

Department of Education, University of Oxford

MSc in Education Research Design and methodology

The influence of teachers' backgrounds and educational experiences on attitudes to state school students' applications to elite universities, such as the University of Oxford.

Acknowledgements

With thanks to my supervisor Dr David Mills (Department of Education) who patiently steered me in a more positive direction than I was at times headed with my research. I would also like to thank Dame Hilary Boulding and the rest of my team at Trinity College in the Access Department for their ongoing support and encouragement throughout the whole two years this project has taken. Warm thanks also go to Dr Susila Davis (UCL Faculty of Education and Society) who offered many words of inspiration, encouragement and joined me in the excitement about my research data.

A very special thanks to the teachers who participated in this study, without whom this research would not have been possible.

And finally, a heartfelt thanks goes to my husband, Duncan Rolley, whose unwavering support, encouragement, cooking and even proof reading made completing the MSc possible.

Abstract

Researchers have long sought to understand disparities in access to elite universities between students from different social groups and school types. Previous studies have focused on students' social backgrounds and different practices found in independent and state schools. Focussing on the University of Oxford, this study is a detailed quantitative exploration of the influence teacher backgrounds, beliefs and knowledge has on support offered to students. 109 teachers from state secondary schools with existing outreach links to the University completed an online cross sectional anonymous quantitative survey. As well as giving details of social (parent education level) and educational background (type of secondary school and university attended), teachers stated how frequently they advised academically qualified students apply to Russell Group universities and the University of Oxford. Teachers also self-rated their levels of belief in selected statements and knowledge about Oxford and the admissions process. Alongside a significant difference between the frequency teachers advised their academically qualified students apply to Russell Group universities and the University of Oxford, differing beliefs, levels of knowledge and confidence about Oxford and the admissions process were also found. Differences between teachers were largely explained by having attended a more selective university or Oxbridge themselves. The results show that first-hand experience of the admissions process and life at Oxbridge confers valuable knowledge capital and the confidence required to support student applications. This study concludes that outreach efforts should be made to develop sustained programmes of support through which individual state schoolteachers access information about the University, develop their knowledge and understanding of the application process, receive guidance and support at key time points throughout the academic year, and are helped to build confidence to support their students' progression. Programmes should also aim to target beliefs found to be associated with lowered frequencies of advising qualified students apply. This could be transformational for teachers and the support they offer qualified students to apply to the University. It would increase access to the most underrepresented groups and in turn contribute to social mobility.

Contents

Introduction	Pg. 5
Literature review	Pg. 9
Research design and methodology	Pg. 23
Findings	Pg. 35
Discussion	Pg. 56
Conclusion	Pg. 68
Bibliography	Pg. 71
Appendices	Pg. 77

Introduction

Under-representation in our elite universities

Students most under-represented in elite universities, including the University of Oxford, are those from low progression geographical regions of the country (Polar4 quintiles 1-2), such as the Northeast of England and those from socio-economically disadvantaged areas (Acorn quintiles 4- 5) (OFS, 2019). The Office for Students (OFS) noted that in 2018 students from the most advantaged regional areas were 5.7 times more likely to attend a high tariff university than those from the most disadvantaged areas.

Recent national data also shows students from disadvantaged backgrounds are still much less likely to go to university than more advantaged students, with only 26% of those from lower income families going to university compared to 43% of those from more affluent backgrounds (Social Mobility Commission, 2019). There is also a significant disparity in applications to Russell Group universities between these students, with just 5% of the most disadvantaged students gaining a place, compared to 12% of more advantaged students. Additionally, by the age of 23, only about 12% of care experienced young people go to higher education (HE) at all, compared to 43% of non-care experienced young people (University of Oxford, 2019a). Students from Black and minority ethnic heritage backgrounds are also significantly under-represented in elite universities, with just 17.6% of all Black students entering a high tariff university, compared to 36.3% of all white students (Ethnicity Facts and figures, 2020).

Research has also shown young people from other non-traditional backgrounds, such as those whose parents did not enter HE, are less likely to apply to university than their middle-class counterparts and when they do, are more likely to apply to lower tariff universities (Smyth and Banks, 2012, Dunne et al., 2014, Byrom, 2009, Reay, 2017, O'Sullivan et al., 2019, Dilnot, 2018, Crawford et al., 2016, Coombs, 2022, Micklewright et al., 2016).

Disparities in access to elite universities between school types

In the state school sector, where the majority of disadvantaged and under-represented young people are educated, students are less likely than those in the independent sector to apply to university at all and, again, when they do are less likely to apply to an elite, high tariff university (Smyth and Banks, 2012, Montacute and Cullinane, 2018, Donnelly, 2015, Reay et al., 2001, Reay, 2017, Crawford et al., 2016). The most recent government statistics for 2018-19 show students from independent schools are the most likely to progress to HE by age 19, with 84.7% making the transition compared to just 66.3% of students from the state sector. And the gap between the two sectors is even greater when it comes to progression to high tariff universities, with 56.4% of students from the independent sector entering them, compared to just 19.4% of state school students.

It is worth noting that the 2018-19 figures for non-selective state schools are even more concerning, with just 64.5% progressing to HE and only 16.8% progressing to high tariff universities. The same figures for selective state schools are 88% and 50.3%, respectively (GOV.UK, 2020b). Therefore, treating state schools as a single sector can mask the significant gaps present between the three types of schools: non-selective state, selective state and independent schools.

Why representative progression to university is important and what else it depends on

As the data suggests, those educated in independent schools are more likely to progress to high tariff universities, including Oxbridge and those who access Oxbridge are more likely to be over-represented in our top professions and institutions (Montacute, 2019, Dunne et al., 2014, Major and Banerjee, 2019, Dilnot, 2018)**.** For example, in the report Elitist Britain (Montacute 2019) it is noted 65% of Britain's judges are educated in the independent sector and 71% went to Oxbridge. Representative university access is central to social mobility and fairness in the UK (Social Mobility Commission, 2019, Major and Banerjee, 2019, Montacute, 2019, Jin and Ball, 2020), however, ensuring powerful professions and institutions are representative relies upon specific educational trajectories being accessible to students from all backgrounds (Montacute, 2019, Major and Banerjee, 2019).

As noted in the report Access to Advantage (Montacute and Cullinane, 2018), gaining a place at any university relies on a specific sequence of student-decisions and outcomes including appropriate course choice, prior attainment, having the required predicted grades, correctly submitting and getting through the application process and meeting the conditions of an offer. The reasons why any one of these factors may not align to gain access to HE is complex, with each factor influencing the direction of students' educational trajectories and progression to university in different ways. What is clear, however, is that with progression dependent on so many factors, such as prior attainment (Khattab, 2015), guidance from a professional source of support, such as a teacher or careers leader, enabling students to make informed decisions to navigate their way through the admissions process, is key to university access (Boxer et al., 2011, Baker et al., 2014) and social mobility (Social Mobility Commission, 2019, Millward, 2019, Major and Banerjee, 2019).

In 2019 Government statistics showed there were 453,813 teachers in the state education sector (GOV.UK, 2019), which is a significant community of professionals, whose influence on student applications to different types of universities is worthy of further research, particularly as teachers are directly involved in supporting student progression. Much previous research has focussed on the influence of student background and characteristics on educational trajectories; however, the present research intends to undertake a detailed exploration of teacher backgrounds, beliefs and knowledge and the influence these may have on guidance offered to students related to selective universities, with a particular focus on the University of Oxford. A deeper understanding of this may enable universities to develop more effective outreach programmes better suited to the needs of this important, influential group.

Research questions

1. What is the frequency with which state schoolteachers advise their academically qualified students apply to Oxford and other Russell Group universities?
2. What beliefs and knowledge do teachers have about the University of Oxford and to what extent is this related to the frequency with which they advise their students apply?

3. Are there differences in beliefs and knowledge about the University of Oxford between teachers from different social and educational backgrounds and does this help explain the different frequencies with which teachers advise their students to apply to Oxford?

The present research intends to investigate these questions using a cross-sectional anonymous quantitative survey design (Cohen et al., 2018, John W. Creswell. and Creswell, 2018). An anonymous online survey was used to collect data related to individual characteristics, such as social and educational backgrounds, from state secondary-school teachers. The survey also invited teachers to self-rate levels of belief and knowledge about the University of Oxford and the admissions process. Questions related to the frequency with which teachers advise their academically talented students apply to Oxbridge as featured in a 2016 poll conducted by the Sutton Trust 2016, were adapted and included in the survey.

Literature review

Causes of the disparity in admissions

Many studies have attempted to explain the complex reasons for disparities in progression rates between the different groups of students who are most over and under-represented in higher education. Some studies have looked at differences in processes and practices between independent and state schools, others investigated the influence of attainment and a significant proportion have also investigated factors associated with students themselves, such as social class and the influence this has on progression rates to higher education. Nevertheless, almost all research in this area either explicitly or implicitly suggest that teachers have a significant influence on the educational outcomes and future destinations of all groups of students.

The role of schools

In a recent report Access to Advantage (Montacute and Cullinane, 2018), 'school type' was shown to have a powerful impact on students' likelihood of accessing the most selective universities. The report compared figures over a three-year period between the UKs eight schools with the highest Oxbridge admissions and the 2894 schools with two or fewer acceptances. It found students from the eight schools, five of which were independent, filled 1,310 Oxbridge places, whilst just 1,220 places were filled from the remaining 2,894 schools. The report goes on to describe the comprehensive level of support available at these eight schools, which included highly personalised programmes with individually assigned advisors, with one independent school employing eleven specialist UK university advisors to guide their pupils through the application process. The report further outlines a vast list of differences in the quality of support available between the state and independent sector, the subsequent numbers of applications and argues that state schools simply do not have the resources to provide their students with an equitable level of support or indeed offer the same kinds of learning experiences likely to enhance skills associated with academic success or a successful application to Oxbridge.

As supported by national admissions data (GOV.UK, 2020a), this report, along with others, shows low admission rates to Oxbridge becomes more pronounced when looking at the intersection between non-selective state schools and low progression regions or regions with high socio-economic disadvantage (University of Oxford, 2019a). The evidence shows where a student lives, the type of school they attend, their individual socio-economic background, ethnicity and race all influence the likelihood of progressing into higher education and high-tariff universities (Social Mobility Commission, 2019, Henderson et al., 2020a, Henderson et al., 2020b, OFS, 2019, Curtis et al., 2008, Dickenson, 2019, Boliver, 2016, Major and Banerjee, 2019).

However, many argue that although school type may impact educational outcomes, it is in-fact prior attainment and subject choice that significantly influence the higher educational destinations of students (Boliver, 2013, Dilnot, 2018, Henderson et al., 2020a, Turhan and Stevens, 2020, Micklewright et al., 2016, Croll and Attwood, 2013). Furthermore, it is argued these factors account for significant admissions disparities present between different groups of students such as those in state schools and independent schools, those from working class and middle class backgrounds (Henderson et al., 2020a) and those from disadvantaged and advantaged backgrounds (Micklewright et al., 2016, Croll and Attwood, 2013). For example, the Social Mobility Commission Monitoring Report in 2020 (Social Mobility Commission, 2020) stated at aged 16 just 25% of children from disadvantaged backgrounds were attaining a good grade at GCSE compared to their more advantaged peers, with significant gaps continuing into post-16 educational outcomes at A level and post-18 destinations.

Although prior attainment at GCSE is a significant barrier to accessing post-16 pathways leading to higher education, top A level grades are also required for entry to high tariff universities, therefore it is also worth briefly looking at these particular grade disparities, which have been a long-term trend, between the different school sectors. Looking at just one year 2018-19, of the independent school A level entries in 60.9% were A*-A and 84.3% were A*-B, whilst the same figures for all other state funded schools was just 33.5% and 62.4% respectively. These differences in

attainment at A level between the two sectors may explain, at least in part, the disparity in entry to high tariff universities (DfE, 2018-19).

However, in the study How Fair is Access to More Prestigious UK Universities? (Boliver, 2013) it was found that even when attainment and subject choice was controlled for, UCAS data still showed significant disparities between state and independent school rates of applications and acceptances to Russell Group universities, suggesting barriers to access cannot be explained by these two factors alone. Furthermore, when prior attainment was accounted for, this study found that those from manual class backgrounds were still only two thirds as likely to apply to Russell Group universities as those from professional backgrounds. And students from the state sector were half as likely to apply to Russell Groups compared to those from independent schools.

Boliver (2013) argues even after controlling for attainment and A-level subject choice, being from a state school and from a manual class background decreases the likelihood of applying to a Russell Group by as much as having an additional A grade A-level. Achieving equal rates of application between school types and between different social groups is complex and likely to require multiple initiatives including raising attainment, nevertheless, it is clear access to a professional source of high-quality information, support and encouragement within the school setting (Boxer et al., 2011) is essential to achieving parity in admission between the groups currently most under and over represented in our elite universities. Access to high-quality support is particularly significant for students from disadvantaged socio-economic backgrounds, where academic self-confidence and a supportive teacher are known to be significant predictors of positive academic outcomes (Thomas et al., 2012, Baker et al., 2014).

Influence of school type on student progression or other educational outcomes

One study focussing on the role of teachers, compared state and independent schools and found there was a disparity in the perspectives and practices of the those with direct responsibility for supporting student-applications to higher

education (Dunne et al., 2014). For example, in the independent schools Dunne et al's (2014) study researched, it was found teachers adopted a presumption that every student would progress to university. Moreover, the processes, advice and guidance offered to students in these schools inherently recognised the hierarchy of universities thus there was an expectation that students should aim for elite high-tariff institutions. Whilst evidence shows graduates from elite institutions enjoy higher salaries and increased access to a wider range of professional careers (Boliver, 2013) teachers who avoid acknowledging a university hierarchy could inadvertently further disadvantage their students, who may consequently conclude there are no differences in graduate life outcomes between those attending an elite universities or less selective institutions. Significantly, Dunne et al (2014) found acknowledgement of or even reference to university hierarchies was actively avoided by teachers and advisors in the state schools researched. It was found teachers expressed significant concern related to whether their students would feel comfortable or 'fit-in' at their chosen institutions, whereas teachers from independent schools made no references to this at all. Referring to Bourdieu's theory of Doxa, Dunne et al's (2014) study concludes that teachers in both types of schools consciously and unconsciously engage in practices and discussions about higher education that are framed in such a way *'that work to legitimate the cultural arbitrary that structures relations within and between the educational and social hierarchies'* (2014, p. 1665). Thus, Dunne et al (2014) further argue simply raising attainment and encouraging applications to high tariff universities does not acknowledge the powerful role 'habitus, field and capital' (2014, p.1665) have on educational trajectories, school processes and the practices employed by teachers who reinforce them. This study's findings conclude, the advice and guidance offered by teachers is central to increasing access to high-tariff universities. Nonetheless, the authors do not really offer any insight into the effect of teachers' own personal backgrounds, educational experiences, social class or individual habitus beyond that represented at the collective pupil background level in each school type. It would be invaluable to explore further, what beliefs state schoolteachers hold, why they engage in the practices they do and whether this is related to their own social background and cultural capital.

In the study Progressing to university: hidden messages at two state schools (Donnelly, 2015), Bernstein's theory of framing and classification (Bernstein, 1971, Bernstein, 1975, Eggleston and Bernstein, 1977, Bernstein, 2003) is used to try and understand the reasons behind different application rates to higher education and Russell Group universities between schools with similar socio-economic intakes. Donnelly (2015) selected two state schools with similar rates of take-up of the Education Maintenance Allowance in sixth form and compared the destinations of students qualified to go to university and those with the required grades to go to research intensive universities.

Donnelly's (2015) research helpfully explains the different types of behaviours and practices found in each of the schools, which are described as resulting in 'tight' or 'loose' framing of higher education. Donnelly (2015) notes that teachers from the high-progression school tightly framed conversations about higher education by asking about university intentions exclusively, during daily tutor-student check-ins. Only those students who expressed they didn't want to go to university were referred to the Careers Advisor, meaning discussions about the pathway for higher education was given priority by teachers in this school. Conversely in the low-progression school, practices and processes were described as loosely framing progression to university with many more post-18 pathways consciously included in discussions. One example given is related to the Careers Advisor from the low-progression school, who similarly to teachers in Dunne et al's (2014) study, consciously avoided making any hierarchal distinction between post-1992, pre-1992 or Russell Group universities to students, even to those who met the minimum entry requirements for entry to high tariff institutions. Donnelly (2015) argues it is this difference in framing that provides some explanation of the disparities in progression between the two schools. In conclusion, Donnelly (2015) asserts whilst school practises associated with higher rates of progression to higher education and elite institutions could indeed lead to increased social mobility, the low progression school's approach in fact led to more choice, and increased student-agency, which in this case is perceived as positive for young people. Nevertheless, whilst Donnelly (2015) concedes the different implicit and explicit processes and practices offer some explanation for the disparity between the schools, this study does not explore in any

depth why the teachers hold the beliefs or engage in the practices they do. Again, an investigation into how teachers' own backgrounds and educational experiences may influence their intentions, beliefs and knowledge about progression to elite institutions may offer further insight into the reasons behind different progression rates between state schools with similar intakes of students.

Attempting to investigate levels of encouragement offered to students to apply to Oxbridge, the Sutton Trust conducted a much cited poll (Sutton Trust, 2016) and found some 43% of teachers either rarely or never advised their 'academically-gifted' students to apply to Oxbridge (see Appendix A Tables 1-3). 60% of teachers polled also vastly under-estimated the numbers of students from state schools at Oxbridge, with over a quarter believing just 20%, as opposed to the actual 2016 figure of close to 60%, were from the state sector. The poll also found 19% of teachers wouldn't encourage their students to apply to Oxbridge because they thought they were unlikely to be successful in their application and 13% thought they'd be unhappy there. These findings indicate low teacher-expectations may have a part to play in progression (de Boer et al., 2018) and whether or not a pupil is supported to consider Oxbridge as a realistic university option.

With no further accompanying explanation from teachers about why they held these beliefs and expectations, the Sutton Trust (2016) poll findings may be understood from other research suggesting teachers make assumptions about the social backgrounds and characteristics of their students (Dunne and Gazeley, 2008) which intersect with beliefs and expectations related to who accesses different types of university (Oliver and Kettley, 2010), including the University of Oxford, (Robson et al., 2017). Boxer (2010) argues that teacher-expectations are both explicitly and implicitly transmitted to students, therefore understanding and aiming to raise theses also seems important (de Boer et al., 2018) to widening participation. Although evidence shows teacher-expectations are formed on the basis of beliefs about different types of universities and individual factors, such as prior attainment (Timmermans and Rubie-Davies, 2018) there is also some evidence unconscious bias has a role to play (Peterson et al., 2016), meaning student characteristics not only influence the formation of teacher expectations (Timmermans et al., 2016) but

also the guidance and opportunities offered to students from different social groups, with students from working class backgrounds less likely to be given opportunities associated with improved educational outcomes (Dunne and Gazeley, 2008) and access to support and guidance related to higher education in general.

Relationship between student characteristics and teacher expectations

Many studies have indeed found a strong relationship between teacher expectations and children's characteristics (Rubie-Davies et al., 2006, Peterson et al., 2016, Robson et al., 2017) such as social class (Winterton and Irwin, 2012, Timmermans and Rubie-Davies, 2018, Dunne and Gazeley, 2008, de Boer et al., 2018, Oliver and Kettley, 2010, Rubie-Davies et al., 2006, Timmermans et al., 2016) and the effect this has on achievement and progression. Winterton and Irwin (2012) for example, argue that teachers and school processes transmit values and expectations that are in alignment with middle class values and expectations for university education. What this means for working class children and their educational trajectories, they argue, is that access to support and information about higher education pathways for this group tends to be reliant on the efforts of one particular teacher or resources being focussed only on individual working-class children seen to be 'higher attainers' with university potential, as opposed to university expectations for this social group overall. The reliance on one teacher as opposed to generally high expectations expressed by all teachers and through school systems and processes is limiting and means accessing tightly framed support and guidance needed to access university is precarious for some social groups.

Further research has shown there is a tendency for school teachers to blame family background, low expectations of parents and students themselves for low progression to higher education (Dunne and Gazeley, 2008). In the study Teachers, Social Class and Underachievement, Dunne and Gazeley (2008) argue disparities in teacher-expectation have a role to play in educational outcomes between children from different social backgrounds. The study found teachers offered differentiated levels of support and access to opportunities to children depending on their interpretations of underachievement. Dunne and Gazeley (2008) found teacher judgements about their student's educational futures were influenced by their

conception of social class, with consistently lower expectations for working-class children than for middle-class children. In this research, teachers conceived lower predicted attainment and potential of these children as a problem located within the child or family as opposed to their own pedagogy and low expectations for particular social groups. Teachers' reluctance to explicitly recognise working-class identities contributed to the normalisation of students' underachievement. 'Ability-setting' was also recognised as having a negative impact on attainment of some groups and as Dunne and Gazeley (2008) confirm, it is in lower-ability sets where working-class children are over-represented, experience lower teacher-expectations and loss of self-esteem. This study found that teachers did not distinguish between low attainment and underachievement, therefore opportunities to recognise academic potential of working-class children were missed. It was also argued that teachers' conceptualisations of 'working-class' were often conflated with 'disadvantage' which was problematic as teachers made assumptions based on deficit stereotype conceptions of this social group. These conceptions included teachers' beliefs that parents lack investment in their children's educational future and are therefore somehow responsible for low attainment or under-achievement. Unlike children from middle class backgrounds, underachievement was not recognised by teachers as a feature of prior attainment for working-class students. Whilst this study shows a clear relationship between the student characteristics and expectations, teachers are still presented here as a socially homogenous group. This is problematic as it doesn't consider the influence a teacher's own social background and educational experiences may have on their practices or expectations of particular groups of students. Further research would benefit from an investigation into teacher characteristics and to what extent, if any, these may influence the opportunities provided to different groups of students.

Timmermans et al (2016) argues even when students demonstrate equal academic performance, teachers have lower expectations for those from less affluent families and boys generally, and again differentiate the support given to students based on beliefs about characteristics such as class and ethnicity. Timmermans and Rubie-Davies (2018) study found that when teachers differentiated their expectations through their pedagogy for students with low-ability, this had a significant negative

effect on attainment outcomes of their pupils. Low-expectation teachers tended to differentiate learning activities in the classroom, limiting the progress 'low-ability' pupils could make compared to high-expectation teachers who set up inclusive activities leading to greater pupil attainment overall. What this suggests is that offering the same opportunities to all students is beneficial, particularly for students with lower prior attainment.

Whilst both studies conducted by Timmerman and Rubie-Davies (2018) and Dunne et al (2008) focussed on the effect low teacher-expectations and differentiation of learning opportunities had on academic achievement of working-class children and those from disadvantaged backgrounds, it is possible to extend these findings to propose a potential link between teachers with low expectations and the differentiation of their encouragement for different types of post-18 progression. This was clear in the outcomes of Smyth and Banks' (2012) research showing that teachers in one school with a predominantly working-class intake did not generally provide information or support for their students about high tariff universities because it was assumed most would not be applying or able to progress if they did. Showing the impact of high teacher expectations, in another study, Does teacher encouragement influence students' educational progress? (Alcott, 2017), a positive relationship was found between teacher encouragement in YR9 to consider university, student progression to Sixth Form and higher education. And rather more interestingly, teacher encouragement was found to have the strongest relationship with the progression of students in the middle level of attainment, with the lowest levels of parental experience of higher education. These studies show a clear relationship between teacher behaviours and expectations for children from different social backgrounds, partly explaining disparities in levels of support and access to opportunities for those from backgrounds underrepresented in universities.

Although these studies focus on student characteristics as an explanation for low teacher expectations, which in turn impact educational outcomes for specific groups of children, it is clear more research into the background characteristics of teachers and the relationship this has to their expectations and levels of support for different groups of children to progress to university would be beneficial.

Bourdieu's habitus - explaining disparities in progression to higher education

A further explanation as to why children or young people, from underrepresented backgrounds, meeting the minimum attainment requirements, but do not apply in equal number to elite universities has been developed from a complex theory referred to 'habitus', first developed by Bourdieu (1992). Diane Reay (2004), helpfully explains Bourdieu's habitus as the multi-layered social conditions in which we each exist, influencing the way in which we, as social beings, move through the world, the beliefs and attitudes we acquire about our place in the world, and the boundaries of what we both consciously and unconsciously see as possible or not possible for people like us, from social backgrounds like ours. Put simply habitus is a theory that has been used in educational contexts to explain the reasons for disparities in admissions between different social classes. In this context, it is further argued disparities are maintained because different types of schools and universities in and of themselves reflect, reinforce and reproduce the cultural capital and values of different social classes and groups. Put another way, the education system and those within it uphold structures that reproduce, transmit or distribute unequal levels of cultural capital between the social groups (Bourdieu and Nice, 1992, Reay, 2004, Webb et al., 2017).

In an attempt to explain the experiences of working-class students in elite universities or why such students would not consider applying to high tariff universities such as the University of Oxford in the first place, recent research makes frequent reference to Bourdieu's theory (Reay et al., 2009, Dunne et al., 2014, Atkinson, 2011, Reay et al., 2001, Reay, 2004, O'Sullivan et al., 2019). Much of this research has focussed on student habitus, consisting namely of beliefs about higher education, how these are formulated by the conditions of individual social backgrounds, reproduced or reinforced by their school's structures and processes, and the influence this has on particular post-18 and higher educational destinations.

In this way, state and independent schools have been shown to have different habitus with these two school types employing different practices and processes related to specific higher educational pathways, which goes some way to explain the

disparity in elite university application figures between the two sectors (Dunne et al., 2014, Montacute and Cullinane, 2018). Whilst some studies have also attempted to explain disparities in progression to selective universities by comparing state schools with similar intakes (Donnelly, 2015) and others focussed on student experiences of the support received from state school teachers to apply to selective universities (O'Sullivan et al., 2019), few have focussed directly on the teachers themselves or the cultural capital they have available for the role of supporting student progression.

The influence of teacher habitus on students' applications to elite universities.

In the study Gatekeepers or facilitators: the influence of teacher habitus on students' applications to elite universities (Oliver and Kettley, 2010), it is argued that Bourdieu's theory of habitus is key to understanding the different practices at state schools in relation to the ways students are supported to make university choices and applications. Citing Reay, David and Ball (2005), Oliver and Kettley (2010) assert middle-class students' conversations about university take their entry for granted, expressing a sense of entitlement to a particular type of university. Middle-class student habitus, they argue, is often in alignment with that of their school. In addition to whole school practices and processes, Oliver and Kettley (2010) remind us that individual teachers are important agents in all student pathways to higher education, possessing significant influence over the trajectories of more disadvantaged children, especially when they engage in behaviours that actively encourage their students to submit applications to elite universities. Acknowledging a teacher's own social capital, prior experiences, values, and beliefs all influence how they interact with and ultimately support students' educational journeys, Oliver and Kettley's (2010) research aims to understand the 'micro actions' of some teachers who manage to transform rather than reproduce particular social group habitus. This study compares teacher attitudes and behaviours between two state schools both with low-sending rates to Oxbridge and found different practices in each school, with one providing many more varieties of support for student applications to elite universities including Oxbridge. Attempting to explore the possible reasons behind different levels of support at the two schools, explanations of teachers' views are not strongly evidenced in this study. For example, one teacher quoted suggests they do

not think differently about Oxbridge compared to other universities, however, the authors do not explore this further or offer an explanation as to why teachers don't think differently about Oxbridge compared to other university choices students could make. Furthermore, when teachers posit the view that university is not for everyone or that going to Oxbridge is not realistic for some pupils, Oliver and Kettley (2010) superficially conclude this is evidence of a 'lack of enthusiasm' for elite universities, whereas in Donnelly's (2015) research, the same teacher views were interpreted more positively by the author as simply 'loosely framing' university options among many others made available to students.

Although Oliver and Kettley (2010) conclude their research highlights different teacher views and attitudes held about different types of universities and Oxbridge, it is possible to argue what their research also demonstrates, but is never explicitly discussed, is a difference in cultural (knowledge) capital between the teachers. For example, from the extracts compared, it is clear that one teacher, previously from the independent sector, now teaching in a state school, simply had personal experience of attending and thus possessed factual knowledge about the University of Cambridge, including the social make-up of the student body and the financial bursaries available there. Personal background or knowledge is not explored or presented in the extracts from other teacher interviews, and it is simply not considered that different levels of knowledge capital, resulting from their own educational experiences might in part explain the differences in teacher support and guidance given.

In studies, such as those conducted by Oliver and Kettley (2010) or O'Sullivan et al (2019) it is clear there is some acknowledgement of the importance and influence of teacher habitus, however many study authors, including Dunne et al (2014), Smyth and Banks (2012) and Byrom (2009) still refer to teachers as though they were two homogenous groups in schools within either the state or independent sector. There is often little if no recognition that teachers within a school may indeed share similar, if not the same, social backgrounds and identities of those they teach, thus possessing more or less cultural capital from which to draw to support their students

to undertake specific educational trajectories (O'Sullivan et al., 2019) falling outside the expected norms of the social groups they may each belong.

The authors of the study 'I feel like I have a disadvantage': how socio-economically disadvantaged students make the decision to study at a prestigious university (O'Sullivan et al., 2019) investigated personal agency and decision making processes of twenty socio-economically disadvantaged students accepted onto a foundation year programme at the University of Oxford. O'Sullivan et al (2019) note students they interviewed reported some of their teachers would actively discourage students from applying to the University of Oxford, whilst others would provide information and guidance that was incomplete or too late. Referring to 'institutional' habitus, O'Sullivan et al 2019 helpfully recognise the general lack of available knowledge capital amongst some teachers to support their students to access the most selective universities, such as Oxford, noting that many schools simply have no choice but to outsource this support to external providers. Whilst the authors of this study argue there is a disparity in progression outcomes for socially disadvantaged students resulting from structures and processes found in state schools, teachers are again seen as a group possessing a collective identity, who limit the chances of underrepresented and disadvantaged students from accessing elite universities. Again, there is no recognition that teachers may share the social identities of their students, do not possess the educational experiences that confers the necessary knowledge capital, thus are as equally unable as their students to see how people like 'us' can both access and thrive at an elite university such as Oxford.

Further highlighting how influential teacher knowledge capital is, a recent Brilliant Club report (Rünz and Eyre, 2019) included a small acknowledgement that those with their own experience of going to selective universities were more confident in helping students to consider higher education as a future option. Moreover, whilst confidence was found to be generally higher amongst teachers who had attended a selective university themselves, it was even higher for those who had attended Oxbridge. This indeed shows educational background has an effect on the individual resources teachers have available to support their students.

What is clear from the analysis of the literature, is the existence of a general assumption that schools consist of structures and systems devoid of the influence of an individual teacher's own social and educational background, each possessing different levels of cultural capital to confer to their students, such that there are predominantly just two types of teachers; those who teach in independent schools and those who teach in state schools, the latter holding lower expectations of under-represented and disadvantaged students and being less enthusiastic about this group's progression to elite universities. This is as simplistic as an assumption all children from state schools also have a collective social identity. The present research aims to contribute to the existing body of literature by investigating the social and educational backgrounds of teachers in state schools and the impact this may have on the frequency with which they advise their students apply to Russell Group universities and the University of Oxford. The research will also investigate available knowledge capital to support student progression to Oxford. Based on the findings, the present research aims to make an important contribution to the development of understanding how outreach programmes could be designed and directed to support this important influential group more effectively.

Method

Purpose

The primary purpose of the present study is to explore if teachers' social background and educational experiences influence attitudes and beliefs about selective universities such as the University of Oxford and the frequency with which academically qualified students are advised to apply. This study is also interested in whether knowledge and beliefs are related to the frequency with which teachers advise students to apply to the University of Oxford.

Design: cross sectional quantitative survey

Based on the original questions from the Sutton Trust teacher poll (2016), a cross-sectional anonymous quantitative survey design was used, enabling several types of analysis through descriptive and inferential statistics (John W. Creswell. and Creswell, 2018). For example, descriptive statistics were used to identify the frequency with which all teachers and different teacher-groups advise students apply to Russell Group universities (excluding Oxbridge) and the University of Oxford, whilst inferential statistics identified significant differences between teacher-groups and significant correlations between specific responses to items on the survey (Bryman, 2016, John W. Creswell. and Creswell, 2018).

The University of Oxford operates a regional outreach programme ensuring every school in England has a direct link to the University via an Oxford college or consortium of colleges (UniversityofOxford, 2019b). A web-based survey was emailed directly to teachers in schools partnered with Trinity College for outreach support. This College provides a main point of contact for schools in two regions: Oxfordshire and 6 of the 13 local authorities in the Northeast of England. It is important to acknowledge at this point the author of this research was a secondary school teacher in Oxfordshire and is now an outreach practitioner at Trinity College working with the schools surveyed in this research. Some reflections on how this may influence interpretations of the findings will be included in the discussion.

One advantage of using this method was the ability to reach and ascertain the views of many more teachers than a single case study or several interviews may have

afforded and therefore more likely to identify possible trends within a larger group (Hartas, 2010). The online nature of the survey also ensured anonymity as no names or IP addresses were collected and no school names were requested. Anonymity was an important feature of the survey, so that those with an existing outreach relationship with the College could be encouraged to give honest answers, reducing the possible effect of social desirability in responses.

However, there are several disadvantages to this approach. For example, like those in the Sutton Trust Teacher Poll, items in the survey were in the majority multiple choice or used a Likert scale enabling teachers to rate their agreeance with statements. This approach limited the opportunity for the nuanced responses better achieved in qualitative methods, (Creswell, 2009, Creswell and Plano Clark, 2017, John W. Creswell. and Creswell, 2018, Lundberg, 2003, Tashakkori and Creswell, 2007) such as interviews, that may offer deeper understanding of teacher-beliefs. This was somewhat mediated by providing teachers free text space to expand their answers, however, as this was optional, very few responses were gathered, meaning no significant analysis could be carried out.

Although unlikely due to the 15 minutes needed to complete the questions, another disadvantage of this method is that teachers may have responded multiple times. The anonymous nature of this method means it was not possible to identify if this occurred. It was also not possible to identify how many teachers responded from the same school, however, this was somewhat alleviated by providing the option to share additional details, thus it was at least possible to identify the minimum number of different schools represented in the results.

It is also worth acknowledging teachers who respond to this type of survey must have both the motivation and importantly for the over-burdened teaching profession, the time to do so. We do not know the specific reason why some teachers may not have responded, but non-response is unlikely to be random. In other words, the views of those who did not respond could very likely significantly change the findings (Field, 2018, John W. Creswell. and Creswell, 2018) or create a response bias in this research. Therefore, it is not possible to generalize any conclusions to the wider population of teachers or even teachers in all schools linked to the College. At best,

conclusions may only extend to the population already engaged with the College's outreach programme. Although a limitation, this group remains important, as views, attitudes and behaviours of the population of teachers engaged in the College's outreach programme could help significantly improve the future development of outreach support for this target group.

Sampling

Currently about 66% of all graduates are the first in family to go to university (Coombs, 2022). In 2017 the proportion of students leaving state funded education at the end of key stage five going to a Russell Group university (including Oxbridge) was approximately 17%, whilst just 1% went to Oxbridge (DfE, 2018). Although a degree entry profession, there is very little available data as to the educational background or characteristics of teachers. Therefore, a non-probabilistic convenience approach to sampling (Cohen et al., 2018, Hartas, 2010) was employed in the present study.

At the time of writing, there were 39 mainstream state secondary schools in Oxfordshire of which the College has some form of relationship with teachers in all, and of the 77 mainstream state secondary schools in the 6 local authorities in the Northeast, the College has some form of relationship or regular email contact with 50. Therefore, teachers in 89 schools with any kind of link to the College were invited by email to complete the web-based survey. 10 respondents were from schools in the Northeast and 99 were from those in the Oxfordshire region. The response rate for linked schools in the Northeast was 20%, whilst in Oxfordshire it was 254%. This very large difference in response rate is explained in the majority by these schools' proximity to the University, enabling teachers in local schools to foster more regular, consistent and closer working relationships with the College than those in the Northeast of England. It was also noted that more than one teacher in a single Oxforshire school completed the survey. Although it is acknowledged here, there may be regional differences in attitudes relating to the University of Oxford, the sample size is not adequate to explore potential differences further in the present research.

To ensure anonymity, questions that may identify schools in which teachers worked were optional. From this optional information, it was found that 28 different schools had at least one teacher responding to the survey. From the 50 different contacts emailed a link to the survey, teachers from at least 6 different schools responded from the Northeast and of the remaining 39 contacts in Oxfordshire, 22 were from different schools. Although the true response rate for individual schools was likely to be much higher, acknowledgment is given to the well documented fact individual school populations share many similar characteristics and attitudes (Hartas, 2010), which may skew findings. However, this has not been accounted for in the following analysis, therefore caution is required when drawing overall conclusions relating to the general population of secondary school teachers.

It is also recognized the invitation was sent via email list comprising of contacts with whom there is some level of existing relationship with the College's outreach team, therefore responses are likely to be positively skewed. Again, this non-probabilistic sample group are not intended to be representative of the teaching population as a whole or even in the two respective regions, but instead are a group who could provide significant insights into how outreach programmes at the University of Oxford and other selective institutions might be adapted to better suit the needs of this vital target group.

Missing data

There were 109 responses to the survey, and all were teachers from the secondary state sector, with teaching experience ranging from 1-20+years. Of the 13 dependent variable items on the survey, only 3 had missing responses. These items were Q13, Q15 and Q18b, which related to the behavioural aspects of advising students to apply to Oxford and had a missing-response rate of just 7%, 8% and 0.9% respectively. A closer look at the respondents who missed these items showed they were in the first 1-5 years of teaching, therefore more unlikely to have taken an active role in supporting students to apply to university at this stage in their careers. As these teachers' views were still important, their survey responses were retained for the study. Of the four independent variable items, Q6, Q9 and Q11 had very low missing-response rates of 1.8%, 0.9% and 2.8%, respectively. Again, responses

from teachers who missed these items were retained. A pairwise approach was used in the analysis, ensuring the remaining responses were included in the study.

Ethical considerations

This study was approved by the University of Oxford's Central Research Ethics Committee (Appendix B). All respondents' anonymity and the schools in which they worked was guaranteed and maintained in several ways. Firstly, the online survey platform JISC was used to collect data, which does not record IP addresses. Secondly, no individual names, addresses or school name details were requested in the core part of the survey. In the final part of the survey where there was an option for respondents to share information that could identify either themselves or the school in which they worked; however, no reference has been made to either the individuals or their schools in any part of the study. This information has been used only to count the number of different schools in which respondents worked and to follow up with any further questions or future research. All identifiable information has been stored securely and password protected on One Drive for Business.

It is also essential to recognise the implicit and explicit power relations at play in the study. Although anonymity was guaranteed, the author is an outreach practitioner at the College with relationships with all schools in which respondents worked. It was therefore anticipated individuals may feel a level of pressure to participate in the research. It was further recognised respondents who may like to increase their participation in outreach at the University, could feel additional pressure to answer questions about the University of Oxford positively. To mitigate this, the invitation to participate (Appendix C) included reassurance to individuals contacted, that their relationship with the University or their access to the outreach opportunities available to them and their schools would not be adversely affected, whether they agreed or declined to participate. As such, all personal data was completely removed from the item responses and kept in a separate spreadsheet to maintain anonymity of answers.

Instrument

The instrument used in the present research was an electronic survey modified from the original Sutton Trust 2016 teacher poll results (see original poll results, Appendices 1-3). Although much cited, there is no publicly available information related to the original design or format of the Sutton Trust poll. Published results show primary and secondary school classroom teachers and senior leaders were asked three main questions relating to Oxbridge:

1. At Oxbridge, what percentage of students from UK schools and colleges on undergraduate courses do you think come from the state sector?
2. Which of the following best describes the frequency with which you advise your academically gifted pupils that you teach (or have taught) to apply to Oxbridge?
3. Why?

Including adaptations of the original questions, there were 23 items in the survey used (Appendix D), organized into 4 parts as follows: Q1-7 teaching background and personal characteristics, Q8-11 personal and parent educational background, Q12-19 beliefs and behaviours relating to Oxford and Russell Group universities and Q20-23 optional information.

As previously discussed, being the first in family to attend university has been shown to impact on attitudes and beliefs about higher education (Henderson et al., 2020b, Micklewright et al., 2016, Reay et al., 2009, Croll and Attwood, 2013) therefore in the present research, parent education level (Q9) was used as a proxy for social background. And as school type is also known to influence trajectories and attitudes to higher education (Dunne et al., 2014, Montacute and Cullinane, 2018, Smyth and Banks, 2012, Henderson et al., 2020a) teachers were also asked about the type of secondary school they attended in the majority (Q8). As attending a selective university themselves has been shown to influence the advice given to students (Rünz and Eyre, 2019) teachers were also asked what type of university they attended (Q11).

Teachers were also asked about their ethnicity however, as all respondents identified as white British, no analysis of this individual characteristics could be conducted therefore these results are not included in the present study.

Next as originally asked in the Sutton Trust Poll Survey, two different questions (Q12 & Q13), were asked specifically for Oxford, rather than Oxbridge. For the purposes of analysis, the rating scores of Q13 were reversed, such that a high score of 4 was equal to the highest frequency of ‘Always’ and a low score of 1 was equal to the lowest frequency of ‘Never’.

In the published poll findings, the Sutton Trust presented a table of results headed ‘Why?’ The present research qualified this by posing the following question: Q14 If you answered ‘usually’, ‘rarely’ or ‘never’ to the previous question, please select the option below that best describes why you chose your answer

- I think they are unlikely to be successful in their application
- I don't think they would be happy there
- I don't think they would perform well academically there
- They can't study the right course there
- I never advise students on the right university course for them

As Oxford has more elements to the application process compared to other universities, one additional reason was offered as an option:

- I am not sure about the application process.

Q15 and Q16 were adapted from Q13 and Q14 respectively to also ask teachers about the frequency of advising students to apply to a Russell Group university. This was to enable comparisons of differences between the frequency of advising students apply to Oxford and other selective universities.

Acknowledging both the previous research showing attitudes and beliefs about selective universities influence teachers’ guidance to students (Donnelly, 2015, Oliver and Kettley, 2010) and that teachers’ reasons maybe more complex than those offered in Sutton Trust’s finite list of just 6 options in question Q14 and Q16, teachers were also asked to rate their belief in 5 attitudinal statements (Q17a-e) about the University of Oxford. Q17a, Q17b and Q17d were all reversed to match

Q17c and Q17e such that ‘Not at all’=high score 4 and ‘Completely’=a low score 1. As Q14 or Q16 was answered by a smaller proportion of the sample and generated only nominal data limiting explanations for answers in Q13, the inclusion of Q17a-e enabled additional analysis including exploration of relationships between selected dependent variables.

As previously discussed, knowledge capital seems important (Oliver and Kettley, 2010, Rünz and Eyre, 2019) therefore Q18a-d and Q19 asked teachers to rate their level of knowledge about Oxford and the application process and confidence to offer their students information and guidance.

For the analysis of the findings Q8, Q9 and Q11 were taken as the independent variables and Q12-19 the dependent variables.

Procedure

To summarise, 89 contacts in schools with an existing relationship with Trinity College, the University of Oxford were emailed an invitation to participate in the anonymous web-based survey, which was embedded as a link in the body of the email (Appendix C). Contacts were also invited to share the invitation with other colleagues who may like to participate in the research. Due to the ethical considerations noted above, contacts were only emailed twice; firstly, with the initial invitation and then secondly with a final reminder some two weeks later.

Data Analysis

For the analysis of the results from 109 respondents, SPSS version 28 was used to produce descriptive statistics and conduct tests to identify any significant group differences and relationships between variables. It was found that 62% of respondents said they had direct responsibility for post-18 student progression, compared to 38% who did not. However, as research shows individual teachers with or without direct responsibility impact student-progression (Winterton and Irwin, 2012) analysis of results did not distinguish between these two possible groups. In Q12 the percentage categories were reduced from eight to four with no effect on the findings. Therefore, 3 independent and 13 dependent variables were selected for analysis.

In the present study, data scale types of both the independent variables and dependent variables were either, nominal, dichotomous and/or ordinal, therefore non-parametric tests of difference and correlation were used (Cohen et al., 2018, Field, 2018, Pallant, 2020). Firstly, to investigate frequencies and mean scores of all responses and to identify differences in responses between the different groups of teachers, descriptive statistics were conducted (Pallant, 2020, Field, 2018). Independent variables 1, 2 and 3 were treated as ordinal scale data. As shown in Table 1a, this is because belonging to either group 1, 2 or 3 has been constructed such that respondents went to more or less selective secondary schools, had parents who were more or less educated and themselves attended more or less selective universities (Field, 2018).

Data resulting from the dependent variables were treated as ordinal such that responses were scaled 1-4 and the order indicated strength of teacher-beliefs and frequency of behaviours. Therefore, to investigate if differences in mean scores (dependent variables: Q12, Q13, Q17a-e, Q18a-d and Q19) between 3 groups (independent variables 1, 2 and 3), were significant a Kruskall Wallis 1-way Anova test was conducted. If appropriate, this was then followed up by pairwise comparisons with adjusted p-values to identify between which specific groups significant differences exist. Jonckheere-Terpstra tests for Ordered Alternatives was also performed to confirm whether or not there was a pattern to the median of the groups, such that higher levels of parent education, more selective secondary schools and universities attended by teachers, resulted in more positive beliefs about the University and the higher frequencies of advising students apply to Oxford being reported by teachers, as was expected. Although Field (2018) notes that researchers report either Kruskall Wallis or Jonckheere test findings, the present research considers both so as to report differences with and without significant trends across the groups.

To investigate if there were significant correlations between dependent variables when both scale types were ordinal (Q13 and 15, Q12, Q17a-e, Q18a-e and Q19) Spearman’s Rho was conducted (Field, 2018, Cohen et al., 2018, Bryman, 2016).

See Tables 1a and 1b below for the level and description of variables and scale types and Table 2 for the full plan of analysis.

Independent Variables	Levels	Scale type
All teachers	1	Nominal
1. Type of secondary school attended (Q8)	1. State comprehensive & secondary modern 2. State Grammar 3. Independent (1= least selective, 3= most selective)	Ordinal
2. Level of parent education (Q9)	1. No parent went to university 2. at least one parent went to university. 3 Both parents went to university (1= least educated, 3= most educated)	
3. Type of university attended (Q11)	1. Non-Russell Group 2. Russell Group (excluding Oxbridge) 3. Oxford or Cambridge (1= least selective, 3= most selective)	

Table 1a: Description independent variables, levels and scale types

Dependent Variables	**Scale**	**Scale Type**
Q12 At Oxford, what percentage of students from UK schools and colleges on undergraduate courses do you think come from the state sector?	1. Up to 20% 2. 21-40% 3. 41-60% 4. 61-80+%	Ordinal
Q13 & Q15 Which of the following best describes the frequency with which you advise the academically talented pupils that you teach (or have taught) to apply to Oxford / Russell Group	1. Never 2. Rarely 3. Usually 4. Always	Ordinal
Q14 & Q16 If you answered 'usually', 'rarely' or 'never' to the previous question (Q13 & Q15), please select the option below that best describes why you chose your answer	a) I think they are unlikely to be successful in their application b) I don't think they would be happy there c) I don't think they would perform well academically there d) They can't study the right course there e) I never advise students on the right university for them f) I am not sure about the application process	Nominal
Q17 rate how strongly you believed the following statements about the University of Oxford:	1. Not at all 2. Only a little 3. Mostly 4. Completely	Ordinal
a. The University of Oxford is not a place for state school students		
b. The majority of students at the University of Oxford are from private schools		
c. The university of Oxford cares about increasing access to students from state schools		
d. It is not worth pupils wasting a UCAS option on the University of Oxford		
e. Every pupil should be supported to explore the University of Oxford as a possible future option at some point in their school career		
Q18 How knowledgeable are you in each of the following areas:		
a. The University of Oxford's undergraduate application process		
b. Writing the teacher reference for academic undergraduate courses		
c. The University of Oxford's admission tests		
d. The University of Oxford's academic interview		
Q19 How confident do you feel about offering information and support to your pupils about the University of Oxford and the application process		

Table 1b: Description dependent variables, scale and scale types

Research Questions, Variables and Planned Analyses					
Q1. How frequently do teachers advise their academically talented students apply to Oxford and other Russell Group universities? Is there a significant difference? **Q2.** What beliefs and knowledge do teachers hold about the University of Oxford? **Q3.** Is there a difference in beliefs and knowledge about University of Oxford and rates of advising students apply, between teachers from different social and educational backgrounds? **Q4.** To what extent are teacher-beliefs and knowledge about the University of Oxford correlated to how frequently teachers advise state school students to apply to Oxford?					
Variable Name	**Scale Type**	**Item on Survey (Dependent Variable)**	**Scale Type**	**Research question**	**Test**
All teachers	Nominal	Q12, Q13, Q14, Q15, Q16, Q17a-e, Q18 a-d Q19	[Q12, Q13, Q15, Q17a-e, Q18 a-d Q19] = Ordinal [Q14 &Q16] = Nominal	**Descriptive question 1&2:** what is the frequency and mean scores of responses? I**nferential question Q1** is there a significant difference?	Q1 &2 Descriptives & frequencies Q1 Wilcoxon signed rank
Independent variable 1: Type of secondary school attended (3 levels)	Ordinal	Q12, Q13, Q15, Q17a-e, Q18 a-d Q19	Ordinal	**Inferential question 3:** is there a significant difference in mean scores between the groups?	Q2 Descriptives Q3 Kruskel-Wallis 1-way Anova. Paired Comparisons
Independent variable 2: Level of parent education (3 levels)	Ordinal				
Independent variable 3: Type of university attended (3 levels)	Ordinal				
All teachers	Nominal	Q13, Q12, Q15, Q17a-e, Q18 a-d Q19	Ordinal	**Inferential question 4:** is there a significant correlation between scores for Q13, and Q12, Q15, Q17a-e, Q18a-d, Q19	Q4 Spearman's Rho

Table 2: planned analyses

Findings

Descriptive statistics

109 teachers responded to the survey and of those who answered question 6, 8, 9 and 11, 85.3% were educated in either a state comprehensive or a grammar secondary school, 56.5% were the first in family to attend university, 32% had attended a Russell group University (excluding Oxbridge) and 15% had attended Oxford or Cambridge universities.

When teachers were asked Q12) *At Oxford, what percentage of students from UK schools and colleges on undergraduate courses do you think come from the state sector?* only 24.8% selected the option containing the correct percentage (between 61%-80%), with 75.2% believing less than 60% of students were from the state sector. And a total of 56% thought the figure was 40% or less. Responses to this item were rated 1-4, with a higher score suggesting teachers believed a higher proportion of undergraduates were from the state school sector. The mean score for this item was 2.54 (Table 3).

Q12 At Oxford, what percentage of students from UK schools and colleges on undergraduate courses do you think come from the state sector?							
	Options 1-4	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD
Valid	Upto 20%	16	14.7	14.7	14.7	2.54	1.02
	21-40%	45	41.3	41.3	56.0		
	41-60%	21	19.3	19.3	75.2		
	61-80%	27	24.8	24.8	100.0		
	Total	109	100.0	100.0			

Table 3

Teachers were also asked (Q13) *Which of the following best describes the frequency with which you advise the academically qualified pupils that you teach (or have taught) to apply to Oxford?* Of the responses, 70.3% said they always or usually advise their students to apply, whilst 29.7% said they rarely or never advised their students to apply. Responses to this item were also rated 1-4, with a higher score suggesting teachers more frequently advise their students apply to Oxford. The mean score for this item was 3.05 (Table 4).

When asked (Q15) *Excluding Oxford, which of the following best describes the frequency with which you advise the academically qualified pupils that you teach (or have taught) to apply to a Russell Group university?* 79% of teachers who responded to this item said they always or usually advise their students to apply, whilst 21% said they rarely or never advised their students to apply. Again, responses to this item were rated 1-4, with a higher score suggesting teachers more frequently advise their students to apply to a Russell Group University. The mean score for this item was 3.26 (Table 5).

These results show that 8.7% more teachers usually or always advised their students to a apply to Russell Group universities and 8.7% less teachers rarely or never advised their students apply to a Russell Group university than the University of Oxford.

Q13 Which of the following best describes the frequency with which you advise the academically qualified pupils that you teach (or have taught) to apply to Oxford?							
Options 1-4		Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD
Valid	Never	7	6.4	6.9	6.9	3.05	0.96
	Rarely	23	21.1	22.8	29.7		
	Usually	29	26.6	28.7	58.4		
	Always	42	38.5	41.6	100.0		
	Total	101	92.7	100.0			
Missing	System	8	7.3				
	Total	109	100.0				

Table 4

Q15 Excluding Oxford, which of the following best describes the frequency with which you advise the academically qualified pupils that you teach (or have taught) to apply to a Russell Group university?							
Options 1-4		Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD
Valid	Never	7	6.4	7.0	7.0	3.26	0.95
	Rarely	14	12.8	14.0	21.0		
	Usually	25	22.9	25.0	46.0		
	Always	54	49.5	54.0	100.0		
	Total	100	91.7	100.0			
Missing	System	9	8.3				
	Total	109	100.0				

Table 5

Following Q13 and Q15, teachers were asked (Q14 & Q16) *If you answered 'usually', 'rarely' or 'never' to the previous question, please select the option below*

that best describes why you chose your answer. Of those who answered, 16.4% said they didn't think their students would be successful in their applications to Oxford, compared to just 8.1% of respondents when asked the same question about Russell Group universities. 25.5% said they didn't think their students would be happy at Oxford, however, when asked the same question for Russell Group Universities, just 8.1% thought this would be the case for their students. Only 1.8% thought their students wouldn't perform well academically at Oxford compared to 2.7% of teachers when asked about the Russell Group. 12.7% of respondents said their students wouldn't be able to study the right course at Oxford, compared to 21.6% of teachers answering the same question about Russell Group universities. From the possible reasons as to why teachers either never, rarely or usually advise their students apply to Oxford, 41.8% of respondents said they never advise their students on the right university for them, however, when asked the same question about the Russell Group, 56.8% of respondents selected this option. Just 1.8% said they were not sure about the application process at Oxford which is a little less than those answering the same question about the Russell Group which was 2.7% of respondents (Table 6).

Q14 & Q16 If you answered 'usually', 'rarely' or 'never' to the previous question, please select the option below that best describes why you chose your answer

Options		Oxford				Russell Group			
		Frequency	Percent	Valid Percent	Cumulative Percent	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I think they are unlikely to be successful in their application;	9	15.3	16.4	16.4	3	6.5	8.1	8.1
	I don't think they would be happy there;	14	17.0	25.5	41.8	3	6.5	8.1	16.2
	I don't think they would perform well academically there;	1	1.7	1.8	43.6	1	2.1	2.7	18.9
	They can't study the right course there;	7	11.9	12.7	56.4	8	17.4	21.6	40.5
	I never advise students on the right university for them;	23	39.0	41.8	98.2	21	45.7	56.8	97.3
	I am not sure about the application process;	1	1.7	1.8	100.0	1	2.1	2.7	100.0
	Total	55	93.2	100.0		37	80.4	100.0	
Missing System		4	6.8			9	19.6		
Total		109	100.0			109	100.0		

Table 6

In questions 17a-e (Table 7), teachers were asked to rate how strongly they believed in 5 statements about the University of Oxford. In relation to Q17a.*The University of Oxford is not a place for state school students,* just 8% of teachers completely or mostly believed Oxford was not for state school students compared to 92% of

teachers who answered they believed this statement only a little or not at all. A high score for this item indicated weaker belief in the statement. The mean score for this item was 3.55.

Of the teachers who rated Q17b. *The majority of students at the University of Oxford are from private schools,* 46.8% completely or mostly believed this statement, compared to 53.2% of teachers did not believe this at all or only a little. Again, a high score for this item indicated weaker belief in the statement. The mean score for this item was 2.68.

Responding to Q17c.*The University of Oxford cares about increasing access to students from state schools,* 28.4% of teachers did not at all believe or only believed the statement a little, compared to 72% who mostly or completely believed Oxford cares about increasing access. A high score for this item indicated teachers had a stronger belief in the statement. The mean score for this item was 3.02

Rating Q17d, only 5% of teachers mostly believed Oxford was a waste of a UCAS option for their qualified students, compared to 95% of teachers who did not believe this at all or only a little. And when rating Q17e. 62% of teachers mostly or completely agreed every pupil should be supported to explore the University of Oxford as a possible future option at some point in their school career compared to 38.5% who said they did not believe this at all or only a little. For Q17d a high score for this item indicated weaker belief in the statement and for Q17e, a high score indicated strong belief in the statement. The mean scores for items Q17d and Q17e were 3.71 and 2.83 respectively.

In Question 18a-e (Table 8), teachers were also asked to rate how knowledgeable they felt about the Oxford application process and specific elements within it. A high score for all items indicated teachers felt they had greater knowledge about the application process. In relation to the overall application process as asked in Q18.a, only 54% of teachers said they felt completely or mostly knowledgeable about the application process compared to 46% who only felt only a little or not at all. When it came to writing the teacher reference (Q18b) just 52% of teachers felt mostly or completely knowledgeable about writing the academic reference compared to 47% who felt only a little or not at all knowledgeable. Asked the same question in relation

to the admissions tests (Q18c), 65% of teachers did not feel at all knowledgeable or only a little knowledgeable about the Oxford admissions tests compared to just 35% who felt mostly or completely knowledgeable. And finally, when asked about the academic interview (Q18d), again a large proportion of teachers, 64%, said they did not feel at all knowledgeable or had only a little knowledge about the interview compared to just 35% who felt mostly or completely knowledgeable. The mean scores for Q18a, Q18b, Q18c and Q18d were 2.64, 2.52, 2.19 and 2.41 respectively.

Finally, in Q19, teachers were asked to rate how confident they felt about offering information and guidance to their students about the University of Oxford and the application process. A high score indicated respondents felt higher levels of confidence. Results showed 52% of teachers felt only a little or not at all confident offering information and guidance to their students compared to just 48% who felt mostly or completely confident. The mean score for this item was 2.41 (Table 9).

Q17 Please rate how strongly you believed the following statements about the University of Oxford:													
a. The University of Oxford is not a place for state school students								**b. The majority of students at the University of Oxford are from private schools**					
	Options 1-4	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD
Valid	Completely	3	2.8	2.8	2.8	3.55	0.73	9	8.3	8.3	8.3	2.68	0.92
	Mostly	6	5.5	5.5	8.3			42	38.5	38.5	46.8		
	Only a little	28	25.7	25.7	33.9			33	30.3	30.3	77.1		
	Not at all	72	66.1	66.1	100			25	22.9	22.9	100		
	Total	109	100	100				109	100	100			
d. It is not worth pupils wasting a UCAS option on the University of Oxford													
	Options 1-4	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD						
Valid	Completely	0				3.71	0.55						
	Mostly	5	4.6	4.6	4.6								
	Only a little	22	20.2	20.2	24.8								
	Not at all	82	75.2	75.2	100								
	Total	109	100	100									
c. The University of Oxford cares about increasing access to students from state schools								**e. Every pupil should be supported to explore the University of Oxford as a possible future option at some point in their school career**					
	Options 1-4	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD
Valid	Not at all	5	4.6	4.6	4.6	3.02	0.88	16	14.7	14.7	14.7	2.83	1.08
	Only a little	26	23.9	23.9	28.4			26	23.9	23.9	38.5		
	Mostly	40	36.7	36.7	65.1			27	24.8	24.8	63.3		
	Completely	38	34.9	34.9	100			40	36.7	36.7	100		
	Total	109	100	100				109	100	100			

Table 7

Q18 How knowledgeable are you in each of the following areas?													
		a.The University of Oxford 's undergraduate application process						b.Writing the teacher reference for academic undergraduate courses					
	Options 1-4	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD
Valid	Not at all	12	11.0	11.0	11.0			27	24.8	25.0	25.0		
	Only a little	38	34.9	34.9	45.9			24	22.0	22.2	47.2		
	Mostly	36	33.0	33.0	78.9			31	28.4	28.7	75.9		
	Completely	23	21.1	21.1	100.0	2.6	0.9	26	23.9	24.1	100.0	2.5	1.1
	Valid							108	99.1	100.0			
	Missing							1	0.9				
	Total	109	100.0	100.0				109	100.0				
		c.The university of Oxford' admission tests						d.The University of Oxford's academic interview					
	Options 1-4	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD
Valid	Not at all	25	22.9	22.9	22.9			24	22.0	22.0	22.0		
	Only a little	46	42.2	42.2	65.1			46	42.2	42.2	64.2		
	Mostly	30	27.5	27.5	92.7			26	23.9	23.9	88.1		
	Completely	8	7.3	7.3	100.0	2.2	0.9	13	11.9	11.9	100.0	2.3	0.9
	Valid												
	Missing												
	Total	109	100.0	100.0				109	100.0	100.0			

Table 8

Q19 How confident do you feel about offering information and support to your students about the University of Oxford and the application process?							
	Options 1-4	Frequency	Percent	Valid Percent	Cumulative Percent	Mean	SD
Valid	Not at all	25	22.9	22.9	22.9	2.41	1.02
	Only a little	32	29.4	29.4	52.3		
	Mostly	34	31.2	31.2	83.5		
	Completely	18	16.5	16.5	100.0		
	Total	109	100.0	100.0			

Table 9

Inferential Statistics

In relation to the independent variables as outlined in Table 1, descriptive statistics showed differences in mean scores between Q13 and Q15 and between each of the different teacher groups (see Appendix G, Tables 1-3) Therefore, tests were conducted to identify if differences in scores were significant. Tests of correlation were also carried out to identify any relationship between scores for Q13, Q15 and scores for items Q12, Q17a-e, Q18a-d, Q19.

To test if the difference in mean score for Q13 and Q15 (answered by all teachers) was significant Wilcoxon signed-rank test was conducted.

To test the null hypotheses that distributions are the same for all dependent variables across the 3 categories of secondary schools attended by teachers as children, the 3 categories of teachers' parent education levels and the 3 types of universities attended by teachers, Kruskill-Wallis tests were conducted. Where significant differences in mean rank for items were found, this was followed up with pairwise comparisons to identify between which categories the difference lay (Field, 2018, Cohen et al., 2018). Due to the constraints of this report, only the significant results will be reported here in any detail, however, findings for all items tested are included in Tables 10-17 below and Appendices H, I, J, L and M.

Frequency teachers advise students apply to Russell Group and the University of Oxford

The related samples Wilcoxon signed rank test showed, the frequency with which teachers advise their academically talented students apply to other Russell Group universities was significantly higher (mean 3.26) than the frequency of advising students to apply to Oxford (mean 3.05), z=3.03, p=0.002, *r*=0.31 (Table 10 and Figure 1).

Null Hypothesis	Test	Sig.[a,b]	Decision
The median of differences between the frequency teachers advise students apply to Oxford(Q13) and the frequency they advise students apply to Russell Group universities (Q15) equals 0.	Related-Samples Wilcoxon Signed Rank Test	0.002	Reject the null hypothesis.

Table 10: a. The significance level is .050. b. Asymptotic significance is displayed.

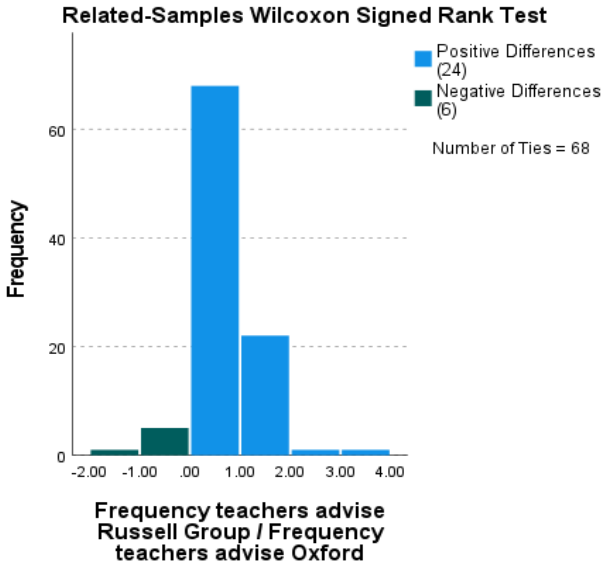


Figure 1: Histogram showing direction of significant result, such that teachers advise students to apply to other Russell Group Universities significantly more frequently than Oxford

Parent Level of Education

For items Q13, Q15, Q17a, Q17d, Q17e or Q18a-d and Q19 (Table 11), no significant differences in average ranks were found between teachers with 1. no parents with higher education, 2. one parent with higher education or 3. two parents with higher education. Only one significant difference was found between these groups which was for Q12, H(2)=7.020, p=0.030. Paired comparisons with adjusted p-values (Table 12) showed no significant differences between group 1 and 3, (p=0.232, r=-0.17) or group 3 and 2 (p=1.000, r=0.04). However, there was an almost significant difference between group 1 and 2, (p=0.051, r=-0.23). Inspection of the mean ranks (Figure 2) showed teachers who had one parent with higher education believed there were significantly more students from state schools at Oxford (64.82) than those who had no parents with higher education (47.92). Follow-up Jonckheere tests revealed no significant group order to median scores for any items apart from Q12 (percentage of undergraduates thought to be from state school backgrounds) (see Appendix I), where results revealed the more selective the school attended by teachers, the more median scores increased J= 2090, z=2.385, p=0.017.

Null Hypothesis	Test	Sig.[a,b]	Decision
The distribution is the same for all items below across three categories of parent education level			
Q12	Independent-Samples Kruskal-Wallis Test	0.030	Reject the null hypothesis.
Q13		0.891	Retain the null hypothesis.
Q15		0.694	
Q17a		0.966	
Q17b		0.194	
Q17c		0.183	
Q17d		0.638	
Q17e		0.920	
Q18a		0.963	
Q18b		0.163	
Q18c		0.911	
Q18d		0.645	
Q19		0.722	

a. The significance level is .050. b. Asymptotic significance is displayed.

Table 11: Results Kruskell-Wallis tests showing levels of significance in differences in mean ranks between teachers with parents of differing education levels. Only Q12 was found to be significant.

Pairwise comparisons of parent education levels						
	Q12					
Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size
1. No parent with higher education - 3. Both parents with higher education	-13.105	7.415	-1.767	0.077	0.232	-0.17
1. No parent with higher education - 2. One parent with higher education	-16.902	7.081	-2.387	0.017	0.051	-0.23
3. Both parents with higher education 2. One parent with higher education	3.797	8.716	0.436	0.663	1.000	0.04

Table 12: Results of pairwise comparisons of mean ranks between teachers with parents of differing education levels.

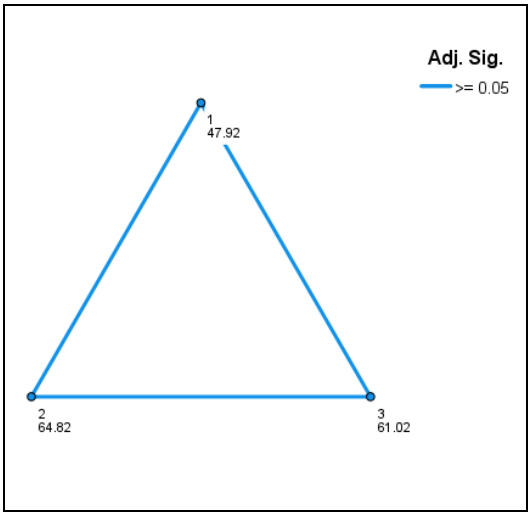


Figure 2: Q12

Educational background: secondary school type attended

No significant differences in mean ranks were found between the teachers from 1.state comprehensive, 2.state grammar or 3.independent schools for items Q13, Q15, Q17a, Q17d, Q17e or Q18a-d. However, significant differences in mean ranks were found between teachers who attended each of these different school types in items Q12, Q17b, Q17c and Q19 (see Table 13).

Asking teachers (Q12) how many students at Oxford were from state school backgrounds, test results revealed highly significant differences between groups, H(2)=14.146, p=<0.001. Pairwise comparisons with adjusted p-values identified significant differences between group 2 and 3 (p= 0.0001, r=-0.350) and between group 1 and 3 (p=0.009, r =0.28) but not between group 2 and 1, (p=0.202, r=0.18) (Table 14). Further inspection of the mean ranks (Figure 3) showed teachers from state comprehensive and grammar school backgrounds believed there to be significantly less state school students at Oxford (53.47 and 37.54 respectively) than teachers who attended independent schools (77.81).

In item Q17b teachers were asked how much they believe the majority of students at Oxford are from private schools. Tests statistics showed significant differences between the groups, H(2)=14.906, p=<0.001. Pairwise comparisons revealed significant differences between teachers in group 2 and 1 (p=0.038, r=0.24), group 2 and 3 (p=0.000, r=-0.37) and groups 1 and 3 (p=0.035, r=-0.24). Again, inspection of the average ranks (Figure 4) shows teachers from state comprehensive and grammar school backgrounds rated their belief in this statement significantly more highly[1] (54.74 and 33.07 respectively) than those from independent schools (75.47), and those from comprehensives rated their belief less highly (54.74) than those from grammars (33.07).

Q17c asked teachers how much they believe Oxford cares about increasing access to state school students. Again, results show significant differences between groups,

[1] Note a lower score indicated stronger belief in the statement

H (2)=8.007, p=0.018. Comparisons showed a significant difference between group 2 and 3 (p=0.017, r=-0.027), but not between group 2 and 1 (p=0.436, r=0.14) or group 1 and 3 (p=0.092, r=-0.22). Inspection of the average rank (Figure 5) showed teachers from independent school backgrounds rated their belief in this statement significantly more highly (71.75) than those from grammar schools (41.39).

Results for item Q19, identified significant differences between groups' confidence in giving information and support to their students about Oxford and the application process, H(2)=6.575, p=0.037. Paired comparisons showed a significant difference between group 2 and 3 (p=0.034, r=-0.24) but not between those in groups 2 and 1 (p=0.135, r=0.19) or group 1 and 3 (p=0.622, r=-0.12). Inspection of the average ranks (Figure 6) showed those from an independent school background felt significantly more confident (66.25) than those from a state grammar (38.04).

Follow-up Jonckheere tests confirmed there was no significant group order to median scores for any items (see Appendix K).

Null Hypothesis The distribution is the same for all items below across three categories of school type attended	**Test**	**Sig.**[a,b]	**Decision**
Q12	Independent-Samples Kruskal-Wallis Test	0.001	Reject the null hypothesis.
Q13		0.085	Retain the null hypothesis.
Q15		0.067	
Q17a		0.959	
Q17b		0.001	Reject the null hypothesis.
Q17c		0.018	
Q17d		0.973	Retain the null hypothesis.
Q17e		0.159	
Q18a		0.295	
Q18b		0.556	
Q18c		0.752	
Q18d		0.244	
Q19		0.037	Reject the null hypothesis.

a. The significance level is .050. b. Asymptotic significance is displayed.

Table 13: Results of the Kruskell-Wallis tests showing levels of significance in differences in mean rank scores between teachers from different types of secondary school attended. Items Q12, Q17b&c, and Q19 were all significant.

Pairwise Comparisons of school type attended												
	Q12						Q17b					
Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size
2. State Grammar - 1. state comprehensive	15.939	8.716	1.829	0.067	0.202	0.18	21.669	8.708	2.488	0.013	0.038	0.24
2. State Grammar - 3. Independent	-40.277	11.000	-3.662	0.000	0.001	-0.35	-42.397	10.989	-3.858	0.000	0.000	-0.37
1. State Comp - 3. Independent	-24.338	8.240	-2.954	0.003	0.009	-0.28	-20.728	8.232	-2.518	0.012	0.035	-0.24
	Q17c						Q19					
Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size
2. State Grammar - 1. state comprehensive	12.626	8.670	1.456	0.145	0.436	0.14	17.692	8.829	2.004	0.045	0.135	0.19
2. State Grammar - 3. Independent	-30.357	10.941	-2.775	0.006	0.017	-0.27	-28.214	11.143	-2.532	0.011	0.034	-0.24
1. State Comp - 3. Independent	-17.731	8.196	-2.163	0.031	0.092	-0.22	-10.522	8.347	-1.261	0.207	0.622	-0.12

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 14: Results of pairwise comparisons of mean ranks between teachers from different types of schools attended

Mean ranks and significance levels across the three school types attended by teachers

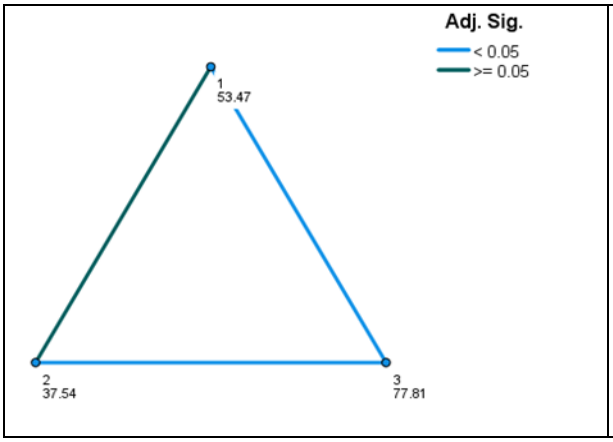


Figure 3: Q12

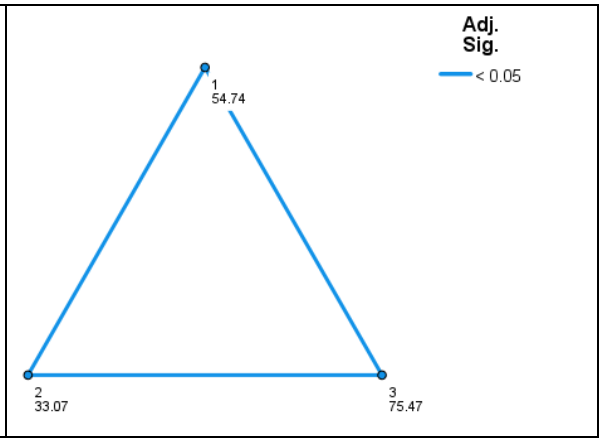


Figure 4: Q17b

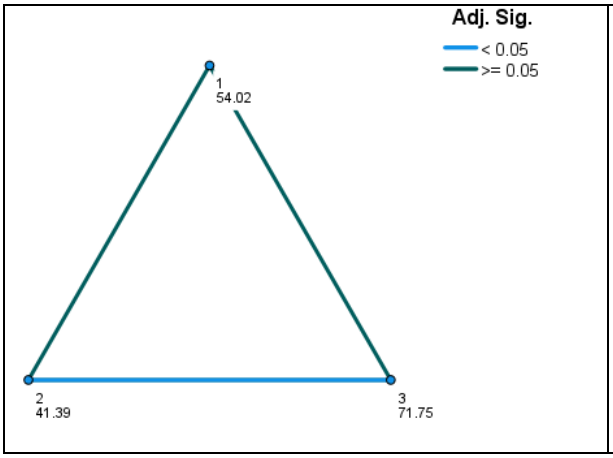


Figure 5: Q17c

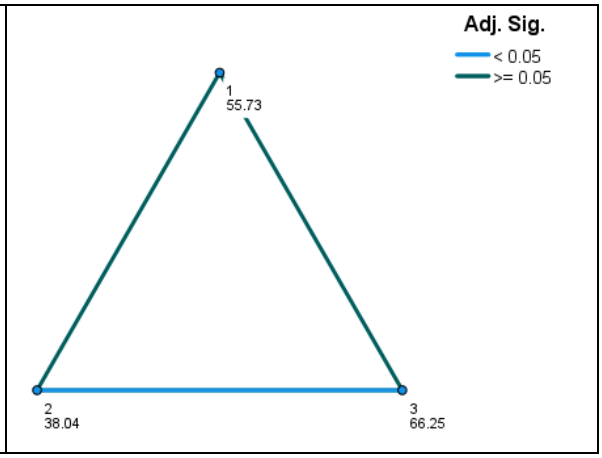


Figure 6: Q19

Educational background: type of university attended

For items Q15, Q17a, Q17e, Q18b and Q18c no significant differences in average ranks were found between the teachers who attended 1.non-Russell Group universities, 2.Russell Group universities (not Oxbridge) or those who attended 3.Oxbridge. However, significant differences were found between these groups in items Q12, Q13, Q17b, Q17c, Q17d, Q18a, Q18d and Q19 (Table 15).

Test results showed highly significant differences between groups for Q12, H(2)=8.705, p=0.013. Paired comparisons with adjusted p-values (Table 16) identified significant differences between teachers in group 2 and group 3, (p =0.014, r=-0.27) and groups 1 and 3, (p=0.026, r=–0.26) but not between group 2 and 1, (p=1.00, r=0.05). Inspection of the average ranks (Figure 7) showed Teachers who attended Oxbridge believed there to be significantly more students at Oxford from state schools (73.13) than those from both non-Russell Group (51.26) and Russell Group universities (47.96).

Results also showed highly significant differences between group responses to Q13 H(2)=9.125, p=0.010. Paired comparisons identified a significant difference between teachers in group 1 and group 3 (p=0.008, r=-0.29), but not between group 2 and 1, (p=0.607, r=-0.12) or group 2 and 3 (p=0.167, r=-0.19). Inspection of average ranks (Figure 8) confirmed teachers who attended Oxbridge advise their students to apply to Oxford significantly more often (67) than those from non-Russell Groups (43.28).

Highly significant differences were found between group responses to Q17b, H(2)=13.590, p=0.001. Paired comparisons revealed significant differences between groups 2 and 3 (p=0.001, r=-0.35) and groups 1 and 3 (p=0.008, r=-0.29), but not between groups 1 and 2, (p=0.714, r=0.11). Original scores for this item were reversed, such that high scores equal low belief in the statement. Inspection of the average ranks (Figure 9) showed teachers who attended Oxbridge believed the statement *the majority of students at Oxford are from private school*s significantly less strongly (77.03) than those from Russell Group (44.85) or non-Russell Group universities (52.15).

Significant differences were also found between group responses to Q17c, H(2)=8.236, p=0.016. Comparisons showed significant differences between groups 2 and 3 (P=0.026, r=-0.26) and between groups 1 and 3 (p=0.021, r=-0.26), but not between groups 2 and 1 (p=1.00, r=0.01). Inspection of the average ranks (Figure 10) revealed teachers who attended Oxford believed the university cared about increasing access to state school students significantly more (72.72) than those who attended Russell Group (49.54) or non-Russell Group universities (50.41).

Again, significant differences were found between group responses to Q17d, H(2)=8.390, p=0.015. Comparisons revealed significant differences between group 1 and 3 (p=0.047, r=-.023) but not between groups 1 and 2 (p=0.075, r=-0.22) or groups 2 and 3 (P=1.000, r=-0.06). Original scores for this item were reversed, such that a high score equals a low believe in the statement. Inspection of the average ranks (Figure 11) showed teachers from non-Russell Group universities believed *it is not worth wasting a UCAS choice on the University of Oxford* significantly more strongly (47.54) than teachers who went to Oxbridge (63.34).

Results for Q18a also showed significant differences between group responses H(2)=9.548, p=0.008. Comparisons identified a difference between Group 1 and 3 (P=0.006, r=0.30) but not between group 1 and 2 (P=0.788, r=-0.11) or group 2 and 3 (P=0.113, r=-0.20). Inspection of the average ranks (Figure 12) shows teachers who attended Oxbridge themselves felt significantly more knowledgeable (72.97) about the application process than teachers who attended non-Russell Group universities (47.34).

Similarly, results identified highly significant differences between group responses to Q18d, H(2)=16.872, p=0.000. Comparisons revealed the significant difference lay between groups 1 and 3 (p=0.000, r=-0.38), but not groups 1 and 2 (p=0.075, r=-.022) or group 2 and 3 (P=0.112, r=-.02). Average ranks (Figure 13) showed teachers who attended Oxbridge felt significantly more knowledgeable about the interview (76.59) than those who attended non-Russell Group universities (44.04).

Finally, highly significant differences between group responses to Q19 were found, H(2)=14.510, P=0.001. Comparisons show significant differences lay between group 1 and 3 (P=0.000, r=-0.37) and group 2 and 3 (P=0.045, r=-0.24), but not groups 1

and 2 (P=0.369, r=-0.15). Inspection of average ranks (Figure 14) revealed teachers from Oxbridge felt significantly more confident (77.25) about offering information and support to students about the University of Oxford and the application process than teachers from non-Russell group (45.53) or Russell Group universities (55.46).

Jonckheere tests (see Table 17) confirmed that for university type attended, group order was significant for items Q13, Q15, Q17d, Q18a, Q18c, Q18d and Q19 only. The results showed the more selective the university attended by teachers was, the more median scores for Q13 (the frequency with which teachers advised their students apply to Oxford) increased *J*= 1833.5*, z*=2.764*,* p=0.006 *r*=0.28. This was also the case for Q15 (the frequency with which teachers advised their students apply to Russell Group universities), such that the median scores for this item also increased significantly with university selectivity *J*= 1699*, z*=2.091*,* p=0.037, *r*=0.21. Median scores for Q17d also increased significantly across the groups, (a high score equalled a low belief in the statement Oxford is a waste of a UCAS option) *J*= 2029*, z*=2.888*,* p=0.004, *r*=0.28. And median scores increased significantly across the groups for Q18a knowledge about Oxford and the application process *J*= 2115.5*, z*=2.814*,* p=0.005, *r*=0.27; Q18c knowledge about the admissions tests *J*= 2006.0*, z*=2.145*,* p=0.005, *r*=0.21; Q18d knowledge about the academic interview *J*= 2316.5*, z*=4.121*,* p=<0.032, *r*=0.40; and finally median scores for Q19 (confidence about offering information and support to students about the University of Oxford and the application process) was found to increase significantly across the groups *J*= 2240.5*, z*=3.576*,* p=<0.001, *r*=0.35 (see Appendix O and P).

Null Hypothesis The distribution is the same for all items below across three categories of university attended	Test	Sig.[a,b]	Decision
Q12 Q13	Independent-Samples Kruskal-Wallis Test	0.013 0.010	Reject the null hypothesis.
Q15 Q17a		0.070 0.301	Retain the null hypothesis.
Q17b Q17c Q17d		0.001 0.016 0.015	Reject the null hypothesis.
Q17e		0.925	Retain the null hypothesis.
Q18a		0.008	Reject the null hypothesis.
Q18b Q18c		0.301 0.088	Retain the null hypothesis.
Q18d Q19		0.000 0.001	Reject the null hypothesis.

a. The significance level is .050. b. Asymptotic significance is displayed.

Table 15: Results Kruskell-Wallis tests showing levels of significance in differences in mean scores between teachers who attended 3 types of university.

Pairwise Comparisons between university types attended												
	Q12						Q13					
Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size
2.Russell Group - 1.non Russell Group	3.303	6.377	0.518	0.604	1.000	0.05	-7.690	6.032	-1.275	0.202	0.607	-0.12
2.Russell Groups - 3.Oxbridge	-25.169	8.892	-2.831	0.005	0.014	-0.27	-16.030	8.374	-1.914	0.056	0.167	-0.19
1.non Russell Group - 3.Oxbridge	-21.866	8.314	-2.630	0.009	0.026	-0.26	-23.720	7.917	-2.996	0.003	0.008	-0.29
	Q17b						Q17c					
Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size
2.Russell Group - 1.non Russell Group	7.505	6.359	1.180	0.238	0.714	0.11	0.867	6.328	0.137	0.891	1.000	0.01
2.Russell Groups - 3.Oxbridge	-32.384	8.867	-3.652	0.000	0.001	-0.35	-23.175	8.824	-2.626	0.009	0.026	-0.26
1.non Russell Group - 3.Oxbridge	-24.879	8.291	-3.001	0.003	0.008	-0.29	-22.308	8.250	-2.704	0.007	0.021	-0.26
	Q17d						Q18a					
Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size
1.non Russell Group - 2.Russell Group	-11.155	5.012	-2.226	0.026	0.078	-0.22	-7.146	6.380	-1.120	0.263	0.788	-0.11
1.non Russell Group - 3.Oxbridge	-15.808	6.535	-2.419	0.016	0.047	-0.23	-25.629	8.319	-3.081	0.002	0.006	-0.30
2.Russell Groups - 3.Oxbridge	-4.653	6.989	-0.666	0.506	1.000	-0.06	-18.483	8.897	-2.078	0.038	0.113	-0.20
	Q18d						Q19					
Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	Effect Size
1.non Russell Group - 2.Russell Group	-14.185	6.331	-2.241	0.025	0.075	-0.22	-9.929	6.436	-1.543	0.123	0.369	-0.15
1.non Russell Group - 3.Oxbridge	-32.558	8.255	-3.944	0.000	0.000	-0.38	-31.723	8.392	-3.780	0.000	0.000	-0.37
2.Russell Groups - 3.Oxbridge	-18.373	8.828	-2.081	0.037	0.112	-0.20	-21.794	8.975	-2.428	0.015	0.045	-0.24

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 16: Results of pairwise comparisons of mean ranks between teachers who attended 3 types of university

Mean ranks and significance levels across the three university types attended by teachers

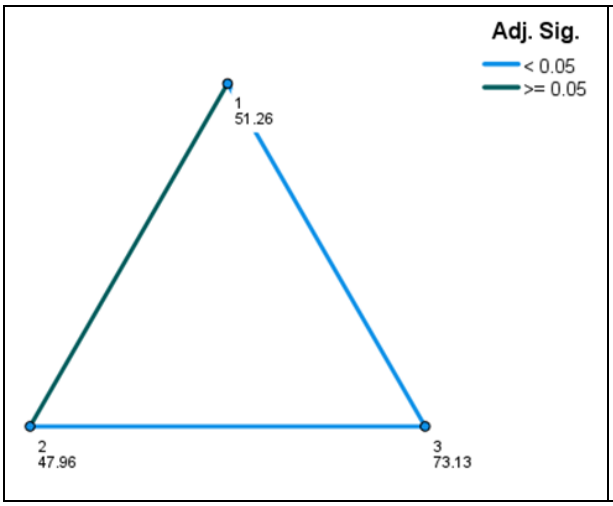


Figure 7: Q12

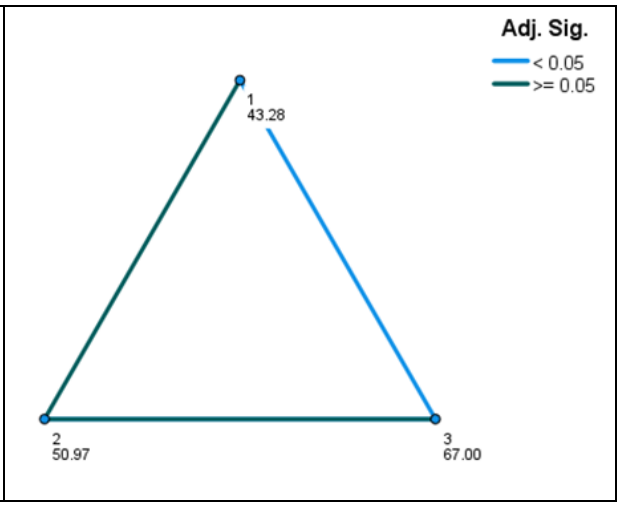


Figure 8: Q13

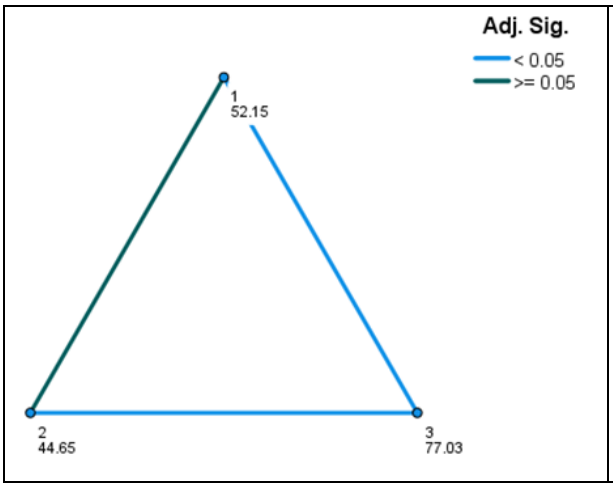


Figure 9: Q17b

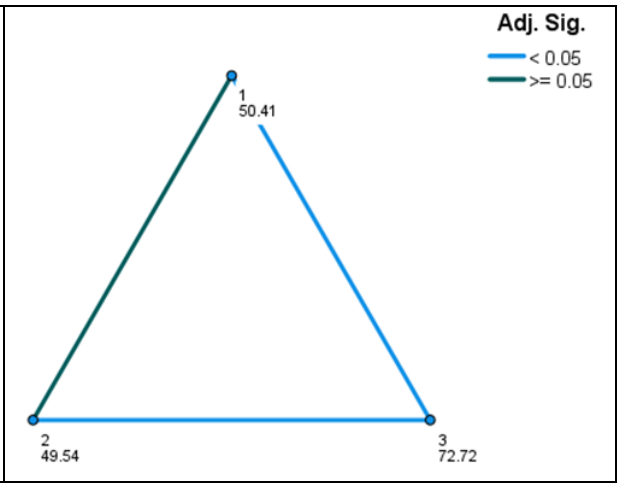


Figure 10: Q17c

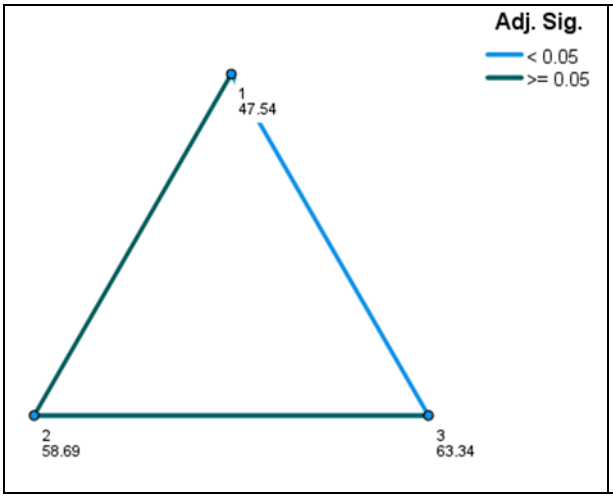


Figure 11: Q17d

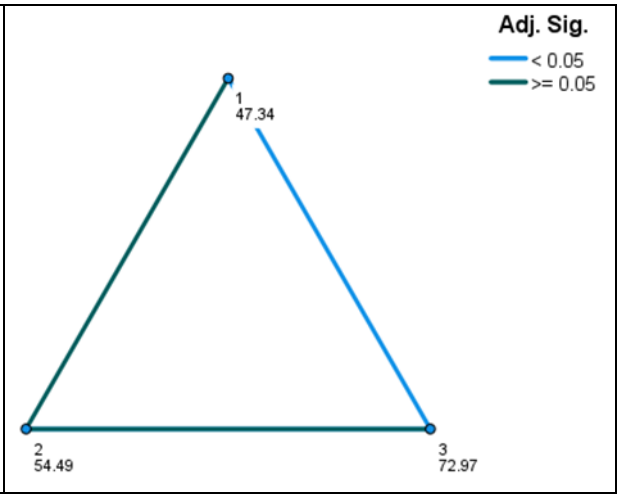


Figure 12: Q18a

Mean ranks and significance levels across the three university types attended by teachers

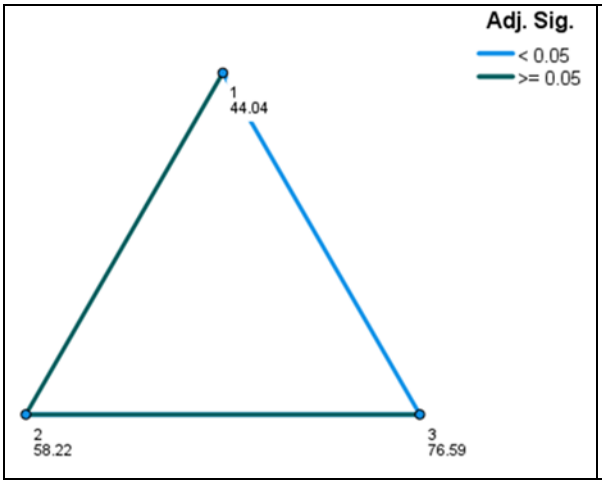


Figure 13: Q18d

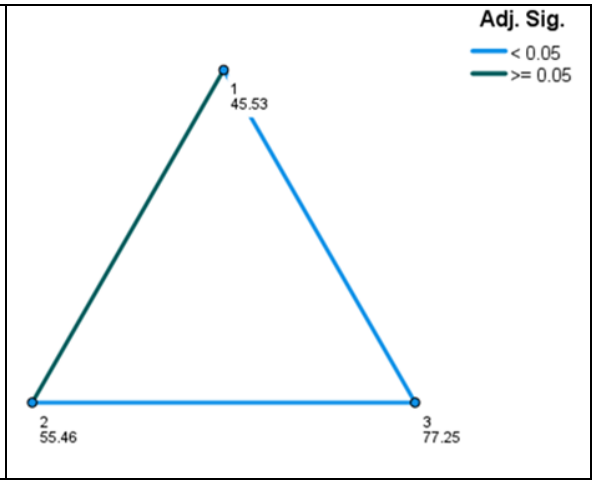


Figure 14: Q19

Null Hypothesis The distribution is the same for all items below across three categories of university type attended	Test	Sig.[a,b]	Decision
Q12	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	0.099	Retain the null hypothesis.
Q13		0.006	Reject the null hypothesis.
Q15		0.037	
Q17a		0.652	Retain the null hypothesis.
Q17b		0.148	
Q17c		0.062	
Q17d		0.004	Reject the null hypothesis.
Q17e		0.932	Retain the null hypothesis.
Q18a		0.005	Reject the null hypothesis.
Q18b		0.169	Retain the null hypothesis.
Q18c		0.032	Reject the null hypothesis.
Q18d		0.000	
Q19		0.000	

a. The significance level is .050. b. Asymptotic significance is displayed.

Table 17: Results Jonckheere showing that for university type attended, group order was significant for items Q13, Q15, Q17d, Q18a, Q18d and Q19 only.

To explore the extent to which teacher-beliefs and knowledge (Q12, Q17a-e and Q18a) about the University of Oxford are correlated with the frequency with which teachers advised their students to apply to Oxford (Q13) Spearman's Rho test was

carried out. All results are bias corrected with accelerated bootstraps 95% confidence intervals reported in brackets. Although only results related to correlations between Q13, and Q12, Q17a-e, Q18a and Q19 are explained in any detail here, results for all items are presented in Table 18 below.

The frequency with which teachers advised their state school students to apply to Oxford (Q13) was not significantly correlated to the following items (all *ps*=>0.05):

- Q12 The number of state-school students teachers thought were at Oxford *rs* =0.163 [-0.066, 0.363]
- Q17a low belief that Oxford is not for state school students *rs* =-0.009[-0.204,0.195]
- Q17e the belief that every pupil should be supported to explore Oxford as a possible future option at some point in their future career *rs* =0.167[-0.017,0.340]

Q13 was, however, significantly correlated to the following items (*p <0.05,**p<0.01):

- Q15 the frequency with which teachers advised their students to apply to Russell Groups *rs* =0.773**[0.627,0.879]
- Q17b low belief that the majority of students are from private schools *rs* =0.204*[-0.020,0.408]
- Q17c the belief that Oxford cares about increasing access to state school students *rs*=0.284**[0.065, 0.466]
- Q17d low belief that Oxford is a waste of a UCAS option *rs* =0.303**[0.081, 0.500]
- Q18a how knowledgeable teachers felt about Oxford and the application process *rs*=0.448**[0.243, 0.632]
- Q19 how confident teachers felt about offering guidance and information to their students about Oxford *rs*=0.429**[0.253, 0.602]

Spearmans Rho				How strongly do you believe the following statements					
	Q12 At Oxford % of state school students	Q13 Frequency advise students apply to Oxford	Q15 Frequency advise students to apply to Russell Groups	Q17a Oxford is not for state school students (high score = low belief)	Q17b Majority of students are from private schools (high score = low belief)	Q17c University of Oxford cares about increasing access to students from state schools	Q17d Oxford is a waste of a UCAS option (high score = low belief)	Q17e Every pupil should be supported to explore the University of Oxford as a possible future option at some point in their school career	Q18a How knowledgable do you feel about the University of Oxford's undergraduate application process?
Q13 Frequency advise students apply to Oxford	0.163 [-0.066, 0.363]								
Q15 Frequency advise students to apply to Russell Groups	**.264** [0.026, 0.460]**	**.773** [0.627, 0.879]**							
How strongly do you believe the following statements:									
Q17a Oxford is not for state school students (high score = low belief)	0.148 [-0.066, 0.341]	-0.009 [-0.204, 0.195]	0.027 [-0.165, 0.218]						
Q17b Majority of students are from private schools (high score = low belief)	**.741** [0.596, 0.852]**	**.204* [-0.020, 0.408]**	**.260* [0.026, 0.464]**	0.129 [-0.080, 0.321]					
Q17c University of Oxford cares about increasing access to students from state schools	**.380** [0.190, 0.561]**	**.284** [0.065, 0.466]**	**.245* [0.017, 0.456]**	0.151 [-0.067, 0.358]	**.270** [0.058, 0.477]**				
Q17d Oxford is a waste of a UCAS option (high score = low belief)	0.047 [-0.145, 0.254]	**.303** [0.081, 0.500]**	**.205* [-0.007, 0.425]**	0.173 [-0.039, 0.394]	0.053 [-0.131, 0.246]	0.125 [-0.110, 0.345]			
Q17e Every pupil should be supported to explore the University of Oxford as a possible future option at some point in their school career	-0.069 [-0.278, 0.138]	0.167 [-0.017, 0.340]	0.161 [-0.039, 0.357]	-0.049 [-0.252, 0.161]	-0.039 [-0.251, 0.179]	0.031 [-0.188, 0.234]	0.126 [-0.081, 0.315]		
Q18a How knowledgable do you feel about the University of Oxford's undergraduate application process?	**.255* [0.056, 0.442]**	**.448** [0.243, 0.632]**	**.374** [0.163, 0.573]**	-0.047 [-0.242, 0.151]	0.185 [-0.037, 0.399]	**.298** [0.106, 0.487]**	**.335** [0.166, 0.498]**	-0.006 [-0.202, 0.193]	
Q19 How confident do you feel about offering information and support to your pupils about the University of Oxford and the application process?	**.282** [0.081, 0.467]**	**.429** [0.253, 0.602]**	**.395** [0.203, 0.576]**	0.067 [-0.133, 0.263]	**.256* [0.038, 0.449]**	**.297** [0.104, 0.476]**	**.290** [0.108, 0.452]**	-0.075, [-0.263, 0.118]	**.817** [0.725, 0.887]**

Table 18: Results were generated from pairwise are based on N = 97

*p < 0.05 level , **p< 0.01 . Bca bootstrap 95% is reported in brackets

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Discussion

What is the frequency with which state schoolteachers advise their students apply to Oxford and other Russell group universities? What beliefs and knowledge do teachers have about the University of Oxford and to what extent is this related to the frequency with which they advise their students apply?

The teachers in this study all work in schools with outreach connections to Trinity College. Consequently, alongside a good degree of knowledge capital and confidence to do so, one might expect to see a higher level of advising academically talented students apply to Oxford than reported in the Sutton Trust 2016 poll, where just 49% of all state secondary school teachers polled about Oxbridge reported they always or usually did so. Therefore, it was not surprising that 70.3% of teachers in the present study said they always or usually advised their academically talented students apply to Oxford. And when it came to knowledge about the University, such as the makeup of the undergraduate body, 24.8% of teachers were able to identify the rough proportion of undergraduate students from state schools at Oxford compared to just 2% in the Sutton Trust poll (Appendix A, Table A1).

However, the present study findings showed teachers' knowledge about the percentage of undergraduates from state school was not significantly correlated to the frequency with which they advise their students apply to Oxford, or the belief that 'Oxford is not for state school students' (Q17a) with just 8% of respondents stating they agreed completely or mostly agreed with the latter statement. This suggests other factors or beliefs may influence rates of advising students apply. A low belief (Q17b) that the majority of students at Oxford are from private schools was found to have a significant correlation (rs=0.204*) to a higher frequency of advising academically qualified students apply to Oxford, however 46.8% of teachers in the study actually stated they mostly or completely believed this statement. So, although teachers held generally positive beliefs about Oxford and state school applicants, these results show they think differently when it comes to the perceived proportion of undergraduates from independent schools at the University, potentially influencing the frequency they advise their own qualified students to apply. These findings somewhat build on those of Dunne et al (2014) who argue teachers engage in

practices that are driven by both conscious and unconscious beliefs about who attends highly selective universities. This seems important because the University outreach teams seek to reassure underrepresented groups with messages emphasising the fact that the majority proportion of students at Oxford are actually from state school backgrounds. However, as the results show, nuance in messaging related to the make-up of the undergraduate body suggests that also providing explicit information relating to independent school proportions could have some impact on shifting beliefs and knowledge that may lead to an increase in the frequency teachers in state schools advise students apply.

It was not possible to conduct a statistical test for significant differences between the frequencies of selected reasons for not always advising academically qualified students apply to Oxford or other Russell Group universities due to small numbers, (Field, 2018), nonetheless, it is still worth giving some attention to them here. The most frequently selected reason given for each type of university (Q14 and Q16), was 'I never advise students on the right university for them'. However, suggesting this is not always the case, another important finding was the overall difference between the frequency with which teachers advise their academically qualified students apply to Oxford and other Russell Group universities, with teachers significantly less likely to advise their qualified students apply to the former compared to the latter. Again, these findings build on those of Dunne et al (2014), where teachers claimed they neither differentiated between types of universities or advised on the right universities for students but were in fact found to unconsciously engage in practises that maintained social and educational hierarchies.

Another relevant reason most frequently cited by teachers relates to concerns about student wellbeing at university. 25.5% of teachers answering Q14 stated they didn't think their students would be happy at Oxford. Moreover, when asked the same question for Russell Group Universities, just 8.1% thought this would be the case for their students. Again, although this doesn't explain exactly why teachers believe their students would be unhappy, it does suggest a clear difference in beliefs about student experiences at the University of Oxford compared to other Russell Group universities. Teacher-concern related to student experiences at a highly selective

university such as Oxford is well evidenced in the previous research. For example, at the same time as stating they don't think differently about such universities when offering advice and guidance, Dunne et al's (2014) study found state schoolteachers were more likely than those teaching in the independent sector to worry their students wouldn't 'fit in' at elite universities. The present study findings along with those in the previous research support the argument that concerns relating to their students' social backgrounds compared to those of the perceived majority attending selective universities may influence teacher practices, unconsciously limiting student progression (Oliver and Kettley, 2010, Donnelly, 2015, Dunne et al., 2014, Smyth and Banks, 2012).

Along with findings for Q17b discussed previously, results relating to Q17c and Q17d offer a little more insight into the possible influence teacher-beliefs about the University of Oxford may have on support given to students to apply. For example, 72% of teachers were found to believe (Q17c) the University of Oxford cares mostly or completely about increasing access to students from state schools, and high scores for this item were also found to be positively correlated to (Q13) the frequency teachers advise their students apply to the University (rs=0.284**). Interestingly, scores for Q17c were also positively correlated to a lower belief that (Q17b) the majority of students at Oxford are from private schools (rs=0.270*), (Q18a) higher knowledge about the application process (rs=0.298**) and (Q19) increased confidence about offering information and support to students about Oxford and the application process(rs=0.297**). All items were also positively correlated to the frequency of advising students apply to Oxford (see Table 18).

It is not possible to claim a strong belief that the University of Oxford cares about increasing access to state school students in and of itself causes an increase in the frequency teachers advise their students apply to the University, however this is an important finding and one that suggests further research into how collegiate outreach teams might demonstrate authentic commitment to and care about access issues beyond targets set by the Office for Students to address them, more effectively. This apparent relationship between teachers' beliefs that the University genuinely cares about increasing access to underrepresented students and the frequency of advising

their students apply to Oxford, echoes the present author's own experience of working with teachers, who, in the early days of establishing long-term school-college relationships, frequently experienced teacher-suspicion about our genuine commitment to the outreach programme's stated aims. Building trust in institutions takes time and cannot be established in one off information and guidance events. Instead, sustained programmes of support for teachers could be established, enabling effective relationships to be built, through which support for students is developed as a collaborative effort between teachers and outreach teams.

When it came to (Q17d) Oxford is a waste of a UCAS option, only 5% of teachers in the sample said they mostly believed this statement. Nonetheless, it is still worth noting the positive correlation between a lower belief in this statement and a higher frequency of advising students to apply to Oxford (*rs*=0.303**). The fact that Q17d was also positively correlated to both (Q18a) teachers' level of knowledge about the application process (*rs* =0.335**) and (Q19) levels of confidence in supporting student applications to Oxford (*rs* =0.290**) (see Table 18) seems relevant here too because, as discussed below, both items were also found to be related to teacher frequency of advising students apply to Oxford. Therefore, developing specialised teacher progammes aiming to raise confidence through the process of conferring knowledge and increasing understanding of Oxford admissions, may reduce the belief that Oxford is a waste of a UCAS option, again resulting in teachers having the necessary knowledge capital thus better equipped to advise their students to apply.

Most interestingly for the present study, 16.4% of teachers answering Q14 question said they didn't think students would be successful in their applications to Oxford, compared to just 8.1% of respondents when asked the same question about other Russell Group universities. Although this does not fully explain why these teachers think students would not be successful in their applications, it does suggest a clear difference in perception of admissions between the University of Oxford and other Russell Group universities and the frequency with which teachers cite this reason for each. Although low knowledge about the application process did not feature highly in the reasons given by teachers, with just 1.8% and 2.7% stating this is why they don't always advise their students apply to Oxford or other Russell groups respectively,

knowledge capital was in fact found to be highly significant in the present research and may offer some further explanation related to why teachers think students might not be successful in their applications to Oxford.

46%, 65% and 64% of teachers said they felt only a little or not at all knowledgeable about Oxford's application process in general, the admissions tests and the academic interview respectively. 52% of teachers stated they only felt a little or not at all confident in offering information and guidance to their students about applying to Oxford. These are very large proportions of teachers feeling unsure about Oxford and the application process. Of all the items, both Q18a and Q19, how knowledgeable and confident all teachers felt about Oxford, the application process and offering information and support to their students to apply, were found to have the strongest correlations to the frequency with which teachers advise their students apply to Oxford. For example, how knowledgeable teachers felt about Oxford and the application process was found to have a very strong positive correlation to how confident they felt about offering guidance and information to their students about Oxford (*rs*=0.817**). A strong positive correlation to the frequency with which teachers advised their academically talented students apply to Oxford was found between both teacher knowledge (*rs* =0.448**) and confidence (*rs* =0.429**). So again, although very few teachers cited not being sure about the application process as a reason for not advising their students apply, lower knowledge about the process was found to have the greatest relationship to and seems to offer a more powerful explanation for a lower frequency of advising students to apply among teachers. These findings support previous study assertions made by O'Sullivan et al (2019) that teacher knowledge capital relating to the admissions processes at the most selective Universities such as Oxford is incomplete, explaining why students in the state sector receive guidance and support that is often too little, too late. These findings also suggest that whilst teacher-beliefs about the University clearly have a small effect, they are in no way as great as the relationship teacher-knowledge and confidence seem to have on the frequency with which students are advised to apply to Oxford.

These findings support recommendations made in O'Sullivan et al's (2019) conclusions that significant outreach efforts should be made to confer knowledge capital to teachers. Furthermore, building on those recommendations the present study findings suggest, just as we do in outreach programmes targeted at school students, demonstrating an authentic commitment to increasing access to under-represented groups and addressing negative beliefs held about Oxford, could be achieved through long-term and sustained outreach programmes directly targeted at teachers. Such programmes should aim to support teachers to access information about the University and provide specialized guidance at key time points throughout the academic year, helping them develop knowledge and understanding of the application process so they feel more confident to support their students' progression.

Are there differences in beliefs and knowledge about the University of Oxford between teachers from different social and educational backgrounds and does this help explain the different frequencies with which teachers advise their students to apply to Oxford?

The findings showed a variety of differences in responses to survey items between teachers with different social and educational backgrounds, suggesting there is indeed a possible relationship between background, beliefs and knowledge about the University of Oxford and the frequency with which they advise academically talented students to apply.

Parent education level

56.5% of teachers in the sample were the first in their family to attend university, 23.1% had one parent who attended university and 20.4% of teachers had parents who both attended (Appendix F, Table 1). Except for Q12 *At Oxford, what percentage of students from UK schools and colleges on undergraduate courses come from the state sector?* no significant differences between teachers' parent level of education for any other items were found. The significant difference in Q12 was found only between teachers with no parents and teachers with one parent who attended university, with the latter believing there to be greater numbers of undergraduates from state school backgrounds at Oxford. Given no correlation

between Q12 and the frequency of advising students apply to Oxford was found, this single significant finding does not seem relevant to the research question being explored here.

On the face of it then, it seems that being first in the family to attend university does not appear to explain differences between teachers in beliefs and frequencies of advising students apply to the University of Oxford. Nonetheless, it seems important to point out that higher parent education levels of teachers in the study were found to be positively correlated to attendance at more selective schools (*rs*=0.218*) and more selective university types (*rs*=0.300**) (see Appendix N) which, as shall be discussed later, are both independent variables for which significant differences in survey responses were found. It is already largely shown by many studies and referred to by Diane Reay (2004) in her discussion about Bourdieu's theory of habitus, that parent education forms part of the social conditions influencing certain student trajectories, attitudes and beliefs (Jin and Ball, 2020, Henderson et al., 2020b, Devlin, 2013), both conscious and unconscious. Therefore, although no direct relationship between parent education and beliefs about Oxford or the frequency with which teachers advise their students apply there was found, the fact parent education levels are correlated with teachers' later educational trajectories, which themselves seem to have a role in shaping beliefs about and guidance offered to apply to Oxford, suggest some level of influence here albeit indirect.

School type attended

When it came to the type of secondary school teachers had attended, the picture was more mixed. 72.5% of teachers in this study had attended a state comprehensive, 12.8% went to state grammars and 14.7% had attended an independent secondary school (Appendix F, Table F2) No significant differences in the frequencies they advised students apply to Oxford or other Russell Group universities were found between teachers who attended these different types of schools. There were also no differences found between teachers in the strength of belief in items Q17a.*The University of Oxford is not a place for state school students*, Q17d.*It is not worth pupils wasting a UCAS option on the University of Oxford,* Q17e.*Every pupil should be supported to explore the University of Oxford as a*

possible future option at some point in their school career or any of the knowledge related questions Q18a-d.

However, when it came to Q12, Q17b, Q17c and Q19, teachers who attended an independent secondary school were found to have more positive beliefs about the University compared to those from state comprehensive and grammar schools. For example, teachers who attended independent schools estimated Q12 a significantly higher percentage of Undergraduates from state school-backgrounds at Oxford than teachers attending both types of schools and believed Q17b *the majority of students at Oxford are from private schools* significantly less than those who attended state comprehensives or grammars. Similarly, when asked how strongly teachers believe Q17c *The University of Oxford cares about increasing access to students from states schools,* again teachers who attended independent schools believed this significantly more than teachers from state grammars. Although there was no significant difference between teachers who attended state comprehensives and independent schools for item Q17c, the small to medium effect size of attending a state comprehensive (r=0.22) was almost as great as being from a state grammar (r=0.27). Importantly, teachers who attended an independent school were also found to report higher levels of confidence (Q19) to offer information and support to their students about the University of Oxford and the application process, with a significant difference in levels found between those who attended state grammar and independent schools. These findings have some importance to the present study, because, excluding Q12, all belief statements with significant differences discussed here, were also found to be positively correlated to the frequency teachers advise their student to apply to Oxford.

Although no significant differences in the frequency qualified students were advised to apply to Oxford were found between teachers who attended the three different types of secondary school, these results show to some extent the school type teachers attended does seem to have some direct relationship to beliefs about the University of Oxford. Similarly to parent education, the type of secondary school teachers attended was found to be positively correlated to the type of university attended, with those from more selective grammar and independent school

backgrounds most likely to have attended the most selective universities such as the Russell Group and Oxbridge (see Appendix N). And as results show, differences in beliefs, knowledge and frequency of advising students apply to Oxford were really most pronounced when it came to the type of university that teachers had attended. The fact that 44% of teachers attending independent schools also attended Oxbridge, compared to just 10% of state schoolteachers in the study (see Appendix F, Table F5) seems to offer a more likely explanation for the differences in beliefs than school type alone. This also seems important to the central argument that individual teacher habitus, consisting of their own educational experiences and trajectories, influences the ways teachers support student progression. So, even though school type was not found to be directly correlated to the frequency with which teachers advise their students apply to Oxford, the fact that university type is correlated and a higher proportion of teachers from independent school backgrounds attend Oxford, suggests, like parent education level, school role may also have an indirect effect explaining the differences found.

University type attended

53% of participating teachers attended a non-Russell Group university, 32% attended a Russell Group and 15% attended either Oxford or Cambridge University. Previous literature (Rünz and Eyre, 2019, Oliver and Kettley, 2010) suggests we might have expected to find differences in beliefs and knowledge between teachers who attended non-Russell Group and Russell Group (excluding Oxbridge) universities. It was surprising then that no significant differences were found for any of the items on the survey in paired comparisons between teachers who attended these two types of universities. The nearest to a significant difference found between these teachers was in scores for Q17d *It is not worth pupils wasting a UCAS option on the University of Oxford* (p=0.078) and Q18d knowledge about *The University of Oxford's academic interview* (p=0.075), with those who attended a non-Russell Group university rating their belief that (Q17d) Oxford was a waste of an option more highly and (Q18d) their knowledge about the interview lower than those who attended a Russell Group. The type of university attended was found to have a small to medium effect on the scores for both these items (see Table 16) which despite the

non-significant difference seems important (Field, 2018) here, suggesting the type of university attended may still explain differences between these two groups of teachers albethey non-significant.

There were no significant differences found between any groups in the reported frequency with which teachers advise their qualified students apply to (Q15) Russell Group universities. As to the frequency of advising the same students apply to (Q13) Oxford, the only significant group difference identified in the paired comparisons was between teachers who attended non-Russell Group universities and those who attended Oxbridge, the latter advising more frequently than the former. In fact, all significant differences identified from the paired comparisons included teachers who attended Oxbridge, who were found to consistently rate their beliefs more positively and knowledge about the University of Oxford more highly than teachers who attended either Russell Group or non-Russell Group universities. It is also worth recalling that all the survey items (Q17b, Q17c, Q17d, Q18a[2] and Q19), for which significant differences were found between groups, significant positive correlations to (Q13) the frequency with which teachers advise their students apply to Oxford were also found. These results combined then, do indeed seem to suggest differences between the groups are most likely to result from first-hand experience of and knowledge teachers gain from attending Oxbridge themselves. Given that the Oxford application process has additional elements to it than other universities, such as admissions tests and interviews, it seems logical that those who attended Oxbridge themselves would know significantly more about the University, the admissions process and be most likely to advise their students to apply there.

Notably, the Jonckheere-Terpsta results for university type attended confirmed, as selectivity across universities increased, so too did the reported frequency with which teachers advise their academically qualified students to apply to both Oxford and Russel Group universities. The same was true for reported knowledge about (Q18a) Oxford and the application process, (Q18c) the admissions tests and (Q18d) the academic interview. This was also the case for a lower belief that (Q17d) Oxford is a

[2] Q18a was the only item tested for correlation to the frequency teachers advise students apply to Oxford as it was taken as a proxy for all elements in the Oxford application process

waste of a UCAS option and (Q19) increased reported confidence about offering information and support to their students. Building on those of Rünz and Eyre (2019), that university type attended is related to teacher confidence, these findings further suggest the type of university attended has a significant relationship to beliefs and knowledge about the University of Oxford and the frequency with which they advise their students apply, with teachers who attended more selective universities reporting more positive beliefs and higher frequencies.

Parent education was found to have virtually no direct effect and although secondary school attended seems to explain some differences, these were limited to a small number of beliefs. Therefore, relationship between university type attended and knowledge capital seems to offer the most likely explanation for differences in this study. However, it is important to acknowledge that of the 16 teachers who attended Oxbridge, 75% had at least one parent who went to university and 44% had attended independent secondary schools. Of the remaining 56 teachers who attended non-Russell group and 34 who attended Russell Group universities combined, just 39% had at least one parent who went to university and 9% attended an independent school. Again, this suggests that social background consisting of parent education and type of secondary school attended cannot be entirely excluded from the effects found in the present study and as such are still likely to have an indirect impact on teacher beliefs and the frequency with which they advise qualified students apply to Oxford.

Not enough teachers offered follow-up qualitive responses for meaningful analysis or conclusions to be drawn about the reasons they gave for not always advising their academically qualified students apply to Oxford. Therefore, the reasons *'I think they are unlikely to be successful in their application'* and *'I don't think they would be happy there'* have not been explored in depth this study. However, again suggesting outreach programmes for teachers might benefit from demystifying university traditions unfamiliar to those from backgrounds who do not share them, one teacher qualified their reason for not always advising their students to consider applying to Oxford as follows:

"I went to Oxford for my PGCE and came from a state funded school. I felt when I was there, there were a lot of traditions that I was unaware of. This was not shocking to most of my peers who had come from the private sector. For students who I feel would struggle with the social element I would suggest that they look at other Russell Group universities too."

This extract also suggests future research would benefit from the inclusion of follow-up interviews, providing a qualitative aspect to the study that could explore the relationship between teachers' own social background, educational experiences, and the guidance and information they might offer their own students about applying to Oxford in far more depth.

The findings in this study strengthen the original assertion that habitus offers a theoretical explanation for differences between teachers in levels of knowledge capital and confidence to support students' applications; thus, results showed teachers can and do share the social identities of their students (first-generation, state school educated). Furthermore, results also demonstrate that state schoolteachers are not one homogenous group, do not all possess the educational experiences needed to confer knowledge capital and are as equally likely as their students to struggle to see how people like 'us' can both access and thrive at the most selective universities, such as Oxford. This suggests then, just as we do for students, ensuring outreach programmes provide sustained opportunities for teachers to see 'people like me' with shared identities and backgrounds at the University, demystifying both the admissions processes as well as traditions known to alienate under-represented social groups, could have a powerful impact on this influential group.

Conclusion

Implications for practice

Overall, as expected in this study including teachers exclusively from state comprehensive schools with a relationship Trinity College Access Department, respondents were found to have very positive attitudes about supporting their qualified students apply to selective universities, such as Oxford. This is supported by the fact that very few teachers were found to believe Oxford is not for state school students and even fewer believed Oxford to be a waste of a UCAS option. However, it is clear there were some unconscious or conflicting teacher beliefs at play. This was evident in the correlation between the belief Q17b that the majority of students at Oxford are from private schools and Q13 the frequency with which teachers advise qualified students apply to Oxford, as well as the significant difference between the frequencies all teachers were found to advise their students apply to Oxford compared to other Russell Group universities.

Arguably, the most valuable findings here relate to the 46%, 65% and 64% of teachers who, despite being from schools already engaged with the College's outreach programme, said they felt only a little or not at all knowledgeable about the application process in general, the admissions tests and the academic interview respectively. And over half the teachers felt only felt a little or not at all confident in offering information and guidance to their students about applying to Oxford. The fact that teacher-knowledge and confidence to support qualified students to apply to Oxford were also found to have the strongest positive correlations to advising students apply there, suggest outreach programmes should obviously focus on conferring knowledge thus increasing confidence amongst this important group.

The present study found significant differences between groups of teachers in beliefs and knowledge about student applications to elite universities such as Oxford, but results also showed these differences cannot be explained simply as a general 'lack of enthusiasm' (Oliver and Kettley, 2010) for selective universities among teachers. Whilst it is possible to make some indirect connections between teachers' parent education level, the state secondary schools attended and beliefs about Oxford, these differences were really far more pronounced when it came to the university

type teachers attended. Results overwhelmingly showed differences between teachers could be largely explained by having attended a more selective university or Oxbridge themselves, where first-hand experience of the admissions process and life at Oxford or Cambridge conferred the valuable knowledge capital and confidence required to support future student applications. So, although previous studies have argued there is a strong relationship between teacher expectations and student characteristics (Rubie-Davies et al., 2006, Peterson et al., 2016, O'Sullivan et al., 2019) the present study findings add to the previous body of research and shows expectations are also formed as a result of teachers own social identity and educational background, further supporting the argument that teachers do indeed share backgrounds, identities and habitus of their students. These personal educational experiences were shown to influence how knowledgeable and confident teachers felt about Oxford and the application process and supporting students apply there. These experiences also influenced the frequency with which they advise qualified students apply to Oxford or other Russell Group universities.

Through the lens of their own backgrounds and without first-hand experience of attending Oxbridge, many teachers cannot see how their students can access and thrive at the University of Oxford. So, just as with student outreach programmes, efforts should also be made to address teacher concerns related to wellbeing and the likelihood that those from underrepresented backgrounds can be happy at Oxford. This could be achieved by demystifying Oxford's traditions, explaining what these are and why they are observed, alongside ensuring teachers know what support is available to help their students feel welcome and included at Oxford. Programmes should also include opportunities for teachers to meet and hear personal experiences directly from undergraduates, tutors and academics who share their identities and educational backgrounds which could help increase the belief that people 'like me' can both access and thrive at the University.

Aside from being required to do so by the OFS, results showed demonstrating a commitment to and authentic care about increasing access to state school students and other under-represented groups, also seems important to establishing positive engagement with state schoolteachers. As is the case with student outreach

programmes, demonstrating this commitment cannot be achieved effectively through one-off events or activities. Therefore, the University of Oxford's collegiate outreach efforts should aim to develop long-term sustained programmes of support through which individual state schoolteachers can access information about the University, develop their knowledge and understanding of the application process, receive specialized admissions guidance and support at key time points throughout the academic year, and increase confidence to support their students' progression. Such programmes should also aim to target the beliefs found to be associated with lowered frequencies of advising qualified students apply. For example, providing additional explicit information relating to proportion of undergraduates from independent schools could help shift beliefs and knowledge about the University population, which may in turn may lead to an increase in frequencies teachers in state schools advise qualified students apply.

Far from relying on the micro-actions or efforts of a lone teacher (Oliver and Kettley, 2010, Winterton and Irwin, 2012), providing sustained outreach programmes, through which long-term relationships are established, could be transformational for many teachers and the support they offer their students to apply to the University. Ensuring state schoolteachers are afforded the knowledge capital and increased confidence needed to support student progression to selective universities such as Oxford, teacher outreach programmes could make a significant contribution to increasing access to the most underrepresented groups at the University and in turn social mobility.

Bibliography

ALCOTT, B. 2017. Does Teacher Encouragement Influence Students' Educational Progress? A Propensity-Score Matching Analysis.(Author abstract). *Research in Higher Education,* 58**,** 773-804.

ATKINSON, W. 2011. From sociological fictions to social fictions: some Bourdieusian reflections on the concepts of 'institutional habitus' and 'family habitus'. *British journal of sociology of education,* 32**,** 331-347.

BAKER, W., SAMMONS, P., SIRAJ-BLATCHFORD, I., SYLVA, K., MELHUISH, E. & TAGGART, B. 2014. Aspirations, education and inequality in England: insights from the Effective Provision of Pre-school, Primary and Secondary Education Project. *Oxford Review of Education,* 40**,** 525-542.

BERNSTEIN, B. 1971. *Class, codes and control,* London, Routledge & Kegan Paul.

BERNSTEIN, B. 1975. *Class, codes and control, Volume 3: Toward a theory of educational transmissions,* London, Routledge and Kegan Paul.

BERNSTEIN, B. B. 2003. *Towards a theory of educational transmission,* London, New York, Routledge.

BOLIVER, V. 2013. How fair is access to more prestigious UK universities? *British Journal of Sociology,* 64**,** 344-364.

BOLIVER, V. 2016. Exploring Ethnic Inequalities in Admission to Russell Group Universities. *Sociology (Oxford),* 50**,** 247-266.

BOURDIEU, P. & NICE, R. 1992. *The logic of practice,* Cambridge, Polity Press.

BOXER, P., GOLDSTEIN, S. E., DELORENZO, T., SAVOY, S. & MERCADO, I. 2011. Educational aspiration–expectation discrepancies: Relation to socioeconomic and academic risk-related factors. *Journal of adolescence (London, England.),* 34**,** 609-617.

BRYMAN, A. 2016. *Social research methods,* Oxford, England, Oxford University Press.

BYROM, T. 2009. 'I don't want to go to a crummy little university': social class, higher education choice and the paradox of widening participation. *Improving schools,* 12**,** 209-224.

COHEN, L., MANION, L. & MORRISON, K. 2018. *Research methods in education,* London, England, Routledge.

COOMBS, H. 2022. First-in-family students *HEPI report 146.* Oxford: Higher Education Policy Institute.

CRAWFORD, C., GREGG, P., MACMILLAN, L., VIGNOLES, A. & WYNESS, G. 2016. Higher education, career opportunities, and intergenerational inequality. *Oxford review of economic policy,* 32**,** 553-575.

CRESWELL, J. W. 2009. *Research design : qualitative, quantitative, and mixed methods approaches,* Los Angeles, London, SAGE.

CRESWELL, J. W. & PLANO CLARK, V. L. 2017. *Designing and conducting mixed methods research,* London, SAGE.

CROLL, P. & ATTWOOD, G. 2013. Participation In Higher Education: Aspirations, Attainment And Social Background. *British Journal of Educational Studies,* 61**,** 187-202.

CURTIS, A., POWER, S., WHITTY, G., EXLEY, S. & SASIA, A. 2008. Primed for Success: The characteristics and practices of state schools with good track record of entry into presitigious UK universities. London: The Sutton Trust.

DE BOER, H., TIMMERMANS, A. C. & VAN DER WERF, M. P. C. 2018. The effects of teacher expectation interventions on teachers' expectations and student achievement: narrative review and meta-analysis. *Educational Research and Evaluation,* 24**,** 180-200.

DEVLIN, M. 2013. Bridging socio-cultural incongruity: conceptualising the success of students from low socio-economic status backgrounds in Australian higher education. *Studies in higher education* 38**,** 939-949.

DFE. 2018. *Destinations of Key Stage 4 and Key Stage 5 Students 2016/17* [Online]. GOV.UK. Available: https://www.gov.uk/government/statistics/destinations-of-ks4-and-ks5-pupils-2017 [Accessed 20 November 2021].

DFE. 2018-19. *Entries and Results - A level by institution type from: Explore Education Statistics: create your own tables* [Online]. GOV.UK. Available: https://explore-education-statistics.service.gov.uk/ [Accessed 22 May 2022].

DICKENSON, P. 2019. *Choices that students make between different post-18 routes* [Online]. GOV.UK. Available: https://www.gov.uk/government/publications/choices-students-make-between-different-post-18-education-routes [Accessed 21 November 2021].

DILNOT, C. 2018. The relationship between A-level subject choice and league table score of university attended: the 'facilitating', the 'less suitable', and the counter-intuitive. *Oxford review of education,* 44**,** 118-137.

DONNELLY, M. 2015. Progressing to university: hidden messages at two state schools. *British Educational Research Journal,* 41**,** 85-101.

DUNNE, M. & GAZELEY, L. 2008. Teachers, social class and underachievement. *British Journal of Sociology of Education,* 29**,** 451-463.

DUNNE, M., KING, R. & AHRENS, J. 2014. Applying to higher education: comparisons of independent and state schools. *Studies in higher education* 39**,** 1649-1667.

EGGLESTON, J. & BERNSTEIN, B. 1977. Class, Codes and Control. Volume 3. Towards a Theory of Educational Transmissions. *British Journal of Educational Studies,* 25, 91-91.

ETHNICITY FACTS ANDFIGURES. 2020. *People starting at higher education providers with high, medium and low entry tariffs* [Online]. Higher Education Statistics Agency. Available: https://www.ethnicity-facts-figures.service.gov.uk/education-skills-and-training/higher-education/entrants-at-higher-education-providers-with-high-medium-and-low-entry-tariffs/latest [Accessed 11 August 2021].

FIELD, A. 2018. *Discovering statistics using IBM SPSS statistics,* London, SAGE.

GOV.UK. 2019. *School Workforce in England from: Explore Education Statistics* [Online]. GOV.UK. Available: https://explore-education-statistics.service.gov.uk/find-statistics/school-workforce-in-england/2019 [Accessed 16 June 2021].

GOV.UK. 2020a. *Widening participation in higher education* [Online]. Online: GOV.UK. Available: https://explore-education-statistics.service.gov.uk/find-statistics/widening-participation-in-higher-education [Accessed 16 June 2021].

GOV.UK. 2020b. *Widening participation in higher education; Academic Year 2018/19 from: Explore Education Statistics* [Online]. GOV.UK. Available: https://explore-education-statistics.service.gov.uk/find-statistics/widening-participation-in-higher-education/2018-19 [Accessed 21 June 2021].

HARTAS, D. 2010. *Educational Research and Inquiry,* London, Continuum International Publishing Group.

HENDERSON, M., ANDERS, J., GREEN, F. & HENSEKE, G. 2020a. Private schooling, subject choice, upper secondary attainment and progression to university. *Oxford review of education,* 46**,** 295-312.

HENDERSON, M., SHURE, N. & ADAMECZ-VÖLGYI, A. 2020b. Moving on up: 'first in family' university graduates in England. *Oxford review of education,* 46**,** 734-751.

JIN, J. & BALL, S. J. 2020. Meritocracy, social mobility and a new form of class domination. *British Journal of Sociology of Education,* 41**,** 64-79.

JOHN W. CRESWELL. & CRESWELL, J. D. 2018. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches,* Los Angeles, Sage

KHATTAB, N. 2015. Students' Aspirations, Expectations and School Achievement: What Really Matters? *British educational research journal,* 41**,** 731-738.

LUNDBERG, C. 2003. Research Design: Qualitative, Quantitative and Mixed Methods Approaches. Thousand Oaks: SAGE PUBLICATIONS, INC.

MAJOR, L. E. & BANERJEE, P. 2019. *Social mobility and elite universities,* Oxford, Higher Education Policy Institute.

MICKLEWRIGHT, J., CRAWFORD, C., VIGNOLES, A. & DEARDEN, L. 2016. *Family Background and University Success,* Oxford, Oxford University Press.

MILLWARD, C. 2019. The Office for Students responds to 'Social mobility and elite universities'. Available from: https://www.officeforstudents.org.uk/news-blog-and-events/blog/the-office-for-students-responds-to-social-mobility-and-elite-universities/ [Accessed 4th October 2021].

MONTACUTE, R. 2019. *Elitist Britain 2019* [Online]. The Sutton Trust and the Social Mobility Commission Available: https://www.suttontrust.com/our-research/elitist-britain-2019/ [Accessed 7 July 2021].

MONTACUTE, R. & CULLINANE, C. 2018. *Access to Advantage: The influence of schools and place on admissions to top universities* [Online]. London: The Sutton Trust. Available: https://www.suttontrust.com/our-research/access-to-advantage-university-admissions/ [Accessed 2 January 2021].

O'SULLIVAN, K., ROBSON, J. & WINTERS, N. 2019. 'I feel like I have a disadvantage': how socio-economically disadvantaged students make the decision to study at a prestigious university. *Studies in Higher Education,* 44**,** 1676-1690.

OFS. 2019. *Insight Brief: Contextual admissions: promoting fairness and rethinking merit* [Online]. Office for Students. Available: https://www.officeforstudents.org.uk/publications/contextual-admissions-promoting-fairness-and-rethinking-merit/ [Accessed 29 September 2021].

OLIVER, C. & KETTLEY, N. 2010. Gatekeepers or facilitators: the influence of teacher habitus on students' applications to elite universities. *British journal of sociology of education,* 31**,** 737-753.

PALLANT, J. 2020. *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*, Routledge.

PETERSON, E. R., RUBIE-DAVIES, C., OSBORNE, D. & SIBLEY, C. 2016. Teachers' explicit expectations and implicit prejudiced attitudes to educational achievement: Relations with student achievement and the ethnic achievement gap. *Learning and instruction,* 42**,** 123-140.

REAY, D. 2004. 'It's All Becoming a Habitus': Beyond the Habitual Use of Habitus in Educational Research. *British Journal of Sociology of Education,* 25**,** 431-444.

REAY, D. 2017. *Miseducation : inequality, education and the working classes,* Bristol, Policy Press.

REAY, D., CROZIER, G. & CLAYTON, J. 2009. 'Strangers in Paradise'? Working-class Students in Elite Universities. *Sociology (Oxford),* 43**,** 1103-1121.

REAY, D., DAVID, M. & BALL, S. 2001. Making a Difference?: Institutional Habituses and Higher Education Choice. *Sociological research online,* 5**,** 1-12.

ROBSON, J., O'SULLIVAN, K. & WINTERS, N. 2017. *Black students on going to Oxbridge: 'it's not even asked or pushed for, it's just assumed no one is applying'* [Online]. The Conversation. Available: https://theconversation.com/black-students-on-going-to-oxbridge-its-not-even-asked-or-pushed-for-its-just-assumed-no-one-is-applying-87279 [Accessed 21 June 2021].

RUBIE-DAVIES, C., HATTIE, J. & HAMILTON, R. 2006. Expecting the Best for Students: Teacher Expectations and Academic Outcomes. *British journal of educational psychology,* 76**,** 429-444.

RÜNZ, P. & EYRE, R. 2019. *Barrier to Access: five lessons for creating effective school university partnerships* [Online]. Brilliant Club. Available: https://thebrilliantclub.org/research-and-impact/publications/ [Accessed 26/05 2021].

SMYTH, E. & BANKS, J. 2012. 'There was never really any question of anything else': young people's agency, institutional habitus and the transition to higher education. *British journal of sociology of education,* 33**,** 263-281.

SOCIAL MOBILITY COMMISSION. 2019. *Social Mobility in Great Britain-State of the Nation 2018 to 19* [Online]. London, UK. Available: https://www.gov.uk/government/publications/social-mobility-in-great-britain-state-of-the-nation-2018-to-2019 [Accessed 9 June 2021].

SOCIAL MOBILITY COMMISSION. 2020. *Monitoring social mobility 2013 to 2020* [Online]. Social Mobility Commission. Available: https://www.gov.uk/government/publications/monitoring-social-mobility-2013-to-2020 [Accessed 1 September 2020].

SUTTONTRUST. 2016. *Teachers' Oxbridge Perceptions Polling* [Online]. London: The Sutton Trust. Available: https://www.suttontrust.com/our-research/teachers-oxbridge-perceptions-polling/ [Accessed 4 December 2020].

TASHAKKORI, A. & CRESWELL, J. W. 2007. Editorial: The New Era of Mixed Methods. *Journal of mixed methods research,* 1**,** 3-7.

THOMAS, L., BLAND, D. & DUCKWORTH, V. 2012. Teachers as advocates for widening participation. *Widening Participation and Lifelong Learning,* 14**,** 40-58.

TIMMERMANS, A. C., DE BOER, H. & VAN DER WERF, M. P. C. 2016. An investigation of the relationship between teachers' expectations and teachers' perceptions of student attributes. *Social psychology of education,* 19**,** 217-240.

TIMMERMANS, A. C. & RUBIE-DAVIES, C. M. 2018. Do teachers differ in the level of expectations or in the extent to which they differentiate in expectations? Relations between teacher-level expectations, teacher background and beliefs, and subsequent student performance. *Educational Research And Evaluation,* 24**,** 241-263.

TURHAN, C. & STEVENS, S. 2020. *Pathways For Potential: how universities, regulators and Government can tackle educational inequality* [Online]. The Russell Group. Available: https://pathwaysforpotential.russellgroup.ac.uk/ [Accessed 9 January 2022].

UNIVERSITY OF OXFORD. 2019a. *Access and Participation Plan for 2020-21 to 2024-25* [Online]. Oxford: University of Oxford. Available: https://academic.admin.ox.ac.uk/app [Accessed 21st May 2020].

UNIVERSITY OF OXFORD. 2019b. *Oxford's Regional Outreach* [Online]. University of Oxford. Available: https://www.ox.ac.uk/oxfordforUK [Accessed 29th September 2021].

WEBB, S., BURKE, P. J., NICHOLS, S., ROBERTS, S., STAHL, G., THREADGOLD, S. & WILKINSON, J. 2017. Thinking with and beyond Bourdieu in widening higher education participation. *Studies in continuing education,* 39**,** 138-160.

WINTERTON, M. T. & IRWIN, S. 2012. Teenage expectations of going to university: the ebb and flow of influences from 14 to 18. *Journal of youth studies,* 15**,** 858-874.

Appendices

Appendix A: Tables A1-3 Original Sutton Trust polls results, 2016

At Oxbridge, what percentage of students from UK schools and colleges on undergraduate courses do you think come from the state sector?									
	Primary			Secondary			All		
Sutton Trust Results	Senior Leader (%)	Class room Teacher (%)	All (%)	Senior Leader (%)	Class room Teacher (%)	All (%)	Senior Leader (%)	Class room Teacher (%)	All (%)
- Up to 20%	22	17	19	32	23	25	26	20	22
- 21-30%	17	16	16	16	16	16	16	16	16
- 31-40%	12	9	10	16	9	11	14	9	11
- 41-50%	3	3	3	9	8	8	6	6	6
- 51-60%	5	2	3	8	8	8	6	6	6
- 61-70%	1	1	1	2	2	2	1	2	1
- 71-80%	0	0	0	0	0	0	0	0	0
81%+	0	0	0	0	0	0	0	0	0
Don't know	40	51	46	17	34	29	30	41	38
No response	0	0	0	0	0	0	0	0	0
N=	311	494	805	223	579	802	534	1073	1607

Table A1: Sutton Trust poll Question 1 results

Which of the following best describes the frequency with which you advise your academically gifted pupils that you teach (or have taught) to apply to Oxbridge?									
	Primary			Secondary			All		
Sutton Trust Results	Senior Leader (%)	Class room Teacher (%)	All (%)	Senior Leader (%)	Class room Teacher (%)	All (%)	Senior Leader (%)	Class room Teacher (%)	All (%)
Always	4	2	2	32	17	21	16	11	12
Usually	4	3	3	37	25	28	18	15	16
Rarely	10	5	7	19	28	25	13	17	16
Never	53	59	57	6	22	18	34	37	37
Don't know	28	31	30	6	8	7	19	18	18
No response	1	1	1	0	0	0	1	0	1
N=	311	494	805	223	579	802	534	1073	1607

Table A2: Sutton Trust poll Question 2 results

Why?									
	Primary			Secondary			All		
Sutton Trust Results	Senior Leader (%)	Class room Teacher (%)	All (%)	Senior Leader (%)	Class room Teacher (%)	All (%)	Senior Leader (%)	Class room Teacher (%)	All (%)
I think they are unlikely to be successful in their application	3	1	2	25	18	19	7	9	9
I don't think they would be happy there	1	1	1	16	13	13	4	6	6
I don't think they would perform well academically there	0	1	0	5	9	9	1	5	4
They can't study the right course there	0	0	0	9	11	11	2	5	4
I never advise students on the right university course for them	86	91	89	54	61	60	79	77	77
No response	12	7	9	5	3	3	10	5	7
N=	196	315	511	53	282	335	249	507	846

Table A3: Sutton Trust poll Question 3 results

Appendix B: Email confirmation of CUREC approval

Sent: Wednesday, December 1, 2021 8:59 AM
Subject: Re: MSc Education CUREC application for XXXXX CIA-21-295

Dear XXXX,

Title: The influence of teachers' backgrounds and educational experiences on attitudes to state school students' applications to elite universities/ the University of Oxford

The above application has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to DREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly, approval has been granted.

Please note that any data collection involving in-person interactions with participants must have an up-to-date COVID-19 fieldwork risk assessment in place. Please refer to the current guidance issued by CUREC during the pandemic, notably COVID-19: CUREC guidance on research involving human participants, https://researchsupport.admin.ox.ac.uk/governance/ethics/coronavirus.

If relevant please also check the CUREC website for their best practice research guides, https://researchsupport.admin.ox.ac.uk/governance/ethics/resources/bpg

Member, DREC

Appendix C: email invitation to participate in the survey & online participant information inclusive of consent

Dear Colleagues,

[redacted] the [redacted] Trinity College, University of Oxford is carrying out some research, for an MSc in Education. As a result of this research, [redacted] also hopes to develop more effective outreach provision for state-school teachers supporting their students' post-16 options and /or post-18 destinations. [redacted] is looking for state schoolteachers to complete a short anonymous survey taking no more than 15 mins.

Please see the request directly from [redacted] below.

The influence of teacher backgrounds and educational experiences on attitudes to state school students' applications to elite universities such as the University of Oxford (Ethics Approval Reference: **CIA-21-295**)

I work in outreach at the University of Oxford, and, as a previous secondary school teacher and Head of Sixth Form myself, I have a particular interest in developing more effective outreach support for teachers in state schools. I am currently undertaking an MSc in Education at the Department of Education, the University of Oxford.

As part of my research project, I am conducting a survey to explore teachers' social backgrounds, personal experiences of higher education and the influence these may have on the guidance and support offered to students about higher education. The aim of my study is to gain a deeper understanding of the role of such influences and how university outreach provision might be developed to better support the needs of teachers. The research has a particular focus on high tariff universities and the University of Oxford.

I am asking secondary comprehensive schoolteachers and colleagues with any role in supporting students' post-16 options and/or post-18 pathways to complete a short and completely anonymous online survey, taking no more than 15 minutes. Please note whether you decide to participate in this survey or not will in no way adversely influence your access to the outreach opportunities available to you at the University of Oxford.

Please do share this invitation with your teaching colleagues.

Many thanks in advance for taking the time to contribute to this research, which I hope will gain insights leading to improved quality of outreach support for teachers.

For further information and to complete the short survey click - HERE

Department of Education,

University of Oxford,

15 Norham Gardens,

Oxford OX2 6PY

[redacted] (Supervisor)

[redacted]@education.ox.ac.uk

[redacted] (Msc student)

[redacted]@kellogg.ox.ac.uk

Phone: 01865 [redacted]

Participant information for online surveys or tasks

The influence of teachers' backgrounds and educational experiences on attitudes to state school students' applications to elite universities/ the University of Oxford

CUREC Approval Reference: CIA-21-295

General Information

I, [redacted], am currently undertaking an MSc in Education at the Department of Education, the University of Oxford. As part of my studies, I am carrying out research into teacher's social backgrounds, personal experiences of higher education and the influence this may have on the guidance and support offered to students about higher education, with a particular focus on high tariff universities and the University of Oxford. The aim of my study is to gain a deeper understanding of the role of such influences and how university outreach provision could be developed to better support the needs of teachers.

We appreciate your interest in participating in this anonymous questionnaire. You have been invited to complete this questionnaire because you are a secondary school comprehensive teacher or colleague with a role in supporting students' post-16 options and/or post-18 pathways. Please read through this information before agreeing to participate (if you wish to) by ticking the 'yes' box below.

You may ask any questions before deciding to take part by contacting the researcher (details below).

The Principal Researcher is [redacted] who is attached to the Department of Education at the University of Oxford. This project is being completed under the supervision of [redacted]

This should take about 15 minutes. No background knowledge is required.

Data collected in this questionnaire will include your age, gender, ethnicity, your educational background and parent education level. And In relation to your profession, data collected will include school post-code, current school type, school-role title, number of yrs. in teaching, subject taught and any higher education progression responsibilities, with a particular focus on the University of Oxford.

You will also be asked if you would like to take part in a follow-up semi-structured interview. Interviews will be used to draw out deeper understanding of the results found from the questionnaires. All interview findings will be anonymised, and all steps will be taken to ensure you will not be identifiable. Research findings will be written up in the final MSc project due for completion in August 2022.

Do I have to take part?

No. Please note that participation is voluntary. If you do decide to take part, you may withdraw at any point for any reason before submitting your answers by pressing the 'Exit' button/ closing the browser.

We have included a 'Prefer not to say' option for each set of questions should you prefer not to answer a particular question.

How will my data be used?

The data we will collect that could identify you will be age, gender and ethnicity along with school postcode. To protect your identity, this data will be collected to identify possible trends rather than refer to individual responses.

Your IP address will not be stored[3]. We will take all reasonable measures to ensure that data remain confidential.

The responses you provide will be stored in a password-protected electronic file on University of Oxford secure servers and may also be used in academic publications, conference presentations. Identifiable information will be deleted as soon as it is no longer required for the research. Data will be stored for 3 years after publication or public release of the work of the research.

Who will have access to my data[4]?

[3] Guidance is available within CUREC's Best Practice Guidance (06) on Internet-mediated research
[4] Guidance is available within CUREC's Best Practice Guidance (09) on Data collection, protection and management

The University of Oxford is the data controller with respect to your personal data and, as such, will determine how your personal data is used in the study. The University will process your personal data for the purpose of the research outlined above. Research is a task that we perform in the public interest. Further information about your rights with respect to your personal data is available from https://compliance.admin.ox.ac.uk/individual-rights.

The data you provide may be shared with my supervisor Dr David Mills.

We would also like your permission to use the data in future studies, and to share data with other researchers (e.g. in online databases). Were relevant, data will be de-identified before it is shared with other researchers or results are made public.

The results will be written up for an MSc degree.

Who has reviewed this study?

This project has been reviewed by, and received ethics clearance through, a subcommittee of the University of Oxford Central University Research Ethics Committee **[CIA-21-295]**

Who do I contact if I have a concern or I wish to complain?

If you have a concern about any aspect of this study, please speak to [redacted] [redacted]@kellogg.ox.ac.uk Tel: 01865 [redacted] or their supervisor [redacted] [redacted]@education.ox.ac.uk and we will do our best to answer your query. I/ We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

Departmental Research Ethics Committee (Education) Education Chair: Dr Liam Gearson student.curec@education.ox.ac.uk

Please note that you may only participate in this survey if you are 18 years of age or over.

☐ I certify that I am 18 years of age or over

If you have read the information above and agree to participate with the understanding that the data (including any personal data) you submit will be processed accordingly, please tick the box below to start.

☐ Yes, I agree to take part

Appendix D: Online survey questions

Online survey Questions

The influence of teachers' backgrounds and educational experiences on attitudes to state school students' applications to elite universities/ the University of Oxford

Consent

1a) I certify that I am over 18 years of age

- Yes, I am over 18 years of age

1b) If you have read the information above and agree to participate with the understanding that the data (including any personal data) you submit will be processed accordingly, please tick the box below to start.

- Yes, I agree to take part

Part 1 About you

2). What is your gender?

- Female
- Male
- Other
- Prefer not to say

3). Which of the following best describes your ethnic identity?

- Prefer not to say

White

- English, Welsh, Scottish, Northern Irish or British
- Irish
- Gypsy or Irish Traveller
- Any other White background

Mixed or Multiple ethnic groups

- White and Black Caribbean
- White and Black African
- White and Asian
- Any other Mixed or Multiple ethnic background

Asian or Asian British

- Indian
- Pakistani
- Bangladeshi
- Chinese
- Any other Asian background

Black, African, Caribbean or Black British

- African
- Caribbean
- Any other Black, African or Caribbean background

Any other ethnic group

Part 2 About your role

4). What type of school do you work in?

State comprehensive State Grammar

5). What is your role?

- Classroom teacher
- Careers advisor
- Head/Deputy Head of sixth form
- Senior Leader (not Sixth Form)

6) Do you have any direct responsibility for student progression to higher education?

- Yes
- No

7) How many years teaching experience do you have?

- Currently training
- 1-5
- 6-10
- 11-15
- 16-20
- 20+

Part 3 About your educational background (5 questions)

8) What type of secondary school did you attend in the majority?

- State funded grammar
- State funded comprehensive / Seondary Modern
- Independent

9) Did your parents go to university?

- Neither parent
- One parent
- Both parents
- Don't know

10) What is the highest level of educational qualification you have?

- Up to A level / Level 3
- Up to degree level
- Post-graduate degree qualification
- Masters level
- PhD

11) Did you attend one of the following university types for undergraduate study?

- A non-Russell Group university
- A Russell Group University
- Oxford or Cambridge

(Russel Group list can be found – HERE)

Part 4 About the University of Oxford / Russell Group universities

12 At Oxford, what percentage of students from UK schools and colleges on undergraduate courses come from the state sector?

- Up to 20%
- 21-30%
- 31-40%
- 41-50%
- 61-70%
- 71-80
- 81%
- Don't know

13 Which of the following best describes the frequency with which you advise the academically qualified pupils that you teach (or have taught) to apply to Oxford?

- Always
- Usually
- Rarely
- Never
- Don't know

14 If you answered 'usually', 'rarely' or 'never' to the previous question, please select the option below that best describes why you chose your answer

- I think they are unlikely to be successful in their application
- I don't think they would be happy there
- I don't think they would perform well academically there
- They can't study the right course there
- I never advise students on the right university for them
- I am not sure about the application process

a) Please tell us more about your answer to the previous question here

15 Excluding Oxford, which of the following best describes the frequency with which you advise the academically qualified pupils that you teach (or have taught) to apply to a Russell Group university?

- Always
- Usually
- Rarely
- Never
- Don't know

16 If you answered 'usually', 'rarely' or 'never' to the previous question, please select the option below that best describes why you chose your answer

- I think they are unlikely to be successful in their application
- I don't think they would be happy there
- I don't think they would perform well academically there
- They can't study the right course there
- I never advise students on the right university for them
- I am not sure about the application process

a) Please tell us more about your answer to the previous question here

17 Please rate how strongly you believed the following statements about the University of Oxford:

Statement	Not at all	A little	Mostly	Completely	Don't know
a. The University of Oxford is not a place for state school students					
b. The majority of students at the University of Oxford are from private schools					
c. The University of Oxford cares about increasing access to students from state schools					
d. It is not worth pupils wasting a UCAS option on the University of Oxford					
e. Every pupil should be supported to explore the University of Oxford as a possible future option at some point in their school career					

a) Please tell us more about your answer to the previous question here

18 How knowledgeable are you in each of the following areas?

Statement	Not at all	A little	Mostly	Completely	Don't know
a. The University of Oxford 's undergraduate application process					
b. Writing the teacher reference for academic undergraduate courses					
c. The university of Oxford' admission tests					
d. The University of Oxford's academic interview					

a) Please tell us more about your answer to the previous question here

19 How confident do you feel about offering information and support to your pupils about the University of Oxford?

Not at all	A little	Mostly	Completely	Don't know

20 Please indicate if you would be happy to take part in a short anonymous follow up questions about your answers in this questionnaire

Yes / No

If you answered yes to the previous question, please provide your email address and phone details so we can contact you to make arrangements:

To Submit and finish click **NEXT**

Appendix E: Cross tab showing the different roles of respondents and how many had responsibility for progression

Q5 Role in school & Q6 Responsibility for Progression Crosstabulation

Count

		Direct responsibility for progression			
		No	Yes	Total	
Q5Role	Classroom Teacher	33	36	69	52%
	Senior Leader (Not Sixth Form)	7	7	14	50%
	Sixth Form and Careers Advisors	1	23	24	96%
Total		41	66	107	

Appendix F. Tables F1-4 showing frequencies of teachers in each group

Q6 Number of teachers with responsibility for progression					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No responsibility for progression	41	37.6	38.3	38.3
	Responsibility for progression	66	60.6	61.7	100.0
	Total	107	98.2	100.0	
Missing	System	2	1.8		
Total		109	100.0		

Table F1: number of teachers with and without responsibility for progression

Q8 Type of secondary school attended					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	State non-selective	79	72.5	72.5	72.5
	State Grammar	14	12.8	12.8	85.3
	Independent school	16	14.7	14.7	100.0
	Total	109	100.0	100.0	

Table F2: number of teachers attending different types of secondary school

Q9Teachers' parent level of education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither parent went to HE	61	56.0	56.5	56.5
	One parent went to HE	25	22.9	23.1	79.6
	Both parents went to HE	22	20.2	20.4	100.0
	Total	108	99.1	100.0	
Missing	System	1	0.9		
	Total	109	100.0		

Table F3: number of teachers with parents with different levels of education

Q11 Type of university attended by teachers					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non Russell Group University	56	51.4	52.8	52.8
	Russell Group University	34	31.2	32.1	84.9
	Oxbridge	16	14.7	15.1	100.0
	Total	106	97.2	100.0	
Missing	System	3	2.8		
	Total	109	100.0		

Table F4: number of teachers attending different types of university

School type attended* University type attended					
		Count			
		Q11 Type of university attended			
		Non-Russell Group	Russell Group	Oxbridge	Total
Q8 Type of school teachers attended	State comprehensive	44	24	8	76
	State Grammar	6	7	1	14
	Independent School	6	3	7	16
Total		56	34	16	106

Table F5: number of teachers attending different types of schools attended * different types of university

Appendix G. Tables G1-3 showing mean scores of each question by teacher-group

Q9Teachers' parent level of education																	
Question	Parent Education	N	Minimum	Maximum	Mean	SD	Parent Education	N	Minimum	Maximum	Mean	SD	Parent Education	N	Minimum	Maximum	Mean	SD
Q12	Neither parent went to HE	61	1.0	4.0	2.33	1.06	One parent went to HE	25	1.00	4.00	2.88	0.88	Both parents went to HE	22	1.00	4.00	2.77	0.97
Q13		60	1.0	4.0	3.03	1.01		22	1.00	4.00	3.00	0.87		18	1.00	4.00	3.11	0.96
Q15		57	1.0	4.0	3.18	1.00		22	2.00	4.00	3.36	0.79		20	1.00	4.00	3.35	0.99
Q17a		61	1.0	4.0	3.54	0.77		25	2.00	4.00	3.60	0.58		22	1.00	4.00	3.50	0.80
Q17b		61	1.0	4.0	2.56	0.90		25	2.00	4.00	2.96	0.84		22	1.00	4.00	2.73	1.03
Q17c		61	1.0	4.0	3.07	0.89		25	1.00	4.00	2.76	0.88		22	1.00	4.00	3.18	0.85
Q17d		61	2.0	4.0	3.74	0.54		25	3.00	4.00	3.68	0.48		22	2.00	4.00	3.64	0.66
Q17e		61	1.0	4.0	2.79	1.14		25	1.00	4.00	2.92	0.91		22	1.00	4.00	2.86	1.17
Q18a		61	1.0	4.0	2.61	0.88		25	1.00	4.00	2.68	0.85		22	1.00	4.00	2.64	1.18
Q18b		60	1.0	4.0	2.68	1.02		25	1.00	4.00	2.20	1.15		22	1.00	4.00	2.36	1.26
Q18c		61	1.0	4.0	2.15	0.83		25	1.00	4.00	2.20	0.87		22	1.00	4.00	2.27	1.03
Q18d		61	1.0	4.0	2.18	0.90		25	1.00	4.00	2.28	0.94		22	1.00	4.00	2.41	1.05
Q19		61	1.0	4.0	2.41	0.97		25	1.00	4.00	2.28	1.02		22	1.00	4.00	2.50	1.14

Table G1: mean scores of teachers by level of parent education

Q8 Type of secondary school attended by teachers																	
Question	School Type	N	Minimum	Maximum	Mean	SD	School Type	N	Minimum	Maximum	Mean	SD	School Type	N	Minimum	Maximum	Mean	SD
Q12	Comp	79.00	1.00	4.00	2.49	1.01	Grammar	14	1.00	3.00	1.93	0.83	Independent	16	2.00	4.00	3.31	0.79
Q13		72.00	1.00	4.00	3.08	0.90		14	1.00	4.00	2.57	1.09		15	1.00	4.00	3.33	1.05
Q15		71.00	1.00	4.00	3.28	0.91		14	1.00	4.00	2.79	1.12		15	1.00	4.00	3.60	0.83
Q17a		79.00	1.00	4.00	3.53	0.75		14	3.00	4.00	3.64	0.50		16	1.00	4.00	3.56	0.81
Q17b		79.00	1.00	4.00	2.67	0.90		14	1.00	3.00	2.00	0.68		16	2.00	4.00	3.31	0.79
Q17c		79.00	1.00	4.00	2.99	0.90		14	1.00	4.00	2.64	0.74		16	2.00	4.00	3.50	0.73
Q17d		79.00	2.00	4.00	3.71	0.53		14	2.00	4.00	3.71	0.61		16	2.00	4.00	3.69	0.60
Q17e		79.00	1.00	4.00	2.84	1.09		14	1.00	4.00	2.43	1.09		16	1.00	4.00	3.19	0.98
Q18a		79.00	1.00	4.00	2.65	0.91		14	1.00	4.00	2.36	0.93		16	1.00	4.00	2.88	1.09
Q18b		78.00	1.00	4.00	2.56	1.06		14	1.00	4.00	2.21	1.19		16	1.00	4.00	2.56	1.31
Q18c		79.00	1.00	4.00	2.19	0.86		14	1.00	4.00	2.07	0.83		16	1.00	4.00	2.31	1.01
Q18d		79.00	1.00	4.00	2.22	0.93		14	1.00	4.00	2.07	0.83		16	1.00	4.00	2.63	1.02
Q19		79.00	1.00	4.00	2.43	0.96		14	1.00	4.00	1.86	1.10		16	1.00	4.00	2.81	1.11

Table G2: mean scores of teachers by type of secondary school attended

Q11 Type of university attended by teachers																	
Question	University type	N	Minimum	Maximum	Mean	SD	University type	N	Minimum	Maximum	Mean	SD	University type	N	Minimum	Maximum	Mean	SD
Q12	Non Russell Group University	56	1.00	4.00	2.48	1.06	Russell Group University	34	1.00	4.00	2.35	0.95	Oxbridge	16	2.00	4.00	3.25	0.86
Q13		50	1.00	4.00	2.84	0.93		33	1.00	4.00	3.06	1.06		15	3.00	4.00	3.67	0.49
Q15		49	1.00	4.00	3.12	0.99		33	1.00	4.00	3.30	0.92		15	2.00	4.00	3.73	0.59
Q17a		56	1.00	4.00	3.61	0.68		34	1.00	4.00	3.41	0.78		16	1.00	4.00	3.63	0.81
Q17b		56	1.00	4.00	2.66	0.79		34	1.00	4.00	2.38	1.04		16	2.00	4.00	3.44	0.73
Q17c		56	1.00	4.00	2.93	0.83		34	1.00	4.00	2.85	0.96		16	2.00	4.00	3.56	0.73
Q17d		56	2.00	4.00	3.57	0.63		34	2.00	4.00	3.82	0.46		16	3.00	4.00	3.94	0.25
Q17e		56	1.00	4.00	2.80	1.15		34	1.00	4.00	2.76	1.10		16	2.00	4.00	2.94	0.85
Q18a		56	1.00	4.00	2.43	0.91		34	1.00	4.00	2.68	0.88		16	1.00	4.00	3.25	0.93
Q18b		56	1.00	4.00	2.39	1.12		33	1.00	4.00	2.52	1.03		16	1.00	4.00	2.88	1.26
Q18c		56	1.00	4.00	2.04	0.81		34	1.00	4.00	2.24	0.85		16	1.00	4.00	2.63	0.96
Q18d		56	1.00	4.00	1.96	0.87		34	1.00	4.00	2.35	0.73		16	1.00	4.00	3.06	1.00
Q19		56	1.00	4.00	2.13	1.01		34	1.00	4.00	2.47	0.90		16	2.00	4.00	3.25	0.86

Table G3: mean scores of teachers by type of university attended

Appendix H, Figures H1-13: SPSS outputs for Kruskal-Wallis tests for differences between the 3 parent education levels and dependent variables

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	7.020[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.030

a. The test statistic is adjusted for ties.

Figure H.1: Kruskal-Wallis statistic for Q12

Independent-Samples Kruskal-Wallis Test Summary

Total N	100
Test Statistic	.232[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.891

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H..2: Kruskal-Wallis statistic for Q13

Independent-Samples Kruskal-Wallis Test Summary

Total N	100
Test Statistic	.232[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.891

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H..3: Kruskal-Wallis statistic for Q15

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	.068[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.966

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.4: Kruskal-Wallis statistic for Q17a

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	3.283[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.194

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.5: Kruskal-Wallis statistic for Q17b

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	3.402[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.183

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.6: Kruskal-Wallis statistic for Q17c

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	.899[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.638

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.7: Kruskal-Wallis statistic for Q17d

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	.166[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.920

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H..8: Kruskal-Wallis statistic for Q17e

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	.076[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.963

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.9: Kruskal-Wallis statistic for Q18a

Independent-Samples Kruskal-Wallis Test Summary

Total N	107
Test Statistic	3.634[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.163

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.10: Kruskal-Wallis statistic for Q18b

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	.186[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.911

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.11: Kruskal-Wallis statistic for Q18c

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	.876[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.645

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.12: Kruskal-Wallis statistic for Q18d

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	.652[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.722

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure H.13: Kruskal-Wallis statistic for Q19

Appendix I. Table I.1 Jonckheeree- Terpstra results for Parent education levels * dependent variables and **Figure I.2** Results of the Jonckheere-Terpstra test

Null Hypothesis The distribution is the same for all items below across three categories of parent education level	**Test**	**Sig.[a,b]**	**Decision**
Q12	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	0.017	Reject the null hypothesis.
Q13		0.966	Retain the null hypothesis
Q15		0.387	
Q17a		0.809	
Q17b		0.166	
Q17c		0.855	
Q17d		0.392	
Q17e		0.707	
Q18a		0.805	
Q18b		0.103	
Q18c		0.675	
Q18d		0.354	
Q19		0.995	

Table I1: Results of the Jonckheere-Terpstra tests show no significant group order to the differences in mean ranks between the level of parent education, apart from in median scores for Q12

Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives Summary

Total N	108
Test Statistic	2090.000
Standard Error	159.934
Standardized Test Statistic	2.385
Asymptotic Sig.(2-sided test)	.017

Figure I2: Results of the Jonckheere-Terpstra test statistics for Q12 showing significant group order to the differences in mean ranks between the level of parent education in median scores

Appendix J. Figures J1-13 SPSS outputs for Kruskal-Wallis tests for differences between three categories of school type attended

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	14.906[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	<.001

a. The test statistic is adjusted for ties.

Figure J.1: Kruskal-Wallis statistic for Q12

Independent-Samples Kruskal-Wallis Test Summary

Total N	101
Test Statistic	4.933[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.085

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.2: Kruskal-Wallis statistic for Q13

Independent-Samples Kruskal-Wallis Test Summary

Total N	100
Test Statistic	5.404[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.067

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.3: Kruskal-Wallis statistic for Q15

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	.083[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.959

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.4: Kruskal-Wallis statistic for Q17a

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	14.906[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	<.001

a. The test statistic is adjusted for ties.

Figure J.5: Kruskal-Wallis statistic for Q17b

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	8.007[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.018

a. The test statistic is adjusted for ties.

Figure J.6: Kruskal-Wallis statistic for Q17c

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	.056[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.973

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.7: Kruskal-Wallis statistic for Q17d

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	3.683[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.159

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.8: Kruskal-Wallis statistic for Q17e

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	2.438[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.295

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.9: Kruskal-Wallis statistic for Q18a

Independent-Samples Kruskal-Wallis Test Summary

Total N	108
Test Statistic	1.174[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.556

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.10: Kruskal-Wallis statistic for Q18b

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	.570[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.752

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.11: Kruskal-Wallis statistic for Q18c

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	2.820[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.244

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure J.12: Kruskal-Wallis statistic for Q18d

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	6.575[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.037

a. The test statistic is adjusted for ties.

Figure J.13: Kruskal-Wallis statistic for Q19

Appendix K. Table K1 Jonckheeree- Terpstra results for school type attended * dependent variables

Null Hypothesis The distribution is the same for all items below across three categories of school type attended	**Test**	**Sig.[a,b]**	**Decision**
Q12	Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives	0.153	Retain the null hypothesis.
Q13		0.947	
Q15		0.801	
Q17a		0.772	
Q17b		0.463	
Q17c		0.313	
Q17d		0.926	
Q17e		0.777	
Q18a		0.899	
Q18b		0.602	
Q18c		0.946	
Q18d		0.364	
Q19		0.972	

a. The significance level is .050. b. Asymptotic significance is displayed.

Table K.1: Results of the Jonckheere-Terpstra tests show no significant group order to the differences in mean ranks between teachers' school type attended.

Appendix L. Figures L1-13: SPSS outputs for Kruskal-Wallis tests for differences between the 3 university types attended and dependent variables

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	8.705[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.013

a. The test statistic is adjusted for ties.

Figure L.1: Kruskal-Wallis statistic for Q12

Independent-Samples Kruskal-Wallis Test Summary

Total N	98
Test Statistic	9.125[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.010

a. The test statistic is adjusted for ties.

Figure L.2: Kruskal-Wallis statistic for Q13

Independent-Samples Kruskal-Wallis Test Summary

Total N	97
Test Statistic	5.327[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.070

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure L.3: Kruskal-Wallis statistic for Q15

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	2.402[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.301

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure L.4: Kruskal-Wallis statistic for Q17a

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	13.590[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.001

a. The test statistic is adjusted for ties.

Figure L.5: Kruskal-Wallis statistic for Q17b

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	8.236[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.016

a. The test statistic is adjusted for ties.

Figure L.6: Kruskal-Wallis statistic for Q17c

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	8.390[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.015

a. The test statistic is adjusted for ties.

Figure L.7: Kruskal-Wallis statistic for Q17d

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	.157[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.925

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure L.8: Kruskal-Wallis statistic for Q17e

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	9.548[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.008

a. The test statistic is adjusted for ties.

Figure L.9 Kruskal-Wallis statistic for Q18a

Independent-Samples Kruskal-Wallis Test Summary

Total N	105
Test Statistic	2.401[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.301

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure L.10: Kruskal-Wallis statistic for Q18b

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	4.853[a,b]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	.088

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure L.11: Kruskal-Wallis statistic for Q18c

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	16.872[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	<.001

a. The test statistic is adjusted for ties.

Figure L12: Kruskal-Wallis statistic for Q18d

Independent-Samples Kruskal-Wallis Test Summary

Total N	106
Test Statistic	14.510[a]
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	<.001

a. The test statistic is adjusted for ties.

Figure L.13: Kruskal-Wallis statistic for Q19

Appendix M: SPSS outputs for Wilcoxon signed rank test for differences between teacher answers to Q13 and Q15

Related-Samples Wilcoxon Signed Rank Test Summary

Total N	98
Test Statistic	366.500
Standard Error	44.205
Standardized Test Statistic	3.031
Asymptotic Sig.(2-sided test)	.002

Wilcoxon test statistics identifying a significant difference in mean scores of Q13 and Q15

Appendix N: SPSS output for Spearman's Rho showing correlation between teachers' parent education level, school and university type attended

				Q9 Level of parent education	**Q11 Type of university attended**
Q9 Level of parent education	Correlation Coefficient			--	
	Sig. (2-tailed)				
	N			93	
Q11 Type of university attended	Correlation Coefficient			**.300****	--
	Sig. (2-tailed)			**0.003**	
	N			93	93
	Bootstrap[c]	Bias		**0.002**	
		Std. Error		0.101	
		95% Confidence Interval	Lower	0.097	
			Upper	0.498	
Q8 Type of secondary school attended	Correlation Coefficient			**.218***	**.226***
	Sig. (2-tailed)			**0.036**	**0.029**
	N			93	93
	Bootstrap[c]	Bias		**0.008**	**0.000**
		Std. Error		0.113	0.108
		95% Confidence Interval	Lower	0.001	0.003
			Upper	0.452	0.432

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).
c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Appendix O, Figures O1-O7 Jonckheere-Terpstra Test for Ordered Alternatives test statistics showing that for university type attended, group order was significant for items Q13, Q15, Q17d, Q18a, Q18d and Q19 only.

Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives Summary

Total N	98
Test Statistic	1833.500
Standard Error	139.666
Standardized Test Statistic	2.764
Asymptotic Sig.(2-sided test)	.006

Figure O1: Jonckheere-Terpstra statistics for Q13

Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives Summary

Total N	97
Test Statistic	1699.000
Standard Error	131.777
Standardized Test Statistic	2.091
Asymptotic Sig.(2-sided test)	.037

Figure O2: Jonckheere-Terpstra statistics for Q15

Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives Summary

Total N	106
Test Statistic	2029.500
Standard Error	123.798
Standardized Test Statistic	2.888
Asymptotic Sig.(2-sided test)	.004

Figure O3: Jonckheere-Terpstra statistics for Q17d

Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives Summary

Total N	106
Test Statistic	2115.500
Standard Error	157.611
Standardized Test Statistic	2.814
Asymptotic Sig.(2-sided test)	.005

Figure O4: Jonckheere-Terpstra statistics for Q18a

Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives Summary

Total N	106
Test Statistic	2006.000
Standard Error	155.680
Standardized Test Statistic	2.145
Asymptotic Sig.(2-sided test)	.032

Figure O5: Jonckheere-Terpstra statistics for Q18c

Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives Summary

Total N	106
Test Statistic	2316.500
Standard Error	156.394
Standardized Test Statistic	4.121
Asymptotic Sig.(2-sided test)	<.001

Figure O6: Jonckheere-Terpstra statistics for Q18d

Independent-Samples Jonckheere-Terpstra Test for Ordered Alternatives Summary

Total N	106
Test Statistic	2240.500
Standard Error	158.992
Standardized Test Statistic	3.576
Asymptotic Sig.(2-sided test)	<.001

Figure O7: Jonckheere-Terpstra statistics for Q19

Appendix P, Table P1 effect size calculations using Jonckheere-Terpstra Test for Ordered Alternatives test statistics showing that for university type attended, group order was significant for items Q13, Q15, Q17d, Q18a, Q18d and Q19 only.

Question	N	Z score	$\sqrt{N}$	$z/\sqrt{N}$ (Effect Size)
12	na	ns	0.00	#VALUE!
13	98	2.764	9.90	0.28
15	97	2.091	9.85	0.21
17a	na	ns	0.00	#VALUE!
17b	na	ns	0.00	#VALUE!
17c	na	ns	0.00	#VALUE!
17d	106	2.888	10.30	0.28
17e	na	ns	0.00	#VALUE!
18a	106	2.814	10.30	0.27
18b	na	ns	0.00	#VALUE!
18c	106	2.145	10.30	0.21
18d	106	4.121	10.30	0.40
19	106	3.576	10.30	0.35

Table P1: Jonckheere-Terpstra tests effect size calculations for group differences (university type)

Appendix Q, Tables Q1-3b effect size calculations using paired comparison statistics from items where significant differences were found between teachers' parent education levels, school types attended, and university types attended

PARENT EDUCATION									
Q12 Pairwise Comparisons of Parent education level									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
1. No parent HE - 3. Both parents HE	-13.105	7.415	-1.767	0.077	0.232	10.3923	108	-1.767	-0.17
1. No parent HE - 2. One parent HE	-16.902	7.081	-2.387	0.017	0.051	10.3923	108	-2.387	-0.23
3. Both parents HE - 2. One parent HE	3.797	8.716	0.436	0.663	1.000	10.3923	108	0.436	0.04

Table Q1: effect size calculations using paired comparison statistics for Q12 where significant differences were found between teachers' parent education levels

SCHOOL TYPE ATTENDED									
Q12 Pairwise Comparisons of type of school attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
2. State Grammar - 1. state comprehensive	15.939	8.716	1.829	0.067	0.202	10.44031	109	1.829	0.18
2. State Grammar - 3. Independent	-40.277	11.000	-3.662	0.000	0.001	10.44031	109	-3.662	-0.35
1. State Comp - 3. Independent	-24.338	8.240	-2.954	0.003	0.009	10.44031	109	-2.954	-0.28
Q17b Pairwise Comparisons of of type of school attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
2. State Grammar - 1. state comprehensive	21.669	8.708	2.488	0.013	0.038	10.44031	109	2.488	0.24
2. State Grammar - 3. Independent	-42.397	10.989	-3.858	0.000	0.000	10.44031	109	-3.858	-0.37
1. State Comp - 3. Independent	-20.728	8.232	-2.518	0.012	0.035	10.44031	109	-2.518	-0.24
Q17c Pairwise Comparisons of of type of school attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
2. State Grammar - 1. state comprehensive	12.626	8.670	1.456	0.145	0.436	10.44031	109	1.456	0.14
2. State Grammar - 3. Independent	-30.357	10.941	-2.775	0.006	0.017	10.44031	109	-2.775	-0.27
1. State Comp - 3. Independent	-17.731	8.196	-2.163	0.031	0.092	10.44031	109	-2.263	-0.22
Q19 Pairwise Comparisons of of type of school attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
2. State Grammar - 1. state comprehensive	17.692	8.829	2.004	0.045	0.135	10.44031	109	2.004	0.19
2. State Grammar - 3. Independent	-28.214	11.143	-2.532	0.011	0.034	10.44031	109	-2.532	-0.24
1. State Comp - 3. Independent	-10.522	8.347	-1.261	0.207	0.622	10.44031	109	-1.261	-0.12

Table Q2: effect size calculations using paired comparison statistics for Q12, Q17b, Q17c and Q19 where significant differences were found between teachers' school types attended

UNIVERSITY TYPE ATTENDED									
Q12 Pairwise Comparisons of type of university attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
2.Russell Group - 1. non Russell Group	3.303	6.377	0.518	0.604	1.000	10.29563	106	0.518	0.05
2. Russell Groups - 3.Oxbridge	-25.169	8.892	-2.831	0.005	0.014	10.29563	106	-2.831	-0.27
1. non Russell Group - 3. Oxbridge	-21.866	8.314	-2.630	0.009	0.026	10.29563	106	-2.630	-0.26
Q13 Pairwise Comparisons of type of university attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
1. non Russell Group - 2.Russell Group	-7.690	6.032	-1.275	0.202	0.607	10.29563	106	-1.275	-0.12
1. non Russell Group - 3. Oxbridge	-23.720	7.917	-2.996	0.003	0.008	10.29563	106	-2.996	-0.29
2. Russell Groups - 3.Oxbridge	-16.030	8.374	-1.914	0.056	0.167	10.29563	106	-1.914	-0.19
Q17b Pairwise Comparisons of type of university attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
2.Russell Group - 1. non Russell Group	7.505	6.359	1.180	0.238	0.714	10.29563	106	1.180	0.11
2. Russell Groups - 3.Oxbridge	-32.384	8.867	-3.652	0.000	0.001	10.29563	106	-3.652	-0.35
1. non Russell Group - 3. Oxbridge	-24.879	8.291	-3.001	0.003	0.008	10.29563	106	-3.001	-0.29
Q17c Pairwise Comparisons of type of university attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
2.Russell Group - 1. non Russell Group	0.867	6.328	0.137	0.891	1.000	10.29563	106	0.137	0.01
2. Russell Groups - 3.Oxbridge	-23.175	8.824	-2.626	0.009	0.026	10.29563	106	-2.626	-0.26
1. non Russell Group - 3. Oxbridge	-22.308	8.250	-2.704	0.007	0.021	10.29563	106	-2.704	-0.26
Q17d Pairwise Comparisons of type of university attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
1. non Russell Group - 2.Russell Group	-11.155	5.012	-2.226	0.026	0.078	10.29563	106	-2.226	-0.22
1. non Russell Group - 3. Oxbridge	-15.808	6.535	-2.419	0.016	0.047	10.29563	106	-2.419	-0.23
2. Russell Groups - 3.Oxbridge	-4.653	6.989	-0.666	0.506	1.000	10.29563	106	-0.666	-0.06
Q18a Pairwise Comparisons of type of university attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
1. non Russell Group - 2.Russell Group	-7.146	6.380	-1.120	0.263	0.788	10.29563	106	-1.120	-0.11
1. non Russell Group - 3. Oxbridge	-25.629	8.319	-3.081	0.002	0.006	10.29563	106	-3.081	-0.30
2. Russell Groups - 3.Oxbridge	-18.483	8.897	-2.078	0.038	0.113	10.29563	106	-2.078	-0.20

Table Q3a: effect size calculations using paired comparison statistics for Q12, Q13, Q17b, Q17c, Q17d, Q18a where significant differences were found between teachers' university types attended

UNIVERSITY TYPE ATTENDED									
Q18d Pairwise Comparisons of type of university attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
1. non Russell Group - 2.Russell Group	-14.185	6.331	-2.241	0.025	0.075	10.29563	106	-2.241	-0.22
1. non Russell Group - 3. Oxbridge	-32.558	8.255	-3.944	0.000	0.000	10.29563	106	-3.944	-0.38
2. Russell Groups - 3.Oxbridge	-18.373	8.828	-2.081	0.037	0.112	10.29563	106	-2.081	-0.20
Q19 Pairwise Comparisons of type of university attended									
Comparison	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]	$\sqrt{N}$	N	Z	$z/\sqrt{N}$ (Effect Size)
1. non Russell Group - 2.Russell Group	-9.929	6.436	-1.543	0.123	0.369	10.29563	106	-1.543	-0.15
1. non Russell Group - 3. Oxbridge	-31.723	8.392	-3.780	0.000	0.000	10.29563	106	-3.780	-0.37
2. Russell Groups - 3.Oxbridge	-21.794	8.975	-2.428	0.015	0.045	10.29563	106	-2.428	-0.24

Table Q3b: effect size calculations using paired comparison statistics for Q18a and Q19 where significant differences were found between teachers' university types attended