



Working Paper:

Prompting Active Choice Among High-Risk Borrowers: Evidence from a Student Loan Counseling Experiment

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Student loan borrowing has emerged as a top policy concern, particularly for community college and for-profit student populations, whose loan default rates have risen considerably over time. Much of the policy attention has focused on helping students make more informed loan repayment decisions. Yet supporting students to make more informed initial borrowing decisions may reduce the likelihood that students encounter debt-related challenges in the future. In partnership with the Community College of Baltimore County, a large, urban community college, we designed a text messaging campaign to prompt new loan applicants to make informed and active choices about how much they borrowed in student loans. The texts provided students with simplified information about the origination process and offered students the opportunity to connect one-on-one with a financial aid counselor for assistance. We find that the text campaign led to substantial reductions in student borrowing, with the most pronounced effects among Black students, low-income students, and students with lower high school GPAs. In future analyses we will investigate the impact of the text campaign on students' academic and financial credit outcomes.

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PROMPTING ACTIVE CHOICE AMONG HIGH-RISK BORROWERS: EVIDENCE FROM A STUDENT LOAN COUNSELING EXPERIMENT

Andrew Barr, Kelli Bird & Benjamin L. Castleman

I. Introduction

Student loan borrowing for higher education has emerged as a top policy concern. Total student debt now exceeds one trillion dollars. While student loans are designed to help students finance a high-cost, potentially high-return investment, a growing number of researchers and policy makers have begun to question whether student debt burden is negatively impacting a range of future economic choices, from occupational choice to the timing of when people get married or purchase homes (Rothstein and Rouse, 2011; Brown et al., 2014). Of particular concern is the rising rate of defaults on student loans, particularly among students at for-profit colleges and universities and at community colleges. Twenty-eight percent of borrowers at for-profit institutions and 31 percent of borrowers at community colleges in 2010 defaulted on their loans, up from 18 percent for both groups in 2000 (Dynarski, 2015). The consequences of defaulting for borrowers are substantial, ranging from wage garnishments and withholding of other government disbursements to loss of future eligibility for federal student aid and difficulty accessing credit markets.

Much of the policy attention around student loans is focused on students' repayment decisions. The Obama Administration and the United States Department of Education have invested substantial resources to promote and publicize income-driven repayment (IDR) options as one potential policy solution for rising default rates. The White House Social Behavioral Sciences Team, in collaboration with the Federal Student Aid Agency, has undertaken several large-scale campaigns to inform borrowers about repayment options and to encourage informed consideration of IDR plans (Executive Office of the President, 2015). While comparatively fewer policy initiatives have been proposed to help students make more informed initial borrowing decisions, focusing on this margin may reduce the likelihood that students encounter debt-related challenges in the future. All students are required by the United States Department of Education (USDOE) to complete online loan counseling, but the information presented in this counseling is highly complex and may lead to more confusion than clarity (Lieber, 2014). And most open enrollment and less selective institutions have limited capacity within their financial aid offices to provide students with individual loan counseling (Scott-Clayton, 2015).

In the absence of clear information or individualized advising, various aspects of the loan origination process may lead students to borrow amounts that are not well-aligned with their personal goals and circumstances. While both the federal government and individual institutions communicate with students about their financial aid and borrowing options, the channels through which this information is communicated (e.g. the federal student loan website, email and postal mail) may not align with how students communicate on a daily basis (Castleman, 2015b; Castleman and Page, 2015; Castleman and Page, forthcoming). As a result, information that is designed to help students make informed decisions may not actually reach them. In addition, some colleges and universities include student loans in all financial aid packages by default, while other institutions do not offer loans in aid packages unless students actively apply for them. Across a range of policy domains, researchers have repeatedly demonstrated that, when faced with complexity, individuals often stick with the default option (Johnson and Goldstein, 2003; Madrian and Shea, 2001; Thaler and Sunstein, 2009). In the context of financial aid packages, including loans by default may lead students who wouldn't otherwise borrow to do so, while not offering loans by default may preclude students who would benefit from access to loans from pursuing this financial assistance.

Moreover, borrowers may lack clarity about how much they will owe in monthly payments after leaving college. While these expenses are likely to be years in the future, the financial needs of current student borrowers are immediate, and therefore more salient (Karlán et al., 2010; Thaler and Bernartzi, 2004; Thaler and Sunstein, 2009). Finally, students also face barriers to accessing help with the financial aid process. Assistance may not be available at locations or during times when they are free, or students may not be comfortable asking for help with their aid (Castleman, 2015a; Castleman, 2015b; Scott-Clayton, 2015). Without access to professional assistance, students may struggle to make decisions that best position them for financial success during and after college.

In areas ranging from financial savings and public health to prescription drug coverage, a growing body of experimental evidence demonstrates that providing individuals with simplified information, behavioral nudges, and access to assistance can lead to more informed decision-making and improved outcomes (Karlán et al., 2015; Kling et al., 2011; Milkman et al., 2012; Stockwell et al., 2012). In education specifically, researchers have investigated a range of behaviorally-informed strategies to improve students' postsecondary educational outcomes. These interventions include sending high-achieving low-income students semi-customized information about high-quality, affordable colleges that might be a good match for their abilities; sending a letter to unemployment

insurance recipients that conveyed information on the return to college and eligibility for financial aid; incorporating financial aid assistance into the income tax preparation process; and sending students personalized text messages about required pre-matriculation tasks or about renewing their financial aid once in college (Barr and Turner, 2015; Bettinger et al., 2012; Castleman and Page, 2015; Castleman and Page, forthcoming; Hoxby and Turner, 2013). Each of these interventions led to substantial improvements in college entry or persistence.

For each of these strategies, the direction of the nudge is fairly uncontroversial. For instance, most educators, researchers, and policy makers support the idea of encouraging students to apply to and attend well-matched colleges, or of sending potential students offers of financial aid that make matriculation more attractive. In the case of student loan borrowing, however, it is more ambiguous about how to nudge students. Most of the public attention on loans has focused on the downsides of borrowing, such as the consequences of defaulting on one's loans, which would suggest that some students should be nudged to borrow less. But for a substantial population of students, borrowing or access to loans leads to improved educational outcomes (Avery and Turner, 2012; Dunlop, 2013; Wiederspan, 2015); for these students, policy makers might want to encourage additional borrowing.

Rather than nudge students to borrow more or less, we encouraged students to make active and informed borrowing decisions that align with their personal circumstances. In collaboration with the Community College of Baltimore County (CCBC), a large, urban community college in Maryland, we implemented a month-long text messaging campaign to provide new loan applicants with simplified information about loan origination and access to assistance from a financial aid counselor if they had questions or needed help. The messages reinforced that it was the student's choice of how much they borrowed; that monthly loan payments after college would vary substantially depending on how much they borrowed and on the repayment plan they selected; and that there are lifetime limits on how much students can borrow in loans. Starting in November 2014, we randomly assigned weekly waves of loan applicants to receive these texts, leading to an experimental sample of just over 2,800 loan applicants as of September 30th, 2015.

We find that the text campaign led to substantial declines in student borrowing. Students who received the texts borrowed approximately nine percent less in federal Stafford loans, and twelve percent less in unsubsidized Stafford loans. Borrowing declines were most substantial among the lowest-income students, among African American students, among new students at CCBC, and

among students with lower GPAs. For instance, students in the bottom quartile of estimated family contribution to college (EFC)¹ who received the texts borrowed 21 percent less than their control group counterparts. In future versions of the paper we will analyze the impact of the text campaign on students' academic outcomes at CCBC, and we will leverage detailed text message interaction data to investigate possible mechanisms through which the campaign may have affected students' borrowing decisions.

We organize the remainder of our paper as follows. In Section II, we provide additional background on CCBC and on the intervention design. In Section III, we describe our research design, including the data and sample; the process of and timeline for randomization; and our analytic strategy. In Section IV, we present our results. In Section V, we conclude with a preliminary discussion of these findings and their implications for policy, practice, and further research.

II. Background and intervention design

The Community College of Baltimore County (CCBC) is a large, urban community college with three primary campuses and several extension centers in Maryland. It serves approximately 23,000 undergraduates, and in student profile and outcomes, is similar to many large community college systems in the country. CCBC students are relatively old (77 percent are between the age of 20 – 59); majority students of color; majority first in their family to go to college, and primarily from lower-income backgrounds. Based on data from the United States Department of Education College Scorecard, 14 percent of first-time, full-time students at CCBC earn a degree within four years, and the median financial aid recipient earned \$34,200 within ten years of graduating. Most relevant for our study, approximately one in five CCBC students borrows federal loans to finance the cost of their education. Consistent with the higher default rates often observed at community colleges, three-year cohort default rates at CCBC ranged from 18.5 percent for the 2010 cohort to 15.5 percent for the 2012 cohort, and only 56 percent of borrowers repay at least \$1 in loan principle within three years of leaving school.

Potential borrowers at CCBC first need to complete the Free Application for Federal Student Aid (FAFSA). Through the Spring 2015 term, CCBC did not include loans in students' financial aid award letters. Students who wanted to borrow had to complete a supplementary loan

¹ EFC is a measure of family ability to pay for college calculated by the United States Department of Education, based on income and asset information students provide on the Free Application for Federal Student Aid (FAFSA).

application; after processing their application the CCBC financial aid office would then inform students how much they were eligible to borrow. Starting with the Fall 2015 term, CCBC switched to including loan offers in all financial aid applicants' award letters, though students still needed to complete a loan application to obtain a loan.

As is the case at many community colleges across the country (Scott-Clayton, 2015), the CCBC financial aid office has experienced staffing declines over the last several years, and has limited ability to provide one-on-one financial aid advising or loan counseling to students. We partnered with CCBC administrators to investigate scalable strategies to provide students with simplified information about the loan origination process and to provide a sustainable staffing solution for answering questions students had about their loans.

We designed an interactive text messaging campaign for loan applicants. Starting in November 2014, CCBC modified its loan application to collect students' cell phone numbers and consent to send them text messages about financial aid and loans. Approximately 90 percent of new loan applicants signed up for these texts over the course of the study.² Within roughly one week of applying for a loan, we randomly assigned students to receive a month-long campaign of eight text messages about the loan origination process. The text messages covered the following topics:³

- Students get to choose how much to borrow. They can borrow less, or sometimes more, than the institution offers.
- Monthly payments can be substantially higher or lower depending on how much students borrow and what repayment plan they select.
- Students face lifetime limits on how much they can borrow in federal student loans.
- Students have to complete several steps, including federal loan entrance counseling, in order to secure their loans.

The messages were addressed to individual students, but otherwise provided the same content across all students. Each of the messages also invited students to write back with questions or if they needed help from a CCBC financial aid counselor. The counselor was able to read student messages

² As of now we have the total number of loan applicants but do not have student-level data on students who did not provide their cell phone number to CCBC.

³ A full set of the text messages are available upon request.

on an online portal and respond just as one would with web-based email. Over the course of the campaign approximately 65-70 percent of students replied to at least one text.⁴

III. Empirical Strategy

Sample

Our sample is comprised of all 2,807 loan applicants between November 2014 and September 2015 who provided their cell phone numbers and consent to receive text messages on the CCBC loan application. In Table 1, column 1, we present summary statistics on the experimental sample. Over half (55 percent) of those reporting race were black and roughly two-thirds of students were female. The mean age was 29, and accordingly only a third of students were classified as dependents for the purposes of financial aid. Just over half of students were the first in their family to go to college, and the average student had a modest expected family contribution to college of \$5,702. Before applying for loans for the Spring or Fall 2015 terms, students with prior loan debt had already accumulated loan over \$16,000, on average. Just under thirty percent of students in the sample were new college students.

Data

The data we incorporate in this paper come from CCBC administrative data. We have access to all demographic, socioeconomic, and academic information provided on students' admissions, financial aid, and loan applications to CCBC. Our outcome data on student financial aid disbursements come from CCBC records as well as borrowing data that CCBC obtains from the National Student Loan Database System (NSLDS). Future versions of this paper will include data on students' subsequent academic outcomes, which we will also obtain from CCBC administrative data, and student engagement with the text messaging campaign, which CCBC will obtain from Signal Vine, the text messaging platform we contracted with to implement the campaign. We are also investigating whether we can obtain credit bureau data on the experimental sample as well as whether we can conduct follow-up surveys with a random and representative subset of students in the treatment and control groups.

Randomization

⁴ We do not yet have the detailed text message interaction data with which we can conduct a more thorough analysis of student interaction patterns.

We conducted our randomization at the student-level, within weekly waves (32 total) of loan applicants for the Spring and Fall 2015 terms.⁵ Because the intervention began in the middle of the 2014-15 school year, most (2,391 of the 2,807) of the sample participants were applying for loans for the Fall 2015 term. In Table 1, columns, 2 – 4, we report baseline equivalence for the experimental sample. Across eighteen baseline measures we only find one (the share of new students to CCBC) statistically significant difference between the treatment and control group, which is probabilistically what we would expect given the number of tests we conduct. We therefore conclude that randomization was successful in creating two statistically-equivalent experimental groups at baseline.

Empirical Strategy

To assess overall impacts, we utilize an intent-to-treat model of the following general form:

$$BORROW_{ij} = \alpha_j + \beta_1 TREATMENT_{ij} + \mathbf{X}\boldsymbol{\gamma} + \varepsilon_{ij},$$

where for student i in wave j , $BORROW_{ij}$ is one of several measures of student borrowing during the term for which they applied for a loan, including a binary indicator for whether they borrowed at all and continuous measures of how much they borrowed in different loan types. We also investigate whether the campaign affected other financial aid outcomes, such as the total amount of federal grant aid received. In our preferred specification, we include a set of wave fixed effects α_j and student-level covariates \mathbf{X} , including indicator variables for race, gender, dependency status for financial aid, whether or not the individual is a first-generation student, and student type (new, returning, transfer), and linear controls for earned credit hours, high-school GPA, EFC, parents' adjusted gross income, student adjusted gross income, and baseline accumulated loan debt.⁶ $TREATMENT_{ij}$ is an indicator for assignment to the treatment condition. The parameter of interest β_1 represents the causal effect of being assigned to the text messaging intervention on students' borrowing outcomes.

We also investigate whether the texting campaign had differential effects for important sub-groups of students by estimating these specification separately for each subsample. We focus in particular on whether the effects of the intervention varied based on students' EFC, race/ethnicity, high school GPA, and whether the student is new to CCBC, because these measures may proxy for students' overall college and financial literacy as well as their access to information and advising about financial aid and borrowing.

⁵ We did not conduct the intervention with loan applicants for the Summer 2015 term.

⁶ We also include indicators for missing values for each variable.

IV. Results

We begin by presenting, in Table 2, results from models that regress various borrowing-related outcomes on treatment status with no controls. The first row shows that the text campaign reduced the share of students who received federal loans by 1.9 percentage points, a three percent decline off the 64 percent of control group students that borrowed. This decline in the share of students who borrowed was accompanied by a \$183 decline in overall Stafford loans paid and a \$145 decline in unsubsidized Stafford loans paid, which respectively represent nine percent and twelve percent declines from the control group mean borrowing rates. In Table 3 we present an analogous set of results with models that include a full set of controls. The pattern of results is largely the same in terms of magnitude and significance of impacts, though there is some attenuation in the size of the treatment impacts upon inclusion of the controls. This is largely driven by the somewhat higher fraction of new students in the treated group. New students borrow lower amounts on average and somewhat more new students were randomly assigned to the treatment group. Therefore, including controls for student type reduces the treatment effect somewhat.

In Table 4 we present heterogeneous impacts of the text campaign on students' overall Stafford loan borrowing. Across most sub-groups the direction of the treatment impact is negative, but there is substantial heterogeneity in the size of the effect. The text campaign reduced average Stafford borrowing by \$439 for Black students; \$419 for new students; \$218 for students with below-median high school GPAs; and \$358 for students in the bottom quartile of the sample EFC distribution, which range from 10 to 27 percent declines over the respective control group means. Equivalently, the effects on White students, returning and transfer students, students with higher GPAs, and students with EFCs outside of the bottom quartile, are relatively small in magnitude.

V. Discussion

In line with a growing body of research investigating behavioral strategies for helping people navigate complex decisions, our results show that community college students' borrowing decisions are influenced by simplified information about the loan origination process and access to one-on-one financial aid counseling. The magnitude of the results—upwards of 20 percent declines in borrowing for some sub-groups—are particularly noteworthy given that students only received eight

text messages about loan origination, none of which provided explicit direction on how much students should borrow, or whether they should increase or decrease their borrowing.

What the current version of our paper is unable to answer is whether this reduction in borrowing among an arguably higher-risk borrowing population leads to improved outcomes for individuals or for society. We do not yet have academic outcome data to see whether the reduced borrowing that resulted from our intervention had any effect on students' course performance. On the one hand, borrowing less may have reduced financial stress, which could result in improved academic performance. On the other hand, borrowing less may mean that students had to work more while in college, or that they experienced more stress because they had diminished liquidity to pay for immediate needs, either of which could have negatively affected student academic outcomes. Furthermore, we do not yet know whether reduced borrowing had any material impact on students' future economic choices and outcomes, such as their overall debt levels or ability to pay back their loans after leaving college. These are questions we hope to investigate through a combination of CCBC administrative data on student outcomes, credit bureau data, and student surveys.

We also do not yet have the text message interaction data that will allow us to explore possible mechanisms through which the messages may have affected borrowing decisions. For instance, what do students' responses and questions reveal about their views about and understanding of student loan borrowing? Do the interaction data suggest that the CCBC financial aid counselor staffing the intervention providing explicit guidance to students on how much to borrow?

While these are important questions to investigate going forward, our results nonetheless illustrate the promise of low-cost, behaviorally-informed strategies to help students make informed borrowing decisions that align with their personal needs and circumstances. Similar strategies could be applied at other margins in the borrowing process, such as helping students make active and informed choices about which loan repayment plan they select. If we find that the text campaign led to improved academic and economic outcomes, states and the federal government both have access points to borrowers that they could leverage to help a broader population of students navigate the complexities of loan origination and repayment.

Table 1: Summary statistics of CCBC borrowers and baseline equivalence

	N	Full Sample	Control Group	Treatment	T-statistic
Black	1,027	54.8%	54.3%	55.3%	-0.003
White	1,027	30.5%	31.5%	29.5%	0.704
Hispanic	1,027	10.9%	11.5%	10.4%	0.578
Other Race	1,027	3.9%	3.1%	4.7%	-1.303
Missing Race	2,807	63.4%	63.1%	63.8%	-0.353
Female	2,807	65.7%	65.9%	65.4%	0.297
Dependent	2,807	33.9%	33.4%	34.3%	-0.501
Age	2,807	29	29.2	28.9	0.754
First Generation Status	2,629	52.2%	51.6%	52.9%	-0.674
New Student	2,807	29.1%	27.0%	31.1%	-2.390
Transfer Student	2,807	17.6%	18.7%	16.5%	1.505
Return Student	2,807	53.3%	54.3%	52.3%	1.064
Earned Hours	2,807	24.6	24.7	24.4	0.270
Term hours	2,807	8.9	8.9	8.9	-0.437
EFC	2,792	\$5,702	\$5,902	\$5,503	1.128
Parents AGI	900	\$73,987	\$73,816	\$74,156	-0.118
Student AGI	2,033	\$27,641	\$27,831	\$27,446	0.349
Accumulated loan debt	1,971	\$16,102	\$16,400	\$15,801	0.849

Note: Sample includes 2,807 individuals with 1,394 in the control group and 1,413 in the treated group. Column (2) contains the number of non-missing observations used to construct the means for each group.

Table 2: Treatment Effects for Full Sample

	Control Mean	Treatment Effect
Any Federal Loans (paid)	0.641 (0.0129)	-0.0185 (0.0182)
Total Stafford (paid)	2,401 (58.80)	-182.8** (81.93)
Subsidized	1,099 (30.18)	-37.74 (42.42)
Unsubsidized	1,301 (41.06)	-145.0** (56.70)
Total Federal Grants (paid)	759.6 (27.48)	-17.13 (38.95)

Note: Sample includes 2,807 individuals. Each row represents the results from a single regression. The dependent variables are measures of financial aid within the semester for which the student was applying. Estimates are the simple mean difference between the treatment and control group.

**Table 3: Treatment Effects for Full Sample
(inclusion of wave FEs and baseline covariates)**

	Control Mean	Treatment Effect
Any Federal Loans (paid)	0.641 (0.0129)	-0.00969 (0.0161)
Total Stafford (paid)	2,401 (58.80)	-147.3** (71.69)
Subsidized	1,099 (30.18)	-35.59 (35.71)
Unsubsidized	1,301 (41.06)	-111.7** (52.05)
Total Federal Grants (paid)	759.6 (27.48)	-38.63 (34.73)

Note: Sample includes 2,807 individuals. Each row represents the results from a single regression. The dependent variable are measures of financial aid within the semester for which the student was applying. Estimates are conditioned on wave fixed effects and a set of baseline controls including indicator variables for race, gender, dependency status for financial aid, whether or not the individual is a first-generation student, and student type (new, returning, transfer), and linear controls for earned credit hours, high-school GPA, EFC, parents' adjusted gross income, student adjusted gross income, and baseline accumulated loan debt.

Table 4: Heterogeneity of Treatment Effects

	N	Control Mean	Total Stafford Loans
Black	562	2,928 (129.5)	-438.8** (178.3)
White	313	2,904 (173.7)	-44.08 (234.3)
New Student	817	1,575 (103.7)	-419.0*** (117.9)
Return Student	1,496	2,797 (77.90)	-76.51 (100.8)
Transfer Student	493	2,442 (141.1)	59.84 (191.1)
Low GPA	969	2,320 (95.68)	-218.4* (123.7)
High GPA	972	2,473 (96.74)	-31.48 (127.2)
Low Debt	985	2,667 (89.02)	-246.9** (119.1)
High Debt	986	3,296 (94.42)	-139.6 (123.8)
EFC: Q1	1,145	2,743 (95.67)	-358.4*** (119.4)
EFC: Q2	251	2,268 (205.1)	34.57 (257.1)
EFC: Q3	698	2,158 (115.9)	66.17 (141.9)
EFC: Q4	698	2,150 (106.5)	-33.10 (135.5)

Note: Each row represents the results from a single regression. The dependent variable is the total amount of Stafford loans borrowed within the semester for which the student was applying. Estimates are conditioned on wave fixed effects and a set of baseline controls including indicator variables for race, gender, dependency status for financial aid, whether or not the individual is a first-generation student, and student type (new, returning, transfer), and linear controls for earned credit hours, high-school GPA, EFC, parents' adjusted gross income, student adjusted gross income, and baseline accumulated loan debt.