,370	32,133	32,793	34,127		36,299	36,666	38,590
Recognition from Northern Ireland	32,965	33,821	34,409	35,702		38,716	39,688	40,506
Overseas Trained	34,155	34,417	35,150	36,267		38,033	39,680	40,716
Registered Teacher Programme	31,859	32,527	32,844	33,778		35,895	36,116	36,841
School Direct						31,439	32,419	33,838
School Direct Salaried						31,375	32,758	34,691
Teach First Programme	25,258	26,239	27,039	28,282		30,518	30,861	32,567
Total	32,285	32,587	32,970	33,848		35,942	36,554	37,603

Again, this difference in pay by qualifying routes may be a factor in the pay differences by ethnic group. The route for most teachers is not recorded. Of the rest, ethnic minority groups are more likely than White British teachers to have been trained overseas.

The phase of education may also matter. Teachers in secondary, and middle-deemed secondary, schools consistently earn more than primary and middle-deemed primary school teachers. Teachers in sixth-form, college and other 16 plus sites earn more again, although the long-term trend is downwards (Table 9). Ethnic minority teachers are more common in secondary than in primary schools, whereas White British teachers are evenly balanced between these phases. Again, this can partly explain differences in pay, as secondary teachers tend to earn more.

Table 9 - Base pay by school phase, 2015-2022

School phase	2015	2016	2017	2018	2019	2020	2021	2022
16 plus	38052	34499	34682	38937		39691	39107	39804
All through	32503	33432	33601	35215		36633	37177	38425
Middle deemed primary	31627	31289	31853	33471		33881	34450	35520
Middle deemed secondary	33472	33508	33970	35399		36639	38139	37524
Not applicable	31963	32784	33099	34627		35615	36091	36745
Nursery	32926	33220	33638	35045		35831	36817	38286
Primary	31143	31397	31832	33781		34949	35717	36628
Secondary	33323	33680	34048	35826		36901	37350	38583
Special school	32529							
Total	32285	32587	32970	34811		35942	36554	37603

Teachers in special schools but not PRUs (Pupil Referral Units) tend to be paid less than average. Many of the annual figures are volatile where there are few schools, or a new school type is introduced (Table 10). It is clear that secondary teachers are paid more than primary teachers, with teachers in Free schools 16-19 and CTCs paid the most. Teachers in voluntary-aided schools are paid more than average, and those in voluntary-controlled schools receive less than average. There are no clear differences in employment of ethnic groups by different school types, and so that is unlikely to help explain their differential pay.

Table 10 - Base salary by school type, 2015-2022

School type	2015	2016	2017	2018	2019	2020	2021	2022
Academy 16-19 converter	37,100	34,712	35,351	34,650		37,373	37,697	37,793
Academy 16-19 sponsor led	37,242	36,571	34,825	1,000		60,382		37,459
Academy alternative provision converter	32,285	32,593	33,394	34,122		35,387	36,102	36,878
Academy alternative provision sponsor led	32,715	32,649	32,420	33,745		33,717	35,485	35,858
Academy converter	32,735	32,956	33,256	34,100		36,226	36,761	37,878
Academy special converter	31,203	31,710	32,155	33,675		35,283	35,545	36,924
Academy special sponsor led	31,938	32,021	31,885	32,894		34,220	35,001	36,042
Academy sponsor led	31,770	32,090	32,151	33,194		35,095	35,667	37,134
City Technology College	38,145	36,682	22,040	37,200		42,246	39,739	42,212
Community school	32,069	32,379	32,951	33,843		36,058	36,817	37,695
Community special school	32,599	32,769	33,144	33,938		35,527	36,031	36,293
Foundation school	32,386	32,736	33,029	33,871		35,953	36,375	37,420
Foundation special school	32,205	32,849	33,135	33,717		36,032	36,263	36,513
Free schools	30,297	30,951	31,856	32,803		35,328	36,082	37,293
Free schools 16-19	31,352	32,995	33,485	34,704		39,132	39,206	40,222
Free schools alternative provision	28,572	30,482	30,644	31,845		37,962	37,143	37,811
Free schools special	29,599	31,014	34,292	31,974		34,309	34,875	35,673
Local authority nursery school	32,920	33,220	33,638	34,136		35,831	36,817	38,286
Pupil referral unit	34,354	34,661	34,919	35,690		37,186	38,587	39,313
Studio schools	30,709	31,944	32,667	33,184		34,062	35,914	37,523
University technical college	32,598	32,280	32,825	34,399		35,988	36,497	37,311
Voluntary aided	32,531	32,953	33,487	34,350		36,470	37,428	38,178

Voluntary controlled	31,391	31,742	32,329	32,899		35,253	35,789	36,449
Total	32,285	32,587	32,970	33,848		35,942	36,554	37,603

There is a small positive correlation between the base pay and age of teachers, how long ago they attained QTS (if they did) and how recent the year is for that pay (Table 11). This makes sense, because of pay for experience and incremental pay scales.

Table 11 – Correlation between base pay, and age, months since QTS, and census year – all years combined

	Age	Months since QTS	Census year
Base pay	0.39	0.35	0.19

Black African and Black Caribbean teachers are slightly older on average, and this may help explain their higher pay (Table 12). Pakistani teachers are among the youngest and this may help explain their lower pay.

Table 12 – Mean age and months since QTS by ethnicity, all years combined

Ethnic sub-category	Age	Months since QTS
Any other Asian	36.95	197.30
Any other Black	39.99	210.75
Any other ethnicity	38.90	205.08
Any other mixed	36.62	194.15
Any other White	39.18	210.21
Bangladeshi	32.53	167.73
Black African	40.42	196.00
Black Caribbean	41.23	229.79
Chinese	37.06	188.71
Indian	37.63	216.56
Not known	37.69	216.57
Pakistani	35.18	188.97
Traveller/Roma	39.37	200.20
White and Asian	35.72	202.71
White and Black	35.46	186.08
White British	39.43	258.63
Total	39.18	250.27

Note: the figure for Travellers is combined over all years of data, and so is greater than the minimum threshold of 10 cases.

Logistic regression model

A lot of factors have been considered so far, as possible explanations for differential pay by ethnic groups. To collate and simplify the picture, logistic regression is used to look collectively at all of the factors presented above, that may influence teacher pay. Linear regression would require a large number of dummy variables, because most of the variables used above are categorical. A binary outcome was created representing whether base pay was below £34,550 or not. This yielded 50% of cases below, and 50% at or above, that pay.

The possible predictors were entered in order of biographical appearance (e.g. from age and sex to current school type), mixed with their strength as predictors. Within each group, each predictor is entered separately at first to assess their quality as predictors. In the first group, age of teacher was the best single predictor raising the percentage of pay predicted correctly from 50% to 72.3%, followed by months since QTS (7.17%) which would be correlated with age, then Census year (57%) to account for pay inflation, and the sex of the teacher (52.7%). Together they raise the percentage predicted correctly to 82%. The QTS status of the teacher, and their QTS route make a small further difference. Once the background characteristics and QTS status of teachers are taken into account, there is no role for school type or individual teacher ethnicity (Table 13).

Table 13 – Predictors of teacher pay, in logistic regression

Predictor	Percentage predicted correctly	Increase
Base model	50.0	-
Age	72.3	22.3
Months since QTS	75.8	3.5
Year	81.9	6.1
Sex of teacher	82.0	0.1
QTS status	84.0	2.0
QTS route	84.1	0.1
School phase	84.3	0.2
School type	84.3	-
Ethnicity	84.3	-

This suggests that ethnicity is not in itself a factor in differential pay by ethnicity, including the higher average pay for Black African and Black Caribbean teachers, and the lower average pay for Pakistani teachers. Age and prior qualification can explain all of the difference that can be explained by these variables (Table 14).

Table 14 – Predictors of teacher pay, coefficients from logistic regression

Predictor	Unstandardised coefficients	Standardised coefficients
Age	0.04	1.04
Months since QTS	0.02	1.02
Year	0.41	1.50
Sex of teacher		
<i>female</i>	0.51	1.66
<i>male</i>	0.62	1.85
<i>(other)</i>		
QTS status	-5.13	0.01
QTS route		
<i>annual</i>	0.46	1.58
<i>flexible</i>	-0.12	0.89
<i>graduate</i>	0.31	1.37
<i>recognition NI</i>	-0.25	0.78
<i>graduate programme</i>	0.25	1.29
<i>not known</i>	0.90	2.45

<i>overseas</i>	0.21	1.24
<i>registered</i>	-0.31	0.74
<i>teach first</i>		
School phase		
<i>16 plus</i>	1.17	3.23
<i>all through</i>	0.61	1.85
<i>middle</i>	0.34	1.40
<i>not applicable</i>	-0.05	0.96
<i>nursery</i>	-0.43	0.65
<i>primary</i>	0.10	1.11
<i>secondary</i>	0.67	1.96
<i>special</i>		

If ethnicity is considered alone, then it raises the percentage predicted correctly from 50% to 51.1% (i.e. it is less relevant than the sex of teacher). If ethnicity is considered as part of the first group of background predictors, but last in the group because it is the weakest predictor, it raises the percentage predicted correctly from 82.0% to 82.1%. Ethnicity itself does not appear to be a major factor in the differential pay of teachers. Rather it is the differential age and experience of different ethnic groups that explains their pay.

DISCUSSION

There is a clear disproportion between the number of minority ethnic teachers and pupils in England. This shortage of minority teachers can have serious implications for recruitment and retention of teachers, and for the treatment of, and outcomes for, minority ethnic pupils. This paper has used a large-scale dataset to look at whether minority ethnic teachers are paid less than their peers, once other factors are taken into account. In general, they are not. In fact, Black classroom teachers are the most highly paid. The results suggest that any differences in pay can be explained in terms of differences in age, qualifications, phase of schooling and economic region. Differences in age, qualifications, phase of schooling and region could still be linked to ethnicity. Pay incentives could still be used to try and attract more ethnic minority students to a teaching career, especially outside London and the West Midlands. Our project will examine both of these ideas further. However, we will also examine other possible explanations, via structured reviews of evidence, a national survey, interviews and case studies with teachers.

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