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All PhDs are equal but some are more equal than others: institutional and social stratification in access to the doctorate

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Based on in-depth interviews with doctoral students across different types of English higher education institutions, this study explores existing and perceived barriers to entering doctoral study. Previous research in widening participation and higher education access has neglected this level. Although the PhD is the highest educational qualification, there appear to be quite distinct, classed pathways in access to and through the doctorate corresponding to patterns of institutional stratification. PhD students do not comprise a homogenous elite; rather we detect at least three ideal-typical pathways to the doctorate. These pathways illustrate disparities among the community of PhD students, both between and within universities. Marked differences in funding, facilities and support carry consequences for individual chances of completion and the doctoral experience. Social and institutional stratification appear to work hand-in-hand in determining one's chances for achieving the 'promise' of the PhD, such as secure university employment and similar highly-skilled work. These findings are considered with reference to sociological theories of higher education choice. While we find some support for rational choice and chooser typologies, we also detect considerable differences in outcome for similar choice strategies by institutional location.

Keywords: access; doctoral education; educational transitions; institutional stratification; social class

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Introduction

The doctorate is the highest academic degree representing the top academic qualification in most countries. The PhD as an ultimate degree is an ‘apprenticeship’ in academic research, effectively providing a licence to teach at tertiary level upon successful completion and potentially a ‘passport’ to an academic career with a range of extrinsic and intrinsic benefits. For academic departments and higher education (HE) institutions, a vibrant PhD community is an important indicator of status and academic credibility, but also a much-needed supply of teaching assistants helping to support academics juggling multiple responsibilities. For funding bodies, PhD students provide a supply chain of future academics and researchers ensuring the continued output of high-quality research contributing to the knowledge economy (Park 2007, 9).

Despite these benefits, domestic demand for doctoral education has plateaued. Steady growth in numbers observed in the last decade has been fuelled by international students, while UK-domiciled doctoral student numbers stagnated since 2011 (Universities UK 2014). As government funding for postgraduate qualifications has been limited, prospective students from less privileged socio-economic backgrounds and/or graduating from low-tariff institutions may have found themselves priced out of pursuing a PhD. Particularly in times of austerity, the opportunity costs of a relatively long time-to-degree could be unaffordable for many, given an increasingly competitive job market with no guarantee of securing an academic job upon completion. Thus, the financial implications of prolonged educational careers may adversely affect widening participation (HE Commission 2012). As first degrees become the norm, however ‘[t]here is a real danger[...] that postgraduate education will become the new frontier of

widening participation or, if we get it wrong, a new arena for the perpetuation of privilege' (Whitty and Mullan 2013, 179).

Unequal access to doctoral education has consequences beyond individual chances for social mobility and career progression. Lack of diversity among the doctoral student body may have serious long-term consequences through leaving segments of society without a voice in scholarship or representation among future HE faculty, thus reserving key positions in society for the already-privileged. Despite these potential consequences, and the risk that the promise of wider access to undergraduate study is undermined by new or continued inequalities at doctoral level, there is little engagement with doctoral access in extant research. We aim to begin addressing this gap by providing a portrait of doctoral decision-making, specifically focusing on the institutional trajectories of doctoral students when considering the opportunities and barriers of access to the PhD. In doing so, we draw on existing theories about institutional stratification and higher education choice. We show that social class inequalities go beyond the quantitative differences in transition seen in large-scale studies (HEFCE 2013a; Wakeling and Hampden-Thompson 2013). Within the group entering doctoral study we find qualitative differences in entry routes, student experience and anticipated outcomes which are divided across social class and university type and which comprise at least three ideal-typical pathways. While we find some support for theories of rational choice and choice typologies, we also detect considerable differences in outcome for similar choice strategies according to institutional location.

Institutional hierarchy and the changing landscape of higher education

During the last three decades, English HE has undergone significant transformation. Key changes included abolition of the binary divide between universities and polytechnics, the reduction of direct funding of teaching leading to the introduction of top-up then variable fees and student loans, and the selective funding of research based on state-supervised peer-review (Brown 2011). There is some evidence that expansion has opened up HE to wider segments of society. As the number of universities doubled, the number of students entering HE has risen considerably, with statistics indicating one in three 18 to 19 year olds would enter HE (Independent Commission on Fees 2014). Nevertheless, growth has failed to reduce the gap between the most and least privileged students, particularly access to selective HE institutions (such as Oxbridge and the Russell Group), where the difference continued to be tenfold (Independent Commission on Fees 2014).

Overall, the 'new' HE structure seems to have had little impact on the overall distribution of students, since non-traditional students were pushed – as well as pulled – towards the new, post-92 HE institutions, and continued to be underrepresented at elite and more prestigious universities (Sutton Trust 2014). On the push-side, research on admissions confirmed that non-traditional applicants were less likely to be admitted to Russell Groupⁱ (RG) universities, even after differences in prior attainment were considered (Boliver 2015). Concurrently, constructing higher education as an essentially white and middle-class place (Reay, David and Ball. 2005; Bathmaker *et al.* 2016), first-generation students themselves were concerned with feelings of belonging and fitting in when trying to realise their potential and maintain a sense of authenticity (Reay,

David, and Ball 2005). Many positioned 'themselves "outside" of higher education': 'potentially able to take advantage of the benefits it can offer, but not as owners of it' (Archer and Hutchings 2000: 25). As 'the social ethos of students and institutions are mutually reinforcing', higher education choice became a sort of 'class-matching' (Robbins 1991, 6).

This outcome might not surprise sociologists long concerned with the persistent nature of class inequalities in education across industrialised countries. While often viewed in terms of 'inclusion', in and of itself, expansion does not reduce class inequalities in education (Shavit, Arum and Gamoran 2007). Arguably, this is because the privileged classes are better placed than others to exploit new educational opportunities (Raftery and Hout 1993) and, at any given level, can secure qualitatively 'better' education for their offspring (Lucas 2001). Consequently, higher education expansion becomes more of a 'diversion' than an inclusion, whereby disadvantaged groups are diverted from high-status opportunities which continue to be 'reserved' for the privileged (Shavit, Arum and Gamoran 2007).

Despite the formal abolition of the binary divide between universities and polytechnics, England continues to have a diverse and informally-stratified HE system. Decades on, former polytechnics (now labelled as modern, new, or post-1992 universities) continue to face the stigma of 'second tier' institutions, characterised by relatively low prestige and low admission thresholds, thus unfavourably compared to the 'status-seeking' behaviour of old, long-established universities, which continue to shield their prestige through high levels of selectivity (Brennan 2011). Since degrees obtained from selective HE institutions appear to more valued in the graduate labour market than those from less prestigious universities, *where* one studies assumes great

importance, reflecting the steep reputational hierarchy of British HE (Boliver 2013; Wakeling and Savage 2015).

This institutional hierarchy has significant bearing on potential access to postgraduate education, of the doctoral experience and the likelihood of successful completion. As the Sutton Trust (2010) notes, the 'lion's share' of postgraduate students completed first degrees at research-intensive universities, which are attended by a higher proportion of pupils from independent schools, higher socio-economic class backgrounds and ethnic majority students. Indeed, students from research-intensive universities are much more likely to enter postgraduate study than those graduating from post-92 universities (controlling for other factors) confirming the enduring nature of inequalities in access to postgraduate education (Wakeling and Hampden-Thompson 2013). These differences are especially pronounced for research degrees. Specifically focusing on access to the doctorate, the highest postgraduate qualification, the current study sets out to explore the motivations and the barriers to entry to doctoral study in English HE.

Overview of UK doctoral education

Around 16,500 UK-domiciled students entered a doctoral programme in England in 2015/16, up from about 13,000 one decade previously (source: <http://www.hefce.ac.uk/analysis/postgraduate>, accessed 12 June 2017). In 2011/12 in England, two-thirds of research students were registered at institutions with high average 'tariff' scores for undergraduate entry (the most selective, research-intensive and prestigious institutions). This compares to only about one-quarter of first-degree

entrants in the same year (source: authors' calculation from HEFCE, 2015, p. 23, Fig. 17). Just under one-third were self-financing, with three out of every twenty students receiving a research council award. Overall, three-fifths of graduates remained in their first-degree institution for research degree study, with students at lower-tariff institutions most likely to stay put. This differed little by socio-economic background (HEFCE, 2013b).

Research council awards represent the 'gold standard' of doctoral funding, covering fees, a relatively generous tax-free stipend (minimum £14,553 annually for 2017/18) and other benefits. The UK research councils have moved from funding individual students, to instead distributing funds via doctoral training centres and partnerships where funding is increasingly concentrated among a few prestigious research-intensive universities (Harrison, Smith, and Kinton 2015). In addition to the unequal allocation of research council funds favouring high-tariff institutions, there is a clear STEM bias in the distribution of funded provision, with over twice as many studentships available in STEM subjects than in arts, humanities and social sciences (HE Commission 2012).

Besides the research councils and major charitable funders such as Wellcome, institutions offer their own doctoral scholarships (one in five full-time students). These are especially pertinent for universities transitioning from teaching-led to more research-focused institutions. They are often of lower financial value than research council awards, and may carry teaching/demonstrating obligations. The government has recently announced a doctoral loan scheme from 2018 (up to £25,000 in total per student). Conceivably, this could displace institutional studentships and/or become an option of last resort for otherwise unfunded doctoral students.

Theorising doctoral choice

Having situated the doctorate within the broader context of higher education expansion and the macro-sociology of education, we turn now to theoretical resources with which to examine individual choice and trajectory in pursuing the doctorate. We highlight two such resources. Breen and Goldthorpe's (1997) Relative Risk Aversion theory is a weak version of rational action which makes certain predictions about educational decision-making. It posits that individuals prioritise strategies minimising downward mobility. Thus, individuals seek to attain at least the same class position as their parents. Upward mobility after that point becomes a risk-reward assessment. Thus, two given individuals from different class backgrounds with the same objective chance of success (e.g. prior attainment) will pursue different strategies. Specifically in the case of the doctorate, advantaged individuals are more likely to engage in financially costly, status-seeking behaviour than those from disadvantaged backgrounds, who will prioritise the minimisation of financial risk. An alternative 'reproduction' perspective, inspired by Bourdieu, focuses on the cultural aspects of choice, both the extent to which decision-making is strategic and instrumental versus impressionistic; and how knowledgeable individuals and their confidants are about the choice process and its consequences. This is developed by Reay, David and Ball (2005) who distinguish between 'embedded' and 'contingent' choosers, drawing on 'hot' and 'cold' knowledge. Finally, recent scholarship has highlighted how the undergraduate experience and outcomes vary systematically across institutions of different status (Bathmaker *et al.* 2016).

The research study

We set out to investigate individuals' trajectories through the HE sector, focussing especially on their socio-economic background and the status of the undergraduate institution in relation to progression into doctoral education. In doing so we carried out 53 semi-structured interviews with PhD students and recent graduates who had not pursued a PhD at four different higher education institutions (an ancient university, a London-based RG university, a northern RG University, and a large post-92 university). These institutions were selected to give a range of institutional types and regional contexts. We interviewed UK-domiciled students and aimed at equal gender representation and a range of first-degree subjects (e.g. humanities, social sciences, life sciences and the professions). While the sample was not designed to be statistically representative, we did seek to include individuals from a range of subjects and circumstances in the four participating institutions.

Potential interviewees were sourced in several ways. First, we re-contacted respondents to a large survey of postgraduate students who had indicated a willingness to be interviewed in future. Second, we contacted first-degree alumni from the three previous years via participating institutions. In a few cases we drew on informal networks and snowballing. Table 1 provides an overview of our interviewees by institution. In this article, we concentrate on the 34 interviewees who were studying or had very recently completed a doctorate.

[TABLE 1 HERE]

Interviews explored participants' educational decision-making processes at each important juncture while also reflecting on their experiences at their chosen institutions. Pseudonyms are used to protect interviewees' confidentiality. After each name, the interviewee's age, field of study and level of funding are shown in parentheses. Any other identifying characteristics have been removed wherever necessary, together with the names of the four HE institutions under study; these have been replaced with pseudonyms. Names of other HE institutions discussed by the research participants themselves were retained whenever possible, as they provide an important context to the understanding decision-making processes.

PhD trajectories

Linking individuals' family and academic backgrounds with their subsequent HE decisions allowed us to create individual student profiles which we sorted into groups, best representing their institutional pathways. The sorting mechanism led us to three clearly differentiated trajectories (Figure 1) which reflect the hierarchical nature of the British HE sector. While Figure 1 exhaustively lists the pathways seen among our interviewees, it should not be considered comprehensive. We highlight the three selected trajectories as illustrative of the archetypal patterns seen across the data, but note any variations within each category.

Although transitions were not necessarily always straightforward (Bradley and Devadason 2008), with individuals moving out and back into the educational system, there was substantial clustering evident, as many students moved on but within the

same kind of institutions, with some remaining at their first-degree institution. The commonality of such trajectories clearly highlights the rather persistent nature of class-matching between students and institutions, which appears to endure during subsequent transitions. Tellingly, we encountered no examples of ‘long-range’ movement (between elite and post-92 universities) in our sample.

Below, we outline the three main trajectories (i.e. ‘Elite’, ‘Russell Group’ and the ‘Post-92’ route). We also offer a detailed description of each trajectory where key cases have been chosen to best represent the participants in each of the analysed paths leading onto the PhD.

[FIGURE 1 ABOUT HERE]

The elite route

This is a group of students with high educational aspirations who follow relatively straightforward trajectories involving the most elite universities in the country (in the following, we will be referring to the elite university under study as ‘Elite’). Students belonging to this group normally had parents educated to degree level (with some exceptions) and tended to come from solid service-class backgrounds (e.g. economist, accountant, banker, civil servant). Interestingly, while only one student had a parent with a PhD, several had siblings who were either pursuing medical degrees or PhDs.

While some interviewees were selectively schooled (pre-university schooling ranged from private school, state grammar, state comprehensive), all but one had very strong A-levels (all ‘A’ grades). High educational aspirations were characteristic for this group: they targeted only the most prestigious universities (e.g. Oxford, Cambridge, LSE)

corresponding to their landscape of choice. While trying to get into the highest-ranking university possible – subject to their prior achievements – they behaved as ‘embedded choosers’ making careful choices applying both ‘hot’ and ‘cold’ knowledge (Reay, David and Ball 2005). Their choice-making when considering postgraduate opportunities, however contrasted strongly with their active choosing at undergraduate level. Those already at Elite typically remained for their doctoral education. While a few self-funded their master’s, all interviewed students secured funding for their PhD.

Lisa (26; life sciences; £13k+) well represented those with a linear elite trajectory. Her father worked in the city, mother was a teacher. She attended a grammar school and planned on attending university long before choosing her A-levels. Her choice of Elite for her first degree was based on a combination of cold and hot knowledge. Having carried out ‘a reasonable amount of research’ she ‘found out where the best universities for chemistry were, and then looked at all of them in order, researched each department’. Elite became her firm choice following the endorsement of her uncle, an alumnus of the same university.

Four years later, after graduation, she was offered an industry-funded PhD at Elite and looked no further: ‘I felt I found the right group for me, and the department was very, very good for research, really good facilities, helping you to focus on your research without getting held up with all the practicalities’. Having had her viva just days before our interview she was looking for a job - in finance, instead of chemistry.

Obviously, I gained certain chemistry skills, but, to me, that’s not the most important thing. I dealt with a lot of really difficult situations, where there’s no-one who can help you because you’re doing something completely new, so you learn to become quite self-

reliant. So Elite simply gave me opportunities to do things that I wouldn't have got the chance to do.

While in many ways similar, the privately-educated Neesha's (28; social science; £13k+) record shows a less linear trajectory resembling more of a 'yo-yo transition' (Du Bois-Reymond and Lopez Blasco 2003), since she moved back and forth between HE and various employment opportunities. Her parents (physician and financial analyst) were first-generation immigrants who instilled in her their strong work ethic:

It was important that I did well in school. They're the sort of parents where, when you get a report, and you get 98 out of 100, they would say, 'Where's the other two marks? Why didn't you get 100?' They put a lot of emphasis on education.

But it was not – only – the family that pushed her to succeed:

Supportive family background is one thing. But the biggest thing I would say that made me successful in education is, when I was eleven, I won a scholarship to this private school. I was always going to do well, but what I've been able to do has come from that school. So I would say that's one of the biggest drives of where I am now. And, obviously, that's been reinforced by being at Elite. But I think, early on, if you have the advantages, they just accumulate.

Once accepted at Elite, she deferred entry to take a gap year to work in the city (in a leading financial services firm). After briefly contemplating a teaching career she eventually enrolled on a (self-paid) master's, directly followed by a PhD. Although she had not initially planned doctoral study, the opportunity was irresistible: 'It was the fact that [my supervisor] had a research project that was looking for a PhD that I actually

ended up with me staying'. Eventually, going for the PhD proved to be the right decision: 'The project is fantastic, [professor] is amazing. So I have a happy mix, basically, of doing my independent research and working on a big project. So, yeah, it's a dream set-up (laughs). It's really worked out.' Being offered a full PhD scholarship for three years with an added year of a research fellowship, made her content with the unfolding educational opportunities.

Look at what Elite has given me. Look at what higher education has given me. It's opened up so many doors. The skills, the knowledge, and the cultural competence, the confidence, and all of this, comes from not just higher education but specifically something that Elite has given me to really help me push for what I want, and know how to get to things, and to challenge things, critique things, think about things. And now I know that, if I didn't come here, I wouldn't be the same person.

The outlined case studies both confirm and build on existing findings showing that privileged students are well equipped and supported to make informed choices as family and school advantages accumulate. They aim at high-ranking HE institutions, carry out in-depth research of their chosen course, and are not afraid to apply any kind of capital at their disposal in order to get into the university of their choice. They may take gap year(s) but often it is with the aim of travelling or gaining new skills and experiences, rather than having to earn money to support themselves through university (Snee 2014). They move swiftly from one level to another, not discouraged by the occasional absence of funding (for master's). Having the privilege of studying at an elite university they are best placed to apply for a wide range of funding options, such as industry-funded PhDs, research council funding, or funding through research projects. These scholarships not only come with benefits related to institutional

prestige, facilities, and high-quality supervision but often provide additional cover for the master's, or include an extra funded year for writing up. In doing so they provide an ideal environment for these students to complete their PhD and launch an academic career.

The post-92 route

At the other end of the spectrum are students who – similarly to the previous group – tend to stay on at the same institution until they receive the doctorate; however, they study at a post-92 university occupying the less prestigious end of the university 'hierarchy'. Students belonging to this group come from families where parents did not attend university themselves or did so as mature students, often doing degrees in nursing or similar fields at nearby polytechnics. Educational aspirations are less evident in these families as aspirations are set to minimise the risk of being worse off than one's parents, ostensibly in line with relative risk aversion theory (Breen and Goldthorpe 1997). Overall, children are not that 'clued up' about universities and HE in general. Even though they often have good (if not outstanding) A levels, there is little evidence of strategic decision-making in their HE choices, rather; they behave as 'contingent choosers' (Reay, David and Ball 2005) who think 'local' and are often risk-averse. Staying on in HE is often chosen as a way of avoiding unemployment or the crowded graduate labour market; they drift into postgraduate education rather than making a conscious choice. As a result, they often remain at the same institution. Only a few leave in pursuit of funding for their PhD (usually, to another post-92 university).

Here, Michael's (23; social sciences; £7k) case illustrates a typical linear trajectory – through the same post-92 institution we will refer to here as 'Modern'. His sales manager father (no HE) and FE teacher mother (nursing, mature student) 'were never really hard, they were always: "If it doesn't work out, it doesn't work out".' Being somewhat risk-averse, Michael considerably underplayed his academic potential when making his HE choices, despite having strong A-level grades (AAB): 'Yeah, just thought play it safe, so I don't end up going through clearing and doing furniture design or something.' By his own admission, 'total coincidence' would best describe his educational decisions, as he only talked to his mates in the pub (neither of whom went to university) and chose a joint degree in the hope that one of the two subjects would work out, eventually. Later, as a graduate, he was lured into continuing with a newly-introduced master's programme at Modern where he was offered a fee-waiver but was unsure what to do upon completion. By chance, he was contacted by one of his lecturers telling him to apply for a recently advertised (funded) PhD place for which they failed to recruit:

Well I thought to myself, 'Why not?' If you get it, you do, if you don't, you don't. I'm no worse a situation. Still, I had to have the forms filled out and I hadn't even known the topic. So I had to go to the library, do an all-nighter, read two articles, and do a 2,000 word thing. I still don't know how I did it. I'm glad I wasn't feeling lazy that day because I probably would have said, 'Nah, it's not worth it.'

Michael's laid-back attitude succeeded as he was offered unique opportunities without seeking them out: 'I can't complain. I'm just lucky that my stumbling into things has led to something good, because it could have been a disaster... but a free master's

and a PhD - if I'd planned it, it wouldn't have worked out.' Michael's story, although it may appear 'extreme' in some respects, is far from unique. We interviewed several students who simply drifted from one level to the other at the same institution, without much contemplation over potential opportunities at other HE institutions. For many of these students there appeared to be a certain level of risk-aversion in parting from what they know: 'I would have to start from scratch if I went to a different university. It's not terrifying, but it's a very nerve-wracking thing to think I've got to start all over again when I'm comfortable here and I've got connections' (Sarah, 23, social sciences, Modern). Still, there were a few, who – due to lack of funding – had no choice but to 'follow the money', more often than not, to another modern university.

George's (23; humanities; £7k) parents were not graduates and his two older siblings did not attend university. Educational aspirations were not very evident in his family: 'my Mum will always say that she doesn't want me cleaning toilets'. Higher education was thus an unfamiliar concept, often something no-one in the family could relate to, hence, HE choice seemed distant and unreal. As George was unaware of the HE landscape he was ignorant of any differences between HE institutions or courses, so instead of taking up an offer at (nearby) Manchester he enrolled at the local post-92 university: 'I wasn't really that bothered by the rankings because I felt as long as I got the degree, it didn't really matter where it came from. But looking at it now, it might matter, I don't know'.

In the same way as higher education was not a result of a long-term plan but rather a post-A-level decision, he considered getting a postgraduate qualification to avoid unemployment rather than to further his education: 'I didn't know if I could get a job, because the economy is not the best so I thought if I could fund myself to get

another qualification, that might help me in the future when the economy picks up, if it ever does.’ While he ended up considering a PhD upon his lecturer’s encouragement, in contrast to Neesha, he did not actually believe his extended educational career had been life-transforming: ‘Well, maybe just for the qualification side, but I still hang around with the same people I’ve always hung around with, and still do the same stuff that I’ve always done.’

Eventually, he applied for the funded PhD place at Modern even though he knew nothing about the – only – university he contemplated to pursue his doctoral education: ‘I Wikipedia’d it after I’d seen the advertisement, so I thought it would be a decent university to go to.’ While hoping for a financially secure future career in academia he eventually decided to apply, but was uncertain about what the future held:

I got the half bursary, £7k a year, and I’ve got no tuition fees, but I was thinking whether it would be possible to live off that money. I was torn. I can either just turn down the perfect opportunity to do my PhD which I’ll probably never get offered again, or I can just try and give it a go, and make it work somehow.

The case studies of students taking the post-92 route concur with existing findings on many less privileged students (Reay, David and Ball 2005) not having a ‘feel for the game’ about higher education and making relatively uninformed choices. Rather than undergraduate study acting as a great leveller, instead these patterns are replicated even at the highest educational level, the doctorate. Interrupted trajectories were not uncommon, but it was financial difficulties – rather than the desire to explore different avenues that pushed interviewees, temporarily, out of the HE sector. They enrolled in master’s degrees in the hope of improved labour market prospects upon

graduation and the promise of studentships lured them into doing a PhD as a more appealing alternative to unemployment or a way of averting financial difficulties. While all took up the institutional studentships offered by Modern as a means of funding the PhD, having graduated from a new university, their overall funding options would appear not to be comparable to that of their privileged peers. What limited evidence there is about the allocation of research council studentships (e.g. Zimdars 2007) suggests this group would be unlikely candidates for highly competitive research council funding, and thus they must revert to university scholarships often representing lower financial value and lacking additional benefits.

The Russell Group route

Overall, students in the 'middle' have similarly straightforward educational trajectories to the two previous groups, often going through the same institution. There was clearly some strategic choice-making going on for undergraduates, but then they often 'stayed with what they know' for postgraduate study showing aspects of contingent choice (Reay, David and Ball 2005) as well as some financial concerns at undergraduate level and beyond. Mid to high levels of academic ability but lower cultural capital characterised this group, corresponding to their middle- to working-class backgrounds. While some drifted into and others actively chose postgraduate study, a good proportion secured funding and remained at the institution they graduated from. But there were a few others who felt 'squeezed', due to being unable to compete for research council funding with their peers from elite institutions. As they were unable to self-fund the costs of four years of living expenses and tuition, institutional studentships

at post-92 universities provided their only viable access-route. Some reported struggling with issues of authenticity and belonging, feeling they were resigned to accept funding offered by new universities as the only means of achieving their doctoral ambition.

Thus, next to the linear RG trajectory, we differentiate two subgroups both of which include a RG institution along the way to the PhD. On one hand, there are students who start off at post-92 institutions but successfully move onto a RG university for their master's; but then revert to a post-92 institution (often the same one) for PhD. The other group attends RG institutions for first degree and master's but ends up at a post-92 university for doctoral education. The common denominator for these two subgroups is that for the PhD, they follow funding rather than topic, institution or location. They had often tried elsewhere but were not funded. However, there is a key difference between these two in terms of accepting their fate and the resulting experiences - those who have had post-92 experience previously are keener to accept the unavoidable, although there is a considerable amount of *post-hoc* rationalisation evident. At the same time, students having to switch from the RG route are much more frustrated about having to 'follow the money', since they are unable to afford to pay for a PhD.

Keith (26, humanities, £7k; father FE lecturer, mother librarian), had initially taken the apprenticeship route by working in a hospital but returned to college to re-sit his A-levels (achieving grades ABC). He was far from making a strategic choice for his undergraduate studies but subsequently learned to 'play the game', securing a master's place at St Andrews. As funding was unavailable he had to defer entry to earn money to cover fees and maintenance. While he was accepted into the doctoral programme upon graduation, he could not continue without a studentship: 'I want to do a PhD, it's just I

can't afford it'. Applying for any funded place on topics even 'remotely related to his interests' was a clear indication of his commitment as well as desperation: 'anywhere that would have given me the money I would have gone'. This was further demonstrated by his application to universities in Denmark, Italy, the Netherlands and New Zealand. Eventually he obtained a funded place at Modern, for which he was grateful.

I had a few false starts but I would probably not have taken the gaps if I could have afforded it... but I have no regrets about coming here.... I'm doing the PhD, the one thing I want to do, and the fact that I got some money... I didn't really care where I was going. Prestige does matter, to a certain degree, when you're looking for a job, but I don't want to have to be worrying about money all the time. If I'm worrying about money, I'm not really doing what I'm there to do. So, yes, prestige is important, but only so much.

Robert (28, life sciences, £13k), on the other hand, came from a deprived part of the city being raised by a single mother (former housewife now working in a discount retail shop). His parents separated when he was 17 so he was forced to 'toughen up' and stack supermarket shelves to earn money to help pay the mortgage. While working 20-hour weeks negatively affected his A-levels he still managed to enter a RG university further afield through 'clearing'. To make ends meet, he lived off the 'university money' during term time and worked 45-hour weeks during summer in a fast-food restaurant. But despite the financial hardship he took great interest and pride in his education: 'Why I wanted to study? I think a lot of it is just enjoyment. I think it's absolute, pure enjoyment of it. I loved university'.

When he was unsuccessful in getting a graduate job he saw the master's as the 'only way out'. He ended up taking a Career Development Loan with 'nasty interest' and practically 'lived off nothing'. Despite the hardships he felt it was worthwhile as he found

studying life-changing: 'I'd been absolutely starved of any form of academia for so long, so going back to the lecture theatre made me feel like... I was a productive person again, I wasn't just like an unemployed person.' But it was not until he was encouraged by his supervisor that he even dared to consider a PhD: 'I'd literally had nothing for years, I'd had no money, nothing to my name, so the thought of someone giving you £1,000 a month to do science, I was like, "I've got to get on this."'

The prospect of doing science with the security of guaranteed income for three years persuaded him to accept a funded place at Modern to pursue doctoral studies in life sciences. While initially excited about the opportunity, things did not work out the way he imagined: 'This "PhD" fell into my lap and I think I was a bit of a fool. Now I wish I'd never chosen this university.' Due to what he claimed to be substandard facilities, he struggled to move forward with his work: 'It's not great, there's no money, we don't have any facilities, no office, in the labs, all things broken. And there's a real apathy.' Having spent the last three years at Modern, working in adverse conditions, he voiced regrets over having started the PhD at all: 'If I finish this PhD, I'm not going to leave with anything great, and there's nothing I can do about it. But I don't feel that I'm not good enough for research. I think I can do well but I would have liked to have a shot at it'.

It was not only the differences within the PhD cohort that were often remarked upon. Doctoral students at Modern – eventually – understood that they were falling short in comparison with their research council-funded peers at prestigious institutions. As Elisa (28, social sciences, Modern, fee waiver) poignantly stated: 'you know, it's funny because my brother's PhD in Durham is funded by the ESRC, he's got like funding by a research council, and I kind of think, oh well I'm doing a PhD too - but he's doing the real one.'

Discussion

The structure of higher education in the UK is underpinned by a system of selection that provides advantages to some while restricting opportunities for others. While recent transformations of HE were aimed at reducing barriers to access and equalising opportunity, the ensuing growth has meant increasing middle-class participation rather than extending opportunities of less privileged groups (Furlong and Cartmel 2009). As sociologists of education long observed, while an educational level is not universal, privileged classes use their advantages to secure that level of schooling (Raftery and Hout 1993). But with the expansion of higher education and subsequent widening participation, access to university stopped being the privilege of a selected few. Hence, seeking out qualitatively better education became the norm, exacerbating stratified higher education choices as well as experiences, separating the children of privileged from the offspring of socio-economically disadvantaged groups. Following the saturation of undergraduate education, it was expected that postgraduate education would become the next frontier between rich and poor. In this circumstance the doctorate, the ultimate educational qualification, appeared to remain the elite's last bastion (Pásztor 2015). We have sought, in this study, to provide up-close evidence on entry to the doctorate, beginning to address a significant gap in previous sociological research on higher education access.

We have shown that there appear to be quite distinct, classed pathways in access to the doctorate corresponding to existing institutional stratification. As access to doctoral provision is heavily influenced by the type of prior institution, the question is not only *who* goes on to do a PhD but also *where* – carrying significant consequences for

access *and* the subsequent experience of pursuing a doctorate. As there are marked differences both between and within institutions, membership of the seemingly prestigious PhD community hides disparities among the doctoral student body. Our findings draw out structural inequalities in access to and level of personal funding, which condition the doctoral experience. Whereas some students at the more elite institutions have greater opportunities to access research council funding, those in lower status institutions typically rely on partial studentships. Structural differences are also evident in facilities, research environment and perhaps quality of supervision – all contributing to a highly stratified doctoral experience. Despite the appearance of a ‘level playing field’ then, structural inequalities reach through to doctoral education, as even at the apex of the educational ladder, the already-advantaged successfully mobilise their socioeconomic resources to secure both quantitatively and qualitatively better education (Lucas 2001).

Our study exposes the processes by which stratified trajectories arise in the journey to doctoral enrolment, delineating the pathways into, out of or through institutions of different status. We find some support for existing sociological theories, but also some challenges. To some extent, our interviewees showed relative risk aversion. For those with relatively low familial capital, the priority was financing and completing a doctorate, with much less attention paid to questions of institutional status and subsequent occupational outcomes. This led to choices which prioritised secure funding above all and minimised financial risk. In some cases, the PhD was itself a better-paid option than underemployment. However, the way decisions were made did not suggest a thoroughgoing *rational* approach to decision making. Here we find

more support for Reay, David and Ball.'s (2005) concepts of embedded/contingent choice and hot/cold knowledge.

But we also find a critical difference with this model in the accounts of interviewees from more elite institutions. Specifically, it was not only the students at lower-status institutions who reported little active decision-making or strategising. Many of our elite interviewees reported quite similar decision-making processes whereby they did not look beyond their undergraduate institution for doctoral study and/or opportunities were presented to them serendipitously. Clearly then, the institutional context in which decisions are made are critical to their consequences. Given the stratification of doctoral funding opportunities, those at our Elite institution could secure good studentships and a transformative doctoral experience. In contrast, those at Modern university, demonstrating a similar approach were left with lower funding, worry about their prospects and in some cases a lower-quality experience. Instead, it is only those in our intermediate pathway who show those more calculating, active and deliberative approach to their doctoral journey which theories of cultural reproduction predict.

We argue there is a role for reproduction theory in explaining these findings: capitals, especially social and cultural, were deployed to navigate the 'rules of the game'. Here, we saw similarities between our Post-92 route interviewees and Holly and Gardner's (2011) first-generation US doctoral students, who found the doctoral landscape unfamiliar terrain. But the comparable lack of both 'nous' and agentic mobilisation of capitals by those on the Elite route suggest that institutional stratification tends to a Matthew Effect (Merton, 1968) or a kind of 'structural luck'. Contrary to expectation from reproduction theory, rather than needing to purposively

deploy their capitals (as clearly evident on the Russell Group route), *advantage is inscribed in the first-degree institution itself*. Here, our findings echo some of the studies in Waller, Ingram and Ward's (2018) collection in highlighting that institutions are more than passive sorting devices for the reproduction of advantage, but instead are actively implicated in its *production*.

As Bathmaker *et al.* (2016) demonstrated for first degrees, stratification of doctoral experience offers very different horizons for those graduating from more and less prestigious universities. Many who complete the doctorate face an uncertain future in the highly-competitive academic labour market and beyond. In the current climate where supply significantly outstrips employer demand, the prestige of the PhD awarding institution works as a signalling factor, potentially determining the chances of access to academic jobs. Some PhDs are at risk of becoming the HE sector's reserve army of labour, lined up to fill temporary positions in precarious work conditions – if they can secure an academic job at all. Anecdotally, the blogosphere is filled with such accounts of doctoral underemployment.

To counter this institutional stratification, more equitable distribution of doctoral funding is needed. There is, however, a paradox. Governments favour the concentration of research funding as a means of supporting excellence and increasing efficient use of public resources through economies of scale. Yet this concentration also fuels the processes of institutional stratification we have discussed. This suggests to us that a fuller understanding of access to doctoral study is required which enumerates statistical patterns of progression across institutions and disciplines and replicates our approach with other institutions. The challenge remains to support merit without perpetuating inequality or cementing the social order for future generations.

Note

ⁱ The Russell Group is an organisation representing a self-selected set of 24 older, research-intensive British universities.

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Table 1. Profile of interviewees.

	Non-PhD	PhD students	Total
Post-92 university	2	11	13
Russell Group university (outside London)	8	7	15
London-based research-intensive university	5	6	11
Elite university	5	10	15
Total	20	34	54

Figure 1. The main individual trajectories