

## Abstract Title Page

**Title:** Ten Texts to College: Can Text Messages Mitigate Summer Attrition Among College-Intending Low-Income High School Graduates?

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**Background/Context:**

Despite decades of policy intervention to increase college entry among low-income students, considerable gaps by socioeconomic status remain. To date, policy makers have largely overlooked the summer after high school as an important time period in students' transition to college. However, successful college matriculation is contingent on students completing a number of tasks during the summer. Several of these tasks relate to students' ability to finance their education; others relate to their ability to digest and respond to a considerable volume of college correspondence. Many of these tasks may be particularly challenging for low-income students who no longer have access to high school counselors, may not be familiar with support resources at their intended college, and whose families may lack college experience. As a result, students who have already surmounted many obstacles to college enrollment may nonetheless fail to matriculate.

Several studies document surprisingly high summer attrition rates, ranging from 10 – 40 percent, among students who had been accepted to and intended to enroll in college as of high school graduation (Authors, 2011; Daugherty, 2011; Authors, 2011). Encouragingly, recent randomized control trial interventions indicate that students' postsecondary plans are responsive to additional outreach during the summer. In experiments conducted in Providence, RI (Summer 2008) and Boston, MA and Fulton County, GA (Summer 2011), high school counselors or community-based financial aid advisors helped students review their financial aid packages, understand and complete paperwork, and negotiate social/emotional barriers to enrollment, at a cost of \$100 – \$200 per student. Across sites, students to whom counselors offered additional support were 5 – 14 percentage points more likely to enroll in college (Authors, 2012; Authors, 2012).

The findings from these randomized trials are consistent with economic theory, which suggests a central role for both additional counselor outreach and improved information in assisting low-income students to go to college. Traditional economic models such as Becker (1964) assume that students are aware of the benefits and costs of higher education, and posit that students will pursue college if the present discounted value (PDV) of the benefits exceeds the PDV of the costs. However, the cost-benefit analysis implied by the Becker model is less likely to lead low-income students to enroll in college, given the higher effort costs they face to complete applications and access financial aid. A number of studies document how informational costs in the college and financial aid application processes can lead students to make sub-optimal decisions about whether to enroll (Avery & Kane, 2004; Bettinger et al, 2012; Dynarski & Scott-Clayton, 2006). Informational barriers continue to be problematic during the summer after high school: it may be difficult for students and families that lack college and financial literacy to complete the volume of paperwork they receive from their intended college over the summer (Authors, 2009).

Recent behavioral research further calls into question whether individuals engage in the type of rational decision-making implied by the Becker model. These studies suggest that people often over-weight immediate costs and forego investments that would be in their long-term interest (see for example, Chabris, Laibson & Schuldt, 2008). High school students who recognize the long-term benefits of a college degree may nonetheless decide that the time costs required to apply for college and financial aid or to complete required summer tasks are prohibitively high (Fu, 2010). Finally, Karlan and colleagues (2010) develop a model in which limited attention can

interfere with individuals' ability to moderate present consumption in anticipation of desired future actions or expenditures. The authors posit that regular reminders should mitigate this "attentional failure" and help individuals smooth savings in advance of the desired expenditure. Evidence from three field experiments demonstrates that individuals who receive text reminders after opening a savings account were more likely to achieve savings goals and had higher overall savings (Karlan et al, 2010).

**Purpose/Objective/Research Question/Focus of Study:**

The results of the summer counseling experiments suggest that school districts can increase graduates' college enrollment with a comparatively low-cost investment during the summer months. At the same time, much remains to be learned about how to most effectively enhance students' awareness of important college-related summer tasks; empower students to complete these tasks independently; and connect students to professional support when they need help. Text messaging is a particularly promising approach to both inform students of college tasks and to connect them to professional staff when they need help. Text messaging is one of the primary means by which college-aged youth and their parents communicate (Smith, 2011), and counselors from prior summer interventions cited text messaging as the most effective means of contacting students (Authors, forthcoming). Moreover, research in medicine and economics documents positive impacts from text messaging campaigns on desired outcomes, such as whether individuals get a flu vaccination or make financial contributions to a savings account (Karlan et al, 2010; Krishna, Boren, & Balas, 2009). Text messaging is also a potentially cost-effective strategy to provide students with information and connect them to professional help. The marginal cost of delivering each message is \$0.01. Moreover, a text message campaign may increase the efficiency of school counselors' time. With a text-message platform, message delivery can be automated and personalized to students and their individual postsecondary plans, eliminating the need for counselors to invest substantial time in initial outreach and instead focus efforts on providing support and information.

In Summer 2012, we designed a randomized trial to investigate the efficacy of text messaging as a strategy to mitigate summer attrition. In collaboration with five urban school districts, we implemented a text messaging campaign in which we sent students (and in four school districts, their parents) a series of 8-10 text message reminders of key tasks to complete over the summer. The reminders were customized to the institutions at which students intended to enroll and provided recipients with the option of requesting help from a counselor.

Our paper is organized around the following core research question: Does a text messaging campaign that informs students of required summer college-related tasks and that offers to connect them to professional assistance if they need help increase the probability that students will enroll and succeed in college? We hypothesize that the text messaging campaign had a positive impact on whether students enrolled in college, particularly by increasing students' awareness of important tasks they need to complete; smoothing their time allocation to required tasks over the entire summer; and increasing the proportion of students who meet with a counselor for help addressing barriers to postsecondary attainment.

**Setting:**

We partnered with two urban school districts, Dallas Independent School District (DISD) and

Denver Public Schools (DPS), and uAspire, a Boston-based college access organization, to implement the text messaging campaign. uAspire provides financial aid advising to students in three Massachusetts districts: Boston, Lawrence, and Springfield. All five participating districts primarily serve low-income students of color.

### **Population / Participants / Subjects:**

Across sites the experimental sample included students identified as college-intending as of high school graduation. In DISD and DPS, we proxied for college intentions with an indicator of whether students had completed (or at least started) the FAFSA. In the uAspire sites, we proxied for college intentions based on whether students had initiated at least two individual meetings with a uAspire advisor during the school year.<sup>1</sup> 2,908 students in DISD, 1,452 students in DPS, and 2,833 uAspire students met the respective site definitions of college intending. Across sites, 65 - 90 percent of students were Black or Hispanic, and 60 – 80 percent of students qualified for free/reduced price lunch. In DISD and DPS, we randomly assigned half of the experimental sample to receive the text messaging intervention. In the uAspire sites, we randomly assigned 1,070 students to receive the text messaging intervention, 1,069 to the control group, and 694 students to a peer mentor intervention we implemented concurrent to the text messaging intervention.<sup>2</sup>

### **Intervention/ Program / Practice:**

The core of the text messaging campaign was a series of 8-10 text messages that reminded students and their parents of tasks they needed to complete at their intended college and offered to connect recipients to a school counselor from their district.<sup>3</sup> The messages included web links that brought recipients directly to the relevant page at their intended college.<sup>4</sup> For instance, the message regarding college orientation provided a link to the orientation registration website at each student's intended college. We worked with our partner districts to administer a high school exit survey to obtain the cell phone and intended postsecondary institution information necessary to generate and deliver the text messages. For the purpose of delivering the text messages, we partnered with Reify Health, a company aimed at improving health and education outcomes through the application of mobile technologies.

An integral component of the intervention was the counselor support that the districts provided to recipients when they requested assistance. We provided a comprehensive training for each district on how to review financial aid award letters and tuition bills and access and complete required college paperwork. Our team developed a number of tools to help guide counselors' interactions with students, including comprehensive checklists of what to cover when they met with students. Counselors documented their conversations and meetings with students from both experimental groups in an online interaction log.

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<sup>1</sup> uAspire leadership identified this benchmark as a relevant demarcation between students with moderate to strong college intentions and students whose postsecondary plans were more uncertain.

<sup>2</sup> We describe the details of the peer mentor intervention in a separate abstract that we are submitting as part of the proposed symposium.

<sup>3</sup> In rare cases, such as if a student was planning to attend a less common institution (e.g. a student in Boston planning to attend the University of Arizona), the student received a generic set of text reminders.

<sup>4</sup> We relied on existing district data indicating the colleges where graduates were most likely to enroll in order to customize the text messages that students and parents received to the students' intended college.

**Research Design:**

We will evaluate the impact of the text messaging on a range of college outcomes using a randomized control trial design. In each of the sites included in this evaluation, we used a lottery to select which students would receive the text messaging campaign. Given this design, we are able to employ straightforward regression analyses to isolate the causal effect of the messaging campaign on students' college attainment.

**Data Collection and Analysis:**

We will capitalize on data from several sources. First, each site will provide student-level demographic and prior academic achievement information. This data will include students' gender, race/ethnicity, free/reduced price lunch status, FAFSA completion status, high school GPA, and scaled score on state achievement tests. The sites will also provide interaction-level records from the counselor interaction logs. Second, each site will obtain student-level college enrollment records from the National Student Clearinghouse. Finally, Reify Health will provide recipient-level data on message response. The primary explanatory variables in our analyses will be whether the student was randomly assigned to one of the treatment groups. To increase the precision of our analyses, we will include the academic and demographic covariates referenced above. We will also include fixed effects for the level at which randomization was conducted at each site: high school fixed effects for Dallas and Denver and school district fixed effects for uAspire. Finally, we will include site-by-treatment fixed effects to allow for site-specific variation in intervention impact across sites.

**Findings / Results:**

We are currently gathering data from each of the partner sites for the purpose of describing implementation, and we will obtain the NSC outcome data by December 2012 in order to evaluate the impact of the intervention on initial college enrollment. Based on preliminary data we have obtained from Reify Health, however, the text messaging intervention appears to have been quite successful at informing students and parents about important college-related tasks and connecting them to counselor assistance when they needed help. Approximately 25 percent of treatment group students clicked through at least one of the customized links we included in the messages, while 35–50 percent of recipients responded to at least one message. Of these respondents, a considerable share requested a counselor meeting. In addition, counselors commonly indicated that the text messaging campaign allowed them to focus more time on providing students with college-related services rather than doing outreach.

**Conclusions:**

The summer after high school is an important though largely overlooked time period in students' transition to college. Text messaging is a promising approach to inform students and their parents of required tasks they are expected to complete during the summer and to connect them to professional assistance when they need help. Our paper will provide a rigorous evaluation of the impact of text messaging on students' college attainment. These findings are relevant both to ongoing policy efforts to increase college-going among low-income students, and more generally to efforts to harness technology to improve students' educational outcomes.

## Appendices

### Appendix A. References

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