

Does grammar school attendance increase the likelihood of attending a prestigious UK university?

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Abstract

In 2018 the UK government launched a £50 million scheme to fund the expansion of existing grammar schools provided that they increase efforts to attract more pupils from socioeconomically disadvantaged backgrounds. This initiative assumed that grammar school attendance boosts the educational attainment and the higher education progression rates of pupils judged to be of high ability. It is already well established that grammar school pupils' higher average levels of educational attainment are due largely to their academic and social selectivity. The evidence in relation to higher education enrolment conditional on educational attainment, however, is more mixed. This paper sets out to update and improve on previous studies of the impact of grammar school attendance on higher education enrolment. Our analysis of data from the Next Steps longitudinal survey linked to National Pupil Database records finds that propensities to enrol in higher education generally, and at prestigious Russell Group universities specifically, are no better for grammar school pupils than for non-selective state school pupils with the same level of attainment at GCSE and A-level. This nil effect of grammar school attendance on progression to higher education net of the effects of educational attainment holds regardless of pupils' socioeconomic background, suggesting that grammar schools are no better than non-selective state schools as facilitators of upward social mobility.

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KEYWORDS

educational sorting, educational tracking, grammar school, social background, university prestige

Key insights**What is the main issue that the paper addresses?**

Motivated by continued political interest in revitalising selective secondary education in England, this paper addresses the question of whether academically selective grammar schools help to equalise socioeconomic inequalities of access to higher education generally, and to more prestigious universities in particular.

What are the main insights that the paper provides?

Our analysis of empirical data indicates that grammar school attendees are no more likely to attend university, be it a Russell Group or a non-Russell Group institution, than comprehensive school attendees from the same socioeconomic background and with the same level of pre-university attainment.

INTRODUCTION

A perennial debate in education policy in England is whether academically selective secondary education systems ameliorate or exacerbate equality of opportunity to succeed in education and beyond. Advocates of selective systems claim that grammar schools provide an appropriately superior form of state education for pupils judged to be of high ability, resulting in higher levels of academic attainment and of subsequent progression to university than would otherwise be the case, and ultimately better labour market outcomes. Such claims underpinned the speech made in 2016 by then Conservative Prime Minister Theresa May, which set out plans to expand the number of grammar school places in England on the grounds that: *'There is nothing meritocratic about standing in the way of giving our most academically gifted children the specialist and tailored support that can enable them to fulfil their potential. In a true meritocracy, we should not be apologetic about stretching the most academically able to the very highest standards of excellence.'*¹

Presumably aware of the stark under-representation of pupils from socioeconomically disadvantaged backgrounds in grammar schools, not only historically (Douglas, 1964; Halsey & Gardner, 1953) but also today (Burgess et al., 2018; Cullinane, 2016; Jerrim & Sims, 2019), Theresa May further stated: *'We are going to ask new grammars to demonstrate that they will attract pupils from different backgrounds, for example by taking a proportion of children from lower income households.'* Subsequently, in 2018, the Conservative-led government launched a £50 million Selective Schools Expansion Fund to enable existing grammar schools in England to increase the number of places available conditional on these schools having 'ambitious but deliverable plans for increasing access for disadvantaged pupils' (Department for Education, 2018, p. 4). The rationale behind this caveat on grammar school expansion plans is that, by providing access to high-quality education for all

high-ability pupils, including those from disadvantaged backgrounds, grammar schools can help reduce socioeconomic inequalities in educational attainment and progression, thus boosting social mobility.

In this paper we begin by reviewing the existing empirical literature on the effectiveness of grammar schools specifically, and selective secondary systems generally, in relation to improving the educational attainment and university progression rates of those who attend. We discuss it in relation to closing the gap between those from socioeconomically advantaged and disadvantaged backgrounds in these respects. In summary, the empirical evidence overwhelmingly supports the conclusion that higher average levels of attainment at GCSE among grammar school pupils are due largely to the academic and social selectivity of these schools' intakes, rather than to a 'school quality' effect (Coe et al., 2008; Gorard & Siddiqui, 2018; Manning & Pischke, 2006). In relation to rates of progression to higher education and to the most prestigious universities in the sector in particular, the existing evidence is more inconclusive. One study for an earlier cohort born in 1970 suggests no grammar school advantage in these respects after controlling for measures of cognitive ability and educational attainment at GCSE and A-level (Sullivan et al., 2014). However, as we discuss later, there is reason to hypothesise that a grammar school advantage may have emerged for more recent cohorts. More recent studies provide some *prima facie* evidence in support of this hypothesis, but as we show, their findings are based on flawed research designs. Against this backdrop, the empirical component of this paper reports the results of a new and methodologically improved analysis of the impact of grammar school attendance on the likelihood of progressing to higher education and to Russell Group universities specifically. Our findings indicate no advantage in these respects for grammar school attendees generally, nor for grammar school attendees from lower socioeconomic backgrounds specifically, controlling for attainment at GCSE and A-level.

LITERATURE REVIEW

In the decades following the 1944 Education Act, which introduced compulsory secondary education for all, around 25% of all state-educated young people attended one of over 1200 academically selective grammar schools in England (Danechi, 2020, p. 1). In 1965, Circular 10/65 announced the Labour government of the day's 'declared objective to end selection at eleven plus and to eliminate separatism in secondary education' (Department for Education and Science, 1965, p. 1). Subsequently, there was a substantial decline in the number of grammar schools and grammar school pupils throughout the late 1960s and 1970s as non-selective comprehensive secondary schools were rolled out nationally. This drive to replace the existing selective secondary school system with a comprehensive system was not embraced by all Local Authorities, however, with 163 grammar schools still operating in England today, serving around 176,000 pupils, or approximately 5% of all state-educated young people (Danechi, 2020, p. 1).² Although the *School Standards and Framework Act* enacted in 1998 by the then Labour government outlawed the creation of new grammar schools, the number of grammar school pupils has been slowly rising in recent decades as existing grammar schools have expanded the numbers of places available. This trend is likely to accelerate following the creation by the UK government of a £50 million Selective Schools Expansion Fund in 2018.

It is well established that in the heyday of the selective secondary education system in England, grammar schools overwhelmingly served pupils from socioeconomically advantaged backgrounds (Douglas, 1964; Halsey & Gardner, 1953). All the available evidence shows that this pattern continues today (Burgess et al., 2018; Cullinane, 2016; Jerrim & Sims, 2019; Jesson, 2013), not only in England but also in other European nations (Schindler

et al., 2023). For example, young people eligible for free school meals in England (FSM, a widely used poverty measure) make up just 3% of contemporary grammar school pupils, compared to 15% of pupils in non-selective state schools (Danechi, 2020, p. 7). This is due in part to the grammar schools that remain being located predominantly in more affluent areas (Dickson & Macmillan, 2020, p. 20). In addition, in Local Authorities that have retained grammar schools, pupils encouraged by their parents and/or primary school teachers to take the non-compulsory '11+ exam' are disproportionately from socioeconomically advantaged backgrounds (Atkinson et al., 2006). In addition, socioeconomically advantaged families have greater access to private tutoring, designed to increase their chances of success in the 11+ test (Cribb, Jesson et al., 2013; Guill & Lintorf, 2019; Hajar, 2020) and subsequent GCSE and A-level examinations (Kirby, 2016). Correspondingly, a plethora of studies have shown that access to grammar schools is not only dependent on measured ability, but also associated with socioeconomic background (Galindo-Rueda & Vignoles, 2005; Gorard & Siddiqui, 2018; Jerrim & Sims, 2019; Manning & Pischke, 2006). A study of the cohort born in 1958, who came of secondary school age in the early days on the cusp of the shift from a selective to a comprehensive secondary system, found that those of average measured ability from families with degree-educated parents were more than twice as likely to attend grammar schools as their average-ability peers whose parents had less than upper secondary education (Birkelund et al., 2021). Evidence for more recent cohorts entering secondary schools in the period 2009–2011 found that the gap in rates of enrolment in grammar schools between pupils who were and who were not eligible for FSM in fact widened as measured ability increased, with grammar school attendance rates standing at 30% and 55%, respectively, for FSM and non-FSM pupils of very high measured ability at the end of primary school (Cribb, Sibieta & Vignoles, 2013, p. 14).

Given that grammar schools, traditionally and today, are highly academically and socially selective, it is unsurprising that headline figures show grammar school pupils to be among the highest achievers in national GCSE examinations taken at age 15/16. In 2019, raw average GCSE performance as measured by Attainment 8 scores was much higher for grammar schools (71.1) than for non-selective state schools in comprehensive Local Authorities (46.6), and lowest of all for non-selective schools in areas which also had grammar schools (42.3) (Danechi, 2020, p. 8). Overwhelmingly, the evidence points to these higher raw levels of GCSE achievement being due to the academic and social selectivity of these schools, rather than to a 'school quality' effect as such (Coe et al., 2008; Galindo-Rueda & Vignoles, 2005; Gorard & Siddiqui, 2018; Levacic & Marsh, 2007; Manning & Pischke, 2006). For example, an analysis of National Pupil Database (NPD) data for pupils in England who took GCSE examinations in 2015 found no difference in examination grades between pupils educated in selective rather than comprehensive Local Authorities, nor for pupils who had attended grammar schools rather than non-selective schools, after controlling statistically for pupils' social background and prior attainment characteristics (Gorard & Siddiqui, 2018). These null overall effects of selective systems generally, and grammar schools specifically, were also shown to hold for FSM and non-FSM pupils alike. That said, studies employing regression discontinuity designs suggest that grammar school attendance may improve GCSE performance by around half a grade per subject for those whose prior attainment was at the lower end of the distribution for grammar school pupils (Lu, 2020; Schagen & Schagen, 2003).

Regarding a possible grammar school effect on progression to higher education generally, and to more prestigious universities specifically, the existing empirical evidence on this topic is less conclusive. One empirical study using nationally representative survey data for those aged 18 in 1988 found that, while grammar school attendees were more likely than their comprehensive school-educated counterparts to hold a degree and to have graduated from a Russell Group university, these disparities disappeared after controlling statistically for a range of social background factors including parental education and parental social

class, for measures of cognitive ability at ages 5 and 10, and for educational attainment at GCSE and A-level (Sullivan et al., 2014). The authors also report testing for a possible interaction between school type on the one hand and parental education and social class on the other, finding no specific advantage to grammar school attendance for those from disadvantaged social backgrounds.

One limitation of this study, however, is that it relies on data for those who came of university age in 1988, at a time when the national higher education participation rate stood at just 15% (Boliver, 2011) and prior to the dismantling of the binary divide between ‘Old’ and ‘New’ universities in 1992, the formal founding of the Russell Group in 1994 and the subsequent proliferation of university league tables since 1995 (Boliver, 2015). Since that time, prestige differences between universities have sharpened, and the national higher education participation rate has more than trebled following a second wave of higher education expansion in the 1990s, as shown in Figure 1. According to the theory of Effectively Maintained Inequality (Lucas, 2001), in contexts where many young people participate in education at a given level, we can expect to see the reproduction of advantage increasingly played out through the competition for access to qualitatively ‘better’ forms of education at that level, in this case access to more prestigious higher education institutions such as Russell Group universities. This raises the possibility that the previously observed null effect of grammar schools on higher education attendance generally, and access to the most prestigious universities in particular, net of the effects of prior attainment, may no longer apply for the post-1990s higher education expansion cohort.

The possibility that a grammar school effect on progression to higher education may have emerged for more recent cohorts is suggested by two subsequent studies which focus on

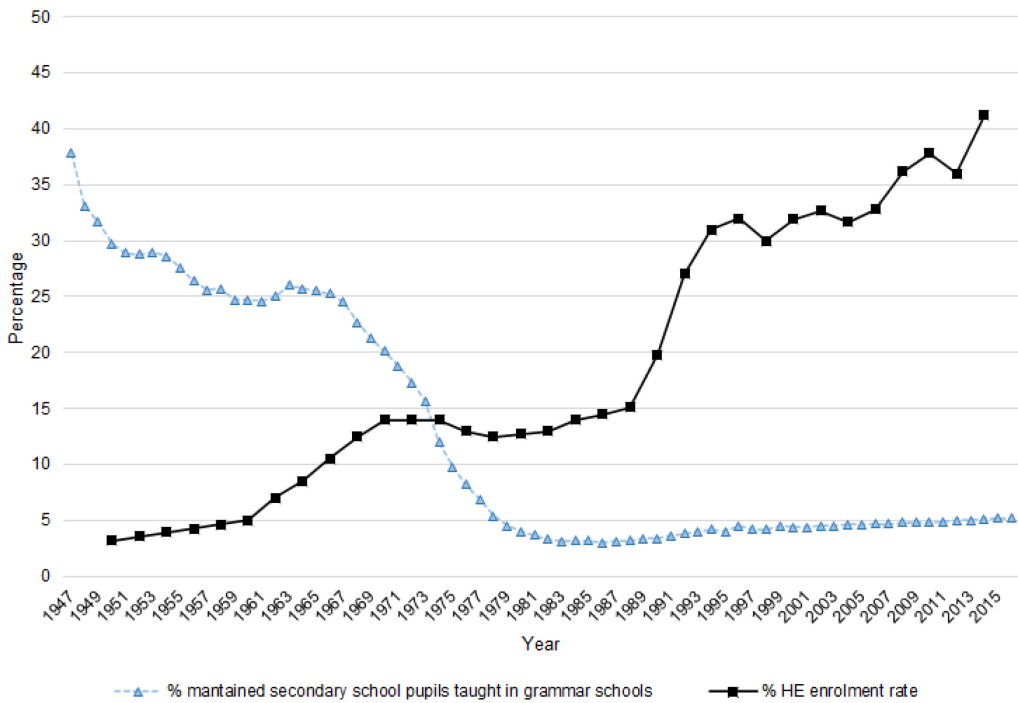


FIGURE 1 Trend over time in the percentage of pupils taught in grammar schools in England and the higher education enrolment rate in Britain (1947–2016).

Source: Authors' elaboration, based on data from Boliver (2011, p. 232) and Bolton (2017).

those who came of university age in the mid-2010s, a time when the higher education enrolment rate stood at over 40% and the Russell Group brand was well established. The first of these studies, published by the Higher Education Policy Institute (HEPI) (Mansfield, 2019), draws on administrative data for England for the mid-2010s to compare rates of progression to higher education generally, and to highly selective universities (Oxbridge specifically) in Local Authority areas which have retained grammar schools and those which are wholly comprehensive. While this study finds no significant difference between these two types of area with respect to rates of higher education progression generally, it reports that living in a selective area is associated with a 1.7 increase in the odds of attending a higher-tariff university and a 2.6 increase in the odds of attending Oxbridge. Further analysis by the author of data on access to Cambridge University suggests that the advantage to living in an area that has retained selective schools may be lower for those from neighbourhoods with low compared to high higher education participation, and for those from White and Black ethnic groups compared to those from other ethnic minority backgrounds.

A second study, which draws on NPD data linked to information from the Higher Education Statistics Agency (HESA) for the cohort who came of university age in 2015, finds that most but not all of the raw advantage of grammar over comprehensive school attendance on propensities to enrol in higher education generally, and at a Russell Group university specifically, is due to pupils' demographic characteristics and attainment in secondary school (Lu, 2021). The modest grammar school advantage that remains after taking pupils' demographic and attainment characteristics into account is found to disappear once further controls are introduced for school-average levels of performance in Key Stage 2 tests taken at age 11. While the author concludes that 'there is no robust evidence that attending grammar schools is associated with a higher likelihood of attending Russell Group universities', they acknowledge that the inclusion of school-average as well as individual-level measures of earlier test performance may be regarded as 'over-controlling' (Lu, 2021, p. 487).

While the studies by Mansfield (2019) and Lu (2021) suggest that there may be a grammar school advantage in relation to higher education access, their findings remain open to question due to flaws in research design. In particular, both studies limit the analysis to those who had completed Key Stage 5 (A-level and equivalent) qualifications. By Lu's own calculation, this excludes the approximately 30% of all 18-year-olds who had not progressed beyond GCSE by age 18. Basing the analysis on the Key Stage 5 rather than the Key Stage 4 population is problematic, because grammar school pupils are more likely to progress to Key Stage 5 than pupils from non-selective schools, especially those in selective areas, due not to a grammar school effect per se, but the highly academically and socially selective nature of grammar school admission, together with a small positive effect of grammar school attendance on GCSE attainment for those who just made the cut for grammar school admission. If Mansfield's ostensible comparison of selective and non-selective areas had been based on the Key Stage 4 population and thus encompassed *all* secondary school pupils, including the disproportionately large number of secondary modern school pupils who exited education at 16, his results may have shown that selective areas were doing no better and perhaps even worse than non-selective areas in terms of rates of progression to highly selective universities. By the same token, if Lu's analysis had included the entire Key Stage 4 population, her analysis may have yielded a larger positive residual effect of grammar school attendance on progression to higher education generally, and access to Russell Group universities specifically.

In this paper we set out to build on the work of Sullivan et al. (2014) and to improve on the research design employed by Mansfield (2019) and Lu (2021). More specifically, like Mansfield and Lu, we update Sullivan and colleagues' analysis to cover the cohort who reached 18 in 2008, in the context of a much higher 35% enrolment rate and a much more starkly vertically stratified system of higher education institutions. Second, we extend the

coverage of Mansfield's and Lu's work to encompass all secondary school pupils, not just those who had progressed to Key Stage 5. Third, we use a much richer dataset than was available to Mansfield or Lu, combining information from administrative records relating to pre-university schooling and attainment from the NPD with social survey data from the Next Steps cohort study, which captures a range of sociodemographic characteristics and information about post-16 educational trajectories. Finally, following Sullivan et al. (2014), we explore the possibility of significant interaction effects between school type and pupils' social background characteristics, to test the hypothesis that grammar school attendance affords particular benefits for those from lower socioeconomic backgrounds.

DATA AND VARIABLES

We use Next Steps cohort study data (University of London, Institute for Education, 2020), which follows a representative sample of individuals born in England in 1989/90. Cohort participants were surveyed annually from age 14 (2004) up to age 20 (2010), and then again at age 25 (2015) and age 32 (2021). We use this data to explore to what extent the type of state-maintained secondary school pupils attended was associated, first, with the likelihood of attending versus not attending university and, second, for the subset who attended university, with the likelihood of attending a comparatively more rather than a less prestigious university.

We use the 'attending university' variable in our dataset rather than the 'degree attainment' variable because it is recorded in more than one sweep (i.e., Sweeps 6 and 7, when participants were aged 19 and 20) and has fewer missing values than the 'degree attainment' variable (i.e., Sweep 8, when participants were aged 25), allowing us to maximise the statistical power of our analyses. As university dropout rates are very low in the United Kingdom (e.g., just 6.5% of new entrants in 2008/9 did not continue in higher education after their first year; HESA, 2013) we deem it a good approximation to degree attainment. We measure university 'prestige' by differentiating between Russell Group and non-Russell Group universities, though we acknowledge this is not a perfect classification of university prestige, since some prestigious institutions are not part of the Russell Group (e.g., the University of St Andrews) and universities within the Russell Group also vary in terms of prestige (e.g., Oxbridge vs the rest) (Boliver, 2015).

Our main predictor variable is the type of state-maintained secondary school attended, which we divide into two categories:³ (1) comprehensive school (non-selective) and (2) grammar school (selective). We decided not to include independent schools (non-state maintained, fee paying) as the main debate we are interested in is to what extent taxpayers' money should be used to support a state-maintained selective secondary school system based on the supposed beneficial outcomes this might bring to those with higher 'ability'. Yet, we conducted separate analyses including independent school pupils (not shown here) and the results remain substantially the same.

As discussed above, one of the strengths of this paper compared to recent studies on the topic that rely solely on administrative datasets (e.g., Lu, 2021) is that our use of social survey data from Next Steps means we can draw on richer sociodemographic background information, especially with reference to social class. We use Next Steps data to operationalise participants' sex (male, female), ethnicity (White, Mixed, Indian, Pakistani, Bangladeshi, Black Caribbean, Black African, Other Ethnic Minority Groups), highest parental occupational social class (NS-SEC classification) and parents' highest educational qualification (higher education degree or equivalent, higher education below degree level, A-level or equivalent, GCSE grades A–C or equivalent, Level 1 or below, other qualifications, no qualifications). We include these sociodemographic background characteristics

in our models as dummy variables, and interact those related to parental occupation and parental education with school type in the final step of our analysis.

We linked Next Steps to NPD administrative records via the Secure Lab (University of London, Institute for Education, 2020) to make use of data relating to the GCSE (or equivalent qualification) capped points⁴ achieved by cohort members at age 16 (Key Stage 4) and the A-levels (or equivalent qualification) points gained by age 18 (Key Stage 5). [Table 1](#) displays the basic descriptive statistics of the variables and cases included in the analyses.

ANALYTICAL STRATEGY

We employ two different sets of logistic regression models to study, first, the likelihood of individuals: (a) not attending university versus (b) attending university (irrespective of university prestige); and, second, the likelihood of those individuals who attended university either: (a) attending a non-Russell Group university versus (b) attending a Russell Group university.

For each set of logistic regressions, we run four different models, starting with a basic unadjusted model that only includes our main independent variable 'school type' as predictor. Model 2 adds to the previous model relevant sociodemographic variables that previous studies have shown to be associated with the probability of attending university (i.e., sex, ethnicity, parental occupational level and parental educational level). Model 3 adds the GCSE (or equivalent) capped points as a predictor of measured 'ability' at the end of secondary school, while Model 4 adds A-level (or equivalent) points as an extra predictor of measured 'ability' at the end of upper secondary school.⁵ This analytical strategy allows us to assess to what extent the raw association between type of secondary school attended and the likelihood of 'not attending university versus attending university' and 'attending a non-Russell Group university versus a Russell Group university' changes as we introduce relevant sociodemographic and academic performance variables as statistical controls.

To address a further research question regarding the extent to which the relationship between state-maintained school type and university attendance varies by social background, Models 5a and 5b include interactions between type of state-maintained secondary school and parental occupational social class (Model 5a, Service Class vs non-Service Class occupations⁶) and type of secondary school and parental educational level (Model 5b, tertiary vs non-tertiary). We present results for all models in the form of predicted probabilities to ease the interpretation. Regression tables, including coefficients in odds ratios for Models 1 to 4, are included in [Data S1](#), Tables A and B.

As suggested by the documentation provided by the dataset owners (Department for Education, 2011), we use data weights corresponding to Sweep 7 (i.e., age 20, the latest sweep we use information from), which considers both the design weight and attrition from all previous sweeps.

RESULTS

We start with some descriptive statistics to show the basic relationship between progression to higher education, the type of state-maintained secondary school attended, and parental occupational and educational background. [Figures 2](#) and [3](#) display the percentage of sample participants (unweighted) that either did not attend university, attended a non-Russell Group University or a Russell Group university, by type of school (comprehensive vs grammar) and parental occupational level or parental educational level.

[Figure 2](#) provides some initial pointers regarding the association between university attendance and school type by parental occupation. A first interesting point is that

TABLE 1 Descriptive statistics (only cases included in regression models).

	N	%
<i>Dependent variable</i>		
University attendance		
No university attendance	1557	28.8
Attended a non-Russell Group university	3054	56.6
Attended a Russell Group university	789	14.6
<i>Main predictor variable</i>		
Type of secondary school attended		
Comprehensive school	5017	92.9
Grammar school	383	7.1
<i>Sociodemographic variables</i>		
Sex		
Male	2502	46.3
Female	2898	53.7
Ethnicity		
White	3,553	65.8
Mixed	260	4.8
Indian	521	9.7
Pakistani	319	5.9
Bangladeshi	261	4.8
Black Caribbean	164	3.0
Black African	167	3.1
Other Ethnic Group minorities	155	2.9
Parental social class (NS-SEC)		
Higher & lower managerial, admin and prof	1983	36.7
Intermediate occupations	826	15.3
Small employers and own account workers	443	8.2
Lower supervisory and technical	338	6.3
Semi-routine occupations	917	17.0
Routine occupations	444	8.2
Never worked/long-term unemployed	449	8.3
Parental education		
Tertiary education	1771	32.8
Upper secondary education	829	15.4
Compulsory secondary education or below	2793	51.7
Not known	7	0.1
<i>Pre-university educational attainment</i>		
GCSE qualifications score	Mean	SD
Max capped CGSE points or equivalent (N=5400)	362	54
Comprehensive school—max capped GCSE points (N=5017)	358	52
Grammar school—max capped GCSE points (N=383)	414	38

(Continues)

TABLE 1 (Continued)

	<i>N</i>	%
KS5 total points		
KS5 total points (<i>N</i> =5400)	709	301
Comprehensive school—KS5 total points (<i>N</i> =5017)	692	295
Grammar school—KS5 total points (<i>N</i> =383)	940	286

Source: Authors' elaboration, based on Next Steps and NPD data.

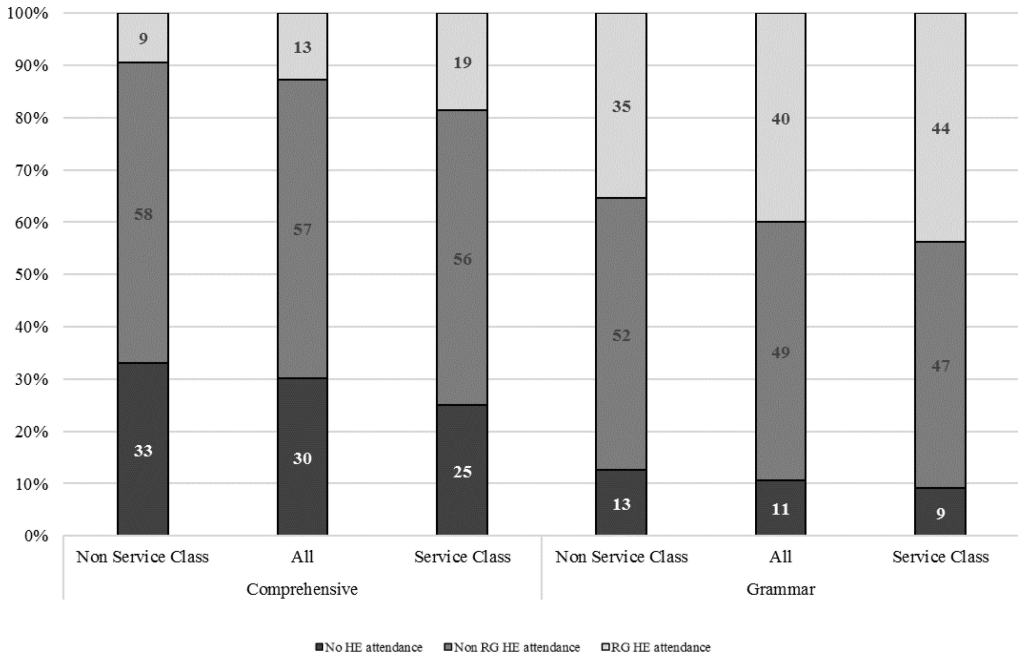


FIGURE 2 Rates of higher education attendance, by school type and parental occupation.
Source: Authors' elaboration, based on Next Steps data.

comprehensive-educated pupils display a larger share of no university attendance (30%) compared to grammar school pupils (11%). Most of those who attended a comprehensive school accessed a non-Russell Group university (57%), as did those from grammar (49%) schools. The largest disparity across groups refers to the share that attended a Russell Group university, this being substantially lower for comprehensive school attendees (13%) compared to grammar school pupils (40%). If we place the focus on variations by parental occupational level, we observe an advantage in attending Russell Group universities for those from a Service Class background compared to those from a non-Service Class background, this difference being larger among comprehensive pupils (9% non-Service Class vs 19% Service Class) than among grammar school-educated ones (35% non-Service Class vs 44% Service Class).

The results displayed in Figure 3, which focuses on variations by parental educational level, are in line with Figure 2. The proportion of comprehensive school pupils not attending university (30%) is substantively larger compared to grammar school pupils (11%). Yet, most pupils from both schools attend non-Russell Group universities (57% for comprehensive; 49% for grammar). Compared to Figure 2, differences become larger when looking at

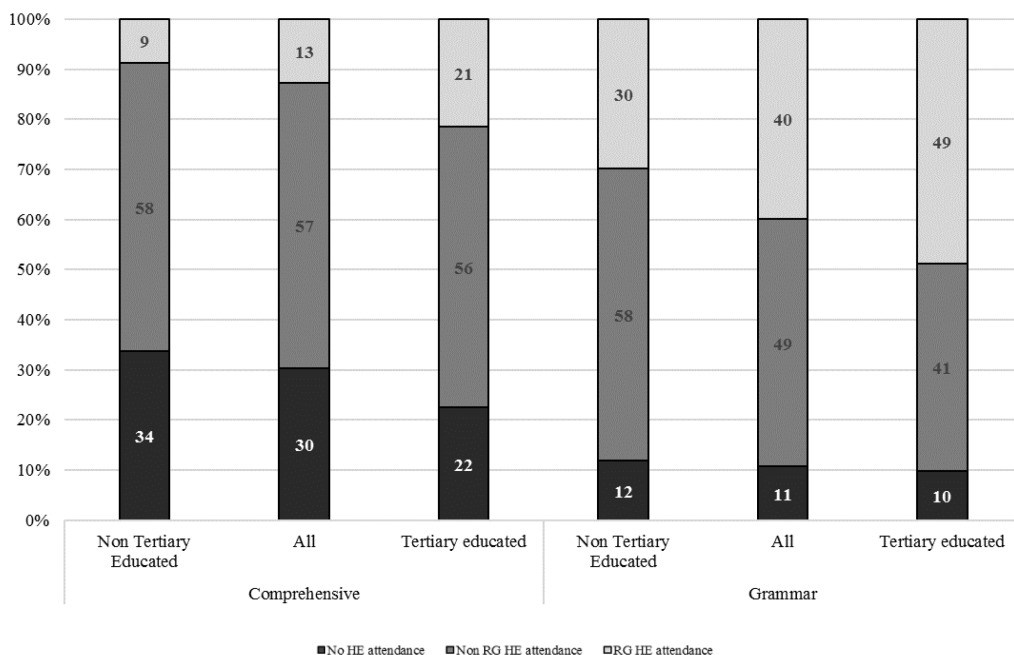


FIGURE 3 Rates of higher education attendance, by school type and parental education. *Source:* Authors' elaboration, based on Next Steps data.

attendance at Russell Group universities by parental educational background. Among those who attended a comprehensive school, only 9% of those with non-tertiary-educated parents made it into a Russell Group university, while the percentage increases to 21% for those with a tertiary-educated parent. The gap is even larger among grammar school pupils, as about 30% of those without a tertiary-educated parent attend a Russell Group university, while the share rises to 49% among those with a tertiary-educated parent.

Thus, our initial descriptive analysis shows some variation in rates of attending university generally, and a Russell Group university in particular, by school type, parental occupational and educational background. These descriptive results suggest that grammar school pupils from a Service Class background and/or with a tertiary-educated parent attend Russell Group universities to a larger extent than grammar school pupils from less privileged backgrounds and compared to comprehensive school pupils in general. Yet, the intention of our logistic regression analyses is to compare individuals who are as similar as possible with reference to the observed characteristics (i.e., variables included in Table 1). As previously discussed in our analytical strategy, we start by assessing the likelihood of attending or not attending university before moving the focus onto those who attend comparatively less or more prestigious universities. Figure 4 presents the average marginal predicted probabilities of not attending versus attending university from Model 1 to Model 4. Overall, the main result is that once we control for GCSE and A-level results (Models 3 and 4), we do not observe any statistically significant difference in the likelihood of attending university between comprehensive and grammar school pupils. More specifically, the average marginal predicted probability of attending university for comprehensive school pupils is 0.73 [min 0.71, max 0.75], while for grammar school pupils it is 0.75 [min 0.68, max 0.83] (all average marginal predicted probability figures with 95% confidence interval are available in Data S1, Table C).

Figures 5 and 6 replicate the Model 4 results, including an interaction with parental occupational and educational background (Models 5a and 5b; see Data S1, Table D for detailed average marginal predicted probability figures). In both cases, the main finding is

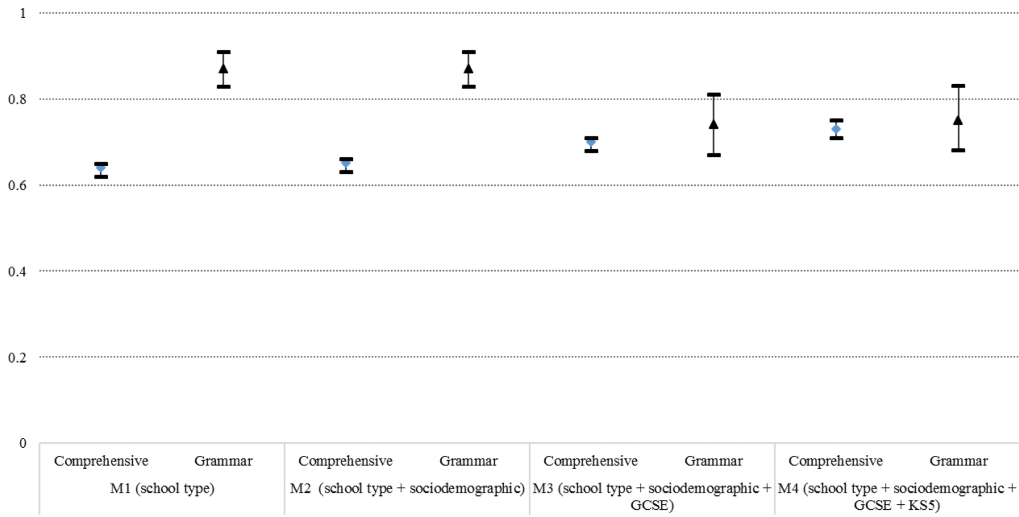


FIGURE 4 Average marginal predicted probability of attending university, by school type, Models 1 to 4. *Source:* Authors' elaboration, based on Next Steps and NPD data.

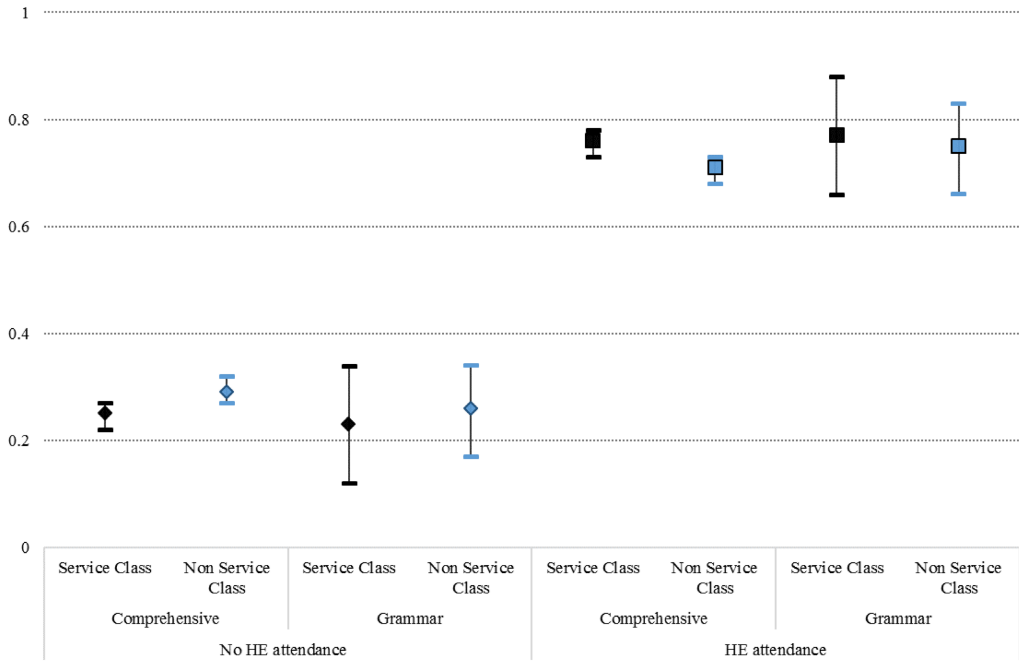


FIGURE 5 Average marginal predicted probability of attending versus not attending university, by school type interacted with parental occupation, Model 5a. *Source:* Authors' elaboration, based on Next Steps and NPD data.

that controlling for all relevant covariates, there are no statistically significant differences within school type by either parental occupational (Figure 5) or parental educational level (Figure 6) in the predicted probabilities of attending university. Thus, our first set of results

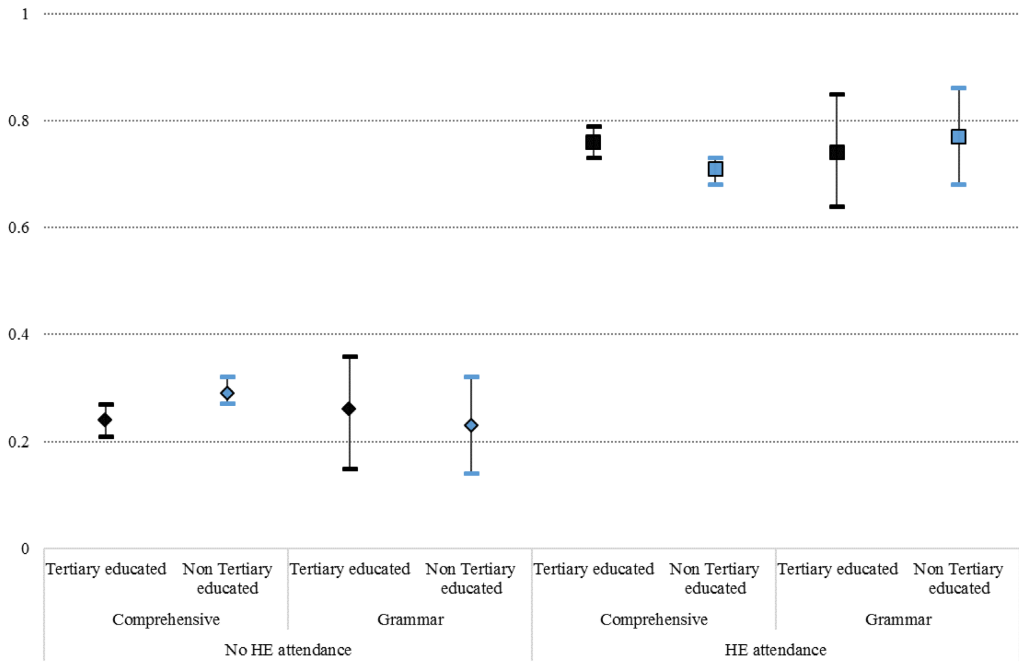


FIGURE 6 Average marginal predicted probability of attending versus not attending university, by school type interacted with parental education, Model 5b.
 Source: Authors' elaboration, based on Next Steps and NPD data.

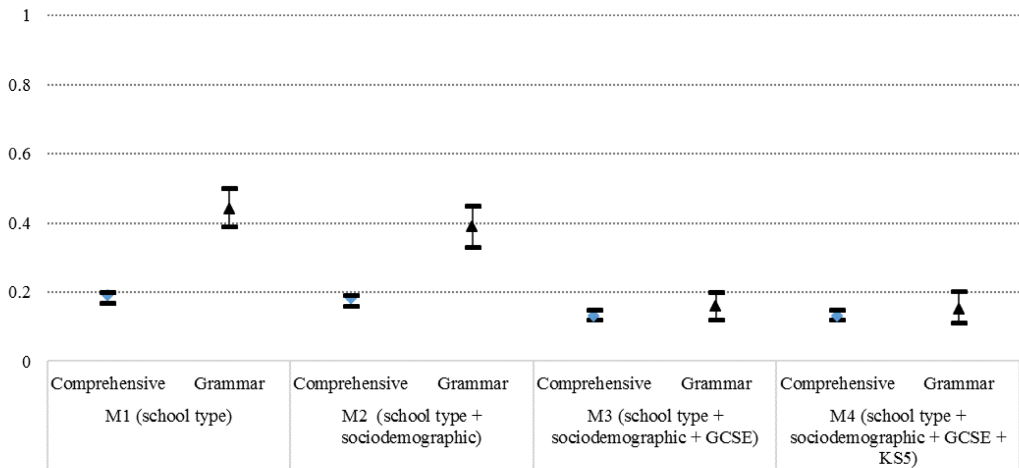


FIGURE 7 Average marginal predicted probability of attending a Russell Group university versus a non-Russell Group university, by school type, Models 1 to 4.
 Source: Authors' elaboration, based on Next Steps and NPD data.

suggest that the type of state-maintained secondary school attended does not predict statistically significant differences in the propensity to go to university, either in general or for pupils from particular parental occupational or educational backgrounds.

Moving into the second part of our results, we investigate the potentially different chances of accessing a Russell Group university between comprehensive and grammar school pupils who progressed to higher education. Figure 7 shows similar results to Figure 4: we can initially see some raw differences in the average marginal predicted probability of attending a Russell Group university between comprehensive school and grammar school pupils, this being larger for grammar school attendees (Model 1). The differences are slightly reduced when including sociodemographic variables (Model 2), and subsequently vanish once we control for attainment at GCSE (Model 3) and Key Stage 5 (Model 4). Specifically, the predicted probability of attending a Russell Group university for comprehensive school pupils is 0.13 [min 0.12, max 0.15], while for grammar school pupils it is 0.15 [min 0.11, max 0.20] (all average marginal predicted probability figures with 95% confidence interval are available in Data S1, Table E). Thus, these results suggest that attending a grammar school does not seem to provide an advantage when it comes to accessing a comparatively more prestigious university.

We further analyse whether there is any significant interaction between school type and parental occupational and educational background in relation to the likelihood of attending a Russell Group rather than a non-Russell Group university. Regarding parental occupation (Figure 8), the results do not show any statistically significant difference in the predicted probability of attending a comparatively prestigious university between those with Service Class parents or non-Service Class parents, whether they attended a grammar school or a comprehensive. The results are similar when considering parental education (Figure 9), as grammar school attendance offers no particular advantage to those with (0.81 [0.83] 0.86) or without (0.87 [0.89] 0.91) tertiary-educated parents in relation to the probability of accessing a Russell Group university. That said, among those who attended comprehensive schools, having a tertiary-educated parent does appear to be associated with a higher probability

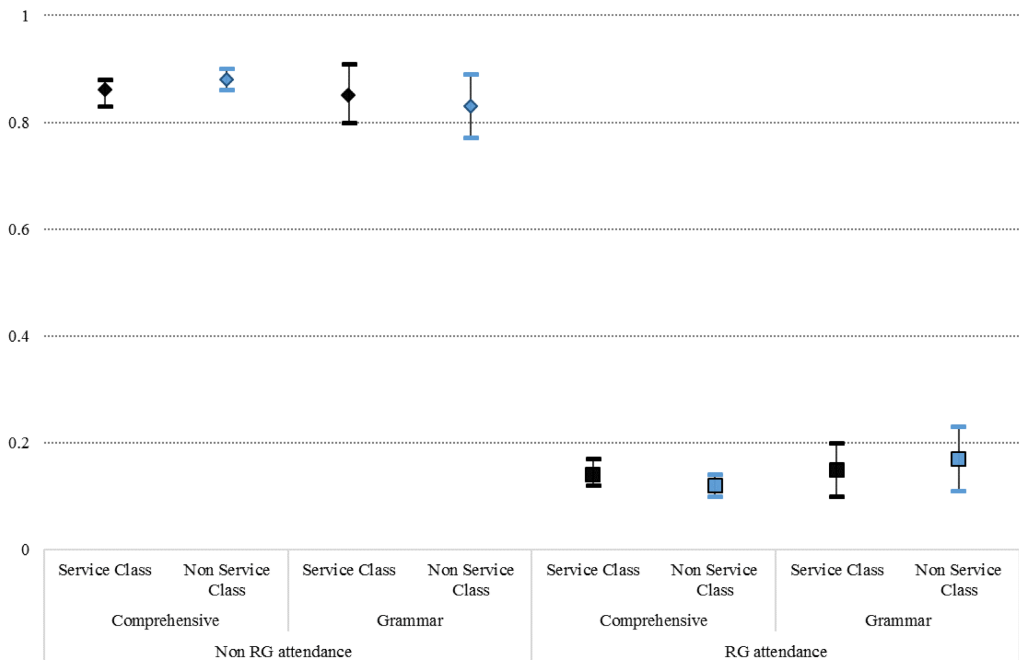


FIGURE 8 Average marginal predicted probability of attending a Russell Group university versus a non-Russell Group university, by school type interacted with parental occupation, Model 5a.

Source: Authors' elaboration, based on Next Steps and NPD data.

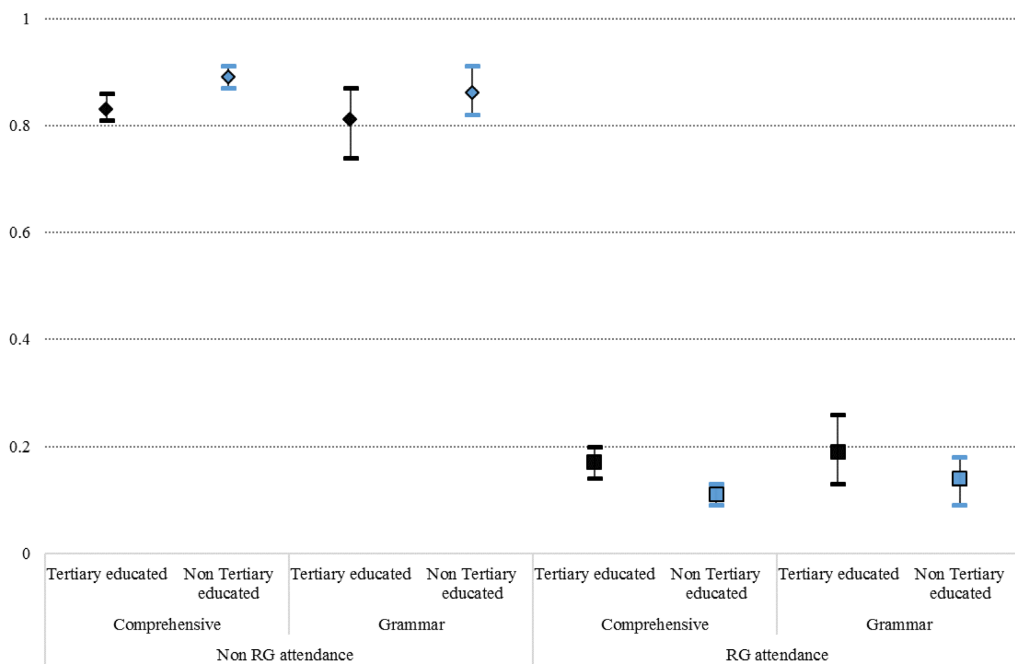


FIGURE 9 Average marginal predicted probability of attending a Russell Group university versus a non-Russell Group university, by school type interacted with parental education, Model 5b. *Source:* Authors' elaboration, based on Next Steps and NPD data.

of attending a Russell Group university (0.14 [0.17] 0.20) in comparison to those without a tertiary-educated parent (0.09 [0.11] 0.13).

CONCLUSIONS

This paper has been motivated by the ongoing political and policy debate in England around the expansion in the number of grammar school places. The main argument among grammar school advocates is that these schools provide high-ability children from all social backgrounds the opportunity to excel in their studies, improving their chances of access not only to a university degree, but also to one from a comparatively more prestigious university, which might in turn improve their labour market outcomes and social mobility chances. However, most academic studies question this claim. There is a well-established academic and policy literature showing that, in addition to its dependence on measured 'ability', access to grammar schools is associated with socioeconomic background (Galindo-Rueda & Vignoles, 2005; Gorard & Siddiqui, 2018; Jerrim & Sims, 2019; Manning & Pischke, 2006), and higher levels of GCSE achievement are not due to a 'school quality' effect as such but largely to the academic and social selectivity of grammar schools (Coe et al., 2008; Galindo-Rueda & Vignoles, 2005; Gorard & Siddiqui, 2018; Levacic & Marsh, 2007; Manning & Pischke, 2006).

Yet, evidence referring to grammar school pupils' progression into higher education is scarcer and more inconclusive. A study using the 1970 British Cohort Study (Sullivan et al., 2014) showed that controlling for relevant socioeconomic characteristics and 'ability' measures, grammar school pupils are not more likely than non-selective state-schooled pupils to obtain a degree from a Russell Group university. However, this piece of evidence

refers to a time when higher education expansion was in its infancy and the proliferation of league tables was yet to begin. Based on Lucas's (2001) Effectively Maintained Inequality hypothesis, we speculated that in the current context of mass tertiary education expansion and increasing vertical differentiation, grammar school pupils might now have an advantage in accessing comparatively more prestigious universities than they did in the past. A couple of recent studies have approached this question, employing data for cohorts contemporaneous with the one we have studied, suggesting that there may be a grammar school advantage in relation to higher education access (Lu, 2021; Mansfield, 2019). However, we questioned their research design, as both studies limit their analysis to those who had completed Key Stage 5 (A-level and equivalent) qualifications. Since grammar school pupils are more likely to progress to Key Stage 5 qualifications than pupils in non-selective areas, only including Key Stage 5 pupils in the analysis might amplify the grammar school effect, as analyses are based on a (selectively) biased sample of students.

Aiming to contribute to this debate, we have addressed previous methodological limitations and partially replicated Sullivan et al.'s (2014) study for a younger cohort using the Next Steps cohort study and NPD data, including all secondary school pupils, not just those who progressed to Key Stage 5, as Sullivan and colleagues also did for an earlier cohort. Our results are aligned with those of Sullivan et al. (2014), suggesting that once we control for relevant sociodemographic characteristics and measured 'ability' in the form of prior academic attainment, attending a grammar school does not seem to improve the average chances of attending university, never mind a Russell Group one, even in an era of mass tertiary education expansion, a more vertically stratified system and the proliferation of league tables.

Our findings also echo the work of Sullivan and colleagues, and others, in pointing to the statistically significant effects of both parental occupation and parental education on the likelihood of progressing to university in general, and of the latter on the probability of attending a more prestigious institution, conditional on progression to university at all. Worryingly, these disparities persist even after controlling for attainment at Key Stages 4 and 5. It should be noted, however, that the cohort to which these findings relate came of traditional university-going age in 2008, 10 years prior to the replacement of the Office for Fair Access by the Office for Students and the subsequent introduction of new widened access targets for England's most selective universities (Boliver et al., 2022). Given that the most selective universities have since committed to achieving these new targets and implementing a range of measures to better support socioeconomically disadvantaged students into and through university (Boliver & Powell, 2023), it is to be hoped that disparities in university entry rates are less pronounced for contemporary 18 year olds.

These are timely and policy-relevant results, which challenge the popular claim that grammar schools level up the playing field for bright children from all social backgrounds, giving them the opportunity to excel and progress to higher education. Our results suggest that comprehensive school pupils are as likely to access university, be it a Russell Group or a non-Russell Group institution, as any comparable grammar school pupil in terms of socio-economic and demographic background and prior attainment. Thus, the empirical evidence presented in this paper challenges once more the misplaced political proposals to expand grammar school numbers, ostensibly to boost social mobility. There seems to be no need to separate children by measured 'ability' at age 11 when they would do equally well in a comprehensive school. Policymakers would do well to turn away from reforms like the expansion of grammar schools, which champion hierarchies and celebrate unequal outcomes in education and beyond (Ingram & Gamsu, 2022), and focus instead on ensuring a high-quality education for all.

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CONFLICT OF INTEREST STATEMENT

The authors declare that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data used in this paper comes from the Next Steps cohort study (University of London, Institute for Education, 2020), linked to administrative records from the National Pupil Database. This linked data was accessed by the authors via the UK Data Service Secure Lab.

ETHICS STATEMENT

This study makes use of anonymised secondary data accessed through the UK Data Service Secure Lab infrastructure. All outputs were checked to ensure compliance with nondisclosure rules, including suppression of small cell sizes, in line with the UK Data Service's policy on the ethical use of social survey and administrative data. Ethical approval for the study was obtained from the Department of Sociology, Durham University, UK.

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ENDNOTES

- ¹ www.newstatesman.com/politics/education/2016/09/full-text-theresa-mays-speech-grammar-schools.
- ² Only two Local Authorities (Buckinghamshire and Kent) currently operate fully selective secondary education systems.
- ³ Note that the grammar school category is only available via the Next Steps secure access version.
- ⁴ The NPD capped GCSE score variable is based on the top eight GCSE examination results for each pupil. The equivalence between grades and points follows: A* = 58 points, A = 52 points, B = 46 points, C = 40 points, D = 34 points, E = 28 points, F = 22 points, G = 16 points, U/X/Q = 0 points. We deem the capped measure to be more comparable across pupils from different sociodemographic groups; it avoids showing a larger score for those who take over eight subjects compared with those who take just eight.
- ⁵ We included a new variable for those with no Key Stage 5 qualifications, so that these could still be included in the analyses instead of being counted as missing values.
- ⁶ We include 'higher and lower managerial, administrative and professional occupations' (NS-SEC categories 1 and 2) as part of the Service Class category, while the rest of the categories are included in the non-Service Class category. As a robustness check, we replicated the analyses including 'intermediate occupations' (NS-SEC category 3) as part of the Service Class and no substantive differences were observed in Model 5a results based on this different categorisation.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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