

# Examining the potential for nudges to tackle ‘undermatch’ in higher education: existing evidence and implications for scaling

Eliza Kozman<sup>1</sup>, Michael Sanders<sup>2\*</sup>

## Abstract

Nudge interventions have been shown to improve a range of education outcomes. One area in which nudges have demonstrated promise is in tackling undermatch – where high-achieving, low-income students do not attend selective higher education institutions even though they have the grades to get in. We examine how interventions have been shown to address this issue in both the UK and USA and discuss implications for scaling. We suggest that researchers have a role in helping policy-makers engage with the literature so that nudges are implemented appropriately in real-world settings.

<sup>1</sup> University College London

<sup>2</sup> King's College London Policy Institute and What Works Centre for Children's Social Care

\*Corresponding author: michael.t.sanders@kcl.ac.uk

## Context

The UK and US experience a challenge of social mobility, with intergenerational mobility lying below the comparatively high levels in much of mainland Europe (Gregg et al., 2017; Blanden, 2013). Much of this immobility can be explained by differential access to education, including access to selective higher education (HE) institutions<sup>1</sup> (Gregg et al., 2017; Dynarski et al., 2018) which are associated with access to the professions, higher earnings, and greater social capital (Britton et al., 2016; Sanders & Hume, 2019). Studies in the UK and US have found low-income students may not attend selective institutions, even if they have good grades – so called “undermatching” (Dynarski, 2018; Hoxby & Avery, 2012; Smith et al., 2013). Moreover, this pattern appears to be due to application choices rather than admissions decisions, suggesting a suitable niche for nudges (Anders, 2012; Hoxby & Avery, 2012).

## Empirical findings

Several studies in the UK have focussed on nudging at the point of application to HE (Sanders et al. 2018a; Sanders et al. 2018b; Silva et al. 2016). These studies collectively

examine whether light-touch interventions can encourage university attendance, especially for students from areas where few people do so. Sanders et al. (2018a) take as their sample 11,000 young people who had achieved high grades in their school-leaving exams. All were in schools where most students who went to university attended the one closest to home; this approach is based on research which finds low-income individuals face particularly high psychic or information-based costs to applying to distant universities and “may choose to reduce these costs by choosing a proximate institution, even if this is of lower quality” (Gibbons & Vignoles, 2012).

This cohort were randomised into four groups – 25% received a letter at school, 25% received a letter at home, 25% received both letters and 25% were a control group. The letters were written and hand-signed by students at a selective university in the South West of England and encouraged the recipient to consider applying to a wide range of universities. They highlighted that high-achieving students were in demand at more selective institutions and that, due to financial support, these options might not be as expensive as expected. Students who received both letters were 33% more likely to accept an offer from a selective university than those in the control group. There was a similarly large rise in the number of students both applying to, and receiving offers from, selective institutions suggesting the intervention increased both the number of young people considering these institutions (students in England can make up to five applications), as well as ultimately *choosing* them. There was a rise (although not statistically significant) in the proportion applying to, being made offers by, and accepting offers from, *any* university.

<sup>1</sup>In the UK selective institutions are typically thought of as the top third of universities as ranked by their entry criteria – a grouping that overlaps with the Russell Group of universities which includes the Universities of Oxford and Cambridge. These institutions are typically more research intensive, and older than other institutions. Although funded very differently, these can be thought of as roughly equivalent to Ivy League institutions and those of similar prestige on the East Coast of the US.

Interventions to address undermatch have also been tested in the US. For example, in a study with 12,000 participants, Hoxby & Turner (2013) tested an intervention designed to provide high-achieving, low-income students with semi-customised information on colleges they could apply to. The intervention included the net cost of these options and a no-paperwork fee waiver. Although the intervention did not highlight particular type of college, there was a shift towards more selective institutions with recipients 19% more likely to enrol at a college matching their qualifications.

More recently, Dynarski et al. (2018) tested a campaign to nudge high-achieving, low-income, students to apply to the University of Michigan (the state’s most selective college). Almost 4,000 students were randomised equally into treatment and control arms. The treatment group received a personalised mailing on the college application process, encouragement to apply and the promise of a scholarship with no requirement to complete financial aid forms. The control group received a postcard listing application deadlines. Students who received the intervention were 125% more likely to enrol at the University.

## Scaling

These studies demonstrate there is potential for nudges to address the issue of undermatch and they are likely to attract interest from policy-makers. However, the question of how to scale these efforts bears some consideration.

First, the existence of similar findings in the UK and US suggests this type of nudge is transferable. There are some common elements that anyone seeking to adopt this approach should retain – for example all of the interventions feature personalised mailings and flag how students are qualified for options they might not have considered. However, an important difference between contexts is the role of financial aid. Research in the US has found information – only interventions to be ineffective (Bettinger et al. 2012; Bergman, & Denning, 2016) and fee-waivers are framed as a crucial element of both US studies. By contrast, the structure of financial support in the UK lowers the cost of entry for less wealthy students, and is a fact that is specifically raised in the UK-based intervention.

Second, we must consider the best messenger for the intervention. In both Sanders et al. (2018a) and Dynarski et al. (2018) the intervention is attributed to a single selective institution. As noted in Dynarski et al. (2018), this model is optimal in a large state like Michigan, where the messenger is clearly among the very best options for a student to attend. However, in the UK there are multiple selective institutions all targeting a small pool of high-achieving, low-income students. In this scenario, if universities all employed the same strategy young people could be inundated by letters which could dilute or negate the intended effect. Scaling by central government could circumvent these issues but would require an explicit endorsement of selective institutions. Therefore, there is an interaction between the context of the scaling, the

policy landscape and the most viable model for scaling.

Third, any attempts to scale such interventions raise questions about long-term impact – and so we turn to the “stickiness” of this nudge. For the effects of a nudge to be *sticky*, it must not be easily or automatically undone. Sticky interventions are typically those which either only need to work once, or where their repeated action does not lead to an erosion of effects. In this case, the immediate focus of the interventions is on making HE choices. Since this is an activity which most people will only need to complete once, nudging an individual to apply to selective institution is “sticky” in the sense that people are unlikely to “unapply” having applied.

We should, however, question a broader definition of sticky – which is, if someone is started down a better path by a nudge, do they continue down that path? In a HE context, this means having applied and entered, do they flourish? Young people from lower income families are more likely to drop out of education than their more affluent peers (Bailey & Dynarski, 2011; Vignoles & Powdthavee, 2009) and at the margin, we might expect this to be especially the case for the students who are nudged into attendance. Both Hoxby & Turner (2013) and Dynarski et al. (2018) suggest students who are nudged into more selective institutions do in fact persist on their courses although we not have longer-term outcomes or similar evidence in the UK context. In any case, it is interesting to note the existence of “student success” nudges targeted at students within HE (Harackiewicz & Priniski, 2018).

In a macro sense, we need to acknowledge the modest stickiness of these interventions. Despite the sizable effects, the number of students affected remains a small proportion of the full sample of high-achieving, low-income students who undermatch every year. Therefore, these nudges make a difference to the overall social mobility picture, but cannot tackle more substantive, structural factors.

## Summary

In sum, there is a good body of evidence to suggest nudges can play a role in addressing the issue of “undermatch”. All the interventions discussed feature personalised mailings which encourage students to consider an expanded range of options by highlighting their suitability to apply but we make three key recommendations for anyone seeking to scale this approach more broadly. First, it is clear such nudges must be tailored to the specific context in which they are applied; for example, simplifying access to financial aid is a key component of nudges in the US but not the UK. Second, a coordinated approach is required to ensure students are not overwhelmed by contact from multiple institutions. Third, when implementing such nudges, we should also consider how to track and support the long term progress of students. On all these points, researchers can play a role in synthesising and translating existing literature to support policy and practice.

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