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**Cognitive Framing and Its Theoretical
Implications for Tuition Fee Policies in
England**

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Title

Cognitive Framing and Its Theoretical Implications for Tuition Fee Policies in England

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Abstract

This working paper seeks to contribute to the study of university access in England by analyzing the predominant theoretical conceptual frameworks – human capital and habitus – and then suggesting a supplementary avenue of inquiry. It does so by exploring an additional approach to theorizing the recent drop-off in university applications in England: cognitive framing, which focuses on how new information is presented to and interpreted by an individual. The predominant conceptual models emphasize the explanatory power of the characteristics of a given student or the policy that they encounter; in contrast, framing draws attention to their engagement. In other words, it claims that substantively identical policies can differ in their impact according to variations in how people are informed about them. Consequently, its application could augment the explanations offered by the established conceptual models in order to provide a more nuanced understanding of application disparities in England.

Keywords

Higher education, widening participation, educational inequality, equity, education policy

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INTRODUCTION

The expansion of England's higher education sector in recent decades has disproportionately served students from the higher socioeconomic classes (Machin & Vignoles, 2004). As a consequence, undergraduate enrollment levels remain highly stratified (Anders, 2012a; Archer, Hutchings, & Ross, 2003). Although England's three major political parties all aim to redress this disparity by promoting enrollment among poorer students (Conservatives, 2013; Labour, 2010; Liberal Democrats, 2013), concerns about access have risen further over the past year. Applications to undergraduate programs dropped by nine percent between 2011 and 2012, reversing a decades-long trend of growth (Universities and Colleges Admissions Service, 2013b). In comparison, applications had increased by seven percent on average for each of the previous five years.

This shift follows a recent policy change. Following Lord Browne's (2010) review of higher education funding, the incumbent Coalition Government reduced support to universities and increased tuition fees. From one year to the next, average undergraduate fees increased from approximately 14% of median household income to 34%, and all but two of the country's 119 universities enacted the changes. Nevertheless, the new policies also include more progressive elements. The government provides loans and need-based grants to cover all costs, these are charged at low interest rates, and any debt outstanding after 20 years is forgiven.

However, media coverage of these policy changes tends to focus on fee increases rather than other aspects such as the deferred payment scheme. As a result, prospective students may fail to appreciate that the financial risk associated with studying has been reduced. Further, the

impact may be greatest for poorer students: past research indicates that they react more cautiously to increases in the direct costs of study, even when such increases are fully offset by bursaries (Davies, Slack, Hughes, Mangan, & Vigurs 2008; Pennell & West, 2005).

In light of these developments, it is worth re-examining how policy researchers in England theorize enrollment disparities by social class. To date, researchers have given limited attention to how finances influence students' application decisions, preferring instead to focus on longer-term factors. Should their established frameworks have shortcomings in their capacity to explain students' responses to the recent fee increases, researchers may benefit from exploring supplementary theories.

This working paper seeks to contribute to the study of university access in England by analyzing the predominant theoretical conceptual frameworks – human capital and habitus – and then suggesting a supplementary avenue of inquiry. It does so by exploring an additional approach to theorizing the recent drop-off in university applications in England: cognitive framing, which focuses on how new information is presented to and interpreted by an individual. The predominant conceptual models emphasize the explanatory power of the characteristics of a given student or the policy that they encounter; in contrast, framing draws attention to their engagement. In other words, it claims that substantively identical policies can differ in their impact according to variations in how people are informed about them. Consequently, its application could augment the explanations offered by the established conceptual models in order to provide a more nuanced understanding of application disparities in England.

The primary question that this paper addresses is as follows: *in light of recent funding*

policy changes in England, what can framing theory contribute to human capital theory and habitus in terms of explaining socioeconomic disparities in students' higher education enrollment decisions? In order to guide its inquiry, this response progresses through five sub-questions:

1. How have education policy and undergraduate enrollment patterns in England shifted in recent decades?
2. How do exponents of human capital and habitus theorize disparities in university enrollment by social class? Specifically, how do their theories of the role of social class translate into assumptions about university enrollment decisions? What empirical evidence supports these theories and assumptions? What are the strengths and weaknesses of this research?
3. How do exponents of cognitive framing theorize decision-making? What might their insights contribute to our understanding of students' enrollment behavior?
4. How can the three conceptual frameworks – human capital, habitus, and framing – be integrated into a new conceptual model that builds on the strengths, and limits the weaknesses, of each individual framework?
5. What implications would such a model have for future research on enrollment disparities in England?

EXAM PARAMETERS AND TERMINOLOGY

This working paper focuses on the enrollment decisions of those considered to be of the traditional undergraduate age – defined in England as non-mature students (Universities and Colleges Admissions Service, 2013a) – i.e., those aged 18 to 22 years. Since most of the factors discussed in this working paper occur within one year of their time in school, these young people are referred to as students throughout. This exam's primary focus is whether students enroll in an undergraduate degree at university, not which course or institution. 'Enrollment' is

taken to include not only the act of registering for a course but also the preceding act of making an application. ‘Universities’ refers to those 119 institutions awarded university status by the United Kingdom Government (2012). All monetary figures are presented in British pounds; at the time of writing, one British pound was worth slightly more than one and a half US dollars.

Social class remains a contentious topic in England, and definitions of this concept remain contested (Foster, Gomm, & Hammersley, 1996). Precedents in classifying social class include parental occupation type, parental income, parental education, speech, and clothing, while other researchers argue that any classification is counterproductive, instead preferring undefined, subjective assessments (Archer et al., 2003; Savage, 2000). The research cited in this working paper covers the range of approaches just noted. In spite of this, researchers of university access in England have rarely disputed one another’s definitions, or lack thereof, of social class. This paper will follow this trend, noting but accepting different approaches.

I: THE POLICY CONTEXT IN ENGLAND

SECTION INTRODUCTION

This section aims to contextualize the ensuing discussions of theoretical and empirical research. It begins by outlining some of the key policy features of the undergraduate applications process and fee systems in England, noting points of continuity and change. It then provides an overview of enrollment patterns in recent decades.

EDUCATION POLICY

University admissions. England has a national school curriculum and a central organization administering applications, making both school examinations and undergraduate admissions processes highly uniform for students across the country. One key feature of this education system is that students begin to specialize in subjects from an early age. During eighth grade, students select 10 subjects – from a range of approximately 30 options – on which they will be tested at the end of the tenth grade in examinations known as General Certificates of Secondary Education (henceforth GCSEs). Schooling ceases to be compulsory after these exams; those who do not pass five or more GCSEs – around two fifths in recent years (House of Commons Education Committee, 2013) – tend either to enter employment or leave the standard high school system, attending further education institutions in order to retake these exams or study vocational courses.

Those that do pass at least five GCSEs are able to continue to the final two years of high school to take Advanced Levels (henceforth A-levels). Students choose three or four A-level subjects, can only study those for which they took GCSEs, and must select certain subjects in order to study a particular subject for university. For example, students hoping to study medicine at university need to take extended science GCSEs as well as math and biology at A-level. In their university applications, students must specify which subject they plan to study. Students do not take introductory classes across a range of subjects during their degrees; instead, they only study courses in either a single- or dual-subject program from the outset.

All undergraduate applications are managed by a single organization: the Universities & Colleges Admissions Service (henceforth UCAS). The application process is largely uniform

across institutions: universities have access to candidates' personal statements, anticipated A-level results (as predicted by schoolteachers), and GCSE results. Only a minority of institutions uses interviews to further screen applicants.

Students hoping to progress beyond the compulsory stages of education are thus required to choose appropriate GCSE subjects at the end of eighth grade and perform well in these subjects at the end of tenth grade. GCSEs provide a strong predictor of future university attendance (Chowdry, Crawford, Dearden, Goodman, & Vignoles, 2013), operating as a “symbolic and material currency in terms of future educational progression” (Davey & Fuller 2013, 3.1). UCAS has been in place for 20 years, GCSE exams for 28 years, and A-levels for over 60 years. For two decades then, the undergraduate admissions process for English universities has followed a consistent pattern with uniform processes. The system is clear, but it requires students to envisage coherent academic trajectories and perform well in examinations from mid-adolescence.

Tuition fees. In contrast, tuition fee policies have undergone a great deal of upheaval in recent decades. Between 1962 and the 1980s, the direct costs to students of university study were largely stable (Callender, 2006). During this period, the government not only covered tuition fees and provided maintenance grants, but students were also eligible for subsidized housing and, during term holidays, unemployment benefits (Blanden & Machin, 2004). In recent decades, however, the cost of undergraduate study has increasingly fallen directly upon students (Callender 2003, 2006). Margaret Thatcher's Conservative government (1979–1990) withdrew student eligibility for housing and unemployment, and her successor John Major (1990–1997) altered maintenance grants from a large public subsidy favoring the poorest

students to a smaller subsidy benefiting all students equally. In addition, Major introduced student loans for the first time, which were charged at a zero rate of real interest.

Tony Blair's Labour government (1997–2007) provided more continuity than change, building upon many of the Conservatives Party's education policies (Exley & Ball, 2011). The Teaching and Higher Education Act, 1998, replaced all grants with loans and introduced tuition fees, whereby students at all institutions began paying £1,000 per year, although the poorest third of students were exempt. This was succeeded in 2005 by fees of £3,000 per year, still means-tested but now liable post-degree once graduates were earning over £14,000 annually. This policy was so contentious that, although Blair's Labour Party held a majority of 161 votes, it passed in the House of Commons by just five votes. The vote would not have passed without the support of 46 Scottish Commons members, who voted to impose fees on English but not on Scottish students. The average debt of students graduating in 2003 amounted to £8,666; this was two and a half times more than for those who graduated in 1998 and three and a half times more than for those who graduated in 1996 (Callender & Jackson, 2005; Callender & Wilkinson, 2003).

Following Lord Browne's (2010) review of higher education funding, the House of Commons approved trebling the amount that universities could charge home students from a previous cap of £3,000 per year to £9,000. This change was instituted in 2013 when, on average, English students have been charged approximately £8,000 for the year (Chowdry, Dearden, Hin and Lloyd, 2012). Given the centralized nature of England's higher education system – the government provides funding to all but two of the United Kingdom's 119 universities – these policy changes are far-reaching. For prospective students, these changes now make England one

of the most expensive countries in the world for undergraduate study (Organisation for Economic Co-operation and Development, 2011; Shaw, 2012).

However, the policy changes also include more progressive elements. Students are not required to pay any tuition fees up front: the government offers loans to cover the full cost of fees, and for living costs it offers needs-assessed grants and loans to all other students. Graduates only have to pay back these loans when earning over £21,000 at a job situated in the United Kingdom. Interest on these loans is fixed at two percent plus inflation, and the government forgives any unresolved debt after twenty years (United Kingdom Government, 2013). Yet, media reports mention these policy changes far less frequently than the fee increases, and prospective students may not appreciate that in many respects the financial burden of undergraduate study has reduced.

In one sense, the fee increases represent a logical change for the government as the reduced role of public expenditure in higher education funding will align England with the majority of the other nations with globally elite institutions such as the United States, Japan, Australia, and South Korea (St. John & Meyer, 2013). Hence, although the recent trebling of the fee cap may seem a dramatic policy shift to the British public, it might be more realistic to say that it punctuates a quarter-of-a-century trend of increasing the direct cost to undergraduate students of higher education.

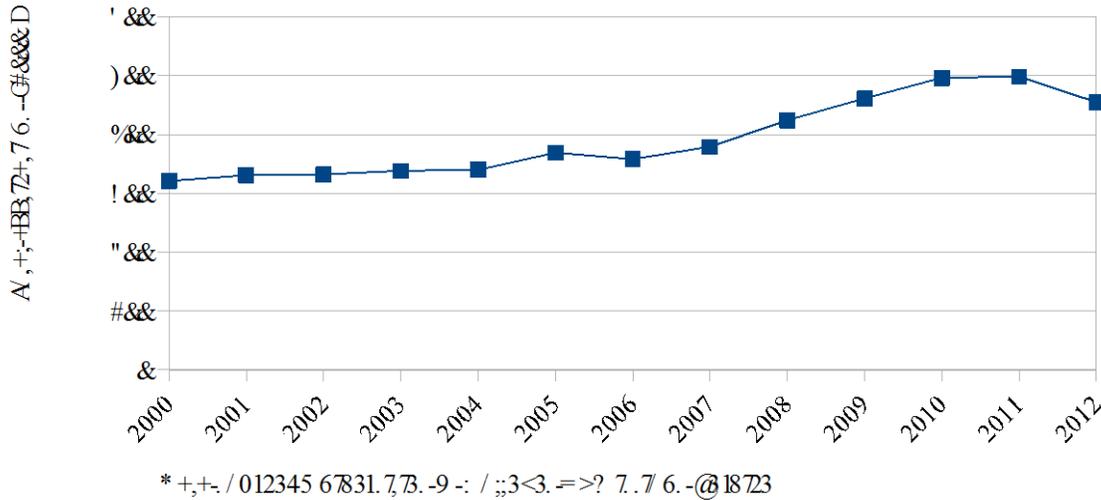
UNDERGRADUATE ENROLLMENT PATTERNS

Growth. The provision of university education has increased precipitously over the past half century. The number of universities tripled between 1960 and 2000; around 20 institutions

were built in the 1960s, and 35 polytechnics were re-accredited as universities in 1992 (Greenaway and Haynes, 2003). This growth in supply has been accompanied by a commensurate growth in demand. In 2000, student enrollment in the United Kingdom stood at two million, representing a five-fold increase since the 1960s (Greenaway and Haynes, 2003). The proportion of citizens aged 18–22 who were enrolled in university rose from five percent in 1960 to 17% in 1990 and then to 33% in 2000 (Callender, 2006).

Figure 1 presents total applications to undergraduate applications at all British universities since 2000. As it shows, applications have increased for 10 of the last 12 years. The two exceptions, 2006 and 2012, were the application years prior to the implementation of tuition fee increases. In 2012, applications for undergraduate programs dropped nine percent from the previous year (Universities and Colleges Admissions Service, 2013b), whereas applications had increased by seven percent on average over the previous five years. Although it is still not possible to know whether this may represent a blip, as in 2006, or a more prolonged dip, this drop has already caused consternation among the media and policymakers (Dearden, Goodman, & Wyness, 2012).

Figure 1. Undergraduate applications to British universities



Disparities. The long-term growth in application numbers should not mask the fact that participation in higher education is highly stratified (Anders, 2012a; Archer et al., 2003; Ball, 2008). To date, researchers in England have considered various dimensions of disparity. Enrollment rates have not been shown to differ substantially by region and distance from university (Gibbons & Vignoles, 2012), although they do differ greatly according to neighborhood deprivation (Singleton, 2010). Male students are consistently less likely to enroll in an undergraduate course than female students (Archer, Pratt, & Phillips, 2001; Chowdry et al., 2013), while non-White minority students actually have higher enrollment rates than White students (Conor, Tyers, Modood, & Hillage, 2004; Reay, David, & Ball, 2005).

Among the forms of disparity researched, social class is particularly entrenched. Between the 1960s and 1980s, academic achievement became less accurate and social class more accurate as predictors of university applications (Machin & Vignoles, 2004), a trend that continued into the 1990s (Blanden & Machin, 2004; Galindo-Rueda, Marcenaro-Gutierrez, & Vignoles, 2008; Glennerster, 2002). By 2009, students from the most advantaged quintile of

households were six times more likely to attend university than those from the least advantaged quintile (Vignoles & Powdthavee, 2009).

SECTION SUMMARY

English education policy has remained highly centralized in recent decades. This is reflected in school curricula and university admissions processes. As a result, the national government's policies are far-reaching, coming into effect for almost all school students and close to every university student. While application requirements are clear and consistent across schools, the established system places a premium on both academic performance and certainty over subject specialization at a young age. The major exception to this consistency though has been the ongoing increase in the direct costs of undergraduate study, of which the main component is the erosion of grants in favor of tuition fees and student loans.

The shift in enrolment patterns over recent decades has two distinguishing features. The first is a steady growth in total enrolment numbers. The current year is an exception to this, albeit no trend can be derived on the basis of a single year. The second is the ongoing shift towards greater socioeconomic disparity: more students from the poorest families are attending university than before, but their growth rate is less than that of wealthier students.

2: HUMAN CAPITAL

SECTION INTRODUCTION

This section moves on to the conceptual frameworks that researchers have applied to university enrollment disparities in England. It presents human capital theory, one of the two

predominant approaches in the research literature, and explores how this theory's exponents explain disparities in university enrollment by social class in England. To do so, the section progresses through four stages. First, it outlines the theoretical underpinnings of human capital, addressing conceptualizations of the role of education, students' decision-making on enrollment, and potential causes of enrollment disparities. Second, it provides an overview of common empirical approaches used by the theory's exponents in England, illustrating this with an archetypal study. Third, it considers the claims that the theory's exponents have made about class disparities in the English context. Fourth, it evaluates the strengths and weaknesses of this literature.

THEORETICAL UNDERPINNINGS

The role of education. The core argument underlying human capital theory is that skill development can lead to greater wealth accumulation in the future. Hence, education is a financial investment. Prior to human capital, conventional economic theory held that tertiary education offered a form of consumption: students choose to take part for recreation and status (Machin, 2008). Gary Becker and Theodore Schultz, to whom the development of human capital theory is most commonly attributed (Dearden, Machin, & Vignoles, 2011), claimed instead that individuals choose to undertake education so long as they think that the income premium resulting from their education will offset the costs they bear – primarily foregone income and study fees – in order to study.

Becker (1980) and Schultz (1961) acknowledge Adam Smith, an eighteenth-century economist, for initiating the notion of human capital. In *The Wealth of Nations*, Smith

(1776/2007) accounted for the skills of citizens when assessing the wealth of a given country. Further, he claimed that differences among people “arise not so much from nature, as from habit, custom, and education” (p. 15). Smith thus theorized that humans’ skills influence their ability to generate wealth, and that these skills are fashioned, at least in part, by education. Becker (1980) and Schultz (1961) sought to build on Smith’s arguments by quantifying the economic returns to education. Focusing on White males in the United States in the first half of the twentieth century, both declared higher education to be a profitable investment. In this context, Becker (1980) argued that the average monetary return to college graduates was between 11–13%. Schultz (1961) posited that education had outpaced other forms of investments, claiming that its rate of return on a dollar invested had doubled in relation to alternatives.

Human capital makes two important assumptions about the purpose of higher education. The first is that the benefits of education occur almost exclusively in pecuniary terms. Even though Becker's (1980) initial published work on human capital sought to examine “monetary and psychic income” (p. 9), he proceeded to operationalize returns to education solely in monetary terms; this emphasis is also reflected in his conclusions. Most, if not all, subsequent exponents of human capital theory (see, for example, Blundell, Dearden, Meghir, & Sianesi, 1999; Card, 1999; Heckman, Lochner, & Todd, 2006) have followed this near-exclusive focus on income, with little if any discussion of why (Dearden et al., 2011). This presents a clear but restrictive perspective of higher education’s purpose.

The second assumption is that returns to education are private. In other words, the benefits of education are enjoyed by participating students and not more broadly. Schultz

(1961) claimed that this insight served to empower individuals since “laborers have become capitalists not from a diffusion of the ownership of corporation stocks... but from the acquisition of knowledge and skill that have economic value” (p. 3). Some research in the United States has sought to identify social returns to education, i.e., benefits for those who are not participating students, (see, for example, Acemoglu & Angrist, 2001; Moretti, 2004), but the broader trend is still to treat the benefits and costs of education at the individual level.

Students’ decision-making. Human capital theory treats students’ motivations and behaviors as though they consistently reflect its own description of the role of education. As a consequence, students are presumed to decide whether to enroll in education on the basis of anticipated future earnings. In addition, students are expected to be adept at making this judgment. Becker (1965, 1976) claimed that students operate on the basis of the “well-known equilibrium condition” (1976, p. 123) that they should take on tertiary education to the point where present costs outweigh expected future returns. Although Mincer (1974), Card (1999, 2001) and Heckman et al. (2006) have made major subsequent adjustments to Becker’s (1967) calculations of what constitutes and how to calculate costs and returns, each has retained the underlying principle of equilibrium.

As a consequence, this framework theorizes that students both try and are successful in projecting future earning opportunities for graduates and non-graduates. When challenged on this assumption, Becker (1980) responded:

Children have their decisions guided, however, as well as partly financed, by their parents, and as long as parents recover some monetary or psychic benefits from an increase in their children’s economic well-being, parents have an incentive to help

children make wise decisions. (p. 105)

Although this reply acknowledges that students might not make enrollment decisions entirely independently, it does not concede that students, even with the support of others, might make inaccurate forecasts about future returns from education.

Explaining disparities. This conviction – that students make sound financial judgments – underlies one explanation that human capital theory offers for differing degrees of enrollment according to student characteristics: that students vary in their decisions to enroll because their future returns also vary. This is characterized in the literature as heterogeneous returns. Becker (1980) allowed for only slight variations in student circumstances, comparing White males to White females and African American males, arguing that lower enrollment among the latter two groups in comparison to White males was explained by relatively lower income premiums from their college degrees.

Subsequent research utilizing human capital theory has developed more sophisticated means for theorizing and measuring heterogeneous returns to education such as accounting more accurately for the challenge of endogeneity wherein students' educational choices are driven by pre-existing characteristics that may be correlated to future earnings even in the absence of additional education (see, for example, Blundell, Dearden, Goodman, & Reed, 2000; Card, 1999, 2001; Heckman et al., 2006). Nonetheless, as they become increasingly intricate, these studies still adhere to the principle that students' enrollment decisions are based primarily on accurate financial forecasts that account for their specific circumstances.

Human capital theory has also identified factors that constrain the opportunities of

some student groups to enroll in university even when they stand to gain from additional education. Given Becker's (1980) aforementioned claims about the predominance of financial considerations and the capacity for students to choose the most profitable opportunities available to them, it is perhaps unsurprising that he and other early exponents of human capital held that "the most important cause of difference in students' opportunities is the availability of funds" (Becker, 1980, p. 107), a factor termed as credit constraints within this literature. Since parents are presumed to assist their children in accessing higher education, limits in parental income should lead to more limited opportunities for those children to manage the short-term financial burdens of university study (Becker & Tomes, 1986). This is exacerbated by the fact that human capital is not entirely analogous to more classical forms of capital because, barring a scenario in which human beings can be treated as commodities, it cannot be bought, sold, or offered as collateral for investments (Becker, 1980; Checchi, 2006).

More recently, Carneiro and Heckman (2002, 2003) have added to the key constraints identified in the human capital literature. Besides short-term credit constraints, they identify another type of impediment to enrollment: longer-term cognitive and non-cognitive factors. Carneiro and Heckman (2002, 2003) argue that the principal causes of divergences in opportunities between poorer and wealthier students occur earlier in the lifecycle. For example, they claim that cognitive development, educational achievement, and aspirations are crucial to higher education progression, and all of these factors are developed from early childhood. Further, they argue that human capital formation is a dynamic process, with the consequence that early disparities in skill development between affluent and less affluent students are compounded through the lifespan, meaning that childhood and early schooling are more

important than the financial considerations that previous human-capital exponents chose to emphasize.

EMPIRICAL APPROACHES

Much as the theorizations underpinning human capital stem from economics, so too do the empirical approaches applied by researchers in England. Exponents of human capital tend to adhere to the principle that causal relationships between cause x and effect y require a counterfactual, i.e., the same scenario absent cause x (see, for example, Angrist & Pischke, 2009; Shadish & De Luellen, 2006). In addition, both cause and effect must be quantifiable. As a consequence of these tenets, exponents of human capital typically hold the randomized controlled trial to be the most desirable form of empirical analysis. However, given that randomized allocation has rarely been feasible in this research literature, exponents of human capital have instead used a range of quasi-experimental methods such as multiple regression, difference-in-difference, regression discontinuity design, propensity-score matching, and instrumental variables (Dearden et al., 2011). In order to obtain samples large enough to facilitate conventional statistical significance and broad enough for national representativeness, researchers frequently use national administrative datasets or large-scale, government-funded cohort studies.

Marcenaro-Gutierrez, Galindo-Rueda, & Vignoles's (2007) study illustrates these common trends. Their paper investigates the sources of social class disparities in university attendance for those who pass the national GCSE exams. Consistent with much of the empirical research employing human capital, the authors operationalize social class as a combination of

parental education and the government's parental occupation categories (see Office for National Statistics, n.d.).

Marcenaro-Gutierrez et al. (2007) use the Youth Cohort Study, a series of government-conducted longitudinal surveys that follow cohorts of students between ages 16 and 19. Restricting their sample to respondents from the 1994–2000 cohorts who passed their GCSEs, the authors use a standard probit model in which the outcome is a dichotomous measure of whether or not the respondent attended a university at age 18. The probability of this value being in the affirmative is equated to a vector of explanatory variables – prior attainment, family background, and school type – plus cohort dummy variables and an error term.

In their findings, the authors first offer a range of descriptive statistics to suggest that, at the aggregate level, their sample is nationally representative. They then present a series of probit models that add or drop the explanatory variable groups in varying configurations, while also controlling for cohort and allowing a range of interaction effects. When comparing models that do and do not control for prior attainment, the authors find that social class shifts from being a significant predictor of university attendance (when attainment is absent) to non-significant (when attainment is present). Hence, the authors conclude, “If policy-makers wish to reduce socio-economic inequalities in HE [higher education], they need to focus first on the problems of educational inequality that emerge in the compulsory schooling phase” (p. 97). The authors note an alternative theorization, wherein poorer students do not deem university as a feasible goal at younger ages and so do not apply themselves to academic work, but claim,

Given that both GCSEs and A levels earn a significant return in the labour market in and of themselves, it is unlikely that students' expectations about not being able to go to

university completely explain their achievement at age 16 or 18. (p. 97)

Marcenaro-Gutierrez et al.'s (2007) represents many of the major strengths and weaknesses of the empirical research that exponents of human capital often produce. The paper uses a rich dataset that is nationally representative of students at the aggregate level. It shares details on its methodological procedures, is clear in how it operationalizes key terms such as social class, and it is transparent about shortcomings such as missing variables and potential endogeneity.

However, Marcenaro-Gutierrez et al. (2007) work under strong theoretical assumptions that are not proven either in this study or in the literature it cites. The paper does find a robust relationship between one predictor (attainment) and its outcome of interest (university attendance) that nullifies the strength of another predictor (social class). Yet, although the authors recognize the challenge of endogeneity, they make strong theoretical assumptions about respondents' motivations in order to explain these associations. The most notable is that shown in the quote above, whereby the value of GCSEs and A Levels in the labor market is presumed to motivate students to study hard, thus limiting the extent to which aspiration disparities might drive attainment disparities. The literature cited at the paper's onset does not present evidence in favor of this assertion; instead, most are also large-scale quantitative papers rather than studies seeking to explore the educational process from the perspective of students.

EMPIRICAL FINDINGS

Not returns. Since human capital frames education as a financial investment, it is first worth considering whether the returns from undergraduate study in England exceed the costs.

According to research by exponents of human capital over the past fifteen years, the answer is emphatically that they do, and that this is true even when accounting for heterogeneous returns (see, for example, Blanden & Machin, 2004; Dearden, 1999; Dearden, McIntosh, Myck, & Vignoles, 2002; Dolton & Vignoles, 2000; Walker & Zhu, 2011). Perhaps the most widely cited among such studies comes from Blundell, Dearden, & Sianesi (2005). Using the National Child Development Study, a longitudinal dataset tracking all those born in Great Britain during one week in 1958, the authors use propensity-score matching in an attempt to identify the causal impact of a university degree on earnings when adults are aged 20-40. Matching students on prior attainment, region, school type, parental background, and demographic characteristics, they conclude that a university degree leads to 27% higher wages on average in comparison to high school qualifications.

More recent research claims that the degree premium will endure despite the fee increases. Barr (2011) argues that the incoming fee system is too favorable to students, and the government could charge graduates greater repayments in their early careers without threatening the economic value of a degree. Walker and Zhu's (2011) analyses, which allowed for, and found, greater variation in returns to degree completion than previously acknowledged in the English research literature, lead them to claim that the new tuition fees are "dwarfed by the scale of lifecycle earnings differentials" (p. 1184).

Credit constraints. A second key consideration from human capital theory is whether credit constraints prevent poorer students from entering higher education. Since 1998, England has followed a policy, proposed initially by Friedman (1955), wherein the government offers income-contingent loans for undergraduate students; repayments are then taken as a

proportion of the borrower's subsequent earnings. This policy is congruous with human capital theory's explications of enrollment disparities because it defers the cost of study until a future point when poorer students would not face credit constraints (Barr, 2009, 2010; Glennerster, 1991).

Dearden, McGranahan, and Sianesi (2004) found limited evidence of credit constraints for members of the 1958 and 1970 British cohort studies, two groups who faced no direct tuition fees should they have attended university during the traditional student age range. However, findings suggest that short-term credit constraints have ceased to pose a problem for poorer students since the 1998 introduction of loans. With national administrative data, Chowdry et al. (2013) are able to use a model with school fixed effects to claim that the introduction of fees in 1998 did not influence participation rates of poorer students at a greater proportional rate than for wealthier students. On the basis of his study on a cohort facing annual fees of £3,000, Anders (2012a) argues that credit constraints did not cause socioeconomic disparities, basing this claim on the fact that students finishing high school did not differ in their enrollment levels according to financial wellbeing.

Anders's (2012a) study bears many of the hallmarks of empirical research presented by exponents of human capital. The study's methodology is strong in terms of its ability to offer a nationally representative sample and to control for a range of potential confounding factors. Again though, the paper does not provide any explicit articulation by students regarding what has influenced their decision. The evidence for Anders's central claim – that financial constraints are not limiting university enrollment at disproportionately high levels among poorer students – is based on the students who are completing high school. Given that the final two years of high

school in England are non-compulsory, a large number of students have left formal education prior to this juncture, and anticipated financial challenges may have played some role in this decision. While such methodologies permit robust inferences of the predictors of departure from education, they leave unclear students' own perceptions of what has motivated their actions.

Schooling. Among human capital theory's explanations for socioeconomic disparities in enrollment, Carneiro and Heckman's (2002, 2003) longer-term factors have proven the most persuasive for researchers of the English higher education system. Of the various cognitive and non-cognitive factors, school quality, as measured by exam performance, is presented as the most important. For example, Chowdry, Crawford, Dearden, Goodman, and Vignoles (2008) used national pupil data to analyze the key predictors of university enrollment among all students in England who entered tenth grade in 2001. Using logistic regression modeling to explain university enrollment, they argue that poor achievement in secondary schools is more important in explaining lower university enrollment rates among pupils from low socioeconomic backgrounds than barriers arising at the end of high school. They found that the gap in university enrollment between students in the highest and lowest socioeconomic quintiles was 29 percentage points, but they also found that this gap fell to 1.5 percentage points when controlling for GCSE performance. Further, research using birth cohort datasets, which provide far richer student-level data, indicate that exam results from the elementary and middle school years are even stronger predictors of university enrollment than those from high school (Anders, 2012a; Marcenaro-Gutierrez et al., 2007).

Regarding the importance of schools to academic performance, Chowdry et al.'s (2013)

study found that the predictive power of socioeconomic quintile reduced significantly when adding school fixed effects to their models. Machin, McNally, and Meghir (2010) analyzed increased school funding using the difference-in-difference approach among matched schools to consider funding levels. They found that increased funding led to improvements in math and English test scores, particularly among more able student attending schools in financially deprived areas. This paper has a particularly strong research design since the authors were able to employ a difference-in-difference approach due to the fact that increased funding was implemented in some but not all regions. This is rare for policy implementation in England, which typically happens immediately at the national level.

It is worth noting that these analyses do not clarify why school or teacher quality is the source of these achievement gaps. Carneiro and Heckman's (2003) work asserts that family factors are likely to be of at least equivalent importance to schooling. Despite this, the human capital literature on higher education access has tended to negate family factors besides income. Machin (2008) has noted that the importance of families to human capital development is also likely to be considerable in the English context; nonetheless, both his subsequent work and that of other key researchers in this field have treated social class attainment gaps as though they were almost solely attributable to and resolvable by the quality of instruction in public schools.

STRENGTHS AND WEAKNESSES

Exponents of human capital have made major contributions to the research literature on enrollment disparities by social class in England. Perhaps the most important of these is the

range of quantitative analyses demonstrating patterns and predictors of inequality that can make plausible claims to being representative at the national level. These analyses are often of a high methodological standard, and most are transparent in how they define and operationalize the constructs that they test. Studies from this literature have made good use of the country's rich large-scale datasets, for which many of these exponents also deserve credit for promoting, planning, and conducting. Key findings include strong evidence on the timing of disparities and the predominance of school educational attainment in predicting university. The research literature makes clear that the challenge facing policymakers is not a glut of academically qualified 18-year-olds choosing not to study but of disparities by social class developing among students at earlier ages.

Yet, although this empirical research is typically of a high quality, it is also restricted to a single methodological tradition. This is problematic because human capital holds strong assumptions about students' motivations: that they recognize that a university degree is linked to greater future earning power, are motivated by this consideration, and will pursue higher education when provided with sufficient financial credit. These claims are plausible, but it may not be possible to verify these with large-scale quantitative methods alone.

The blaming of schools' academic provision is predicated on the notion that students both know that they can reach university and that they want to do so. However, in a school system that requires students to specialize by subject from early adolescence, students have to make potentially crucial decisions at ages when they are all the more likely to rely upon family and peers. Decision-making may thus depend at least partly on students' social networks; whether defining social class by parental income or parental occupation, these networks will, by

definition, vary according to social class. Parental input may influence students' confidence, aspirations, and knowledge about academic requirements, but human capital theory holds that these should not vary by class (Becker, 1980), and these factors are not presented as explanatory factors in the literature's quantitative studies. Besides, they might be better explored through qualitative approaches that offer students more flexible, personalized means to discuss their perceptions of England's school and university systems.

The assertion that tuition fees and loans do not deter disadvantaged students relies upon the assumption that students assess expected wage premiums to ameliorate the burdens of foregone earnings and loan repayments, and that they do so accurately. Although students completing A-levels are equally likely to enroll in university regardless of class background, this does not disprove the possibility that financial considerations are deterring students earlier in their school years and thus driving attainment disparities. In addition, the upcoming fee changes will alter the scale and complexity of the financial commitments facing students. The human capital literature provides persuasive arguments that a degree is still worth pursuing in objective financial terms, but whether students will try, and manage, to make these same calculations remains unclear.

SECTION SUMMARY

Human capital theory postulates that anticipated financial returns provide the core component of students' enrollment decisions. Since these returns outweigh the financial costs of study in England, the theory's exponents assume that students with the requisite academic credentials will choose to progress to undergraduate study regardless of social class. However,

academic attainment is disproportionately low among working class students in England; since students are presumed to recognize the pecuniary benefits of education and thus make the most of educational opportunities, exponents claim that the fault for these attainment disparities lies with schools for providing unequal academic preparation.

Quantitative research provides the empirical basis for these claims. Exponents of human capital theory have typically used large-scale datasets, applying a range of quasi-experimental approaches to make inferential claims. These are often robust methodologically and have demonstrated a link between school attainment and university enrollment strong enough to statistically explain enrollment disparities across social classes. However, the conclusions that exponents draw from these studies rely on assumptions about students' motivations, beliefs about school, and ability to analyze financial decisions that remain unverified in the literature.

3: HABITUS

SECTION INTRODUCTION

This section introduces habitus, the other predominant theoretical approach in the research literature. Its goals and structure are analogous to those of the previous section. It aims to present how exponents of habitus theorize disparities in university enrollment by social class in England, and it does so by progressing through four stages. First, this section outlines the theoretical underpinnings of habitus, addressing its theories on students' decision-making, the role of education, and potential causes of enrollment disparities. Second, it outlines the common empirical approaches used by the theory's exponents in England, illustrating this with

an archetypal study. Third, it considers the claims that the theory's exponents have made about class disparities in the English context. Fourth, it evaluates the strengths and weaknesses of this literature.

THEORETICAL UNDERPINNINGS

The utilization of habitus as a conceptual tool dates back to the Classical Mediterranean, with Aristotle using the term *hexis* to contrast the characteristic of a stable disposition with changing disposition (*diathesis*) and accident (*pathos*) (Nash, 1999; Simeoni, 1998; Wacquant, 2005). While research fields vary in who they credit for important recent applications of the concept – such as Claude Lévi-Strauss in anthropology or Jean Piaget in developmental psychology (Lizardo, 2004) – educational researchers in England focus on the work of Pierre Bourdieu.

Decision-making. Defining himself as a sociologist (Bourdieu, Chamboredon, & Passeron, 1991), Bourdieu's theorization of habitus is emblematic of his disciplinary foundation. Whereas human capital theory treats decision-making as individualized and influenced primarily by money, habitus treats it as socially situated, with the key influences being acceptance and stigmatization. For Bourdieu, it is crucial to recognize that humans operate within social structure (Reay, 2004); in his own words, “the cognitive structures which social agents implement in their practical knowledge of the social world are internalized, ‘embodied’ social structures” (Bourdieu, 1986, p. 468). However, he also eschewed the types of deterministic structuralist approaches that deny any modicum of human agency (Ovenden, 2000), arguing that social science “must make room for a sociologically grounded phenomenology of the

primary experience” (Bourdieu & Wacquant, 1992, p. 127).

Habitus serves to balance these factors in its depiction of human behavior. Bourdieu defines it as:

a socialised body. A structured body, a body which has incorporated the immanent structures of a world or of a particular sector of that world – a field – and which structures the perception of that world as well as action in that world. (Bourdieu, 1998a, p. 81)

Habitus is thus both the attitudes and tendencies that one develops as a result of interactions with others (Nash, 2005) as well as one’s ensuing actions (Reay, 2004). Cultivated over time, an individual’s habitus forms a range of dispositions and behaviors indicating what she or he considers to be appropriate, desirable and possible. An individual’s decision-making is not fixed across the lifespan, but it is bounded at a given time according to prior opportunities and constraints.

Although Bourdieu (1990) held that no two individuals could have identical habituses, this focus on individual experiences should be situated within the structuralist nature of his broader sociological approach. Individuals’ experiences and interactions occur within a hierarchical social structure imbued with the historical experiences of groups (Bourdieu, 1990). While habitus occurs at the individual level, as a result of the individual’s cognitive processes, these and social processes mediate one another throughout the lifespan (Archer, Hollingworth, & Halsall, 2007; Hollway and Jefferson, 2000), making analyses of the social environment paramount.

Bourdieu maintained this individual-collective balance by embedding habitus within a

troika of analytical concepts, of which the other two components were field and doxa (Davey & Fuller, 2013). Field denotes the social space in which individuals interact, and it represents a more objective interpretation of a given situation than does habitus (Grenfell & James, 1998): “social reality exists, so to speak, twice, in things and in minds, in fields and in habitus, (Bourdieu & Wacquant, 1992, p. 127). Doxa refers to the beliefs that are taken for granted by individuals within any one field. This embeds the individual within the collective, as multiple habituses and their component notions of what is and is not desirable and feasible are entwined, shifting a self-restricting response from ‘not for the likes of me’ to ‘not for the likes of us’ (Archer, et al., 2007; Davey & Fuller, 2013).

The existence of hierarchy – and conformity to it – provides a crucial point of contrast from human capital theory since variation across individuals’ habituses suggest variation in their beliefs about the benefits and drawbacks of higher education. Two students can approach the same educational decision with ex-ante similar propensities to benefit from it, but they may react differently to this decision according to their differing beliefs about what constitutes a desirable and/or feasible outcome. In addition, two students of differing habituses who undertake the same educational experience are also likely to benefit to differing extents since “the rate of return on educational capital is a function of the social and economic capital that can be used to exploit it” (Bourdieu & Passeron, 1979, p. 79).

The role of education and explaining disparities. In habitus, the role of education and the sources of access disparities are one and the same: the role of education is to perpetuate social class disparities. Bourdieu’s body of work represents a critical analysis of the extent to which social mobility exists in contemporary Western societies. Education was of primary

interest to him, but he was skeptical of its capacity to drive mobility, instead viewing it as an assertion of cultural power (Bourdieu, 1973). In one of their seminal works on education, Bourdieu and Passeron (1977) argue, “all pedagogic action is, objectively, symbolic violence insofar as it is the imposition of a cultural arbitrary by an arbitrary power” (p. 5). This diverges notably from human capital's conceptualization of the impact of education on future prospects: human capital theory treats education as a vehicle for increased mobility, whereas habitus treats it as an impediment.

Bourdieu and co-authors (Bourdieu, 1998b, 2005; Bourdieu & Passeron, 1977, Bourdieu & Wacquant, 1992) employed the habitus/field/doxa troika in order to provide a theoretical basis for their argument. While acknowledging that the aspects of identity that shape an individual's habitus are numerous, their work on educational structures emphasized social class. Considering elite universities in France, Bourdieu and Wacquant (1992) depict university as a field, wherein undergraduates attempting to access and navigate this space are taking part in a competitive game for which there are rules (doxa). Students' knowledge of these rules is unequal, as are their dispositions (habitus) to take on study, with the more disadvantaged belonging to lower social classes.

Disadvantage occurs, according to this line of argument, because the educational system legitimizes the cultural practices and preferences more typical of the upper and middle classes over those more typical of the lower classes. On beginning study, upper- and middle- class students are more likely to encounter scenarios for which the following occurs: “when habitus encounters a social world of which it is the product, it is like a ‘fish in water’: it does not feel the weight of the water and it takes the world about itself for granted” (Bourdieu & Wacquant,

1992, p. 127). In contrast to these students, those from the working classes face a greater onus to “engage in rational computation in order to reach the goals that best suit their interests” (Bourdieu, 1990, p. 108). These students’ study experiences are also vulnerable to stigmatization should they behave in line with their own habituses because “taste classifies, and it classifies the classifier” (Bourdieu, 1986, p. 56), and in this field the prevailing doxa holds working-class tastes to be vulgar (Bourdieu, 1986; Bourdieu & Passeron, 1979).

Given that habitus theorizes that higher education serves to perpetuate class inequalities, it stands to reason that inequalities in university enrollment according to social class are a direct consequence of the existing system. Factors such as academic attainment or aspirations may be presented as objective measures for which working class students can improve, but in reality they are subjective: higher education is a product of the tastes, values and interests of one social class rather than another. In this theorization, enrollment disparities serve as proof that higher education is functioning in its role.

EMPIRICAL APPROACHES

The most common empirical approaches employed by exponents of habitus in England are interviews and focus groups. Respondents typically comprise convenience sample of students at one or a few high schools in a local area, or they are university students asked to look back upon the enrollment decision process. Although rarely clarified, most studies appear to refrain from structured question sets in favor of the more open-ended approaches characteristic of ethnographic interviews as characterized by Spradley (1979) and Goetz and LeCompte (1984).

Ball, Davies, David and Reay (2002) provide a study that is particularly expansive but still representative of many common empirical approaches within this literature. The paper focuses on how students' university choice processes vary according to social class and school attended. As with many papers in the habitus literature, the authors take care with the terminology used to describe the social phenomena that they analyze, accepting, for example, that 'choice' might be better described as 'decision-making' given the respective constraints under which each student is operating. However, the authors implicitly leave social class unclassified, permitting themselves and their interviewees to make their own subjective assessments. This is a common but not ubiquitous practice in this literature; for example, in another collaboration, these same authors (Reay et al., 2005) works from the government's designations according to parental occupation type (see Office for National Statistics, n.d.).

After discussing points of terminology and outlining Bourdieu's (1986, 1990) theory of habitus, the authors describe their sample: students, parents, and school professionals at six schools in London. Ball et al. (2002) then proceed through four sections according to the main themes that they claim emerge from their interview analysis, illustrating each with a series of passages from the interviews. In the first section, they note the importance of academic attainment in making university applications feasible, but they claim that each student's sense of his or her likelihood of integrating socially at university is more important. Rather than interspersing their arguments with isolated phrases from their respondents, the authors make a given claim in its entirety before then corroborating it with more extended passages – often around 100 words – from their interview transcripts. The authors look to establish trends by school and social class categorization but are careful to avoid essentializing their findings to a

single theme – e.g., social organizations available at a given university – or to claim that a given respondent is wholly representative of any subsample.

The next three sections present other claims – that school prestige predicts prestige of students' first university choice, that school predicts students' knowledge of university prestige, and that rationales for rejecting some university options vary by class – with each presented in a similar format to the first. The authors then integrate these claims in an extended discussion, balancing elements of individual agency and social influences to make an argument in favor of the importance of the intersection of social class and school culture in understanding inequality in the university application process.

Ball et al.'s (2002) study is actually somewhat broader than most empirical papers in the habitus literature. They interview not only working-class but also upper- and middle- class students. Although they do not present any interview data on them, they spoke with staff at the various schools. To the best of my knowledge, no other papers have interviewed teachers, policymakers, counselors or other adults who represent the educational system that Bourdieu claims is so instrumental, thus foregoing the opportunity to improve validity by triangulating findings as advocated by Denzin (1978). In addition, Ball et al. present some descriptive quantitative analyses, surveying 502 students across the schools in order to further support their assertions on institutional influences. While these points make Ball et al.'s study unique in some respects among studies using habitus, their careful use of terminology (particularly with regards to social power and expectations), subjective interpretations of social class, use of interviews, methods of data presentation, and analytical focus on decision-making as experienced and expressed by students are all factors illustrative of empirical research within

this research literature.

EMPIRICAL FINDINGS

Education system. Exponents of habitus in the English context echo Bourdieu's claims about the role of education policy. Ball (2012) argues that education policies "legitimate and initiate practices in the world, and they privilege certain visions and interests. They are power/knowledge configurations *par excellence*" (p. 22). In this conception, both the disparities that policymakers identify as problematic and the mechanisms that they offer for resolving these are rooted in a historical context of domination (Billig, 1991; Billig et al., 1988; Cohen, 1988).

Analyses of policy developments in relation to England's social history provide one method for substantiating these claims. Reay (2001) argues that the founders of England's mass-education system in the nineteenth century sought to control working-class children. Both Reay (2001) and Ball (2012) claim that this approach was challenged by the growth in welfare spending post-World War II, but that it was then decisively consolidated in the key decades of the 1970s and 1980s. In a documentary analysis, Ball (2012) charts the germination of this consolidation in Cox and Dyson's (1969) pamphlets, *The Black Papers*. In the wake of the previous year's student protests in France, Germany, and Mexico, *The Black Papers* reiterated the importance of social order, hierarchy, and traditional values. Cox and Dyson also initiated concerns about slipping academic standards, a policy trope still common in the present day, as well as the concern that accommodating aspects of working-class culture and speech in school curricula might keep working-class children "literary primitive[s]" (Thornbury, 1978, pp. 136-7).

The majority of studies though have focused their research on England's school system in the present day. Among these, a common line of argument is that schools develop processes that reflect the socioeconomic composition of their student bodies (Thrupp, 1999), forming institutional priorities wherein "certain sorts of choices or considerations take on an obviousness that is difficult to evade" (Ball et al., 2002, p. 58). In other words, school staff instill in students a sense of what is feasible and desirable. In Ball et al.'s (2002) study, a student at one fee-paying school tells interviewers,

I thought about would I go to Cambridge or not, because quite a lot of people, you know always think – am I going to Cambridge or not? I don't know why, that just seems to be the question a lot of people ask themselves about higher education. (p. 58)

The authors contrast this student's perception with those of students at schools with less-privileged intakes, where decisions more typically focus not on which university to apply to but whether to apply at all, arguing that each environment reinforces a "habitus [which] is evident here in its inexplicitness" (p. 58). Furthermore, those working-class students who resist conforming to their status quo of non-enrollment are left facing alienation and subordination in an educational system that stigmatizes them (Reay, 2006).

Researchers have focused on two principal mechanisms by which schools influence a student's habitus in relation to university access and choice. The first is that, when working with students, school professionals may take inconsistent approaches according to their own prejudices. From the earliest years of schooling, teachers label students as intelligent, average or slow; these designations are often predicted by social class and have a lasting impact on students' academic confidence (Steedman, 1988; Thomas, Bland, & Duckworth, 2012). Boaler

(1997) claims that teachers under-appreciate the achievements of working class students, typically placing them in lower ability streams. School prestige is linked to the subjects that students take in the high school years – for example, drama and social sciences at state schools, and classical languages at fee-paying schools (Reay et al., 2005) – with important repercussions for university applications. In the later years of school, teachers may give differential guidance to students according to social class (Preston, 2003; Reay, 1998).

The second is the capability of students' families to gain favorable treatment from schools. Ball (2003) claims that distinctive class strategies are apparent in the ways in which families interact with the school system. More specifically, parents of higher social classes are often more comfortable engaging with schoolteachers, applying pressure to ensure favorable outcomes for their children (Cochrane, 2007, 2011; Giddens, 1991). For example, at schools that stream by ability, such parents may be more willing to contest a teacher's decision to put their child in a lower stream. Such pressure seems to occur both in the earliest years of schooling (Reay, 1998), as well as in the later years, when course choices have direct implications for university applications (Vincent, 2001). Pugsley (1998) contrasts middle-class parents who are willing to demand that teachers provide advice on A Level subject choices with working-class parents who are reluctant to initiate any contact, one of whom said, "You don't like to interfere really. You can't, can you?" (p. 79).

Students' decision-making. Researchers in England echo Bourdieu's bifurcation of students' ease with the higher education application system according to social class. Ball, Reay, and David (2002) coined the terms "embedded" (representing the middle- and upper-classes) and "contingent" (working-class) choosers. In this conception of university access, contingent

choosers' transitions to higher education are fraught with points of uncertainty; in contrast, embedded choosers tend to come from families with a history of higher education participation, and so the decision to apply to and attend a university is relatively smooth. In other words, contingent choosers typically spend far more time vacillating over whether to begin the university application process, while embedded choosers move rapidly towards decisions over which institution and subject major to which they will apply.

This presents a contrasting theoretical approach to those of researchers employing human capital. Whereas researchers using human capital emphasize academic attainment, Ball, Reay, and David (2002) argue that the process does not rest on prior cognitive performance alone, since it is also the case that "university is a choice of lifestyle and a matter of 'taste', and further that social class is an important aspect of these subtexts of choice. In other words, this is choice as 'class-matching'" (p. 53): many working class young people do not aspire to university because they do not see it as a place for them (Archer et al., 2003).

Empirical research on specific student groups has corroborated these assertions. On visiting Cambridge, one of Ball et al.'s (2002) working-class respondents recalls, "it was like a proper castle, and I was thinking – where's the moat, where's the armor? Save me from this." (p. 68). Archer and Hutchings' (2000) interviews with young working-class adults from ethnically-diverse communities in London found they held clearly-defined identities according to speech and dress that separated them from the tastes of young people who would go to university. The authors argue that in adolescence such students will commonly place themselves outside of the realms of higher education; while seeing it as a feasible aspiration, it is also a strange fit and one that is discordant with their own identities.

Given the more automatic decision to attend, embedded students are thus likely to have more time to plan on attending a university that presents them with the maximum benefit, consolidating the advantages stemming from the guidance mechanisms already available to them (Brooks & Everett, 2008). Further, for those contingent choosers who do decide to apply to university, their habituses make it likely that their choice of where to apply will be more restricted than for the embedded choosers. Pugsley's (1998) study emphasized the contrasting importance of locality to working-class students and prestige to middle-class students. This adds another barrier to working-class students' enrollment decisions; their likelihood of attending university has been undermined by their experiences with formal education thus far, and this is exacerbated when they only consider a small range of universities as feasible for what "people like us do" (Reay et al., 2005, p. 67), foregoing "tastes of luxury" for "tastes of necessity" (Bourdieu, 1986, pp. 177-178). Hence, working-class students are more likely to see university as a risky proposition (Archer & Hutchings, 2000; Archer, Hutchings, & Leathwood, 2002; Christie & Munro, 2003), with the consequence that more of these students will fail to progress to higher education (Barke, Braidford, & Houston, 2000; Callender & Kemp, 2002).

Further, other authors have argued that these variations in attitude are merited. Archer and Hutchings (2000) argue that neither the risks nor the benefits of higher education are equally distributed across social classes. Watson (2013) claims that, in comparison to working class undergraduate freshmen, the pre-entry habituses of middle-class undergraduate freshmen were more closely aligned to the pervading culture of the field (i.e., their universities), making these students happier with their transition to higher education. Reay (2001) has argued that policy makers should pay more attention to the highly differentiated, unequal nature of the

choice process, attacking a system that purportedly imposes equal demands and expectations of students, “without any concern for universally distributing the means of satisfying them” (Bourdieu, 2000, p. 76).

Working-class students’ self-exclusion is thus presented as a well-reasoned response to an educational system that prefers middle-class students “unencumbered by domestic responsibilities, poverty or self-doubt” (Leathwood & O’Connell, 2003, p. 599). The onus to acculturate falls entirely on working-class students (Reay, 2001), who are pathologised and treated as deficient by political figures such as Baroness Warnock during a speech in the House of Lords, November 27, 2002:

I believe that one way or another, we should stop filling our universities with students who displayed no interest in academic matters at school, whose talents are more practical than theoretical, and who will not change... too few of them have any interest in continuing to learn. (Warnock, in Leathwood & O’Connell, 2003, p. 600).

STRENGTHS AND WEAKNESSES

A major strength of the habitus-based research literature is that it provides clear empirical evidence for its theorizations of working-class students’ perceptions. These are given a central role in most research papers through sustained, uninterrupted quotations that make clear that students vary considerably in how they perceive education to play in their own lives as well as the factors that impinge on their decisions to pursue non-compulsory education. Typically, the analyses that accompany interview and focus group data are cogent and nuanced, synthesizing students’ views in a manner that establishes themes but is also careful to recognize

discordant viewpoints. Such research approaches strengthen this literature's ability to "make sense of the world from the perspective of participants" (Eisenhart, 1988, p.6).

Researchers employing habitus have also presented persuasive evidence to support their claim that English schools and universities are rooted in a normative education system that values upper- and middle-class traits. Although they only represent a small portion of the habitus-based literature, Ball's (2012) and Reay's (2001) documentary analyses provide compelling evidence that policymakers have pathologized working-class students' language and behavior throughout the history of compulsory education. Research focusing on parental interventions with schooling belies Becker's (1980) assumption from human capital that parents might compensate for shortcomings in students' capacities to navigate the education system, suggesting instead that the enthusiasm and capacity to make favorable interventions is typically concentrated among those parents whose children need it least.

However, much as with the human capital literature, the uniformity of approaches across studies employing habitus limits their ability to fully test the theoretical underpinnings of their conceptual framework. Interviews and focus groups tend to take students as their subjects; school and university staff are mostly absent. The stigmatization of working class students by the education system provides the foundation of habitus theories on unequal enrollment, but the research literature is unbalanced since it has rarely accounted for the perspective of those adults who embody this education system. Teachers might attribute problems elsewhere – e.g., to curricula, policymakers, or school leadership – or might contest their very existence, but at present we have no way of knowing.

This exacerbates broader problems of generalizability that face the habitus literature.

Since most studies are based on convenience samples at one or a few education institutions, the extent to which their circumstances may be representative of students more broadly is unclear. Without more extended discussions of why a given site or sample group is of particular research interest, many of these studies forego the type of theoretical generalization that Eisenhart (2009) argues is so important to qualitative educational research methods. As a consequence, while habitus-based empirical studies frequently provide illuminating perspectives, the absence of inferential quantitative studies to corroborate their premises weakens this literature's capacity to make claims about students' experiences at the national scale.

Another weakness is that students' attitudes and behaviors are often treated as though they were static (for example, Archer & Hutchings, 2000; Ball et al. 2002; Pugsley, 1998). This is not a feature of the literature's theoretical underpinnings, but it is a feature of empirical research in the English context. Researchers' focus on students' habituses according to their experiences in England's education system, thus providing a discrete starting point for the formulation of class disparities: the start of compulsory schooling. Beyond this point though, it is unclear whether researchers theorize disparities in habitus as occurring during key periods, and the extent to which disparities might be reversed at certain student ages. This may be attributable to the predominant empirical approaches in this literature: researchers tend to explore students' dispositions to higher education at the time of interview; because most studies are cross-sectional, this gives little scope as to how much students' dispositions may vary over time or in response to different stimuli.

An additional shortcoming is that this research literature shows close to no accounting

for the role that financial factors may play in class disparities. Ball et al. (2002) offer one of the few papers to acknowledge that material restraints may influence student's decision-making, but they still afford greater importance to “social perceptions and distinctions, and forms of self-exclusion” (p. 54). Researchers have analyzed various advantages, such as attending fee-paying schools and extra-curricular activities, that they claim form different dispositions among students to attend university. Yet, although they have discussed differences in how parents to pursue these advantages for their children according to social class, researchers have shown less inclination to highlight the influence that wealth disparities by class may have on their ability to secure these advantages.

This is also apparent in how researchers present students' perceptions of higher education: in comparison to upper- and middle-class students, working-class students tend to exhibit less knowledge about the application process and more concerns about whether they will feel socially accepted at university, but they rarely discuss finances. It is unclear in many empirical studies whether interviewers asked about financial concerns and had these rebuffed by students, or whether they do not discuss finances. Financial concerns may still play a role in theories that focus on social dynamics in decision-making. For example, working-class students may face greater stigmatization from family members should they defer entry into the workforce or be more likely to have others who are financially dependent upon them. As the direct costs of undergraduate degrees rise, the omission of financial considerations in this literature may be of increasing concern.

SECTION SUMMARY

Habitus theorizes disparities in university enrollment by social class as an intended consequence – if not the intended consequence – of England’s education system. In other words, England’s middle and upper classes have crafted education policy so that schools and universities perpetuate their interests at the expense of those of the working classes. Class disparities in university enrollment serve as proof that these institutions are functioning as intended. From a policy perspective, exponents of habitus theorize that schools are largely responsible for social class disparities since curricula and teachers provide students from different social classes with different messages about what is desirable and feasible for them to pursue in their non-compulsory education and careers, and this is exacerbated by schools’ being amenable to the influence of middle-class parents, who can secure further advantages for their offspring. In contrast to human capital, this theoretical approach affords little to no consideration of financial factors, both in terms of constraints and incentives.

Most of the empirical evidence offered in support of these assertions uses convenience samples of students either close to the end of high school or in the early years of university. These approaches provide an intimate and nuanced perspective on students’ perceptions of the enrollment decision process. Nonetheless, it is difficult to know how representative these findings are of students in the country as a whole or, given the focus on data at a single point in time, even across the lifespan of the sampled students. Further, it is unclear whether alternative theorizations of student decision-making have been discussed and discarded, or whether they have simply been absent from discussions.

4: COGNITIVE FRAMING

SECTION INTRODUCTION

Cognitive framing offers a conceptual framework for understanding judgment and decision-making. Originating in the cognitive psychology literature, it is increasingly employed in economics and public policy. However, cognitive framing's influence has yet to extend to the study of university enrollment disparities in England. This section evaluates the case for its employment in future research. To do so, it first outlines the key principles with which exponents of cognitive framing theorize judgments and decision-making. It then discusses features of the empirical research used to test these theories. Finally, it considers the potential insights that this framework might offer to the study of enrollment disparities in England.

A note about terminology: researchers have used varying names for this conceptual framework and its components. This typically depends on whether the literature is cited in the psychology or the economics literature. In the latter, many of these principles are employed under the umbrella term behavioral economics. This working paper maintains internal consistency by using the terms more common in the cognitive psychology literature.

THEORETICAL UNDERPINNINGS

Repudiating rationality. The core interest of cognitive framing is human judgment under conditions of uncertainty. The theory's founders are Amos Tversky and Daniel Kahneman, whose collaborative work during the 1970s developed a range of principles that they claimed undermined how classical economic theory theorizes human judgment and decision-making

(Kahneman, 2012). Subsequently, Kahneman (2002, 2003) and others (Kahneman & Frederick, 2002; Thaler & Sunstein, 2008) have sought to meld these assertions into a theory that explains why humans make judgments that, on reflection, would be construed as sub-optimal.

Kahneman (2003) attributes economists' accepted notions of behavior to the eighteenth-century mathematician Daniel Bernoulli. Kahneman (2003) challenges Bernoulli's (1738/1954) assumption that, whenever faced with a quantifiable choice, prescriptions of what humans should do are no different from descriptions of what they actually do. In other words, Kahneman disputes that humans behave rationally when faced with financial decisions in order to maximize their utility; here, the term rational indicates that they have ranked preferences and, when faced with choices, will consistently select the options that maximize the achievement of these preferences (Samuelson & Zeckhauser, 1988; Savage, 1954).

Kahneman (2012) offers two main arguments against this theory of human decision-making. First, he claims that humans typically make decisions according to their relative, rather than absolute, position. Thus, theorizations of human behavior ought to accommodate humans' perceptions of their current circumstances and their emotional responses to potential change to these circumstances such as the pain of loss or regret. For Kahneman (2003), "utility cannot be divorced from emotion, and emotions are triggered by changes" (p. 1457). Further, he claims that a failure to recognize this distorts utility as conceptualized by exponents of rational actor theory from the manner in which it was originally employed by Bentham (1789/1967): shifting the definition of utility from the subjective, i.e., that which the given person valued, to the objective, i.e., not influenced by personal feelings or circumstances.

Second, Kahneman (2003, 2012) argues that humans use two distinct cognitive

mechanisms for decision-making, and the outcome to a given decision can be influenced by which of these is applied. In the cognitive psychology literature these respective mechanisms have been referred to as intuition and reasoning (see, for example, Chaiken & Trope, 1999; Gilbert, 1989; Sloman, 1996) or, more neutrally, as System 1 and System 2 (Stanovich & West, 2000). System 1 is automatic, emotionally charged, and governed by habit. It is difficult to control or modify. System 2 is slower, more laborious, and more deliberately controlled. In comparison to System 1, its processes are far closer to those assumed by Bernoulli (1738/1954). However, the cognitive psychology literature indicates that most decisions are intuitive, i.e., governed by System 1 (Epstein, 2003; Gilbert, 2002; Wilson, 2002), and that this is especially true for judging whether a new stimulus is positive or negative (Bargh, 1997; LeDoux, 2000; Zajonc, 1998).

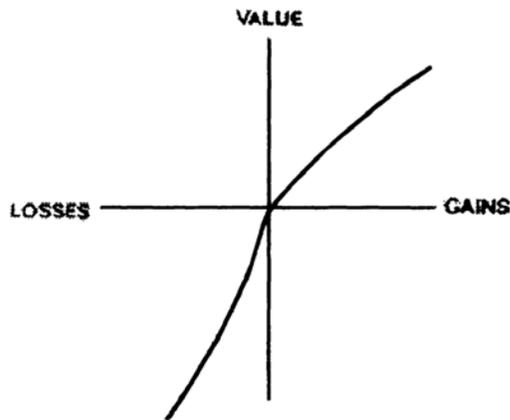
Alternative theorizations of judgment. Cognitive framing theory provides a foundation for understanding how humans reach judgments when relying on System 1 reasoning. Initially, these took the form of a range of biases and heuristics to which humans are prone (Kahneman, 2003). The absence of an equally “simple and precise model” (Kahneman, 2003, p. 1449) to match assumptions of rationality has led to criticisms of these biases and heuristics as unduly disparate (Camerer & Loewenstein, 2004). In response, Kahneman (2003) and Kahneman and Frederick (2002) have sought to integrate these various biases and heuristics into a coherent theory of human judgment.

Since System 1 decisions are reference-dependent, cognitive framing theorizes that two major factors engender non-rational judgments: the person’s prior circumstances and the manner in which the information is presented (Kahneman, 2003). A person’s prior

circumstances influence the extent to which they will exhibit either risk-averse or risk-seeking behavior (Tversky & Kahneman, 1981, 1992). Kahneman (2003) argues that the key way in which cognitive framing differs from Bernoulli's (1738/1954) assumptions of rationality is that an individual changes between risk-seeking and risk-averse behavior depending in part upon whether they face a potential gain or a potential loss. In this conception, it is not simply states of wealth that matter but also changes in wealth.

Tversky and Kahneman (1981) find that people are typically more risk averse when facing potential gains and more risk seeking when facing potential losses. In other words, they must typically be offered more to risk losing something in their possession than they would be willing to offer in order to potentially gain the same thing. Figure 2 depicts this argument. The function line holds a steeper gradient in the "losses" quadrants than in the "gains" quadrants, indicating that people attach more value to potential losses than to potential gains, i.e., the response to losing a given sum is more extreme than the response to gaining that same sum. Subsequent research indicates that the gradient in the "losses" quadrants should be twice that in the "gains" quadrants (see, for example, Kahneman, Knetsch, & Thaler, 1990; Knetsch & Sinden, 1984; Thaler, 1980; Tversky & Kahneman, 1992). Put another way, faced with betting on the flip of a coin, most people will not accept unless they stand to gain at least two dollars per dollar risked.

Figure 2. A schematic value function for changes (from Kahneman, 2003)



The other major factor is the form in which information is available at the time that humans make System 1 judgments. Exponents of cognitive framing reject the notion of invariance, i.e., that equivalent formulations of a choice should reveal the same judgments (Arrow, 1982). Instead, they argue that humans passively accept the form in which they encounter information. Because of this passivity, people rarely reformulate information into a truly equivalent state from which they can compare options (Kahneman, 2003).

One implication of this is that humans may fail to recognize the equivalence of decisions that are substantively identical but that alter the relative salience of different aspects of the problem. For example, McNeil, Pauker, Sox, & Tversky, (1982) found that respondents' preference for one medical treatment over another changed according to whether the first treatment's outcome was presented as offering a 90% likelihood of survival or a 10% likelihood of death, with the former eliciting far higher acceptance. In addition, the authors found that physicians were just as susceptible to this framing effect as the graduate students and ambulatory patients who comprised the rest of the study sample.

Another implication is that people are inclined to select, or settle on, default options when available (Hartman, Doane, & Woo, 1991; Kahneman, Knetsch, & Thaler, 1991; Samuelson

& Zeckhauser, 1988). Some examples help to demonstrate this point. In the European Union, countries in which assent to donate organs is the default option have assent rates of 97%; in those countries where citizens must actively choose to donate organs, the consent rate is 18% (Johnson & Goldstein, 2003). When the second Bush administration adjusted prescription drug coverage under Medicare in 2000, the default option for seniors was non-enrollment. Despite considerable expenditure on public awareness campaigns, 10% of Medicare beneficiaries still had no drug coverage by 2007 (Thaler & Sunstein, 2008).

EMPIRICAL APPROACHES

The majority of studies seeking to empirically test the principles of cognitive framing are quantitative. Most compare the rates at which one group of people provide a given response in comparison to another group that experience some variation in conditions. Studies are typically conducted in laboratory conditions, meaning that researchers hold control over which respondents are allocated to a particular condition, and that responses to conditions are also observed within this context.

It is worth illustrating these trends by examining Tversky and Kahneman's (1981) paper, which is one of the most commonly cited from this field. The authors administered questionnaires containing a series of "problems" to students at their respective universities, randomly allocating one of two versions to each student. Taking the first of these problems as an example, all respondents are provided with the same cover story:

Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been

proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows:

(Tversky & Kahneman, 1981, p. 453)

Respondents were asked to choose between two program responses. However, they were divided into two groups, each of which was provided with slightly different information on the first program's estimated consequences. Table 1 presents these alongside the number of respondents per version and the percentage of respondents (by questionnaire version) selecting each choice.

Table 1.
Alternatives available in Problem 1 of Tversky and Kahneman (1981)

	<i>Program A</i>	<i>Program B</i>
First version of questionnaire (N=152)	200 people will be saved. [72%]	1/3 probability that nobody will die, 2/3 probability that 600 people will die. [28%]
Second version of questionnaire (N=155)	400 people will die. [22%]	1/3 probability that nobody will die, 2/3 probability that 600 people will die. [78%]

Given that Program A is substantively identical across questionnaires, the authors claim that this change in its presentation – emphasizing numbers saved or numbers dying – alters the number of respondents willing to accept the riskier option, Program B. Tversky and Kahneman offer this as proof that people are risk-averse when choices focus on gains but risk-seeking when they focus on losses. Through the remainder of the paper they provide another 9 outcomes, treating each separately to emphasize more specific points about the effect of framing on decision-making.

Tversky and Kahneman's (1981) paper shares common strengths and weaknesses of laboratory-based studies. Random assignment of the given stimulus of interest provides the

inferential advantages of randomized controlled trials, namely that no pre-existing characteristics can account for aggregate differences in outcomes between treatment and control groups, thus alleviating concerns of confounding factors.

However, laboratory-based studies face criticisms about the extent to which their findings can be generalized to judgments taken outside the laboratory (Wilkinson, 2008). It is uncertain how representative the decisions that people make in laboratory settings are of the decisions they will make in less artificial conditions – for example, talking hypothetically about responses to potential fatalities may be very different to facing such conditions in reality. Even though some studies using real money produce findings in line with theories developed upon studies dealing with hypothetical financial consequences (see, for example, Kachelmeier & Shehata, 1992), researchers may fail to emulate other aspects of non-laboratory conditions. For example, Hoffman, McCabe & Smith (1996) found that participants shared 40% of the wealth granted them by the experimenters. However, when Cherry, Frykblom, and Shogren (2002) replicated the same study but made participants earn rewards before sharing, 95% shared none of their wealth.

POTENTIAL INSIGHTS FOR ENROLLMENT BEHAVIOR IN ENGLAND

Precedents in policy research. One cause for believing that cognitive framing may provide insights for enrollment behavior in England is that there is already a precedent for applying these theories to non-laboratory conditions (Wilkinson & Klaes, 2012). Exponents of cognitive framing claim that adjustments in policy implementation may have considerable influence upon how people respond to that policy (Kahneman & Tversky, 2000; Thaler & Sunstein, 2003). In

other words, a subsidy of x dollars does not guarantee a change in behavior among y percent of the population; instead, the percentage is likely to vary according to how policymakers inform citizens about the new policy, as well as whether enrollment is automatic or on an opt-in basis.

A number of studies have examined this argument. For example, Pennsylvania and New Jersey offer two similar driving insurance policies but vary in which they offer as the default. In Pennsylvania, where the default option is the more expensive, 79% had this coverage, in comparison to 30% in New Jersey, where the cheaper alternative is offered as the default (Johnson, Hershey, Meszaros, & Kunreuther, 1993). Thus, Johnson et al. (1993) calculate that, as a whole, Pennsylvania residents are spending US\$200 million more on insurance than they would if the default were switched. Another study found that conference participants respond differently to a financial incentive to register early depending on whether the incentive was presented as a reward for early registration or a penalty for late registration, with the latter having a greater impact (Gächter, Orzen, Renner, & Starmer, 2009).

Within the field of higher education policy, two research initiatives in the United States have sought to employ some of the principles from cognitive framing in order to derive more effective policies for encouraging, or, perhaps more accurately, not deterring, college enrollment. Dynarski and Scott-Clayton (2006) refer to the principle of default behavior, claiming that the unnecessary complexity of paperwork required to obtain financial aid deters many students from claiming maximal assistance – in this instance the default behavior is not filling out the form. Bettinger, Long, Oreopoulos, and Sanbonmatsu (2012) build on Dynarski and Scott-Clayton's (2006) work by comparing the impact of assistance with information regarding financial aid. Their study used randomized assignment among adults using a tax

preparation company. They found that the impact of assistance with filling out the requisite forms was far greater than the impact of simply providing detailed information.

Although Bettinger et al. (2012) used randomized assignment, the majority of these policy studies are essentially bivariate correlations: researchers typically offer two locations with contrasting policies and then present differences in the outcome of interest as evidence of the impact of the policies (see, for example, Johnson et al., 1993; Johnson & Goldstein, 2003). Others are simply univariate correlations (see, for example, Kooreman & Prast, 2010; Thaler & Sunstein, 2008), presenting the number of people who do or do not take up the policy and then using sub-optimal levels of take-up to demonstrate that rational actor theory does not sufficiently explain this response. Still, although such studies cannot provide the type of methodological rigor required for quantitative causal inferences, they do offer some evidence that small changes in framing may reduce the number of people who make an optimal judgment even when they face larger financial consequences than the nominal or hypothetical sums at stake in most laboratory experiments (Benartzi & Thaler, 2001, Genesove & Mayer, 2001). Further, they provide evidence for Kahneman's (2012) claim that System 1 judgments can have enduring effects, which cannot be verified in single-day laboratory experiments.

Applicability. Cognitive framing theory fits well with the current policy scenario in English higher education. The scale of the recent fee changes, as a proportion of median income, makes them an unprecedented change in English higher education policy. This lack of precedent means that there is a paucity of past examples for current students, and so their ability to process the risks and benefits of education is all the more important. This is increased by the complexity (perhaps not in comparison to the United States, but relative to prior

conditions in England) of the terms of fee payments. These conditions fit well with the circumstances under which cognitive framing claims to be of greater importance: quantitative evaluations without direct prior analogs (Kahneman, 2012). The fee changes have transformed the extent to which students pay directly to study and so too the extent to which financial considerations influence enrollment decisions. From the perspective of students, the impact of the new policies is centered on forecasted future earnings and commitments, thus increasing the onus on students to evaluate risk. In fact, the system still represents a subsidy to students, but it may require a great deal of informational processing and action if students are to take advantage.

Socioeconomic disparities. One shortcoming for implementing cognitive framing is that it does not offer specific theories on how social class may influence judgment. The laboratory-based studies that form the empirical basis of this literature have not examined differential responses according to respondent characteristics. This aggravates a pre-existing challenge for generalizing this literature's findings to enrollment decisions in England: many of the laboratory-based empirical studies are conducted on young adults attending prestigious universities in North America; hence, these study subjects are likely to have different life experience and cognitive functioning than disadvantaged high school students in England.

Nonetheless, cognitive framing does not theorize that intuitive decision-making is uniform across humans, nor that it is unrelated to variance in their conditions and experiences. Kahneman (2002) notes that differential responses are important but absent from his and Tversky's collaborations due to a desire to present parsimonious, concise claims in order to maximize the breadth of their findings' impact. Indeed, one of the tenets of cognitive framing,

that relative conditions outweigh absolute conditions, is of direct importance to the fact that students are making judgments from differing positions. This corroborates Dynarski and Clayton's (2006) assertion that, in comparison to working-class students, middle-class students in the United States respond not only to their advantageous financial position at the time of financing their degree costs but to an imbued belief that attending university is the natural, default decision after high school.

Further, subsequent research suggests that variation in prior experience influences judgment even according to the principles of cognitive framing (Frederick, 2005; Kahneman, 2012; Sitkin & Weingart, 1995). Sources of differential responses include pre-school education (Rueda, Rothbart, McCandliss, Saccomanno, & Posner, 2005), gender (Blais & Weber, 2001), and prior experience with financial transactions (List, 2003), with the last of these options finding that participants with more prior experience were less risk-averse when facing potential losses and thus more able to make judgments according to longer-term goals. This implies that pre-existing characteristics and experiences may influence students' susceptibility to framing effects.

Partial explanations. Given the multidimensional nature of enrollment decisions and the strength of some past research that emphasizes non-monetary factors, it is important to recognize that cognitive framing can offer only a partial explanation of disparities in enrollment behavior among students. Cognitive framing's focus – quantitative judgments under conditions of uncertainty – delimits its theories to a specialized area of human decision-making. It cannot account for factors such as gaining requisite prior education qualifications and potential stigmatization from education professionals. Nor can it even explain responses to students'

financial decisions in their entirety: it makes no theoretical claims about whether the decision to enroll is or is not optimal for students, merely that this cannot entirely explain students' decisions, since students' decisions may prove inconsistent when the presentation of new information is altered. Its insights are thus more likely to offer supplementary rather than alternative insights to the extant theories – human capital and habitus – in the literature.

SECTION SUMMARY

Cognitive framing theory focuses on decision-making under uncertainty. Its central claim is that people frequently rely on intuition rather than reasoning when making decisions. As a result, its exponents claim that beliefs in rational, consistent decision-making are overstated since people may alter their decisions when presented with opportunities that are substantively identical but vary in their presentation. In addition, the extent to which people are likely to be influenced may be linked to past experiences. These insights might contribute to the study of social class disparities in university enrollment in England because they suggest that analyzing the tradeoffs of the new fee structure is unlikely to be sufficient for predicting students' responses to it; the conditions under which they receive information on these changes may also be influential.

5: BUILDING AN INTEGRATED MODEL

SECTION INTRODUCTION

This working paper has now presented the two predominant conceptual frameworks in the research literature on enrollment disparities in England by social class – human capital and

habitus – and introduced a framework that might supplement these: cognitive framing. This section discusses how the three frameworks could be integrated into a single model. To do so, it first considers how compatible the theorizations of human capital and habitus are with one another, before then incorporating framing into the discussion. Following that, it proposes a model that integrates key theorizations from the three frameworks in order to build upon the strengths, and limit the weaknesses, of each individual framework.

COMPARING HUMAN CAPITAL AND HABITUS

Judgments and motivations. One similarity between human capital and habitus is that, as currently employed in the English higher education literature, neither attaches much importance to financial constraints in causing enrollment disparities. Human capital exponents argue that, even in light of the 2012 fee increases, the loan system and financial returns make undergraduate education in England an unequivocally beneficial investment (see, for example, Barr, 2011; Walker & Zhu, 2011). Habitus exponents refer infrequently to students' financial considerations, and such references present financial considerations as ancillary components of students' decision making (see, for example, Ball et al., 2002).

Another similarity between human capital and habitus is that they conceptualize students' enrollment decisions as rational. In other words, students hold preferences or dispositions (according to the terminology of the respective theories) towards the idea of applying to university that have been developed as the result of a well-reasoned assessment of the educational opportunities available to them, and students' ensuing actions are consistent with these preferences and attitudes. Further, if a student does not intend to apply to university,

they hold this view consistently.

However, a fundamental difference exists in how exponents of these theories view the aspirations, or lack thereof, that drive these preferences and dispositions. Habitus exponents hold that low aspirations among working-class students reflect a rejection of an educational system that denigrates them. Education serves to celebrate upper- and middle-class behaviors and tastes, legitimizing their status over those of the working class. Thus, working-class students hoping to progress in post-compulsory education must either ape middle-class behaviors or be willing to bear stigmatization and thus work on an unlevel playing field (Reay, 2001). Human capital exponents take a contrasting view, treating low aspirations as a function of the long-term credit constraints that Carneiro and Heckman (2002, 2003) highlight in their research on disparities in the United States. In this conception, working-class students are unable to benefit as much from higher education as wealthier students because their cognitive and non-cognitive skills have developed less, on average, since childhood, leading to a cumulative impact on disparities between children from different wealth levels. In human capital, the problem is thus not one of subjugation and stigmatization but of unequal opportunities to make the most of school education.

Barriers. This distinction fuels contrasting views on the nature of barriers to greater socioeconomic parity. Exponents of both theories identify England's school system as culpable, but they differ over the mechanisms that they believe generate disparities. Exponents of habitus attribute them to curricula and pedagogy that provide one form of language as the correct one, and celebrates cultural achievements – such as in art, literature, and theatre – that are part of a canon of middle-class tastes; teacher prejudice; and susceptibility to the

interventions of middle-class parents.

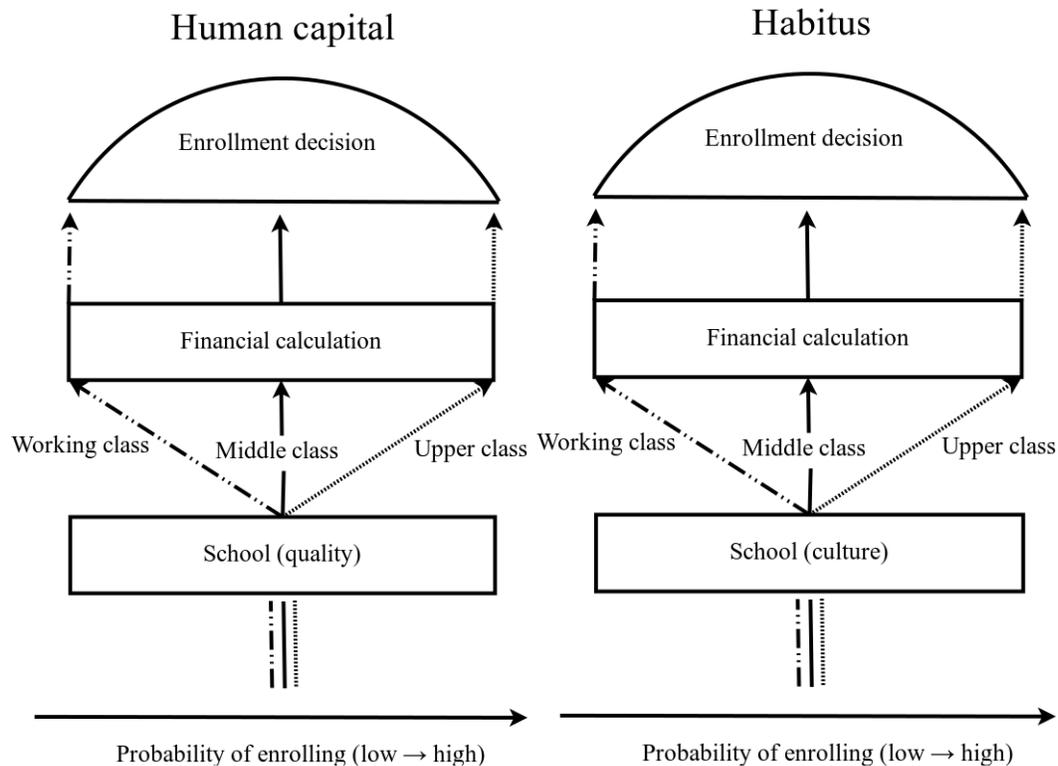
Exponents of human capital in England tend to place far more emphasis on schools than other factors suggested by Carneiro and Heckman (2002, 2003). In contrast with habitus though, the barrier here is conceptualized as schools failing to deliver learning in a manner that is reflected in exam results. The assumption is that working-class students will progress more readily through school if the clarity of pedagogy improves and they are thus better prepared to succeed in exams. This is far removed from the concerns of power, subjugation, and conformity voiced in the habitus literature. Rather than being socially situated and subjugated, working-class students are individuals who would progress in education if only they were provided the pedagogical means.

Compatibility. Habitus and human capital agree on where but differ in how inequality is generated: both focus on schooling and afford little importance to financial or other constraints. Their disagreement on the role of schooling is considerable but not irreconcilable. While a theory that emphasizes social context and another that affords this almost no importance in relation to individual returns are very different, both can be accommodated in a single theoretical model. This is because the barriers that each emphasizes can occur in conjunction. Students may encounter challenges in education relating to apparent threats to their own identity, and their progress can also be tempered by disparities in educational provision. Their motivations can be tied both to social identity, to meeting others' expectations for what is reasonable or desirable for "people like us" (Reay, 1998, p. 526), and also to employment incentives. Furthermore, the theories are compatible with respect to financial constraints, given that each is relatively disinterested in this factor, treating students' university application

behavior as being determined far earlier in the students' lives than the final years of schools.

Figure 3 compares human capital and habitus by modeling how their respective exponents explain socioeconomic disparities in university enrollment according to social class. The models share a three-stage process. Both for human capital and habitus, school factors explain the main divergence in the likelihood of enrollment across social classes (represented by each line's horizontal position), albeit in different ways. In the human capital model, students from differing social classes have, on average, equivalent likelihoods of future university enrollment prior to school, but disparities in school quality (stage 1) engender disparities in these likelihoods. In stage 2, financial considerations relating to university play no role in the varying future enrollment likelihoods across the social classes: the prior disparity remains unchanged, both for better and worse. Students thus reach stage 3 with differing propensities to enroll according to social class. The habitus model is nearly identical, with the difference being that school culture, rather than school quality, generates socioeconomic disparities in application behavior. Again, financial factors are redundant.

Figure 3. Enrollment decision for human capital and habitus



INCORPORATING FRAMING

Contributions. Framing can contribute to research on enrollment disparities in England because it offers new insights into an aspect of decision-making that the predominant theories treat as largely inconsequential: financial calculations. As mentioned earlier, neither exponents of human capital nor habitus attach much importance to financial judgment. Habitus offers little scope to incorporate this factor; human capital can, but its exponents still hold that the new fee system should have no impact on enrollment decisions since loans alleviate credit restraints and expected future returns still exceed investment costs. Consequently, they both have made limited explorations of this dimension of the enrollment decision process.

Framing can add to the study of enrollment decisions because it suggests that even relatively straightforward financial judgments are prone to non-rational behavior, i.e., they can

be inconsistent and sub-optimal. Students may be unwilling to accept considerable payoffs with even small risks, and they may reverse decisions according to whether the information available emphasizes more negative or positive aspects of the decision.

Figure 4. Enrollment decision for original framing theory

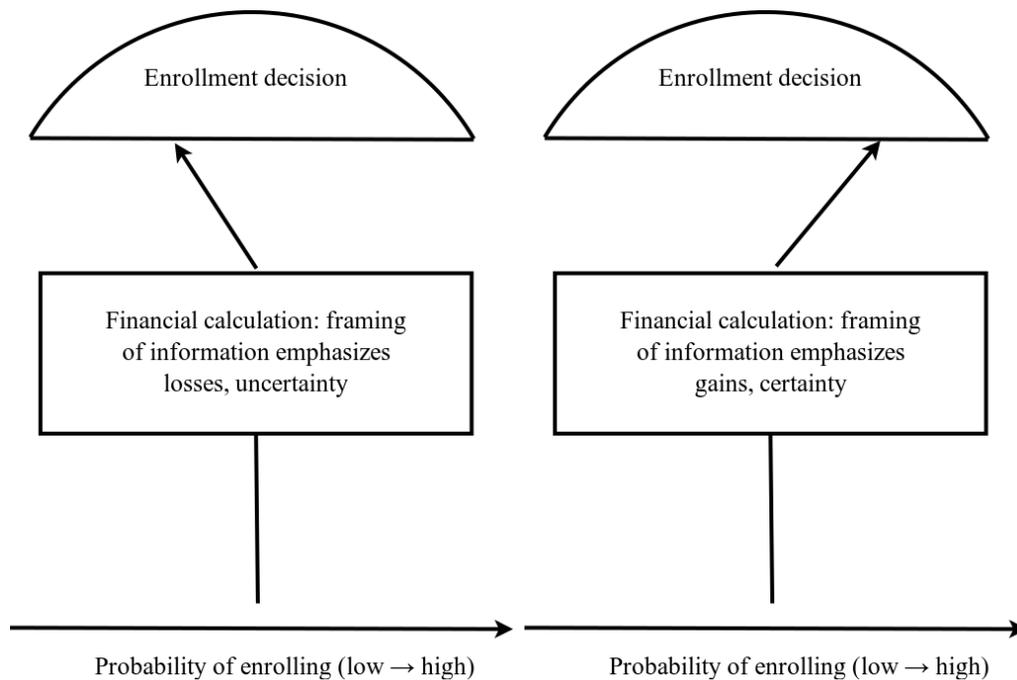


Figure 4 presents a model for how cognitive framing in its original form – i.e., as conceptualized, tested, and developed by Tversky and Kahneman (1981) – could theorize students’ enrollment decisions. On the left-hand side, students’ likelihood of enrollment lessens in response to information that emphasizes losses and uncertainties in the fee policy. On the right-hand side, information emphasizing gains and certainties increases the overall enrollment rate. Since Kahneman and Tversky’s (1979; Tversky & Kahneman, 1974, 1981) work used randomized allocation and presented group averages for treatment and comparison groups, this model does not account for heterogeneity among students in their pre-existing likelihoods of applying and responses to the new information. Because this model does not allow for variation

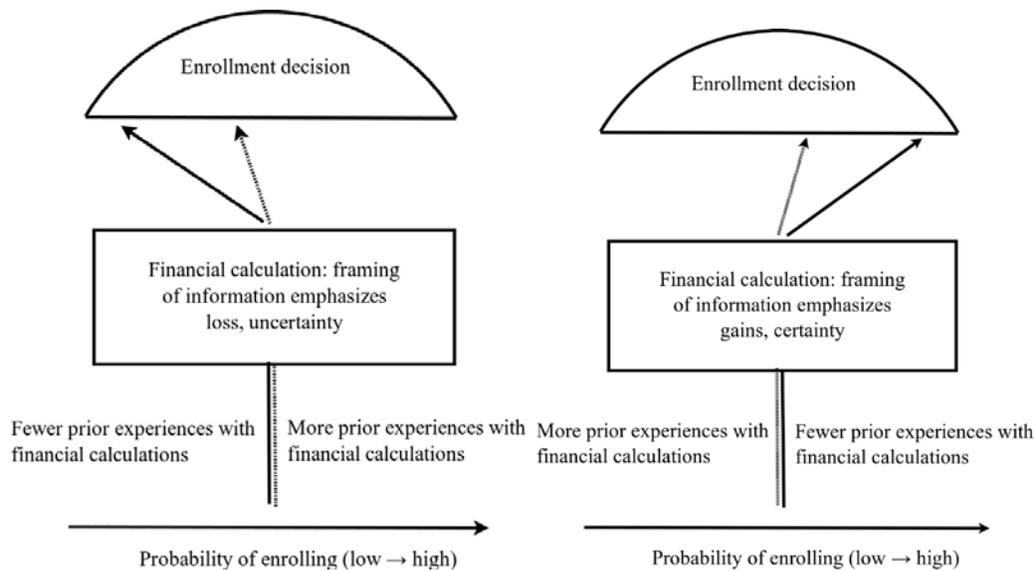
according to social class, either prior to or after the framing effect, it cannot explain social class disparities.

However, more recent developments in the cognitive framing literature can ameliorate this assumption of homogeneous framing effects through their consideration of how intuitive reasoning can vary according to past experience. This might occur in three main ways. First, framing indicates that prior experience with a certain area of decision-making improves individuals' ability to make System 1 judgments that are more reasoned, oriented towards longer-term goals, and thus more representative of System 2 judgments (Kahneman, 2012). Second, since judgments occur relative to experienced circumstances rather than in independent and absolute terms, those students who are less materially well off may be more risk-averse, having experienced relative poverty and thus being more unwilling to take any risk of further worsening their circumstances. Third, as Dynarski and Scott-Clayton (2006) noted for the U.S. context, wealthier students are more likely to have relatives and other adults who hold university degrees and hence are more likely to see higher education as the 'default' option at the end of high school, while the opposite is true for working-class students. Thus, upper- and middle-class students are more likely to proceed through the necessary steps for university entry relative to working-class students and so are likely to enroll at higher rates in the absence of policies that facilitate the application process or provide incentives for working-class students.

Figure 5 builds on Figure 4 by incorporating the notion of differential responses to framing effects. Figure 5 depicts a scenario in which students have different previous experiences with financial calculations. The model on the left-hand side presents an expected

negative framing effect, the model on the right-hand side an expected positive framing effect. On average, students with fewer past experiences are more susceptible to framing effects than are those with more past experiences, represented by a greater reduction in the probability of enrollment in the left-hand model and a greater increase in the right-hand model.

Figure 5. Enrollment decision for framing theory, accommodating varying prior experience



Compatibility. Table 2 summarizes the differences and similarities across the frameworks in terms of how each theorizes working-class students’ motivations, the barriers that they face, and potential solutions for ameliorating these barriers.

Cognitive framing’s theorization of motivations differs considerably from human capital and habitus. This is because it views two competing sets of motivations whose precedence depends on which decision-making process – System 1 or System 2 – a person employs. Motivations for the former relate to loss aversion and relying on default options. Motivations for the latter are not defined substantively – e.g., wealth, cognitive development, networking, leisure, or social status could all be factors – but are treated as consistent across time and in

relation to longer-term goals. System 2 judgments are thus compatible with the motivations of human capital, habitus, or a model that tries to accommodate the two. This is because the motivations guiding System 2 judgments are substantively flexible and believed to be consistent.

Table 2.
Overview of habitus, human capital, and framing

	Motivation	Judgments	Barriers
<i>Human capital</i>	Financial, individualistic	Well-reasoned, consistent	Schooling, instruction
<i>Habitus</i>	Social acceptance	Well-reasoned, consistent	Schooling, culture
<i>Framing (System 1)</i>	Avoiding change, uncertainty	Prone to flaws, inconsistent	Format of information
<i>Framing (System 2)</i>	Not defined	Well-reasoned, consistent	Not defined

The greater challenge lays in reconciling System 1 motivations with human capital and habitus. A key claim made within cognitive framing is that System 1 judgments can override the goals that a person will pursue when using System 2 processes (Kahneman, 2012). Therefore, humans are not always consistent in their decision-making, and they are prone to undermining their own goals according to certain principles: the biases and heuristics noted in Section 3 of this paper. This defies the consistent behavior patterns that are embedded implicitly in habitus. Still, this may not pose too serious a problem for allying the nature of judgments across System 1 and habitus because System 1 judgments concern quantitative decisions in the short term while habitus focuses on longer term, socially-situated decisions. Since the two are discrete, they focus on such different realms that they can be combined in a composite model without directly contradicting one another.

Regarding human capital though, students are explicitly expected to evaluate financial

costs and anticipated benefits in a manner that is quantitatively accurate and reliable. In other words, these assessments occur in the same realm as cognitive framing – quantitative assessments – but they are not prone to the biases and heuristics from System 1 processing. The key then is whether it is feasible within human capital theory to untangle rational, consistent behavior from the motivating factor of education as an investment.

This is not untenable. As Camerer & Loewenstein (2004) note, pre-classical economics engaged with departures from rational behavior; indeed, Adam Smith's claim (1759/2002) is reminiscent of one of the core principles underlying framing theory: "we suffer more, it already has been observed, when we fall from a better to a worse situation, than we ever enjoy when we rise from a worse to a better" (p. 249). Contemporary educational economists have treated investment as a core tenet of their work, but they have not afforded the same status to rationality, as shown for example in Dynarski and Scott-Clayton (2006) and Bettinger et al. (2012). The crossover from cognitive framing to economics, led by Thaler and Sunstein (2003) and coined as behavioral economics, indicates that labor economists and policy researchers have shown an increasing willingness to forego the assumption of human rationality in decision-making.

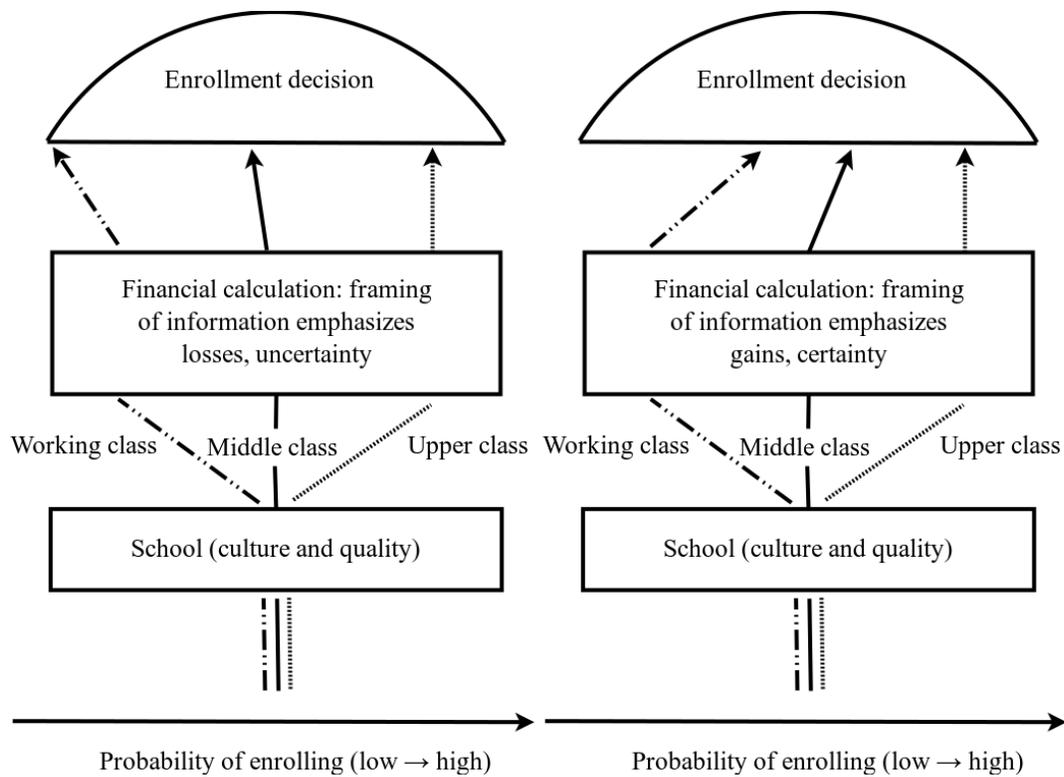
Cognitive framing is compatible with the key barriers presented by human capital and habitus in the English context. Whereas human capital and habitus focus on school quality and school culture, respectively, cognitive framing is flexible in terms of the sources of barriers. Instead, it focuses on the nexus between students and information available to them when they make decisions. It does not claim to offer a total theorization of behavior, and so it stands to reason that framing effects can provide one component of a model on enrollment disparities

that also integrates key factors from the habitus and human capital literatures.

A NEW MODEL

Figure 6 proposes such a model. It presents two alternative scenarios side-by-side according to differences in the second stage, i.e., financial calculation. In both models, the first stage, “School”, represents the key explanators of habitus and human capital – school culture and school quality, respectively – compounded into a single stage comprising explanators from each theory. The three lines leading into this stage, dividing students into three social classes, indicate that students in these groups have, on average, essentially indistinguishable probabilities of deciding to apply for university prior to schooling. Variations in schooling then dissipate this equality, with working class students’ probability of a future application dropping (as indicated by their leftward trajectory in each model).

Figure 6. A model integrating explanators from habitus, human capital, and framing



The second stage represents the key explainer of cognitive framing: the nature of new information that students are provided with about the financial commitments associated with undergraduate study. It comes after schooling because those factors are longer-run and hence likely to have most of their impact prior to mid- and late-adolescence, the ages when students are likely to begin making financial assessments about their post-school plans. As a result of schooling, students approach this stage with pre-existing disparities in their likelihood of applying to university. In the left-hand model, students encounter information that emphasizes losses and uncertainties in the fee system. In line with framing theory, this has a negative impact on students, as represented by the arrows inclining to the left. In addition, the framing impact varies according to prior experiences, as represented by the varying extent to which the three groups' arrows incline leftward. For example, working-class students' average likelihood of applying to university drops at a greater rate than middle-class students, whereas the shift for

upper-class students is negligible. Thus, the framing effect serves to exacerbate disparities caused by schooling.

In the right-hand model, the framing effect is positive due to changes in the presentation of information that now emphasize gains and certainties in the fee structure. Again, the framing effect has the greatest influence on working-class students, who have fewer other sources of information and are thus likely to respond to framing effects at a greater rate. In contrast to the left-hand model, the framing effect partially alleviates the disparities generated by schooling factors.

SECTION SUMMARY

This section has offered a conceptual model that theorizes class disparities in enrollment by accounting for the chief contributions of the three conceptual frameworks – human capital, habitus, and cognitive framing – discussed in previous sections. It builds upon the strengths of each respective framework by accounting for the main explanator that each offers, and it limits their weaknesses by offering a more multi-faceted approach than any single framework can when operating in isolation. The model makes two compromises. First, although it accepts the assumption held in both human capital and habitus that students' enrollment behaviors are predominantly fashioned early in the lifespan, it discards the notion that they are held consistently henceforth. Second, it does not attempt to resolve the competing explanations of students' motivations made by human capital (money) and habitus (social acceptance); instead, it leaves this debate unresolved, treating these as distinctive but not mutually-exclusive factors, which can thus be used in conjunction.

6: IMPLICATIONS FOR FUTURE POLICY RESEARCH

SECTION INTRODUCTION

This section identifies some of the proposed model's implications for future research on enrollment disparities in England. It begins by considering modifications that researchers could make in the predominant empirical approaches. It then offers some future directions for research that could make use of the new model.

MODIFYING EXISTING APPROACHES

Qualitative approaches. One advantage that qualitative approaches offer is the opportunity to clarify students' own motivations and perceptions of the barriers that they face (Eisenhart, 1988). To date, qualitative approaches in the English enrolment literature have been employed almost exclusively by exponents of habitus; this is reflected in the common themes emerging in such work, e.g., power, conformity, and stigmatization. It is unclear though whether this is because respondents consider and discard competing factors such as teaching quality and perception of finances, or if researchers do not discuss such factors and so cannot verify whether these are also important. For either scenario, future work could refer to the other aspects of this integrated model – quality of teaching and assessments of the financial cost of university – either to clarify that they were discussed and found not to be important from students' perspectives, or to introduce them into discussions to identify whether students consider these to be clear factors in their decision-making.

Another implication is that researchers using qualitative research approaches should be

less willing to rely upon cross-sectional data. Interviews and focus groups tend to be conducted at a single time point in the lifespan of participating students. This is somewhat understandable given that exponents of habitus tend to treat enrollment disparities as being formed and entrenched at an early age in students. Nonetheless, while the new integrated model acknowledges the importance of long-run factors, it also suggests that perceptions of the cost of university in the later school years could account at least partially for enrollment disparities. Longitudinal interviews that investigate shifts in students' attitudes or perceptions of university would thus be truer to the nature of the new integrated model.

Quantitative approaches. Along similar lines to qualitative approaches in the literature, quantitative approaches have been largely the preserve of exponents of human capital. Similarly again, quantitative researchers have shown little if any interest in the explanations offered by the other predominant theoretical framework, i.e., habitus. One implication from the integrated model is that these researchers should now accommodate factors from both habitus and cognitive framing.

This is problematic for research that uses administrative datasets because, although such datasets enable longitudinal approaches and the finding of robust inferential relationships, they tend to have limited pupil-level information. As discussed earlier, human capital exponents provide strong empirical evidence that prior academic attainment in national exams is an accurate predictor of university attendance; when controlling statistically for this relationship, socioeconomic status only serves to explain a couple of percentage points of the difference in university attendance across students (Chowdry et al., 2008, 2013). Consistent with human capital theory, these researchers have been content to claim that the source of social class

disparities is a disparity in the ability of schools to prepare students for academic exams since students on the whole will choose to study well in a society that provides economic rewards for school and university attainment, which, they claim, is true in England. However, it would be difficult to test this theory by adding explanations from habitus or cognitive framing because, although administrative datasets tend to have rich information on attainment, they have far less on school experience and students' attitudes, perceptions, and motivations.

In contrast, studies that make use of national longitudinal cohort studies, such as the Longitudinal Study of Young People in England and the Millennium Cohort Study, offer a better opportunity to combine the components of this new theoretical model in quantitative analyses. This is because they are linked to students' national test scores, but they also contain student-level measures relevant to each of the respective theories' predictors. For example, in the Longitudinal Study of Young People in England respondents are asked a range of questions relating to their attitudes to school, their interpretations of teachers' attitudes towards them, and their perception of the financial costs of university education. For each year of middle and high school, respondents are also asked about their expectations of attending university and the main factors that have influenced this expectation. Although there are concerns about the extent to which these datasets are truly nationally representative of their cohorts (Lynn, 1996; Anders, 2012b), the range of variables providing information on students' own perceptions of their experiences would offer the means to employ similar econometric approaches while adding factors representing aspects of school culture and financial considerations in post-compulsory education.

NEW INITIATIVES

The proposed model could stimulate a range of potential interventions that researchers could seek to implement and test. Since one implication stemming from the integrated model is that policies aimed at adolescents might still have some impact on college application decisions, it is worth testing policy initiatives that adhere to the principles of cognitive framing. Perhaps the most simple example would be a program aiming to inform school students about the costs of university, targeted a year or two prior to the end of compulsory education. Teachers at schools across England are required to allocate a few school days per year to activities aiming to help students think about their future career and education plans; researchers could take advantage of these, providing teachers with some form of activity plan aiming to inform students about the costs of university study. Information would be presented according to the core principles of cognitive framing, emphasizing certainties and low-risk aspects over apparent losses, e.g., rather than focusing on the idea that undergraduate fees cost £24,000 on average (Chowdry et al., 2012), make sure that students know that their fees and living costs are covered, that they only make a contribution back in years when they earn enough money, and nobody has to keep paying back after 20 years, no matter whether they have covered their degree costs by that point.

A more unconventional approach would take advantage of cognitive framing's claims that people have a tendency towards default behavior, and that they attach more value to something that they do possess than to something that they do not. The aims would be to make university the default options and loan and grant entitlements something students might potentially lose rather than gain. In ninth grade, students would be presented with a voucher

that simply states the facts of the loan and grant offers that will be available to them as English residents should they apply to university in the future. The logic here is that students develop some kind of ownership over what is essentially a risk-free and highly-subsidized loan opportunity, and therefore they will be more reluctant to not pursue university education. This program could be reinforced by subsequent materials assuming that students are going to take advantage of loans, which would require some paperwork to opt out of university study.

In each case, the new intervention could be offered according to some form of random allocation across schools, with other schools receiving no less than current levels of information. Researchers would track students' enrollment behavior and investigate whether any program effects varied in their impact according to students' social class measures. Neither suggestion is highly costly since no further subsidy is being offered, merely information about students' existing entitlements. Researchers could implement and test their effectiveness on a small scale. Past research initiatives (for example Ashworth et al., 2002; Machin & McNally, 2008; Middleton et al., 2004) suggest that the English government may be willing to providing funding and the policy support for such initiatives.

SECTION SUMMARY

The integrated model proposed in Section 5 would have implications both for existing research practices and new directions. It would compel existing research to be more multifaceted than studies to date, which have tended to focus either exclusively on theorizations from habitus or human capital. Interview and focus group studies could accommodate perspectives from framing and human capital, and, while administrative datasets present difficulties, the national longitudinal cohort studies could incorporate aspects of the

three frameworks. The introduction of cognitive framing theory might encourage new research initiatives to see whether framing principles could be incorporated into more effective policies, especially for more disadvantaged students.

CONCLUSION

School curricula and university admissions procedures remain highly centralized in England, and these aspects of education policy have remained stable in recent decades. This stability is contrasted by the growth in tuition fees. Although last year's drop may come to form a new trend, tuition fees do not appear to have reversed the long-term growth in enrollment rates at the aggregate level since their implementation 15 years ago. Regardless, as growth rates in enrollment have been lowest among working-class students, undergraduate enrollment disparities by social class continue to increase.

Human capital is one of the predominant conceptual frameworks in the literature that theorizes these disparities. Human capital conceptualizes education as a financial investment, and its exponents assert that undergraduate degrees in England present a favorable investment. Using quasi-experimental methods, they have provided convincing evidence that fewer students from lower social classes are gaining the requisite academic credentials in school, and that this attainment disparity accounts almost entirely for the social-class disparity. According to human capital theory, since students of all social classes are held to view university enrolment as a favorable financial opportunity, they will make maximal use of the educational opportunities available to them. Thus, the disparity in enrollment is explained by a disparity in school quality, where quality is defined as a school's ability to prepare students for national examinations.

However, this literature has not empirically verified its strong assumptions about student perception and behavior that are crucial for attributing the cause of attainment disparities to school quality.

The other predominant conceptual framework in the literature is habitus. Whereas human capital conceptualizes education as an investment, habitus conceptualizes it as a game in which participants, i.e., students, have varying degrees of knowledge of the requisite rules and capacities to play. Exponents of habitus tie this knowledge and capacity to social class. As such, they argue that working class students encounter an educational system that stigmatizes their cultural practices and places a burden on them to adjust to the norms of the upper and middle classes. University enrollment disparities are thus a reflection of a normative education culture that presents students with asymmetrical opportunities according to their social class. The empirical evidence used in support of this offers direct explanations from students of their experiences, permitting nuanced discussions of their motivations, influences, and perceived barriers. However, its drawbacks stem from an overreliance on cross-sectional convenience samples of students as these give rise to concerns that findings are overly static across the lifespan, difficult to generalize, and provide just one perspective, i.e., that of students. In addition, material and financial concerns receive close to no attention.

Both habitus and human capital provide important frameworks for analyzing enrollment disparities, but, as with any theoretical approach, they prioritize certain aspects of social phenomena and so risk negating others. Whereas habitus omits financial considerations, and human capital treats them as redundant on the basis of rational cost-benefit analyses that are equal across social classes, cognitive framing indicates that students' financial decisions are

fallible. Framing effects, i.e., alternative formulations of the same information, may play some role in decision-making, and students may vary in their susceptibility to framing effects according to past experience. These insights may be increasingly important in light of rising tuition fees.

Although cognitive framing theory implicitly compels adjustments to the explanations stemming from the extant theories in the literature, its insights offer supplementary contributions rather than an independent alternative. Thus, it makes sense to integrate it into a conceptual model alongside the two predominant frameworks. Even though exponents of human capital and habitus have worked independently of one another to date and differ in their conceptualizations of the purpose of education, the barriers that they identify for working class students can be brought into a composite model. Although framing adds an additional barrier without contradicting those of the other frameworks, its presence in the tripartite model does require foregoing human capital's assumption of invariant and accurate calculations. However, such a precedent has already been set by economists in past policy work.

This new model builds on the strengths of the individual frameworks by maintaining the key factor that each has identified as a cause of enrollment disparities by social class, and it limits the weaknesses of any one framework operating in isolation by avoiding an overreliance on a single explanatory factor in favor of a more holistic model. One of the clear implications this model has for future research is that it would compel studies using the predominant methods – quasi-experimental methods, interviews, and focus groups – to entertain a greater range of potential explanations. Another is that researchers might follow new avenues of research that engage more with students' perceptions of the undergraduate fee system. Such

research could not only use cognitive framing theories to explain enrollment disparities but also test new policy ideas that might go some way to alleviating them.

Cognitive framing theory can contribute to theorizations of students' enrollment decisions in England because it offers new insights into how people make financial calculations under uncertainty. This may be all the more important at a time when policy changes are likely to make it increasingly important for students to make such calculations. Whereas both exponents of human capital theory and habitus discard the importance of financial calculations in England's current policy conditions, cognitive framing indicates that students may respond to tuition fee policies not only according to their substance but also to the format in which they are presented. By accommodating this consideration, researchers could develop more nuanced understandings of social class disparities in university enrollment.

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