

Do less-advantaged students avoid prestigious universities? An applicant-centred approach to understanding UCAS decision-making

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Less-advantaged students are under-represented at prestigious universities, but can we infer that they actively avoid them? This research measured university applicants' knowledge of 115 UK universities. Using card-sort tasks within an interview format, 56 Year 13 students from different types of 16–19 education described how they chose five courses for their application form. Significant cross-cohort trends in knowledge and understanding demonstrated the influence of different educational environments, but within-cohort variation showed that applicant characteristics could override environmental factors. The only cohort where every student understood relative status was an independent school providing individual, career-focused guidance. Limited resources in state-sector schools and colleges necessitated 'opt-in' models of guidance, meaning that only highly motivated students were well-informed. When students knew that universities are ranked by national league tables, this informed their decision-making strategy, but reliance on word-of-mouth rather than fact-based information resulted in some students over-estimating status and graduate outcomes. A new conceptual framework blending developmental and cognitive psychology explained persistent class-based progression trends whilst demonstrating how personal agency or educational interventions enabled some less-advantaged students to enter prestigious universities. There was no evidence that prestigious universities were actively avoided, but some students had insufficient knowledge or understanding to make status-based distinctions.

Keywords: educational barriers; progression and transition; social justice; UCAS decision-making

Introduction

The Universities and Colleges Admissions Service (UCAS) is a highly centralised system that has underpinned decades of research to understand patterns of progression. Despite a steady rise in the number of young people entering UK universities, statistics show that class-based disparity in progression persists and those from socially advantaged families continue to be over-represented at prestigious institutions (DfE, 2017; HESA, 2019), many of which consistently recruit disproportionately from independent schools (Milburn & Shephard, 2013; Montacute & Cullinane, 2018). Why does this happen? The prestigious Russell Group universities have argued that

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to increase their proportion of students from less-advantaged backgrounds young people must: (a) apply in sufficient numbers and (b) have taken the right subjects, citing medicine as an example of a course where even four A* grades would not suffice (Russell Group, 2014). Research can support this argument. Analysis of university admissions data by A-level grades has confirmed that highly qualified state-sector students are less likely to apply to prestigious universities, and to the most prestigious courses (Sutton Trust, 2004, 2009). Confirmation that working-class applicants with high grades are not disadvantaged by family background if they *do* apply to prestigious universities can be seen in a range of studies (e.g. Gorard, 2008; Davies *et al.*, 2009).

Explanations for the low application rates to leading universities often focus on aspiration, urging academically able students to ‘not feel discouraged or lack the ambition to attend them’ (Sutton Trust, 2004, p. 2). A problem with this approach is that it rests on an assumption that every university applicant makes an informed decision, thereby implying that many working-class students are knowingly entering university courses from which relatively few graduates enter managerial or professional roles, but research tells against this. Tomlinson (2008) found that final-year, middle-class students at an ‘elite’ university knew they would have a significant advantage in the labour market, whilst Greenbank (2009) found that final-year, working-class students at lower-status universities often had no understanding of the possible disadvantages they might face when they began looking for employment.

Differences in understanding the wider role and purpose of university begin early. Middle-class parents seek primary schools that can provide friendships and social networks that extend into the home (Vowden, 2012), whereas working-class families have little consumer power, no experience of ‘shopping around’ for schools (Exley, 2013), and may not expect school networks to become part of family life. Extra-curricular activities are acknowledged to be unequally distributed across schools, with many independent schools regarding activities such as employer engagement and careers provision as part of the curriculum, not ‘extra’ (Huddleston *et al.*, 2012). This wide range of activities ensures *prospective* preparation for a strong UCAS application, whilst many state-educated students make relatively late decisions about university, forcing them to take a *retrospective* approach (Shuker, 2014) that may contribute to weak and less successful applications (Jones, 2013). Overall, the evidence appears to reinforce the view that, for the most advantaged, the application process is a culmination of 12 years of educational experience, whilst the least advantaged may have engaged with the task for only a few months.

Familial differences could be addressed by careers education, information, advice and guidance (CEIAG), but state provision in England has been under-resourced, politically determined and lacking continuity, whilst careers services for independent schools have supported a single, enduring goal: the progression of their students into top jobs (Peck, 2004; Dunne *et al.*, 2014; Hutchinson, 2018). Much of the literature includes generic acknowledgment that CEIAG may influence outcomes, but studies that research mechanisms of choice can help advance the progression debate. Dilnot (2016) found that large differentials in A-level subject choice exist by social background, noting a need for CEIAG at 14+ and 16+ to ensure that students made well-informed decisions; those who choose ‘new’ subjects at A-level may be unaware of a negative impact on entry to prestigious universities that favour so-called ‘facilitating’

subjects (Russell Group, 2011). In schools with below-average attainment there may be a particular need for informational support to ensure that high-attaining students do not rule out options through lack of understanding (e.g. Rose *et al.*, 2019). Information constraints have also been linked to the concept of undermatching, a tendency for students from less-advantaged backgrounds to stay close to home and attend universities for which they are overqualified (Campbell *et al.*, 2019).

In theory, the comprehensive nature of the UCAS website could support informed decision-making that links courses and universities to graduate prospects,¹ but in seeking to remain impartial, the site does not identify differences in status and reputation. An applicant with limited knowledge of higher education (HE) may believe that *any* degree will lead to a graduate job, a misunderstanding that may be fostered by the consistent trend for graduates of *prestigious* universities to earn a high graduate premium (Chevalier & Conlon, 2003; De Vries, 2014). A further issue is that the complex and time-consuming UCAS process itself is under-researched, though recent evidence suggests that disadvantaged students may lack knowledge of the ‘many parameters involved in applying to university’ (Wyness, 2017, p. 3).

The suggestion that less-advantaged students may *choose* to enter less prestigious institutions is widely encountered, but there are four recurring problems with the evidence. First, quantitative analysis of large-scale datasets cannot usually provide direct evidence that less-advantaged students made an active choice to avoid elite universities. Second, whilst there is a long history of evidence that students are attracted by the reputation of their chosen institution (e.g. Callender, 1997), research using named institutions to allow comparison of perceived status with league table position (e.g. Ball *et al.*, 2002) is rare. Third, discussion of prestige that focuses on a dozen or so ‘elite’ universities (e.g. Sutton Trust, 2004, 2009) can exclude from the debate those students seeking contemporary or vocationally oriented courses that may be found in less prestigious universities. Finally, subject league tables show that lower-ranked universities may have a high ranking for some courses. This research addresses these four issues.

The current literature does not conclusively demonstrate that less-advantaged students know there is a reputational hierarchy, nor does it confirm that such students can correctly identify which universities are regarded as prestigious.

A conceptual framework

In explaining class-based disparity in progression, two issues are under-researched: (1) the complex decision-making process by which young people select just five universities from thousands of options; and (2) the mechanisms by which some less-advantaged students do successfully apply to elite universities. A psychological perspective, addressing individual differences, is currently lacking in the literature. This article draws on research by McGrath (2018) in which an applicant-centred approach, blending developmental and cognitive psychology, produced a conceptual framework with the potential to explain how class-based disparity, whilst a statistical trend, is not a certainty. Simon’s (1983) Behavioural Model of Human Decision Making and Bronfenbrenner’s (1979) Bioecological Theory of Human Development

have had significant long-term impact within their fields. A synthesis of their work fills the gap in current understanding of university choice.

Whatever the environmental background, all UK applicants must navigate the complex decision-making process of UCAS. Simon (1983) argued that when faced with a complex choice, in which considering all options is beyond the limits of human processing capacity, we look for ways to simplify the process. Rather than *optimising*, we are often *satisficing*, choosing an alternative that is good enough but may not be the best option. Simplifying and satisficing may help explain how young people select five courses from the thousands of options for their UCAS form. A key element of Simon's approach is his emphasis on the constant building up of knowledge structures as relevant information is gathered and stored. The ability to make any decision is influenced by the individual's 'overall goal. . . but also (by) the knowledge that decision makers do and don't have of the world' (Simon, 2000, p. 25). In relation to university choice, a young person from an advantaged home might be expected to have a strong, existing knowledge structure based on familial experience, further enhanced by well-resourced CEIAG at school. Simon's model would predict that this would enable the young person to 'make sense' of UCAS. Conversely, a less-advantaged home environment may lack familial knowledge of university and be linked to poorly resourced CEIAG at school, producing an applicant ill-prepared to navigate the complexity of UCAS. The strength of the relevant knowledge structure impacts on choice of simplifying strategy and reasoning style. Strong knowledge encourages fact-gathering to reduce the number of possible options; weak knowledge can trigger a decision to accept the first suitable option, which may owe more to emotion than facts. In UCAS terms, an applicant with strong knowledge may begin their search with league tables, an applicant with weak knowledge may rely on the word of a friend or relative who 'loves their university'.

An additional consideration for Simon is that the quality of any decision can only be assessed against the individual's personal goals. In relation to UCAS choice the goal may be the highest-ranked university, but many other goals are possible: a vocationally oriented course, or industry standard facilities, or a strong emphasis on teaching quality, may often be found in universities lower down the league tables. The ability to articulate a clear goal is linked to having a strong knowledge structure; weak knowledge may produce vague goals. Applying these elements to the UCAS process shows how knowledge structure sets in motion different approaches (see Figure 1).

Simon's model relates to advantage or disadvantage only in the extent to which knowledge is available. This raises a question: if a UCAS applicant from a less-advantaged background somehow acquired a strong knowledge structure, would they make decisions more typical of applicants with a lifetime of educational advantage?

Bronfenbrenner (1979) described the impact of environment on development as a sequence of four nested, ecological systems: micro, meso, exo and macro. The first three systems usually exhibit class-based consistency, but the ideology, policies and agencies of the macrosystem typically exhibit consonance with the lifestyles of advantaged families and dissonance with those of the less advantaged, whose social networks 'do not extend into the circles of power that control the allocation of resources' (Bronfenbrenner & Crouter, 1983, p. 399). In UCAS terms, an advantaged background builds knowledge of the links between high-status universities, employer

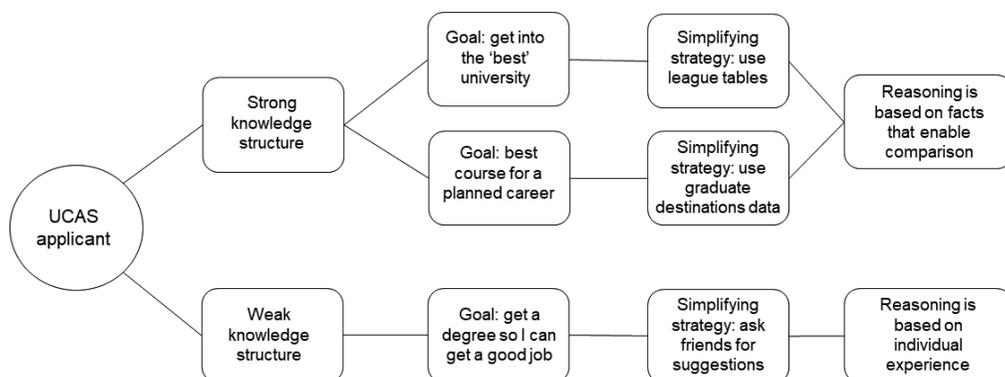


Figure 1. The potential impact of knowledge structure on goals, strategy and reasoning.

bodies and professional careers. It also creates ‘know-how’: the beliefs, attitudes, skills and behaviours that prepare a student for a strong UCAS application and smooth transition from a good school to a prestigious university. An applicant from a less-advantaged background may experience high levels of dissonance when confronted by the UCAS process, meeting a barrier they do not have the knowledge or understanding to cross, so reducing the likelihood of progression to a prestigious university.

However, the environmental context cannot fully explain behaviour and development, because some young people from less-advantaged backgrounds do enter elite universities. Bronfenbrenner and Ceci (1994) described how process–person–context relationships contribute to developmental outcomes: the *process* of interactions with other persons or circumstances can influence developmental outcomes but characteristics of the *person* (such as beliefs, motivation, skills and abilities) make some young people more effective at modifying or influencing their environments than others. Dynamic relationships between process, person and environmental context can operate in ways that may defy home background. For example, a highly motivated young person could maximise their use of CEIAG resources in a drive to enter a top university; an academically gifted pupil may win a bursary to an independent school, thereby changing the educational context; or an expert mentor could set in motion a process of awareness raising and achievement support. Any of these could dissolve the progression barrier that confronts able students from less-advantaged homes (see Figure 2).

A congruent feature in the work of Bronfenbrenner and Simon is the importance of knowledge structure and ‘know-how’ in guiding our decisions and actions, and a recognition that the lifetime experience of a young person determines the content, quality and relevance of what is known. Both theorists would predict that an environment which frequently references aspects of HE would produce a greater store of potentially relevant knowledge. Environmental settings and learning opportunities build the knowledge structures from which applicants make their decisions, but the contribution of personal agency cannot be overlooked. An explanatory model for UCAS decision-making must acknowledge the personal goals of individual

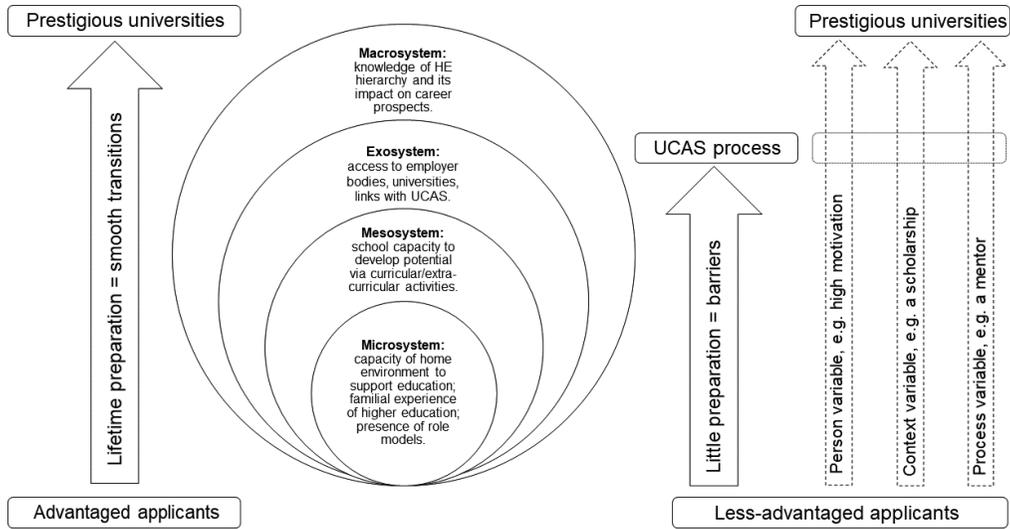


Figure 2. Bronfenbrenner's Bioecological Model of Development and the UCAS process.

applicants, and the skills and achievements they bring to the creation of an application. A synthesis of Bronfenbrenner and Simon is relevant to each stage of the UCAS process (see Figure 3).

Differences in knowledge structure, simplifying strategy and choice of reasoning style, further influenced by a range of process–person–context variables, could produce many variations in approach to decision-making. A decision to aim for a prestigious university requires: (a) an understanding that universities are not all considered equal; and (b) knowledge of which universities are regarded as superior. Understanding UCAS decision-making therefore requires quantitative measurement of what applicants *know* about named universities, in addition to qualitative measurement of the cognitive and emotional processes that underpin their actions.

Method

Exploring how applicants navigated each stage of the UCAS process required a mixed-methods approach through which the contribution of both environmental influences and applicant characteristics could emerge, thus providing evidence of between-cohort and within-cohort differences. Since the fieldwork would measure decision-making at a single point in the UCAS cycle, which was still an ongoing process, a prime consideration was to ensure that no participant would leave the

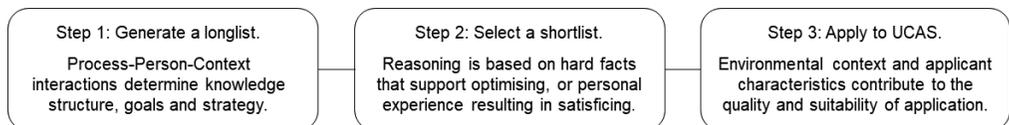


Figure 3. Interactions between applicant and environment in UCAS decision-making.

interview feeling their behaviour had been measured against any external standard or had fallen short of expectations in any way. This requirement was considered at every stage of the conception, design and conduct of the study and strongly influenced the form of the research tools. Anonymity was maintained by the use of pseudonyms for schools and students (preserving gender but not ethnicity as this would have compromised anonymity). The study complied with the BERA Ethical Guidelines and ethical approval was granted by the host university.

Quantitative data was generated by four card-sort tasks created for the study. This article draws on Task 1, which identified the number and type of universities recognised, longlisted and shortlisted by each student, and Task 2, which identified the sources of information used to research universities in the UCAS application. The tasks were embedded within an interview format, effectively scaffolding each applicant's reflections of a complex decision-making process and producing a narrative that enabled a more nuanced understanding of numerical differences. Card-sorting is most often associated with information architecture but has considerable potential for exploring decision-making processes (e.g. Bendixson *et al.*, 2017). Several factors indicated its suitability for studying the UCAS process: it is effective when considering large amounts of data, offers a degree of flexibility to determine the order and flow within a task, can facilitate adjustment and modification of choices and facilitates 'thinking aloud' (Lewis & Hepburn, 2010), thereby generating additional qualitative data.

Referring to *named* UK universities throughout the interview ensured accurate identification of the universities that each student had knowledge of, or interest in attending. This level of detail enabled valid conclusions about understanding of relative status to be drawn, because it allowed for comparison of *perceived* status with comparative data such as league tables. UCAS datasets listed over 300 providers, many of which were not universities: filtering the datasets to remove further education (FE) colleges, 'small and specialist' colleges, federations or satellite campuses, and institutions accepting fewer than 100 applicants, reduced the data to 115 university name cards, a realistic number to sort. Blank cards were provided for any institution considered by a student that was not included in the 115. A group of 37 prestigious universities was identified using subject league-table positions and university groupings (effectively comprising the Russell Group and the former 1994 Group). This provided a broad definition of prestige that ensured contemporary, vocationally oriented courses were included, avoiding the risk of highly regarded courses being discounted because that subject did not feature in the traditional, academic offering of 'elite' universities.

Fieldwork centres reflected the range of 16–19 provision in the UK. Differences in relation to qualification type, peer groups and history of progression produced incremental differences between cohorts that placed then on a continuum of HE orientation from Newtown Vocational Centre, where progression to university was a recent development, to The Croft, where progression to a Russell Group university was routine (see Table 1).

The sample of 56 volunteer participants demonstrated a broad range of sixth-form courses and the degree courses they had chosen included traditional academic

Table 1. Key features of fieldwork centres and cohorts

| | Institution type | Curriculum | Average grade | Key features of UCAS guidance |
|--|---|--|--------------------|--|
| Cohort 1: Newtown Vocational Centre (10 students) | Vocational campus of an urban FE college in northern England | BTEC Nat Dip | Merit | A recent widening participation initiative pushed university applications. Tutors with vocational expertise but limited UCAS experience had support from the cross-college guidance team. |
| Cohort 2: Greenfields BTEC group (9 students) | Semi-rural sixth- form college in northern England | BTEC Nat Dip <i>(optional AS level)</i> | Merit | Common timetabling allowed students to mix BTEC/A-level study. All students used the same advice and guidance centre, but A-level tutors had more experience of supporting UCAS applicants. High achievers selected for the Oxbridge Group received additional support. |
| Cohort 3: Greenfields A-level group (10 students) | | 2 or 3 A- levels <i>(optional BTEC unit)</i> | Grade C | |
| Cohort 4: Newtown A- Level Centre (9 students) | A-level campus of urban FE college in northern England | 3 A-levels | High Grade C | A history of progression to university had equipped tutors with long experience of advising UCAS applicants. High achievers selected for the Oxbridge Group received additional support. |
| Cohort 5: Borough Sixth Form (10 students) | Joint sixth form of two 11–18 London schools | 3 A-levels (academic subjects) | High Grade C | Head of Sixth managed the resource and study centre and its staff, in-house tutor training and external careers advice. A current priority was to increase the rate of successful Oxbridge applicants. |
| Cohort 6: The Croft School (8 students) | Independent day and boarding school in the south of England | 3 or 4 A- levels (facilitating subjects) | High Grade B | Head of Guidance led a team of administrative, pastoral and teaching staff, supported by external experts and employer engagement. Progression to Russell Group was routine. |

subjects, vocationally oriented courses and professionally accredited degrees (see Table 2).

The interviews were conducted at a late stage in the UCAS process when students had received their offers or rejections and were making final decisions. The interview schedule presented the card-sort tasks in sequential order, but the accompanying script of ‘prompt questions’ was used in a manner that reflected and acknowledged comments spontaneously made by the participant as they completed each task. The aim was to help participants describe the entire process, from first interest in

Task 2: Sources of information used to research UCAS choice universities

Student participants selected from a tray of 24 cards describing sources of information commonly used to find out about universities, for example: prospectuses, websites, league tables, open days, teachers, family and friends. Blank cards were provided for any source of information not included (see Figure 5).

Analysis of the numeric data produced by the card-sort tasks used non-parametric statistics, both descriptive and inferential, and included: Jonckheere's trend test, Kolmogorov–Smirnov one sample test (for goodness of fit) and chi-square test of association (Siegel & Castellan, 1988; Coolican, 2009).

Analysis of the qualitative data drew on Saldana (2016) using a cyclical technique in which interview transcripts were manually coded and re-coded as the salient features of the qualitative data emerged with greater clarity, producing 23 codes. These were synthesised to move towards consolidated meanings that led to the formation of six categories. Three of these were explicit in that they related to tangible or practical elements of the UCAS process: sources of information; sources of help and advice; constraints on choice. The other three were more tacit and 'data-driven': purpose of university; status and reputation; attitudes and emotions (Braun & Clarke, 2006).

Microsoft Excel was used as a repository for data from both strands so that each row contained data from an individual participant and each column contained data from a card-sort task or a coded comment (Saldana, 2016). The merged analysis could then be manipulated to look for patterns that appeared to link elements of quantitative and qualitative data, and that identified similarities or differences both between and within groups.



Figure 5. Example of card-sort process during Task 2.

Findings

Recognition of prestigious universities

The number of 'top 37' universities recognised ranged from 5 to 37, with a significant cross-cohort trend of increasing recognition as the educational environment became more HE-oriented ($z = 5.29$, $p < 0.001$). Unpicking this trend, the two sixth-form cohorts had high recognition scores that departed significantly from the overall distribution (Borough D = 0.05, $p < 0.01$; Croft D = 0.667, $p < 0.01$), whilst the four college cohorts all contained both high- and low-scoring students, reflecting the overall distribution.

The Task 1 data showed which universities a student recognised, but the qualitative data showed considerable diversity in the depth of knowledge that could underlie the numerical data. Students who began with a strong knowledge structure often described a systematic approach based on facts and evidence that could underpin informed decision-making:

Once I had my list of possible universities, I made an Excel document for all of them... and I added more information as I found things out. (Louisa, The Croft)

Conversely, interview comments sometimes suggested that sorting a university name card as 'known' did not necessarily indicate any real knowledge of the university:

I don't really know anything about the university itself, but all the big cities seem to have a university and I know there is one here. (Stephanie, Newtown A-Level Centre)

Universities with 'city' names were generally well-recognised, which benefitted the Russell Group, though having more than one university in a city could cause confusion:

Is there more than one university in Manchester? This one (Manchester Metropolitan) is the one that I've applied to, I didn't know there were two in Manchester. (Elizabeth, Newtown A-Level Centre)

Overall, the data showed that many students had only partial knowledge of universities. A prerequisite for applying to a prestigious university would be that the student has heard of its existence and is aware that it is somehow 'different'. Some of the students, particularly in the college cohorts, did not have this knowledge.

Longlisting of prestigious universities

The number of 'top 37' universities longlisted by a student varied from 0 to 20, with a significant cross-cohort trend of increasing numbers as the educational environment became more HE-oriented ($z = 5.31$, $p < 0.001$). Unpicking this trend, there were four cohorts with scores that departed significantly from the overall distribution (Newtown Vocational D = 0.667, $p < 0.01$; Greenfields BTEC D = 0.714, $p < 0.01$; Greenfields A-level D = 0.467, $p < 0.05$; Croft D = 0.524, $p < 0.05$). However, the three college cohorts had reached significance because the number of 'top

37' universities students longlisted were clustered at the lower end of the distribution (Newtown median = 2; Greenfields BTEC median = 3; Greenfields A-level median = 3.5), whilst the sixth-form cohort reached significance because scores were clustered at the top (Croft median = 14).

Students who appeared to have strong knowledge of the hierarchical nature of the UK HE sector often commented that league tables were the most important factor when generating a longlist, but the motivation for using league tables varied. Some were intent on entering the 'best' university:

My parents want me to go to the best possible university so the main things I looked at were the league tables. (Oliver, Borough Sixth Form)

Other students appeared to have used league tables in a more relaxed way, in order to check that their longlist included only universities they felt were *acceptably* high before using other criteria:

I discarded anywhere that was not high in the league tables, but then I also looked at the department, the course modules, flexibility, year in industry. I've also researched the costs. (Lauren, Greenfields A-level group)

Longlisting at The Croft was heavily influenced by personalised lists of suggested universities drawn from the school's destinations data and tailored to each student's strengths and career interests. These universities were all highly placed in subject league tables and most were Russell Group members. State-sector students usually referred only to the overall position of a university, apparently unaware that it might be weak in their subject, but some did have a clearer understanding of how the tables could be used to support informed choice matched to their personal criteria:

Once I'd found the places that had my course, I went to the subject league tables and looked at the reputation of the department. For me, personally, the reputation of the university as a whole was secondary. (Natasha, Newtown A-Level Centre)

Many of the college students, particularly those taking BTEC, did not exhibit any awareness of the hierarchical nature of UK HE when longlisting. Their judgements of quality were often based on personal recommendations from family or friends. In extreme cases, this could result in a student applying to only one or two universities, instead of the five allowed by UCAS:

I was a bit in the dark about what to do, but I have two friends who've gone to local universities they say are good, so I just typed in the names of those two universities online. (Jade, Newtown Vocational Centre)

Jade was seemingly unaware that one of these universities did have good student satisfaction ratings, but the other did not. There were two students who showed some understanding of differences between universities in terms of their accessibility for BTEC students. Daniel, when placing the card for Sheffield Hallam University in Task 1, commented that it was 'a Met' (i.e. 'Metropolitan', similar to Leeds Metropolitan or Manchester Metropolitan) and added:

I've got three cousins at university already so I'm aware that a Met will be best for me because I'm kind of an average student. (Daniel, Greenfields BTEC group)

David, who had an older sibling at university, appeared to have a similar understanding:

I like Sheffield and Liverpool as cities. I knew from my older brother that the universities wouldn't take me with a BTEC, but (Sheffield) Hallam and (Liverpool) John Moores might. (David, Greenfields BTEC group)

Both Daniel and David had a relative attending a Russell Group university but had based their decision on what they knew about entry requirements; neither of them mentioned reputation or status.

Overall, whilst comments frequently expressed a belief that 'good' universities had been longlisted, this was sometimes based entirely on personal opinions with no reference to reasoning based on factual evidence such as league tables or graduate destinations data.

Applications to prestigious universities

Because the UCAS system limits the number of choices to five, limited variation in the applications data restricted the range of legitimate inferential statistics. Casting the data in a 3×2 contingency table that compared *type* of educational environment with *type* of university appeared to provide a meaningful way to test an apparent association between cohort *type* and shortlisting of 'top 37' universities (see Table 3) and produced a significant result ($\chi^2 = 87.18$; $df = 2$, $p < 0.001$).

Taken together, the recognition, longlisting and applications data indicated that as the educational environment became more traditionally HE-oriented, students were more likely to be aware of 'top 37' universities, more likely to have considered them and more likely to have applied to them. However, the behaviour of any *one* student could not necessarily have been predicted by knowing the type of cohort they were a member of, because there was often considerable variation *within* cohorts. At the Newtown Vocational Centre there was a student who applied to three 'top 37' universities. At Borough Sixth Form there was a student who did not apply to any.

Students who were status-aware usually included prestigious 'top 37' universities in their UCAS application. If they did not, it was either because the entry requirements were discovered to be too high or because prestigious universities were found not to offer the type of practical or vocationally oriented course the student was looking for:

I really loved Southampton, but it turned out to want three grade A's and I know I won't get that. (Jessica, Newtown A-Level Centre)

Table 3. Association between cohort type and applying to prestigious universities

| | BTEC students | College A-level students | Sixth-form students |
|---------------------------------------|---------------|--------------------------|---------------------|
| Applications to 'top 37' universities | 6 | 34 | 72 |
| Applications to other universities | 66 | 55 | 17 |

I started by looking at the Russell and the Red Bricks but realised they don't do my course... their media courses were too academic and not creative, which is what I want. I also want industry-standard facilities. (Zoe, Newtown A-Level Centre)

Zoe appeared to be career-focused but made no reference to graduate statistics. However, league tables showed that her less prestigious UCAS choices did have above-average employment data for her subject.

Applying to prestigious universities did not always show understanding of status: there were seven students who applied to at least one 'top 37' university but appeared to be unaware of any difference in status. Bethany was typical:

For me, the time it takes to travel from home is crucial, so in the end I just applied to the three I can get to. I've had two rejections but I'm still waiting to hear from the third so I'm thinking it will be third time lucky. (Bethany, Newtown Vocational Centre)

Bethany did not show any awareness that her third university, a Russell Group member, would be more selective than the two post-92 universities that had already rejected her application. Her classmate, Benjamin, had included three 'top 37' universities in his application, but again did not seem to be fully aware of their different status, interpreting his three rejections as a course-related 'BTEC issue':

I've realised now that although the universities I chose all said they accepted BTEC, that didn't mean they would give you a place on any course. (Benjamin, Newtown Vocational Centre)

Benjamin's comment demonstrated the sophisticated level of understanding that might be required by teachers as well as students to *interpret* entry requirements, and the corresponding advantages to be gained for those studying in an environment with a history of progression to top universities.

Information sources and the use of league tables

Card-sort Task 2 revealed that the number of sources of information students had used to research each UCAS choice university ranged from 1 to 14, with a significant cross-cohort trend of increasing numbers as the educational environment became more HE-oriented ($z = 3.06, p < 0.01$). However, all five state-school cohorts had considerable within-cohort variation: some used only one or two sources per university, some used 10 or more, some researched all five universities equally, some researched only one or two favourite universities. Only at The Croft, where all students used a high number of sources for every university, did the scores depart significantly from the overall distribution ($D = 0.458, p < 0.05$).

Analysis of information types showed that prospectuses, websites, UCAS Course Search, open days and league tables were the most popular sources. League table usage is particularly relevant to this article. They provide an obvious way of judging a university's position in the hierarchy, but also contain comparative information (e.g. student satisfaction, career prospects) that can underpin informed decision-making against a range of personal criteria. Cross-cohort usage of these items varied far more than any other item (from 16% usage to 95%) and was consistent with the cross-cohort trends that emerged from Task 1, but at the level of individual participants the

Table 4. Use of league tables by cohort

| | Used for every university | Used for some universities | Never used |
|---------------------------|---------------------------|----------------------------|------------|
| Newtown Vocational Centre | 1 | 1 | 8 |
| Greenfields BTEC group | 1 | 2 | 6 |
| Greenfields A-level group | 2 | 4 | 4 |
| Newtown A-Level Centre | 5 | 0 | 4 |
| Borough Sixth Form | 7 | 1 | 2 |
| The Croft School | 8 | 0 | 0 |

data was polarised: 24 of the students used league tables for all of their UCAS choices and 24 never used them. Individual behaviour could not be assumed from cohort membership: two BTEC students used them for every university and two sixth formers never used them (see Table 4).

The 24 students who used league tables for every UCAS choice appeared to understand that universities could be compared and that this might be an important element of choice, but whilst the university sector itself is conscious of distinct tiers of status, most of the students did not seem to share this degree of knowledge. References to university groupings were very rare and did not always suggest full understanding:

My teacher suggested Bristol and Birmingham. I would not have heard about them, but she told me they are both good and they are Red Bricks, or whatever. (Georgia, Newtown A-Level Centre)

A belief that ‘having a good degree would lead to a good job’ was expressed by many students, but few seemed to understand the relationship between prestige and graduate outcomes. The clearest understanding of the links between course choice and labour market prospects was at The Croft, where Kirsty had correctly identified that Sheffield had the lowest graduate employment rates of her longlisted universities:

I’m concerned about how employers see all of the universities I’m considering. . . but particularly by how they see Sheffield. . . students from here don’t seem to go there. (Kirsty, The Croft)

Direct references to salary expectations were very rare, but Laura provided an example that could be directly compared to graduate outcomes:

My work experience was in a nursery, which I liked, but it’s a minimum wage job and you can’t live on that. . . then I was told about childhood studies degrees. (Laura, Greenfields BTEC group)

Employment destinations data for Laura’s chosen course showed that typical graduate salaries were only slightly above the minimum wage and fewer than 15% entered a managerial or professional role. Laura seemed unaware such labour market data existed.

Students who consistently used league tables usually had accurate knowledge but there were some serious misunderstandings. Jade and Katie both made clear

statements about the relative positions of their universities, but these appeared to be highly inflated. They had applied to the same courses at the same universities and, taken together, their comments suggested a possible explanation for their misunderstanding:

My first-choice university is in the top ten and my second choice is in the top fourteen... the ratings are on their website. (Katie, Newtown Vocational Centre)

I haven't looked at the league tables myself, but the universities told me some things about their position. (Jade, Newtown Vocational Centre)

These two universities were consistently in the lower half of the national league tables, but filtering published league table data by course, university groupings or regions showed that it was *possible* to produce data that would allow the universities concerned to claim that they were 'top ten' or '14th' and provide an external, published source for this data. It seemed that Jade and Katie had believed 'league table excerpts' on websites and at open days without reading the small print.

There were 23 students who did not choose any prestigious universities, and they shared several characteristics: no reference to league tables during the interview (21 students); no league table cards chosen in Task 2 (19 students); said the 'most important influence' on choice was family, friends or staying at home (18 students); applied to fewer than five universities (17 students); and taking a BTEC course (15 students). Some of these students would not have met the entry requirements for a prestigious university, but some who might have made a successful application appeared to have no knowledge or understanding that would have led them to consider this:

To be honest I didn't really look around very much. It was my Mum who told me that Manchester Met is really good for my course. (Rebecca, Greenfields A-level group)

Rebecca's longlist included Russell Group and post-92 universities with widely different league table positions, but she was not aware of this and therefore could not make a fully informed decision.

When students described reasons for discarding longlisted universities, they were overwhelmingly practical, such as distance from home or the realisation that their qualification profile would not match entry requirements. There was only one interview where a student described a situation that might be classified as avoidance of 'prestige':

With Durham, I got an open day invitation that said 'formal dress', so that alarmed me. Their website makes out the colleges are all the same but actually some are very public school. I used Student Room to get the true picture... and then changed my college through UCAS. (Hannah, Greenfield A-level group)

Having resolved her concern about choice of college, Hannah's view of the university itself was not affected, and she made Durham her firm choice with UCAS.

Overall, the data indicated that whilst most of the students expressed concerns about reputation and believed they had chosen 'good' universities, comparison of the qualitative data with verifiable facts revealed many gaps in knowledge or understanding.

Individual strategies and styles of decision-making

Presenting the data by cohort underplays the cohesive narrative provided by individual students. Transcripts showed that decision-making strategies were heavily influenced by the HE-related knowledge structure a student had in place when they began the task. A student with very limited knowledge would begin their search for a university within the microsystem of the home environment, relying on 'word of mouth' from family or friends to identify a university that was 'good enough': in Simon's terms, simplifying by satisficing. Conversely, a student who understood the ideology of hierarchy and the links between prestigious universities and professional careers would adopt a macro-focused strategy based on factual information such as league tables that identify the 'top' universities: in Simon's terms, simplifying in a way that enables optimising (assuming the goal is to enter the best university possible). Analysis of the merged data at individual level suggested there were four distinct patterns of behaviour, showing how progression from knowledge structure to ecosystem focus to reasoning style determined a search strategy that could expand or restrict options. Matching students to one of the four patterns and comparing this with the outcome of their UCAS application indicated that some behaviour patterns were more likely to result in success than others (see Table 5).

Patterns of decision-making were not independent of cohort: BTEC students tended to be micro- and mesosystem-focused, exhibiting Patterns A or B; A-level students tended to be exo- or macrosystem-focused, exhibiting Patterns C or D. However, cohort membership could not be assumed to predict behaviour in every instance: two BTEC students had used Pattern C and two A-level students had used Pattern A. All four of these students described home background or circumstances that were not typical of their cohort. The BTEC students who used Pattern C were unusual in that Adam's father was a careers adviser and Benjamin's parents were both graduates. The A-level students who used Pattern A both said they had done little research because personal relationships constrained their choice: Elizabeth was engaged to be married and would be living locally; Rebecca's mother expected her to live at home. These examples illustrate the importance of environment, but others described progression routes that would not have been predicted by home background. Kirsty, a bursary student at The Croft, and Lauren, an A-level student at Greenfields, described home backgrounds that were not in any way advantaged, yet both had offers from five Russell Group universities and both provided a narrative that showed how process-person-context variables had enabled their progression (Figure 6).

Kirsty's approach to UCAS decision-making reflected the policy and practice of her school and was indistinguishable from that of her advantaged peers. Lauren described a systematic, detailed choice process in which she interacted with college staff in ways that ensured she reaped maximum benefit from the college environment. Together, they show how environmental intervention or personal agency can produce a non-typical outcome, the common feature being that both had developed a very strong knowledge structure. This demonstrates the potential of the conceptual framework to offer explanations for non-typical behaviour.

Table 5. Patterns of decision-making behaviour and probable UCAS outcomes

| Knowledge structure | Ecosystem focus | Strategy/reasoning style | Key features and probable outcomes |
|--|---|--|---|
| <p>Pattern A</p> <p>Limited to what is known by family or close friends, so may be partial, out-of-date, misleading or simply wrong.</p> | <p>Microsystem: 'choice' of university takes place within the home environment before any research is done.</p> | <p>Universities only considered if suggested by someone known and trusted, reliance on personal perception rather than facts.</p> | <p>Choices made before any contact with university; fewer than five applications; poor understanding of entry requirements and admissions process; no knowledge of hierarchy. Rejections likely. Worst-case scenario: no offers.</p> |
| <p>Pattern B</p> <p>Based on personal views or experience, but may be accurate and current if guidance staff have been consulted.</p> | <p>Mesosystem: universities suggested in one environment will be explored in others before choosing.</p> | <p>Universities may be suggested by family, friends or teachers, but some factual information may balance personal experience.</p> | <p>Wider range of universities considered; some discussion before choosing; staff may steer towards realistic options, giving better understanding of entry and admissions process, resulting in offers. Little understanding of hierarchy.</p> |
| <p>Pattern C</p> <p>Informed by facts that aid comparison, but marketing 'hype' may conceal some truths and influence choices.</p> | <p>Exosystem: engagement with the HE sector raises awareness of many universities before any choices are made.</p> | <p>Using UCAS or Google for possible options, then university websites, open days and prospectuses before choosing.</p> | <p>Large number of universities considered initially, but rapid filtering needed to reduce to longlist. Skill required to apply best filters and make full use of UCAS data. Five realistic choices usually made, leading to offers. Some understanding of hierarchy.</p> |
| <p>Pattern D</p> <p>Grounded in information that reveals inequalities, and labour market advantages: choosing therefore requires effort.</p> | <p>Macrosystem: choices are made within narrow parameters determined by the prevailing ideology of status and reputation.</p> | <p>Start with the league tables (or professional bodies) to identify top courses, then use entry requirements to select the 'best possible'.</p> | <p>Relatively few universities considered, dependent on the definition of prestige applied. Aiming high may lead to a mix of offers and rejections; reliance on hard facts may overlook the importance of other criteria. Clear understanding of hierarchy.</p> |

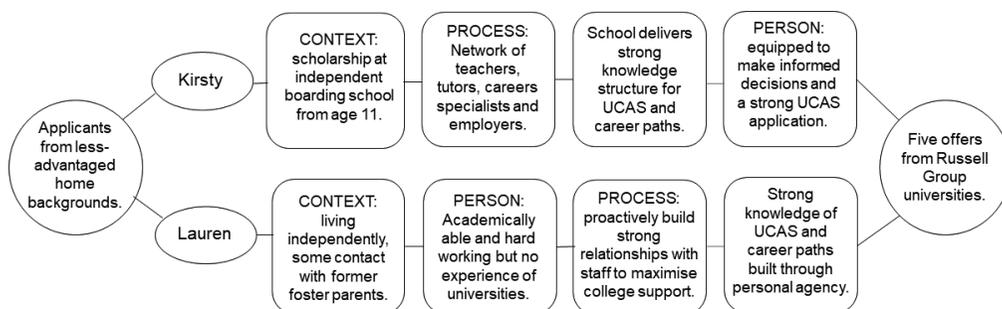


Figure 6. Process–person–context interactions that can explain non-typical progression.

Discussion

The data reflected class-based disparity in progression but there was no evidence of deliberate avoidance of prestigious universities. Students with high predicted grades usually did include selective universities in their application and some had precise knowledge of the relative status of their five choices, but even Oxbridge applicants did not always know which other universities were ‘prestigious’. Students unaware of status did not understand that comparative research might be necessary. Neither did they have the knowledge or skills to interrogate the UCAS website in a way that could have informed their understanding of what they had chosen and whether it would convey any benefits in the labour market. The data revealed a widely held belief that having any degree would lead to a professional career and a graduate salary, alongside a serious lack of knowledge that some graduates may not enter professional roles. Weak knowledge underpinned two negative outcomes: (a) some had ‘wasted’ applications to prestigious courses where the entry requirements were unachievable; and (b) some had no understanding of the very low status of universities they chose. It is perhaps worth noting that the combined (and well-publicised) impact of Brexit and Covid on the employment prospects of graduates may have shifted the knowledge base of UCAS applicants: personal or familial experience may have increased understanding of precarity.

The findings often reflected aspects of existing research. Students at The Croft described a careers ‘curriculum’ associated with independent schools (Huddleston *et al.*, 2012) that began as early as Year 10, fostering *prospective* preparation for UCAS; college students often described late decisions and a *retrospective* approach, resulting in unsuccessful applications (Jones, 2013; Shuker, 2014). Some college students did not fully realise the limitations of BTEC or ‘non-facilitating’ A-levels, even after receiving rejections (Dilnot, 2016). At The Croft, the UCAS process was an integral step towards a professional career; state-sector students sometimes had graduate expectations unlikely to be met by their UCAS choices (Chevalier & Conlon, 2003; De Vries, 2014). There were several examples of undermatching that could be explained by informational constraints (Campbell *et al.*, 2019), but also examples of what might be termed ‘informed-undermatching’ where students articulated a goal that was not based on league-table rankings, such as specific course content that was hard to find, a focus on facilities or atmosphere, or a need to stay at home.

The conceptual framework based on a synthesis of Bronfenbrenner's and Simon's models offered a valuable tool for describing and explaining the UCAS process. Detailed descriptions of university choice provided explanations for both the class-based effects seen in national progression data and individual effects that can result in some young people from less-advantaged backgrounds entering prestigious universities. Furthermore, the framework can identify environmental or policy interventions with the potential to drive behavioural change. For example, delivering a curriculum for UCAS builds a knowledge structure that can level the playing field for less-advantaged applicants.

There are implications here for providers of information. Currently, the consistency in tuition fees across different degrees and universities obscures the fact that they do not all offer the same return on investment; all universities can make some claim to excellence and there is no requirement to advertise the fact that some courses have poor graduate outcomes. Many of the students expressed a degree of scepticism towards universities that 'tried too hard', but this did not always prevent them from being misled by marketing 'hype'. The UCAS website offers a source of unbiased information but its standardisation of entries, and avoidance of tactics that might guide rather than inform, can disadvantage applicants who approach the task unaware of status differences.

There are also implications for students, who varied widely in the use they made of CEIAG provision and the amount of time and effort they invested in the task of choosing universities. Every state-sector cohort had at least one student who had carried out systematic, self-motivated research that was comparable to the practice of the independent-school students. This demonstrated what was possible. However, those who did very little research did not seem to realise that their choices were very poorly informed, and some did not appear to recognise the importance of the decision they were making.

The provision of CEIAG for UCAS applicants is a critical factor in informed decision-making. The state schools and colleges all acknowledged that they were not resourced to meet the individual needs of every student, which necessitated an 'opt-in' model of guidance; if these students described one-to-one support, it was usually for completion of the UCAS form, not choice of universities. Most state-sector students had been accompanied by parents at open days, though few parents had any personal experience of HE. At The Croft, most parents were graduates, but their involvement seemed relatively low. Parents had not attended open days and trusted the school to help their child choose the most appropriate university. Their confidence was not misplaced: the intensive, curricular provision at The Croft produced a consistently high level of knowledge and understanding that was always related to career aims.

This high-quality CEIAG could be replicated in any school but would have significant resource implications. It may be more realistic to look for opportunities to modify or enhance what is already offered in the state sector, and an obvious starting point might be the one aspect of UCAS preparation that all students seemed to have participated in: a session that explained how to apply through UCAS. This was usually a day or half-day workshop that included time on the UCAS website. Expansion of this to demonstrate how the UCAS site could have been used to *compare* courses and

graduate outcomes would have provided information that independent-sector families already had. However, such in-depth research would sometimes have led to the discovery that universities with strong links to the school or college were very low in the league tables and had poor graduate destinations data. Local universities were providing invaluable support to the five state-sector cohorts, linking with subject teachers and tutors, advising students and speaking at parents' evenings. In-depth research would have shown some students that their career aspirations were unlikely to be fulfilled by the courses they had chosen, and could have shown teachers and tutors that well-meant suggestions were not adequately informed.

There are limitations inherent in any design and it must be acknowledged that students describing a process spanning a period of at least 6 months may not have had total recall, or that mature students, those not in education or those with non-standard qualifications may have produced different results. The sample size ruled out serious consideration of a range of applicant characteristics, but two of the excluded variables were present in the data: gender and ethnicity. During the analysis, attention was paid to both factors, and there were no obvious differences that suggested they presented confounding variables. Further research could explore these variables. The potential of the conceptual framework to explain and predict outcomes offers a basis for a diagnostic tool to provide tutors and teachers with an 'early warning' that a student might be heading down a path that would lead to rejections, rather than offers. Research to build and pilot a diagnostic tool has begun.

Through the use of a new conceptual framework that synthesises Bronfenbrenner's and Simon's models, this research has demonstrated that persistent class-based disparity in progression to prestigious universities appears to be associated with significant disparity in understanding of the hierarchical nature of HE. Some students had little comprehension of the concept of status: they were not avoiding prestigious universities but were simply unaware of their existence as a separate entity. Those who knew that a group of high-status institutions may convey lifetime benefits for their graduates usually applied to those universities. They knew because they had been told; telling everyone could be a game-changer.

NOTE

¹ Since September 2019 graduate data is hosted at DiscoverUni, which is not directly linked to UCAS.

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