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## **Abstract**

Many Australian students face psychological hurdles in realising their educational potential and maximizing the value of their education. This Policy Brief explores which behavioural interventions, or nudges, have been used internationally to substantively improve students' educational outcomes, and therefore social and financial prospects, at minimal cost. Rigorous, evidence-based analysis, in the form of randomised controlled trials, is called for to test which nudges would be most effective in the Australian educational context. Specifically, the authors call for trialling of inexpensive but effective interventions and full-scale randomized implementation of the most robustly positive interventions.

**JEL classification:** C93, D03

**Keywords:** Behavioural intervention, public policy, education, randomized control trials

## **1. Introduction: Australia's educational outcomes problem**

Educational outcomes for today's students will reverberate through Australia's economic and social landscape for decades to come. Yet these students face many psychological hurdles in maximizing their own long-term wellbeing. The use of behavioural interventions, or nudges, can supplement and amplify conventional policy tools in a way that is low-cost and choice-centric. Assistance with administrative processes, removing small barriers to action, shifting identities and empowering parents all reliably and substantively improve students' outcomes at minimal cost.

The importance of education is underscored by its impact on employment and incomes, health, community engagement, national productivity, crime rates, civil engagement and personal satisfaction. Yet many students suffer from poor educational outcomes. Students from low-SES backgrounds and other disadvantaged groups are particularly affected, entrenching intergenerational inequality. Despite the fact that Australia spent over \$70 billion (5.8% of GDP) in 2014 on education, over a quarter of students fail to complete year 12, and even more are not in education, employment or training by age 24<sup>1</sup>. The reams of public spending have failed to translate into positive outcomes for a large section of Australia's youth.

The 2011 *Review of Funding for Schooling* (the Gonski Report) called for a dramatic increase in funding, particularly for schools serving disadvantaged students. However, since funding alone would not be sufficient to meaningfully improve student outcomes, the report made additional recommendations including ensuring top quality teachers, creating a culture of high achievement and building deep connections with parents and the community<sup>2</sup>. These are all admirable aspirations, but may not be achievable. And other possible education interventions — e.g. smaller classes, early learning and parental engagement — are either too expensive or have little impact. Teacher quality is by far the most important in-school factor affecting children's learning and outcomes. Unfortunately, that quality seems unrelated to easily-measured characteristics such as teaching experience or qualifications<sup>3</sup>.

The bottom-line is that there is no 'silver bullet' to fix educational underachievement and disadvantage. Conventional policies are limited by a combination of high cost, complexity and difficulties in implementation. Therefore, a suite of alternative measures that target particular barriers to the effectiveness of educational policies should be considered.

## **2. Behavioural barriers and interventions**

Students' own choices play a large role in determining their educational outcomes. However, students face psychological impediments to making the decisions that lead to futures they themselves want. These barriers include short-termism, excessive routine reliance, negative identities and inaction in the face of complexity<sup>4</sup>. Dropping out of school, disruptive classroom behaviour and not pursuing post-secondary education are all self-damaging behaviours, largely resulting from the above biases. Disadvantaged students, facing additional stressors and challenges, are disproportionately harmed. This is not to imply in any sense that the students are to blame for such factors, which are in any case beyond their control. The focus of this paper is squarely on possible remedies.

It is conventionally assumed that big problems require big solutions and big budgets. This is not necessarily so. Behavioural barriers can be combatted with behavioural interventions. While behavioural interventions are only a small part of the solution to educational under-achievement, they may well be the easiest, cheapest and most tractable place to start. Behavioural interventions combine psychology's nuanced assumptions of human behaviour with economics' focus on institutions and maximizing positive outcomes<sup>5</sup>. Sunstein and Thaler's book *Nudge* (2008) brought the topic to public attention, advocating the use of 'nudges': ways of shifting people's behaviour that a rational agent would ignore.

Nudges have the capacity to dramatically improve outcomes of government-funded activities at minimal cost. Well-designed nudges help people achieve their own goals. Further, nudges do not prevent people from choosing discouraged options, thereby preserving individual choice and avoiding forcing a one-size-fits-all solution found in many conventional policies and regulations. In recent years, many countries have been exploring the value of nudges in education. We review the more promising and consistently effective options that could, potentially, be applied in Australia.

## **3. What works overseas?**

When faced with complex administrative processes, many students will disengage and put off the decision, despite enormous lifetime returns from persisting. Tertiary applications, financial aid and scholarship applications, as well as well-informed selection of institutions and courses all fall into this category to some degree. In Australia, Youth Allowance, bursaries and the labyrinth of scholarships are examples of such complexity.

### *School counselling*

One approach to alleviate this problem is school career counselling. Adding one general counsellor per school shifts 9–18% of secondary graduates to universities<sup>6</sup>, equivalent to 23,000 to 47,000 young Australians each year. Some forms of counselling such as tertiary application assistance, focus groups on financial aid, and counselling on the options, cost and procedure of universities have even larger effects. For example, giving just 10 minutes of assistance in navigating the complexities of the FAFSA US financial aid form resulted in an additional 8% of students to enrol in colleges<sup>7</sup>. Per-student, this intervention costs just \$88 and has lifetime benefits in the tens or hundreds of thousands of dollars.

The benefits of application assistance interventions are concentrated in students whose parents are either poor, have not been to university or are from non-English speaking backgrounds<sup>8</sup>. These findings suggest that students face serious psychological barriers to completing difficult administrative tasks; that they rely on parental help to overcome these barriers; and that many parents do not have the capabilities to help them.

### *Lowering barriers*

While supporting students to deal with difficult processes is one way to help, another solution is to simply lower (or remove) those barriers. The most dramatic example is the 1997 shift from three to four free US college applications before a \$6 per-application fee applied. 71% of students responded to this trivial incentive by sending an additional college application form, with benefits conservatively estimated at an astonishing 20,000:1<sup>9</sup>. This success raises questions as to the effects of the much larger Australian application fees such as those of VTAC or the LSAT, which may be silently deterring many young Australians from applying for the courses, and pursuing the careers that would allow them to achieve their aspirations.

Similarly, students may fail to turn up for optional programs to help them even when they believe they should, simply because time commitments act as a small barrier. Unorthodox solutions like gift cards can counteract such biases and increase uptake of helpful but underutilized programs<sup>10</sup>. A large number of Australian students enrol in a tertiary course but fail to show up for classes, a phenomenon known in the US as ‘summer melt’. Summer melt can be minimized by sending text message reminders to at-risk students. The use of proactive reminders alone could shift thousands

of Australian students per year to universities at a cost of only \$7 per student<sup>11</sup>. Intensifying this intervention to persistent phone calls is not as cheap, but shifted 15% of students to universities<sup>12</sup>. Once students enter tertiary courses, text message reminders to renew financial aid forms can nearly halve the proportion of students dropping out<sup>13</sup>. This approach, too, may have application to the complex financial aid ecosystem in Australia.

### *Student identity*

A very different approach to interventions is to shift the identities of the students towards mind-sets that encourage learning. While challenging to implement successfully, such interventions can significantly weaken barriers to efficacy of educational policies. Low-income, high-achieving students have systematically lowered ambitions, and the 8% who apply to universities matching their abilities typically have a critical mass of neighbours who have attended, or peers who hope to attend, selective universities<sup>14</sup>. A study of 24 such students who did enter skill-appropriate institutions found that not a single one of them did so without having a mentor intervene at a critical time to make this pathway seem realistic for ‘someone like me’<sup>15</sup>. This, rather than increasing financial aid, seems to be the most promising way forward for helping this disadvantaged group.

### *Informing and supporting parents*

Parents are the single largest influence on student outcomes. Improving the quality and quantity of parental engagement increases educational attainment, especially for disadvantaged students. Studies have found that giving parents seminars on the most effective methods of helping their children’s schooling shows excellent results. A series of three seminars in a deprived school district in Paris showed large improvements in student behaviour, including a 22% rise in good conduct marks and a 25% reduction in absenteeism, with classroom peers of treated students seeing effects of half the magnitude and the direct impacts on students persisting for at least 18 months<sup>16</sup>. Nearly identical results were found in the radically different setting of rural India, suggesting that this approach is generalizable to many contexts. Parental information seminars are roughly 100 times more cost effective than shrinking class sizes for improving behaviour, and may become even cheaper if implemented on a large scale.

An alternative approach is to send parents regular messages giving information such as test scores, absences, missed homework and upcoming assignments. Outcomes from the three experiments investigating this approach include 25% increases in homework completion, a 30% increase in in-

class participation, a 69% reduction in non-completion of a remedial course and very large improvements in a range of behavioural metrics such as absences and persistence. Weekly, one-way, brief phone calls emphasising areas for improvement seems to be the optimal means of implementing parental messaging. This intervention is easily scalable, highly popular with parents and teachers and at least 10 times more cost-effective than comparable conventional policies, with the potential to become even cheaper with automation<sup>17</sup>.

#### **4. Testing education nudges in the Australian context**

While international pilot programmes and studies show much promise for behavioural interventions to improve educational outcomes, many experiments are limited by statistical issues or contextual differences from Australia, which mean that we cannot be confident these results are valid without better quality data. Unfortunately, intuition and expertise are not reliable predictors of the outcomes of policies. For example, when schools promote the identities of high-achieving students, these students responded by shunning study and effort in order to fit in with the prevailing anti-academic student culture. Simultaneously, the identities of low and middling performers as academically inadequate were reinforced<sup>18</sup>. Similar policies by well-intentioned schools to promote a culture of high-achievement have been widely implemented, and may be having the opposite effect.

Therefore, it is necessary to perform rigorous analysis to truly know what is effective. Anything less offers only the illusion of knowledge. The two main evidence-based approaches are:

- (i) looking at the correlation between treatment and student outcomes when holding other factors constant: ‘regression’;
- (ii) randomly allocating students into receiving treatment such that they are not expected to differ in any regard except whether or not they were subject to the policy: a ‘randomized controlled trial’, or RCT.

Of the two, RCTs provide stronger causal inference because they can control for unmeasured factors such as personality, but they are also more difficult to implement. In the messiness of the social world, RCTs are widely considered the only way to be truly confident that a policy will actually have the desired effect, rather than be a waste of money and resources. Even so, there are many pitfalls if an RCT study is poorly implemented:

- Evaluations need to measure long-term educational outcomes and non-cognitive benefits;

- Students' outcomes are heavily influenced by their peers, so a trial that randomizes students within a school will be undermined by spill-over to peers of treated students;
- If only a small number of schools are included, any results may be simply a statistical fluke and no conclusions can be drawn;
- What works in Harlem may not work in Adelaide: extrapolating interventions tested in differing contexts can be dangerously misleading;
- Large, complex interventions have more potential failure points.

## 5. Conclusion

Education is vital for Australia's economic and social prosperity. With constrained budgets and rising costs, the use of behavioural interventions in education offers a set of 'low-hanging fruit' for reform. Of these untapped opportunities, those helping parents, shifting identities, removing small barriers and assisting with administrative processes are the most effective. Disadvantaged students benefit disproportionately from such interventions, improving both equity and efficiency.

Rigorous evidence is essential to ensure that a policy will achieve its intended results. Otherwise, enacted policies may be wasteful, ineffective or even harmful. We see two options for policymakers' focus. First, conducting trials of cheap interventions such as parental text messaging. Second, full-scale implementation of the most robustly-positive interventions, such as administrative assistance, with schools randomly allocated to a rollout phase.

Behavioural interventions will not resolve Australia's educational problems. But they can make substantial, tractable and low-cost improvements to students' outcomes. They can make the difference between lifelong under-achievement and an environment where young people have the opportunity to excel. The future life-courses of millions of Australians rest on the willingness of policymakers to look past the familiar and commit to what works.

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