CENTRE FOR EDUCATION POLICY
& EQUALISING OPPORTUNITIES

Briefing note: How should universities select students?

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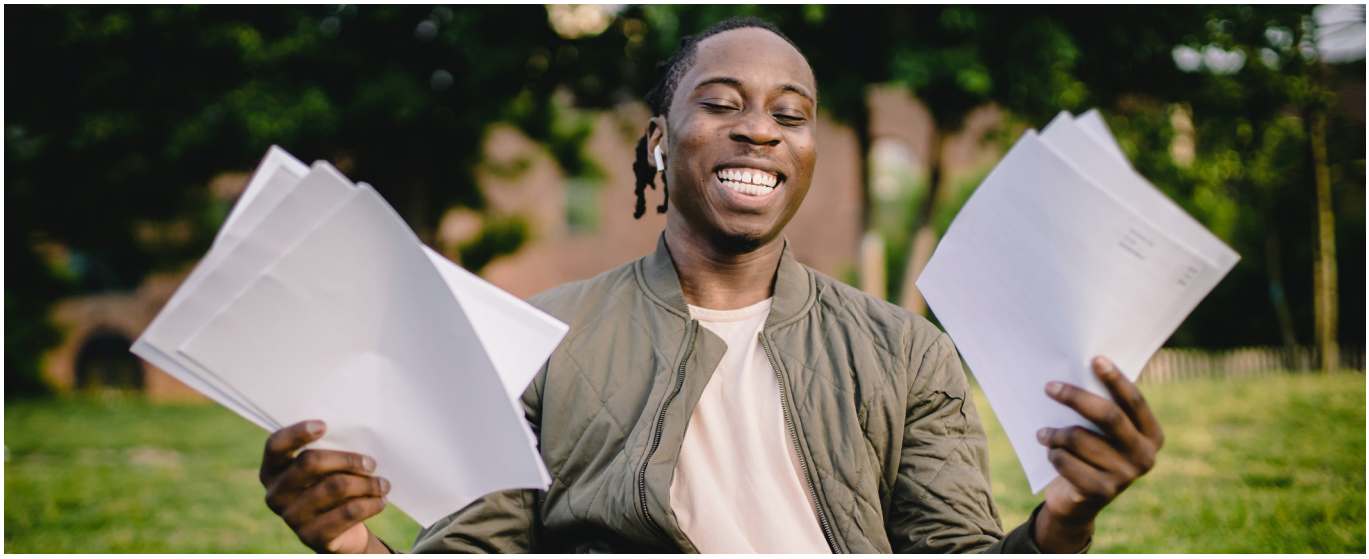

Summary

- All measures that British universities use to select students have the potential to distort the admissions process.
- Aptitude testing should not be seen as a silver-bullet solution to issues of bias in the other sources of evidence:
  - evidence suggests they may provide little information over and above that from existing prior attainment measures, and
  - literature from the US highlights concerns that they may discriminate against certain types of students.

Recommendations

Universities should:

- Implement a post-qualification application system. As detailed in briefing note 7 (Wyness, 2020) evidence shows this is fairest way to select students.
- Review the value of personal statements, as this disadvantages certain groups of students.
- Not introduce aptitude testing without demonstrating both fairness and the additional information they would provide about degree performance, importantly within the context to which they would be introduced.
- Consider, in the current Covid context, relying more heavily on prior attainment (i.e. GCSE grades), but step up their efforts to use contextual information about applicants.

The Issue

British universities select the students to whom they offer places, generally drawing on the following pieces of information: a 'personal statement', prior attainment, predicted grades, and contextual information about the applicant. A smaller group of institutions also use information based on aptitude tests and interviews. However, all such sources of information have the potential to be biased, including by factors such as gender, ethnicity and socioeconomic status. This raises the question of which of these sources of information universities should prioritise, and which they should use at all.

Britain is almost unique in using predicted grades, as discussed in briefing note 7 (Wyness, 2020), but even beyond this different countries approaches differ substantially, for example the US relies far more extensively on aptitude testing than is the case in the UK, partly due to its lack of national terminal examinations. In this briefing note, we assess the evidence on the strengths and weaknesses of using these sources of information about students' suitability for different higher education courses.

What are universities trying to measure in applicants?

Universities typically argue that they select students who are a good 'match' to the course – who are academically able to cope with the demands of the course and be able to benefit from what is offered. To the extent this is the case, they should be seeking out measures that have high levels of 'predictive validity' (Cronbach & Meehl, 1955) - measures that predict their academic performance while at university. In doing so, they should be particularly mindful of the fact that applicants of different genders, ethnicities and socioeconomic backgrounds may perform differently on key indicators of potential performance in higher education (Ogg et al., 2009; Crawford, 2014; Vidal Rodeiro, C. & Zanini, N., 2015). Taking into account such contextual information is important to getting an unbiased picture of young people's potential performance once at university.

Sources of Information

We review five main sources of information that universities typically use as part of their admissions processes:

- **Academic attainment:** University applications typically include information on candidates' performance in previous academic attainment, most usually performance in their GCSEs at age 16 (and, until relatively recently, performance in AS Levels). Performance on these examinations (including performance in specific subjects, for example) is assumed to be predictive of potential students' aptitude for engaging with a programme of undergraduate education – and certainly there is a correlation between academic attainment and degree performance (Naylor & Smith, 2001; HEFCE, 2014; Gill & Vidal Rodeiro, 2014). That said, (relevant to our point below on contextual information) we should be mindful that such measures may convey different information depending on pupils' socioeconomic background or the school they attend (Vidal Rodeiro & Zanini, 2015). For example, Ogg et al. (2009) highlight that GCSE attainment may be differentially informative depending on whether the applicant attended a state or a private school. Similarly, Anders et al. (2020) find that prior achievement in GCSEs can only predict A levels for 1 in 3 students, and the accuracy varies by subject and school type. Given that performance in A levels is by far the most common element of a conditional offer from a university, this is important as A levels are not yet available when offers are made.

- **Predicted grades**: The issue of using predicted A level grades as part of the university admissions process is discussed at length in a recent CEPEO Briefing Note 7 (Wyness, 2020). We highlight the inequalities caused by their use and advocate the switching to a post-qualification application (PQA) process, at which point the realised A level grades may be used instead as fur-

-ther prior attainment (as discussed above).

- **Aptitude tests**: There has been an increasing use of aptitude tests for selection onto courses and institutions for which places are most competitive, including the BioMedical Aptitude Test (BMAT) or University Clinical Aptitude Test (UCAT) for admission to medical courses at many universities; the Thinking Skills Assessment (TSA) for a range of courses at the University of Oxford, the University of Cambridge and University College London; the Law National Admissions Test (LNAT) for legal courses; among others. Internationally, the SAT is widely used for admissions in the United States. If we see aptitude as a measure of potential ability for a given course, then aptitude tests should be effective at predicting the performance of candidates once they reach university and should do so without being biased by candidates' other characteristics. However, McDonald et al. (2001a) find little evidence that the SAT predicts attainment once at college in the US any better than high school record alone, findings that have been replicated in Britain (McDonald et al., 2001b), with no evidence that the SAT provides more information on applicants' performance at university than GCSEs alone (Kirkup, 2010, p.20), although this may vary depending on the university subject of study (Ogg et al., 2009). Evidence also suggests that "low-income students not only are less likely to take college placement tests but also tend to have lower scores on these exams" (Pallais & Turner, 2008, p.135) with this "gap [between low and high income applicants] …particularly marked at the top of the [test score] distribution". This may be explained by differences in the ability for students' parents to afford tutoring for these aptitude tests, as is seen in the case of coaching for 11+ tests earlier in the education system (Jerrim & Sims, 2019). There have long been concerns about gender differences in performance in aptitude testing in the US (Linn, 1989) and, while finding differences in scores by socioeconomic status or gender does not necessarily imply bias (Zwick, 2007, p.20), McDonald et al. (2001) do identify specific evidence of biases in the SAT, with "consistent evidence that [it] under-predicts female attainment" once they get to university and more mixed evidence on bias by ethnic groups. Wikström & Wikström (2014) present similar evidence from Sweden, while Tannenbaum (2012) argues that one reason for these findings is differing gender styles in test taking. Although these analyses cannot be extrapolated to all aptitude tests, and some tests used in particular ways may not add to any existing biases in the process (Anders, 2014), the burden of proof would seem to be for universities to demonstrate predictive validity (over and above prior attainment) and absence of bias for key groups in any planned usage.

- **Personal statements and interviews**: All applications to universities through the Universities and Colleges Admissions Service (UCAS) include a 'personal statement' in which applicants are meant to set out why they are interested in studying the course(s) for which they have applied, and setting out their skills and experience which demonstrate their ability to participate in the course (UCAS, 2020). However, explorations of the content of personal statements have drawn attention to socioeconomic inequality, noting for example that "a broader range of social and cultural capital is drawn on by privately educated young people" (Jones, 2013). Such attempts to judge applicants' interest and 'passion' are sometimes augmented with interviews, although again work has highlighted the risks of 'homophily' between admissions tutors and interviewees leading to socioeconomic inequality (Zimdars, 2009), something that has also been highlighted as an issue in labour market hiring practices (Rivera, 2012).

- **Contextual information**: Increasingly, universities take into account contextual information about students' previous educational experience that has been shown to moderate other aspects of the above information (Ogg et al., 2009). For example, we know that students who attended schools with lower average attainment go on to per-

-form better at university than students with the same grades who attended a school with higher average attainment (Crawford, 2014; Johnes & McNabb, 2004; Smith & Naylor, 2001), and likewise those who went to private schools go on to do less well than those with comparable A levels obtained while at a state school (Vidal Rodeiro & Zanini, 2015). This is likely to be because the latter students' performance is flattered by the environmental factors associated with higher average attainment at their school. Clearly, contextual information could also introduce bias if used in ways not consistent with the evidence above, but also have substantial potential to reduce bias in the other measures.

Summary and Implications:

British universities select the students to whom they offer places generally drawing on the following pieces of information: a 'personal statement', prior attainment, predicted grades, aptitude tests, and contextual information about the applicant. Ultimately, all of these sources have the potential to introduce bias into the admissions process, given that the evidence shows them to be influenced by factors beyond students' ability to engage with and succeed in the course to which they are applying. Aptitude testing should not be seen as a silver-bullet solution to issues of bias in the other sources of evidence; evidence suggests they may provide little information over and above that from existing prior attainment measures, while literature from the US highlights concerns about the potential for bias. Universities should prioritise drawing on applicants' academic attainment (including A levels, by shifting to a post-qualification applications system), and contextualise this using information on pupils' schooling experiences, since we know that these moderate young people's likely performance once they get to university.

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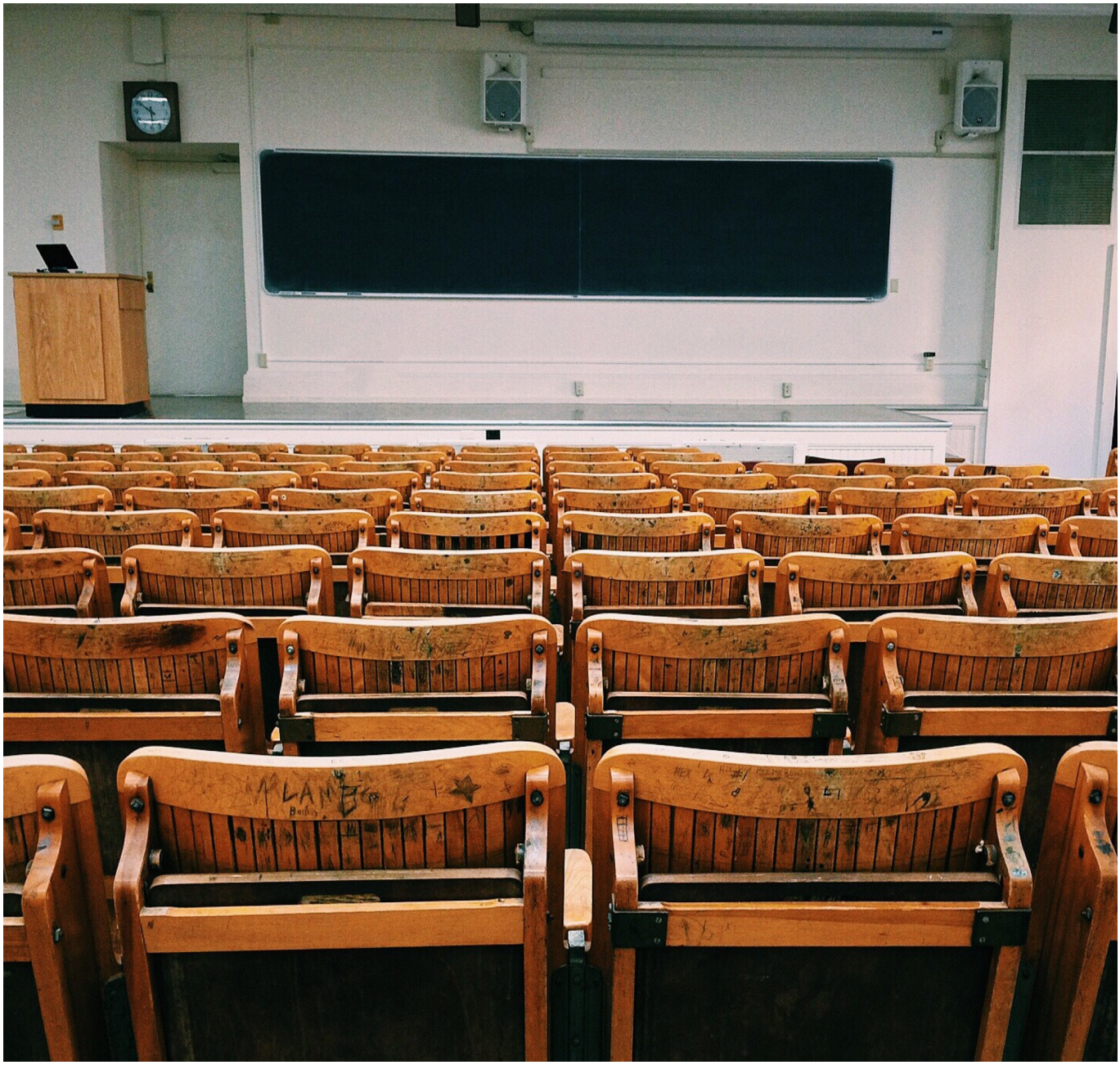

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