Cycle 1 of HISD's College Success Initiative and Students' Preparation for and Enrollment in College

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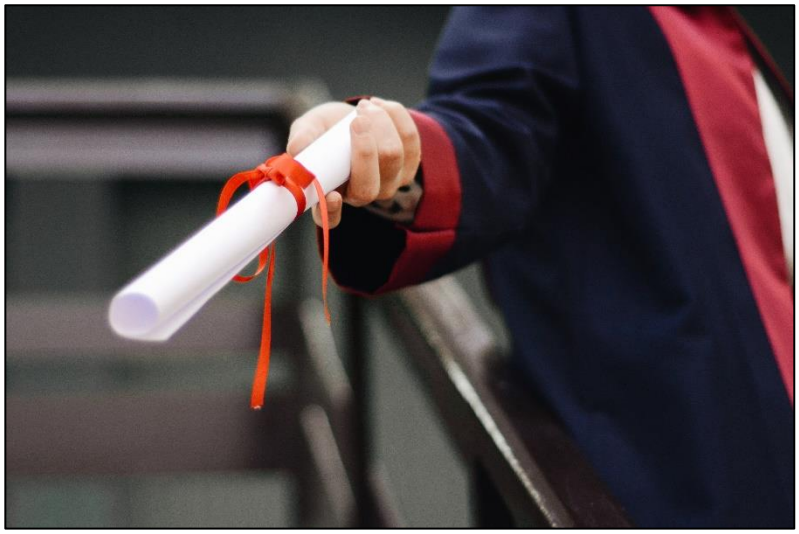
This study examines the relationship between Cycle 1 of the Houston Independent School District (HISD) College Success Initiative and students' preparation for, enrollment in, and persistence in college. Rates of FAFSA submission, two-year applications, four-year applications, and on-time college enrollment all significantly increased during Cycle 1 of the College Success Initiative (2015-16 and 2016-17) when compared to the baseline year (2014-15). Student meetings with College Success Advisors (CSAs) were associated with a significant increase in the probability of a student submitting their FAFSA application and a significant increase in the number of two-year and four-year applications submitted. Additionally, these meetings were associated with a greater likelihood of students enrolling in college immediately following their high school graduation. There was also some evidence that aspects of the College Advising Initiative were most beneficial to historically disadvantaged race/ethnic groups and English learner (EL) students. These findings indicate that current efforts by HISD are improving the college enrollment rates of their students, and have the potential to close historic gaps in educational attainment.

Key Findings



- FASFA submission **increased** during Cycle 1 of the College Success Initiative—from 44% of seniors in the baseline year to 56% in Year 2. College application submissions and on-time college enrollment also **increased**.
- Participating in **college advising meetings** was positively associated with FASFA application submission.
- Participating in **at least one college advising meeting was positively associated with an increase in the number of two- and four-year college applications.**
- Participating in college advising meetings was positively and significantly associated with **on-time college enrollment.**
- For students who met with a CSA at least three times, participation in meetings was positively associated with **college persistence.**

Background

By 2030, it is expected that at least 60 percent of jobs in the United States will require some sort of postsecondary education. Given the increasing need for postsecondary certificates or degrees, in 2015, the Texas Higher Education Coordinating Board launched the 60x30TX higher education strategic plan, which aims to have at least 60 percent of 25-34 year-olds in the state of Texas possessing a postsecondary certificate or degree by 2030. While many factors determine students' college outcomes, access to adequate college advising during high school can help boost a student's chances of applying to and enrolling in college which then raises their chances of persistence and completion (Belasco 2013). Low-income, first-generation, and historically disadvantaged racial/ethnic minority students, in particular, have been shown to benefit from college advising (Roderick, Coca, and Nagaoka 2011; Stephan 2013). Yet, in many large, urban districts, where these types of students often attend school, the student-to-counselor ratio is extremely high - meaning the students most in need of these services are often least positioned to receive them (Clinedinst and Koranteng 2017). Because of the increasing economic importance of obtaining a postsecondary degree and the concern over growing inequality, more attention has been placed on finding effective and innovative college advising strategies that reach first-generation, low-income, and racial/ethnic minority students without putting additional strain on schools (Avery, Howell, and Page 2014).

The HISD College Success Initiative is one such program that aims to identify students for whom college is a viable postsecondary option, but are historically less likely to attend. The goal of this initiative is to provide these students with access to College Success Advisors (CSAs) who can help them navigate the college application and enrollment process. This study focuses on the early stages of the College Success Initiative, and examines the role of CSAs in helping high school graduates prepare for, enroll, and remain in college.

Role of College Advisors

Generally, the goal of college advising is to facilitate students' transition from high school to college. As defined by the National Association for College Admission Counseling (1990), the role of a college advisor is to help students 1) pursue challenging curriculum that prepares them for the academic rigor of college, 2) identify requirements for college access such as minimum GPAs and test scores, and 3) navigate financial aid, college choice, and other logistical processes (Clinedinst and Koranteng 2017)[1].

An important aspect of navigating financial aid is applying for government financial support through the Free Application for Federal Student Aid (FAFSA) and/or the Texas Application for State Financial Aid (TASFA). These applications are important not only because of rising tuition costs but because of the positive correlation between FAFSA completion and college enrollment and persistence (Bettinger, Long, Oreopoulos, and Sanbonmatsu 2012). Although the benefits of completing financial aid forms seem obvious, many students who would qualify for aid are not doing so. According to a report on FAFSA completion rates across 68 urban school districts, the average completion rate for the high school class of 2015 was 48 percent (Morgan, Argenti, DeBaun, and Melnick 2016). College advisors can assist students in the financial aid process by educating them on the availability of financial aid, explaining the process through which they can apply, and helping them complete required applications.

[1] Cycle 1 of the HISD College Success Initiative focuses on the second and third goals only, while Cycle 2 aims to focus on the first goal (college preparation) as well.

College advisors can also assist students in identifying appropriate and ideal colleges to enroll in given students' academic trajectory and long-term career aspirations and completing the application process. Early and frequent interactions with counselors can improve a students' chance of enrollment in a postsecondary institution. A national study showed that students' who used school-based counseling were more likely to apply to four-year instead of two-year institutions, and were more likely to be enrolled in college (Belasco 2013). Importantly the effects of counselor interventions were greatest for students with low socioeconomic status. Increasing access to college is a first step in reducing educational attainment gaps, but ensuring students' persistence and degree completion is equally if not more important. While prior research has clearly demonstrated the benefit of college advising on students' applications to and enrollment in college, less clear is the role that college advising has in students' persistence and degree completion.

HISD College Success Initiative

HISD implemented the College Success Initiative in an effort to improve FAFSA completion as well as college application, enrollment, persistence, and graduation rates among targeted high school students ("LAUNCH Senior" n.d.). Students were targeted for college advising if they were traditionally less likely to attend college, but college would be a good postsecondary option for them based on their high school achievement[2]. College success advisors (CSAs) were distributed across high schools to provide personalized college planning. The HISD CSAs supplemented existing school counselors. While any student in the participating schools were able to discuss college with and receive help with the college application process from the CSA on their campus, the CSAs were proactive in seeking out targeted students to discuss opportunities for college.

[2] The way in which students were targeted differed between Year 1 (2015-16) and Year 2 (2016-17) of the College Success Initiative. During the first year of the College Success Initiative, students were selected for targeting based on their academic achievement relative to their school context. Each school was categorized based on the percent of students who typically enroll in college after high school graduation and the percent of students who have to take remediation coursework once they start college. Students were then selected for targeting based on how their school scored on this measure and their own academic achievement compared to that of their peers. For example, very high-achieving students who attended schools with high college enrollment rates and low college remediation rates were likely already planning to attend college, so it would not be necessary to target them for extra college advising efforts. Instead, students who may not have historically attended college but still have high GPAs would have been selected for targeting in this school. In contrast, very high-achieving students who attended schools with low college enrollment rates and high college remediation rates were likely targeted because they are historically less likely to attend college. During the second year of the College Success Initiative, students were selected for targeting based on a gradient scale which included four components: grades, SAT scores, college knowledge, and parents' education. Since we did not have access to the exact ways in which students were selected for targeting by CSAs, we use school year fixed effects in all of our models to try to account for the different targeting strategies used in each year of the intervention.

Background

Research Questions

Various studies provide evidence of advisors' positive impact on college-going outcomes such as FAFSA completion, number of applications submitted, enrollment, and college selectivity (Belasco 2013; Carrell and Sacerdote 2017; Castleman and Goodman 2015; Hurwitz and Howell 2014). Given these findings, we were interested in better understanding the College Success Initiative and its influence in HISD. In order to help HISD better understand the relationship between Cycle 1 of the College Success Initiative and students' preparation for, enrollment in, and persistence through college, the research questions this study aims to address are:

1. Was there a significant change in FAFSA submission, college application, college enrollment, and college persistence rates between the baseline year (2014-15), Year 1 (2015-16), and Year 2 (2016-17)?

2. What predicts FAFSA submission during Cycle 1 of the College Success Initiative?

3. What predicts in-state two-year and in-state and out-of-state four-year college application submissions during Cycle 1 of the College Success Initiative?

4. What predicts on-time college enrollment and four-year enrollment during Cycle 1 of the College Success Initiative?

5. What predicts persistence in college among on-time enrollees during Cycle 1 of the College Success Initiative?

Data and Sample

The data used for this analysis include administrative student-level information from HISD for the 2014-15, 2015-16, and 2016-17 school years. Average Daily Attendance (ADA) files were used for demographic information on the students in our sample. If students did not appear in the ADA files, Public Education Information Management System (PEIMS) was used to gather their demographic information. Information about college advising meetings was collected by CSAs at each school. Information on college applications came from both ApplyTexas and the Common Application. The Free Application for Federal Student Aid (FAFSA) is used to determine whether a student applied for financial assistance to attend college[3].

Our population of interest was graduating seniors from each of these three school years. Leaver files from the Texas Education Agency were used to determine which seniors actually graduated each school year. This resulted in a total of 28,596 students in our sample: 9,297 students in the baseline year, 9,581 students in Year 1, and 9,718 students in Year 2. National Student Clearinghouse files were also used to determine if a student attended college and in which semesters they enrolled.

[3] The Texas Application for State Financial Aid (TASFA) is not utilized in these analyses because the data was not available for the baseline year.

Measures

Targeted. Targeted students were those specifically sought out by CSAs to discuss opportunities for college. The non-targeted students were divided into two groups for these analyses based on their GPAs. Students were identified as higher achieving if they had a GPA greater than or equal to 2.87 and lower achieving if they had a GPA less than 2.87. This cut-off was chosen as it reflects the median of GPA among the students in our sample[4].

Number of advising sessions. This is a four-category variable that reflects how many times a student had a meeting with a CSA. Students fell into one of the four following categories: did not meet with a CSA, had one meeting with a CSA, had two meetings with a CSA, or had three or more meetings with a CSA.

FAFSA submission. This indicator reflects whether a student successfully completed and submitted a FAFSA application.

College applications. Two indicators reflect (1) the number of in-state two-year college applications submitted and (2) the number of in-state and out-of-state four-year college applications submitted.

On-time college enrollment. A student is considered an on-time college enrollee if they enrolled in college in the first summer or fall semesters immediately following high school graduation.

Delayed college enrollment. A student is considered a delayed college enrollee if they enrolled in college in the first spring or second summer following high school graduation[5].

College persistence. Among on-time college enrollees, there are two indicators of college persistence. The first indicates whether on-time enrollees attended college in the spring semester (first spring) following their initial enrollment. The second indicates whether these students attended college in the subsequent fall semester (second fall).

Student characteristics included in the analysis are EL, race/ethnicity, sex, and economic disadvantage.

[4] Non-targeted students represent two distinct groups: those with higher GPAs who were not targeted because they are already likely to attend college and those with lower GPAs who were not targeted because college is potentially not a good postsecondary option for them. Since these are two significantly different groups of students, we chose to divide the non-targeted students based on their GPA. The GPA distribution for non-targeted students was bimodal, with 2.87 serving as the median and was a clear cut-point between the two peaks of the bimodal distribution.

[5] Per HISD, delayed enrollment typically includes the first spring, second summer, and second fall semesters falling high school graduation. At the time these analyses were conducted, the NSC data for the second fall semester was not available for those students who graduated during Year 2 of the College Success Initiative. Therefore, we limit the analyses for delayed enrollment to only first spring and second summer semesters given the availability of NSC data at the time these analyses were conducted.

Analytic Plan

The analysis for this study took place in three stages. First, rates of FAFSA application submission, college application submission, college enrollment, and college persistence were calculated for all graduating seniors in the baseline year and Years 1 and 2 of the College Success Initiative. Second, fixed-effects[6] regression analyses were conducted to examine the effect of targeting and advising meetings in Cycle 1 of the College Success Initiative on our outcomes of interest. Baseline students are not included in these models, since they were not exposed to the College Success Initiative during their senior year of high school. Third, interaction effects were added to the models to determine if the effect of advising meetings varied among targeted and non-targeted students, students of various race/ethnic groups, economically disadvantaged and non-economically disadvantaged students, and ELs and non-ELs. Only those interactions that resulted in an improvement in model fit are discussed and presented here.

[6] Both year and campus fixed effects were included in the models.

1 FASFA submission, college application submissions, and on-time college enrollment increased during Cycle 1 of the College Success Initiative

Research Question 1: Was there a significant change in FAFSA submission, college application, college enrollment, and college persistence rates between the baseline year and Cycle 1, Year 1 and Year 2?

Results indicate that rates of FAFSA submission significantly increased during Cycle 1 of the College Success Initiative. During the baseline year, 44% of graduating seniors submitted a FAFSA application. This percentage significantly increased to 53% in Year 1 and 56% in Year 2.

Both two-year and four-year college application rates significantly increased during Cycle 1. During the baseline year, 29% of graduating seniors in our sample applied to a two-year college. This increased to 36% for Year 1 graduating seniors and 43% for Year 2 graduating seniors. During the baseline year, 56% of baseline seniors applied to a four-year college through the ApplyTexas system. This increased significantly to 60% of Year 1 graduating seniors and 58% of Year 2 graduating seniors applying to a four-year college through the ApplyTexas system[7].

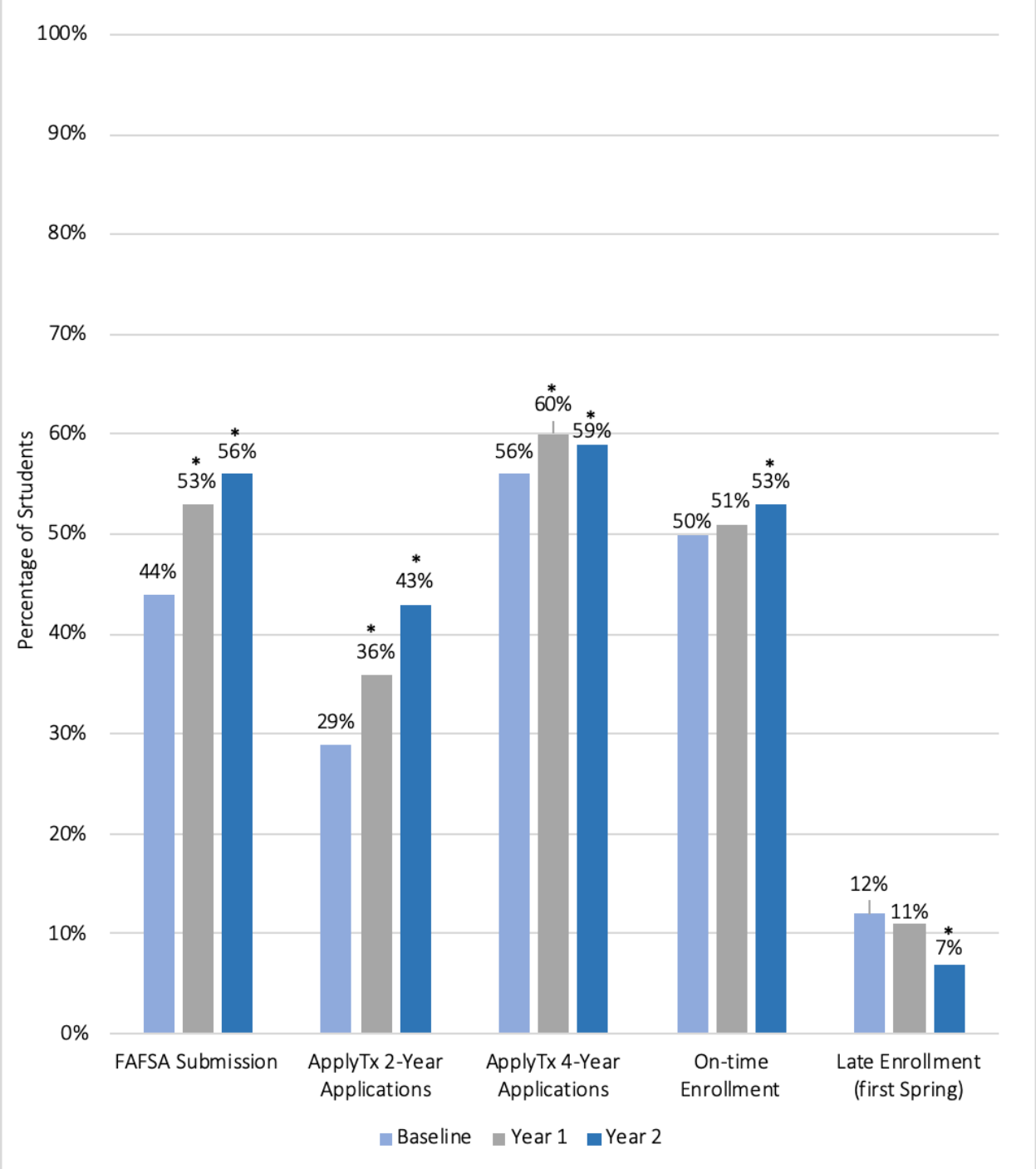
Rates of on-time college enrollment significantly increased during Year 2 of Cycle 1. During the baseline year, 50% of graduating seniors in our sample went on to enroll in college, either two-year or four-year, on-time. For Year 2 graduating seniors, the percentage enrolling on-time increased to 53%.

In contrast to on-time college enrollment, delayed college enrollment significantly decreased during Year 2. During the baseline year, 12% of graduating seniors did not immediately enroll in college following graduation, but went on to enroll for the first time during their first spring following graduation. In contrast, 7% of graduating seniors during Year 2 fell into this category. Some of this decrease may be attributed to the greater number of students enrolling “on-time” in Year 2.

Rates of college persistence did not significantly differ between the baseline year, Year 1, and Year 2 of the College Success Initiative. Among on-time college enrollees, 90% of baseline students and 89% of Year 1 and Year 2 students persisted to the first spring semester. Additionally, 89% of baseline students and 86% of Year 1 students persisted to the second fall semester[8].

[7] Only ApplyTexas applications are discussed here because Common Application files were not provided for the baseline year (2014-15). Therefore, we can only determine if rates changed for ApplyTexas application submissions. Common Application files are used in the regression analyses that follow that predict four-year application submissions since those models are focusing only on those graduating seniors from 2015-16 and 2016-17.
[8] Second fall information was not available for Year 2 graduating seniors at the time these analyses were conducted.

Figure 1. Rates of FAFSA application submission, college applications, and college enrollment during the Cylce 1 of the College Success Initiative



Source: HISD student-level administrative data, 2014-15, 2015-16 and 2016-17
Note: * indicates significant differences compared to the baseline year

2 Participating in college advising meetings was positively associated with FASFA application submission

Research Question 2: What predicts FAFSA submission during Cycle 1 of the College Success Initiative?

Participating in college advising meetings was positively and significantly associated with FAFSA application submission. Each additional college advising meeting with a CSA was associated with a significant increase in the predicted probability of submitting a FAFSA application (see Table 1). Targeting students for college advising was also associated with an increased probability of submitting a FAFSA application. Not targeted, lower achieving students had significantly lower predicted probabilities of submitting a FAFSA application when compared to targeted students, while not targeted, higher achieving students had significantly higher predicted probabilities of submitting a FAFSA application when compared to targeted students. Additionally, Asian students, Black students, female students, and economically disadvantaged students all had higher predicted probabilities of submitting their FAFSA applications when compared to their White, male, and non-economically disadvantaged counterparts. In contrast, EL students had significantly lower predicted probabilities of submitting their FAFSA applications when compared to their non-EL counterparts.

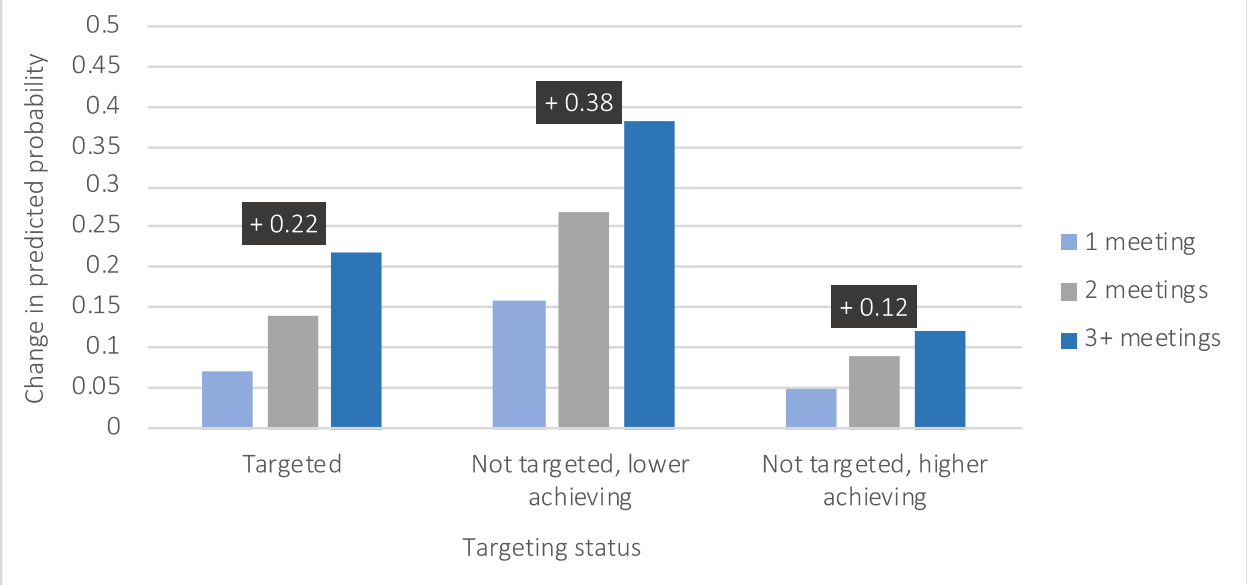
Table 1. Predicted probability of FAFSA application submission based on fixed-effects regression models

Targeted/Not Targeted Status	
Targeted	0.70
Not targeted, lower achieving	0.59
Not targeted, higher achieving	0.84
College Advising Meetings	
Zero meetings	0.63
One meeting	0.72
Two meetings	0.78
3+ meetings	0.85

Source: HISD student-level administrative data, 2014-15, 2015-16, and 2016-17
Note: See Appendix Table 3 for full model parameters

Interactions were also added to the model to determine if the relationship between college advising meetings and FAFSA submission varied between targeted and non-targeted students (see Figure 2). For not targeted, lower achieving students, each meeting with a college advisor had a greater effect on the predicted probability of FAFSA submission when compared to targeted students. From zero meetings to three-plus meetings, the increase in the predicted probability of FAFSA submission was 0.38 for not targeted, lower achieving students, but only 0.22 for targeted students. In contrast, there is no difference in the effect of college advising meetings on FAFSA submission when comparing targeted students and not targeted, higher achieving students.

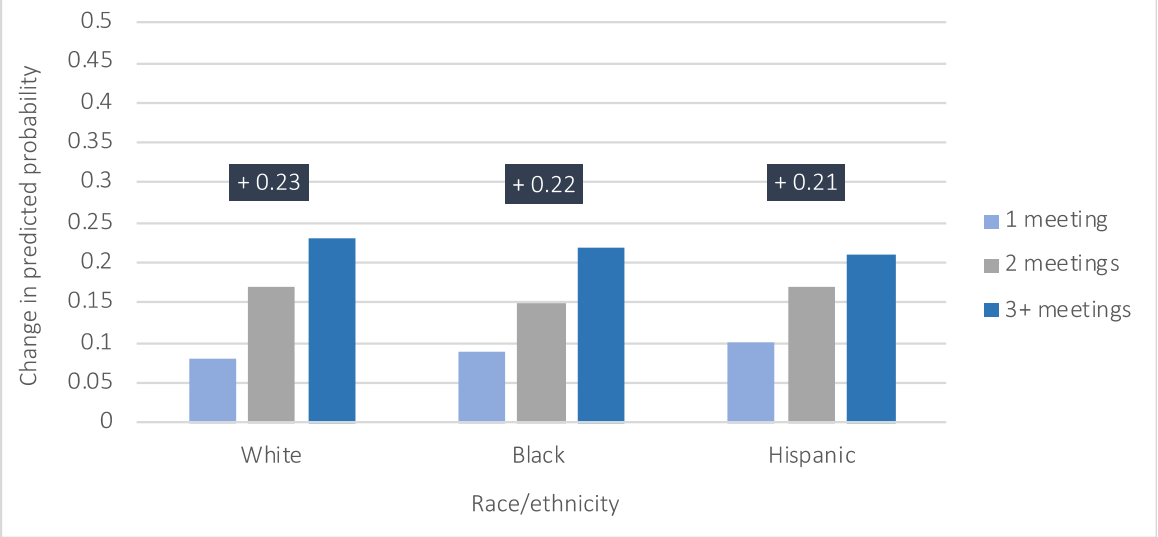
Figure 2. Change in the predicted probability of FAFSA application submission, by targeting status and meetings with a CSA



Source: HISD student-level administrative data, 2015-16 and 2016-17

Interactions were added to the model to determine if the relationship between college advising meetings and FAFSA submission varied among various race/ethnic groups (see Figure 3). While the likelihood-ratio tests indicate that the collective addition of the interactions results in an improvement in model fit, there is no statistically significant variation in the effect of college advising meetings among different race/ethnic groups. From zero to three-plus meetings, the increase in the predicted probability of submitting a FAFSA application was 0.23 for White students, 0.22 for Black students, and 0.21 for Hispanic students.

Figure 3. Change in the predicted probability of FAFSA application submission, by race/ethnicity and meetings with a CSA



Source: HISD student-level administrative data, 2015-16 and 2016-17

3

Participating in at least one college advising meeting was positively associated with an increase in the number of two- and four-year college applications

Research Question 3: What predicts two-year and four-year college application submissions during Cycle 1 of the College Success Initiative?

Participating in at least one college advising meeting was positively and significantly associated with an increase in the number of two-year and four-year college application submissions (see Table 2). The predicted number of two-year college applications submitted was 0.57 for students who did not meet with a CSA and 0.67 for those students who attended one meeting with a CSA. Meeting with an advisor more than once was not associated with any additional significant increase in the predicted number of two-year college application submissions. In contrast to the findings for two-year college applications, each additional college advising meeting with a CSA was associated with a significant increase in the predicted number of four-year college applications.

Additionally, whether or not a student was targeted was associated with two-year and four-year application submissions. Not targeted, lower achieving students had significantly higher predicted numbers of two-year application submissions and significantly lower predicted numbers of four-year applications submissions when compared to targeted students. In contrast, not targeted, higher achieving students had significantly lower predicted numbers of two-year application submissions, but higher predicted number of four-year submissions when compared to targeted students[9].

Female students and economically disadvantaged students had significantly higher predicted numbers of two-year application submissions when compared to their male and non-economically disadvantaged counterparts. Asian students, Black students, and female students had significantly higher predicted numbers of four-year application submissions when compared to their White and male counterparts. In contrast, Hispanic students and economically disadvantaged students had significantly lower predicted numbers of four-year application submissions when compared to their White and non-economically disadvantaged counterparts.

[9] CSAs may have chosen a higher GPA cutoff to determine whether students should be advised to apply to two-year or four-year colleges. We ran supplemental analyses predicting college applications, with a non-targeted student cutoff of 3.2 (as suggested by a College and Career Readiness department staff member) rather than 2.87. While coefficients did change, the overall pattern of results remained unchanged.

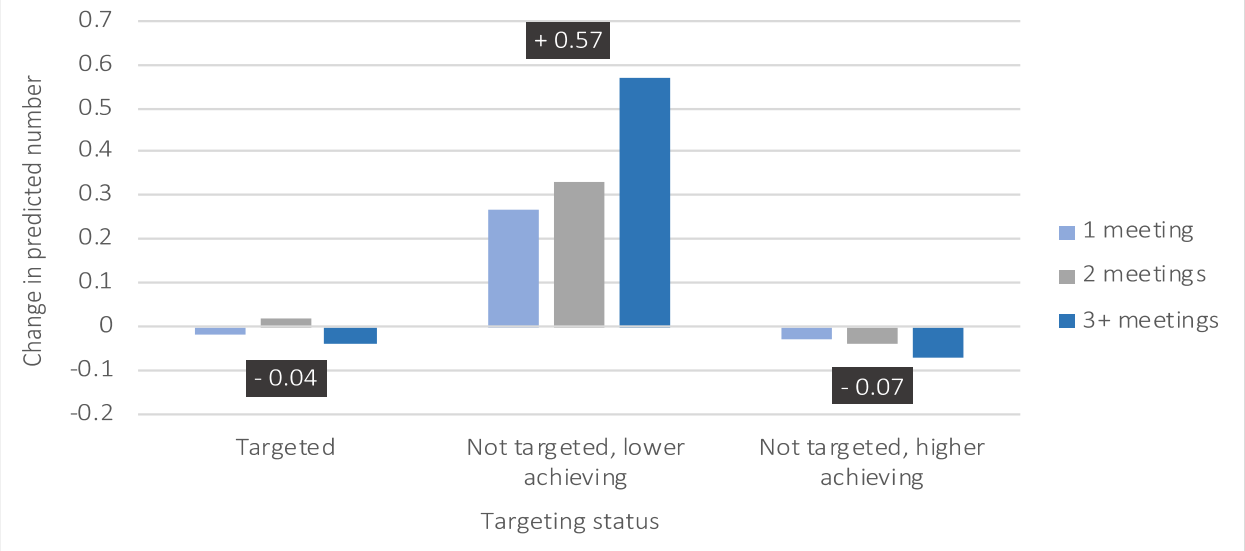
Table 2. Predicted number of two-year and four-year application submissions based on fixed-effects regression models

	Two-year	Four-year
Targeted/Not Targeted Status		
Targeted	0.66	2.84
Not targeted, lower achieving	0.81	1.63
Not targeted, higher achieving	0.43	4.90
College Advising Meetings		
Zero meetings	0.57	2.63
One meeting	0.67	2.94
Two meetings	0.71	3.41
Three-plus meetings	0.69	4.28

Source: HISD student-level administrative data, 2015-16 and 2016-17
Note: See Appendix Tables 4 and 5 for full model parameters

Interactions were added to the models to determine if the effect of college advising meetings on two-year and four-year application submissions varied between targeted and non-targeted students (see Figure 4). For not targeted, lower achieving students, each meeting with a college advisor had a greater effect on the predicted number of two-year application submissions when compared to targeted students. From zero meetings to three-plus meetings, the increase in the predicted number of two-year application submissions was 0.57 for not targeted, lower achieving students, whereas there was a 0.04 decrease in the predicted number of two-year application submission among targeted students. In contrast, there is no difference in the effect of college advising meetings on two-year application submissions when comparing targeted students and not targeted, higher achieving students.

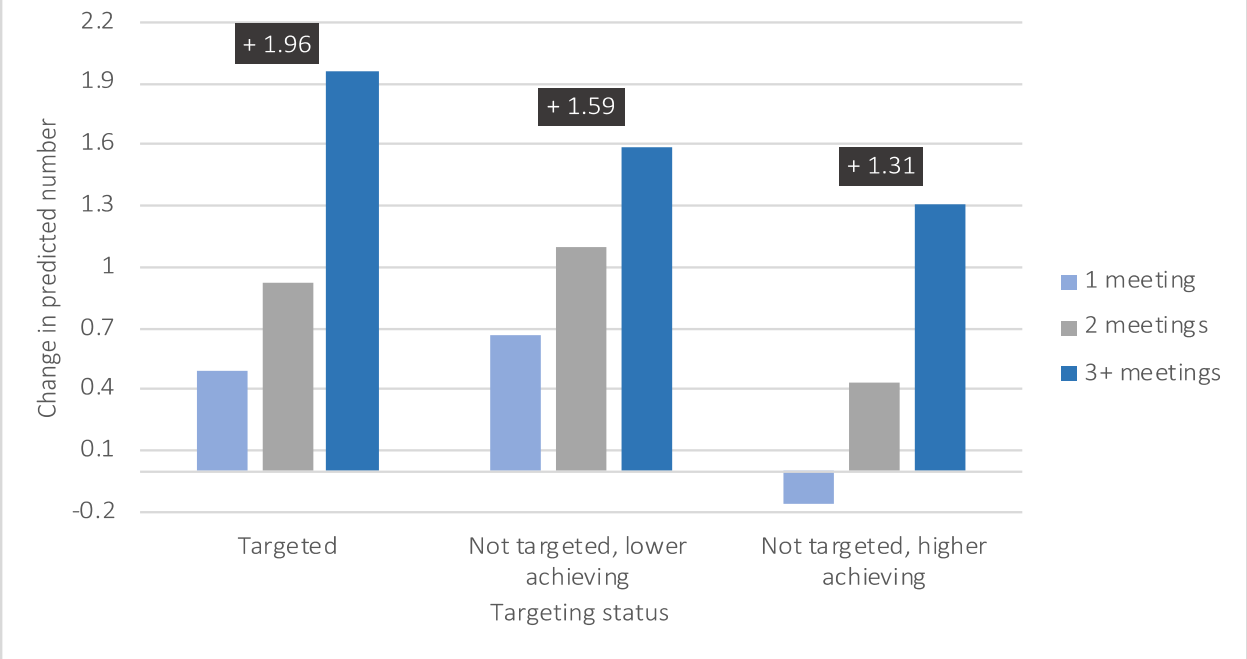
Figure 4. Change in the predicted number of two-year applications, by targeting status and meetings with a CSA



Source: HISD student-level administrative data, 2015-16 and 2016-17

In regards to four-year applications, among not targeted, higher achieving students, each meeting with a CSA had a smaller effect on the predicted number of four-year application submissions, when compared to targeted students (see Figure 5). From zero meetings to three-plus meetings, the increase in the predicted number of four-year application submissions was 1.31 for not targeted, higher achieving students, whereas there was a 1.96 increase in the predicted number of four-year application submission among targeted students. In contrast, there is no difference in the effect of college advising meetings on four-year application submissions when comparing targeted students and not targeted, lower achieving students.

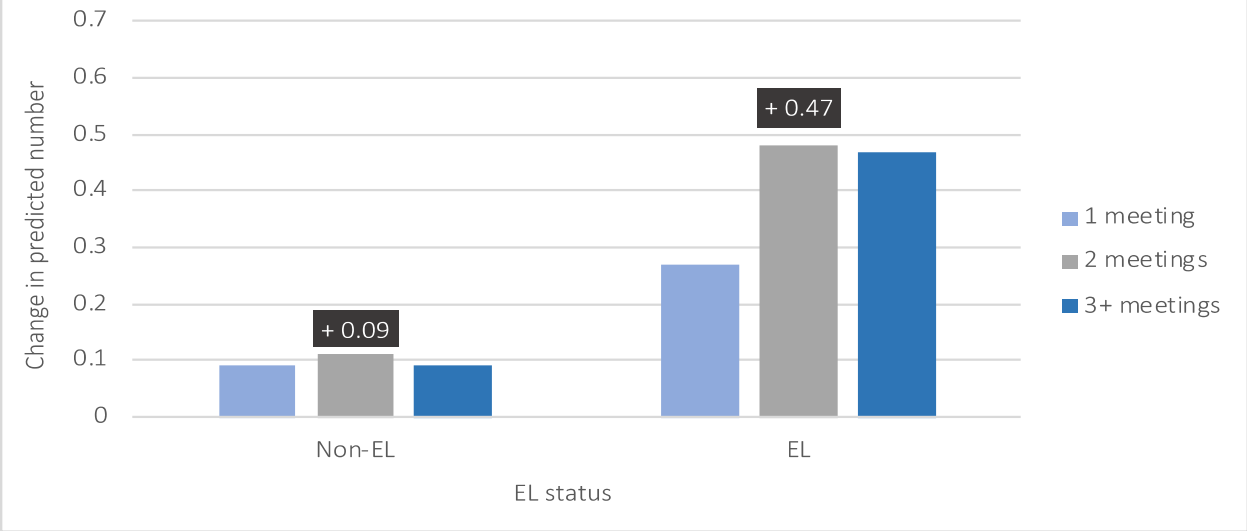
Figure 5. Change in the predicted number of four-year applications, by targeting status and meetings with a CSA



Source: HISD student-level administrative data, 2015-16 and 2016-17

Interactions between EL status and college advising meetings revealed that the effect of college advising meetings on two-year application submissions was greater among EL students than among non-EL students. From zero meetings to three-plus meetings, the increase in the predicted number of two-year application submissions was 0.47 for EL students, but only 0.09 for non-EL students.

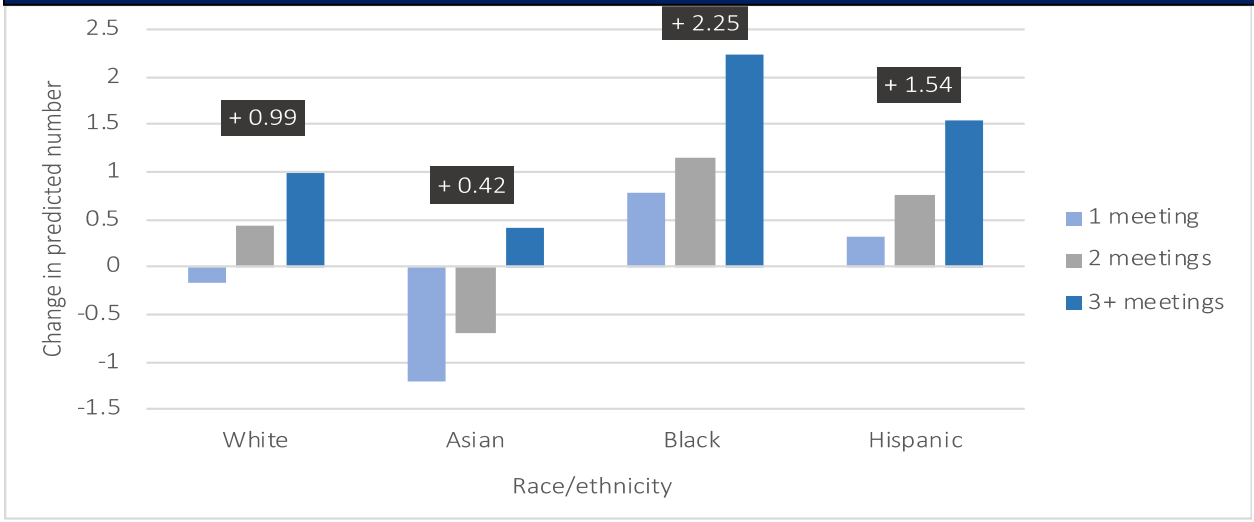
Figure 6. Change in the predicted number of two-year applications, by English learner status and meetings with a CSA



Source: HISD student-level administrative data, 2015-16 and 2016-17

In regards to four-year applications, among Black students, each meeting with a CSA had a greater effect on the predicted number of four-year application submissions, when compared to White students (see Figure 7). From zero meetings to three-plus meetings, the increase in the predicted number of four-year application submissions was 2.25 for Black students, whereas there was a 0.99 increase in the predicted number of four-year application submission among White students. Additionally, the effect of one meeting with a CSA was greater for Hispanic students than for White students. From zero to one meeting with a CSA, Hispanic students show a 0.79 increase in the predicted number of four-year applications, but White students show a 0.16 decrease. In contrast, among Asian students, meeting with a CSA one or two times had a smaller effect on the predicted number of four-year application submissions. From zero to two meetings with a CSA, Asian students experience a decrease in the predicted number of applications submitted, while White students experience an increase.

Figure 7. Change in the predicted number of four-year applications, by race/ethnicity and meetings with a CSA



Source: HISD student-level administrative data, 2015-16 and 2016-17

4

Participating in college advising meetings was positively and significantly associated with on-time college enrollment

Research Question 4: What predicts on-time college enrollment and four-year enrollment during Cycle 1 of the College Success Initiative?

Participating in college advising meetings was positively and significantly associated with on-time college enrollment. Each additional college advising meeting with a CSA was associated with a significant increase in the predicted probability of enrolling in college on-time (see Table 3). In contrast, for on-time enrollees participating in college advising meetings was positively associated with enrolling in a four-year college instead of a two-year institution only when students met with a CSA at least twice.

Additionally, whether or not a student was targeted was associated with enrolling in college on time and with enrolling at a four-year institution. Not targeted, lower achieving students had significantly lower predicted probabilities of on-time enrollment in any college and in a four-year institution instead of a two-year institution when compared to targeted students. In contrast, not targeted, higher achieving students had significantly higher predicted probabilities of on-time enrollment in any college and in a four-year institution instead of a two-year institution when compared to targeted students.

Additionally, Asian students and female students had significantly higher predicted probabilities of enrolling in college on time when compared to White students and male students, respectively. In contrast, Hispanic students, economically disadvantaged students, and EL students had significantly lower predicted probabilities of enrolling in college on time when compared to White students, non-economically disadvantaged students, and non-EL students, respectively. In regards to on-time enrollment at a four-year college instead of a two-year college, Black students exhibited higher predicted probabilities when compared to White students, and Hispanic students, economically disadvantaged students, and EL students experienced lower predicted probabilities compared to White students, non-economically disadvantaged students, and non-EL students, respectively.

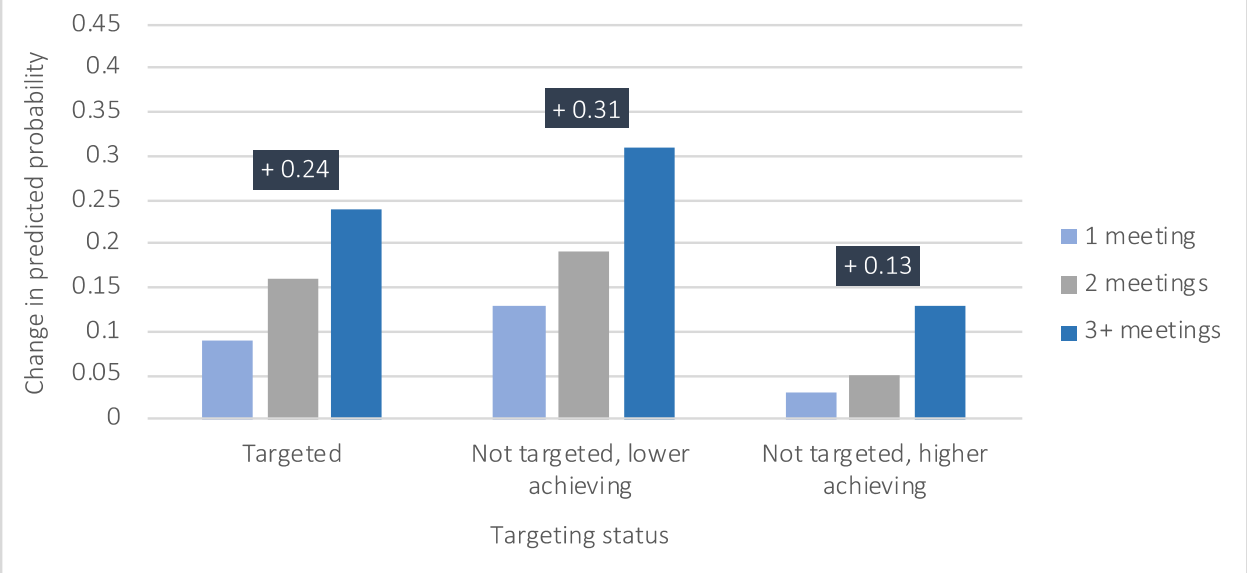
Table 3. Predicted probability of college enrollment based on fixed-effects regression models

	Any enrollment (ref. no enrollment)	Four-year enrollment (ref. two-year enrollment)
Targeted/Not Targeted Status		
Targeted	0.53	0.42
Not targeted, lower achieving	0.38	0.20
Not targeted, higher achieving	0.75	0.76
College Advising Meetings		
Zero meetings	0.47	0.52
One meeting	0.56	0.53
Two meetings	0.61	0.55
Three-plus meetings	0.69	0.61

Source: HISD student-level administrative data 2015-16 and 2016-17
Note: See Appendix Tables 6 and 7 for full model parameters

Interactions were added to the models to determine if the effect of college advising meetings varied between targeted and non-targeted students (see Figure 8). For not targeted, lower achieving students, one meeting and three or more meetings with a college advisor had a greater effect on the predicted probability of on-time college enrollment when compared to targeted students. From 0 meetings to 3+ meetings, the increase in the predicted probability of on-time college enrollment was 0.31 for not targeted, lower achieving students, but only 0.24 for targeted students. For not targeted, higher achieving students, two meetings with a college advisor had smaller effect on the predicted probability of on-time college enrollment when compared to targeted students. From 0 meetings to 3+ meetings, the increase in the predicted probability of on-time college enrollment was 0.24 for targeted students, but only 0.13 for not targeted, higher achieving students.

Figure 8. Predicted probability of on-time college enrollment, by targeting status and meetings with a CSA



Source: HISD student-level administrative data, 2015-16 and 2016-17

In regards to four-year enrollment versus two-year enrollment among on-time enrollees, for not targeted, lower achieving students, two meetings with a college advisor had a greater effect on the predicted probability of on-time enrollment when compared to targeted students. From zero meetings to three-plus meetings, the increase in the predicted probability of on-time enrollment at a four-year college was 0.14 for not targeted, lower achieving students, but only 0.12 for targeted students. In contrast, there is no difference in the effect of college advising meetings on on-time enrollment at a four-year college when comparing targeted students and not targeted, higher achieving students.

5

For students who met with a CSA at least three times, participation in meetings was positively associated with college persistence

Research Question 3: What predicts persistence in college among on-time enrollees during Cycle 1 of the College Success Initiative?

Participation in college advising meetings was positively associated with first spring and second fall postsecondary persistence, but only for those students who met with a CSA at least three times when compared to students who did not meet with a CSA at all (see Appendix Table 8).

Not targeted, lower achieving students had significantly lower predicted probabilities of postsecondary persistence in both the first spring and second fall semesters when compared to targeted students. In contrast, not targeted, higher achieving students had significantly higher predicted probabilities of postsecondary persistence for both semesters when compared to targeted students.

Interestingly, among on-time enrollees, female students have a greater likelihood of persisting to the first spring semester than male students. Additionally, economically disadvantaged students have a lower likelihood of persisting to the first spring semester when compared to non-economically disadvantaged students. However, neither of these characteristics are associated with persistence to the second fall semester. It is possible that college persistence beyond the first year is better predicted by other variables not included in these models, such as adjustment to higher education or first-year performance. Future analyses focusing on college persistence could potentially explain what contributes to remaining in college.

Conclusion

The purpose of this study is to help HISD better understand the relationship between Cycle 1 of the College Success Initiative and student's preparation for, enrollment in, and persistence in college. Overall, the findings suggest that student meetings with CSAs helped students submit their FAFSA applications and encouraged students to apply to both two-year and four-year colleges. Additionally, these meetings were associated with a greater likelihood of students enrolling in college immediately following their high school graduation. These results are incredibly encouraging, especially given the short timeframe in which these effects are evident. These students were exposed to this initiative and able to meet with CSAs during their senior year only. These findings provide optimism for current and future initiatives addressing college enrollment and graduation.

The findings also suggest that the college advising initiative had a greater influence on historically disadvantaged race/ethnic groups and EL students. College advising meetings had a greater impact on the number of four-year application submissions among Black and Hispanic students than White students. Additionally, college-advising meetings had a greater impact on the number of two-year application submissions among EL students when compared to non-EL students. These findings indicate that the College Advising Initiative successfully assisted historically disadvantaged students with enrolling in college.

Furthermore, college advising meetings had a greater impact on the number of four-year applications submitted and any on-time college enrollment among targeted students than not targeted, higher achieving students. This indicates that specifically targeting certain students who are academically inclined for college, but less likely to enroll, is beneficial and could help close college enrollment and graduation rates among these groups. Surprisingly, the effect of college advising meetings on outcomes of interest was often stronger for not targeted, lower achieving students. The effect of college advising meetings on FAFSA submission, two-year application submission, any on-time enrollment, and on time at a four-year institution was higher among not targeted, lower achieving students when compared to targeted students. These findings imply that even students who are not specifically targeted for college advising efforts benefit from their exposure to and participation in meetings with a college advisor.

There are a few limitations of this study to note. First, some students may have been exposed to other college advising efforts either within or outside of their schools. Unfortunately, we were unable to accurately measure whether or not a student engaged in other college advising efforts. Therefore, we were unable to control for other college advising exposure and more accurately ascertain the true relationship between the College Advising Initiative on our outcomes of interest. Nevertheless, our findings do suggest that meetings with CSAs in particular have an association with FAFSA submission, college application submission, and on-time college enrollment and it is likely that some of these students would not have been exposed to college advising in any other capacity. Second, we were unable to determine whether the students who met with the CSAs were approached by the advisor for a meeting or selected into this advising by directly approaching the CSA. Students who selected into receiving college advising and chose to approach the CSA for advice about college likely planned to attend college and were actively preparing for it. Therefore, it is difficult to determine the exact effect of the initiative among students who were not planning to attend college.

Conclusion

Despite these limitations, this study provides an important examination of the College Success Initiative and suggests that additional efforts by HISD to encourage enrollment in college may show promising results as well. The LAUNCH IGNITE Initiative will provide students with access to college success advisors throughout high school, which will get students thinking about college at an earlier age and allow them to better prepare for the college application process. Additionally, the LAUNCH ACES Initiative will help students with the oftentimes difficult transition from high school to college, and provide support to encourage their persistence in and eventual college graduation. The LAUNCH Transition program supports students with the high school to college transition by providing summer melt, matriculation, and freshman year support (HISD Research and Accountability 2018; Houston Independent School District "College Readiness" n.d.). The findings of this study suggest that college advising efforts implemented by HISD, like the College Success Initiative examined in this study, can help reduce disparities in access to postsecondary opportunities and, in turn, reduce disparities in educational outcomes.

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Methodological Appendix

The analysis for this study took place in three stages. First, rates of FAFSA application submission, college application submission, college enrollment, and college persistence were calculated for all graduating seniors in the baseline year and Years 1 and 2 of the College Success Initiative. Then t-tests were conducted to determine if the change in rates across years was statistically significant.

Second, fixed-effects regression analyses were conducted to examine the effect of targeting and advising meetings in Cycle 1 of the College Success Initiative on our outcomes of interest (FAFSA application submission, college applications, college enrollment, and college persistence). Baseline students are not included in these models, since they were not exposed to the College Success Initiative during their senior year of high school. Fixed effects were utilized to control for the schools that students attended and the year in which they received advising (2015-2016 or 2016-2017). Utilizing fixed effects allowed us to control for differential effects that CSAs assigned to each school may have had on students. When analyzing the effect of college advising meetings on the outcomes of interest, the reference category was rotated, although only the models with zero meetings as the reference category are presented in the appendix tables.

Third, interaction effects were added to the models to determine if the effect of advising meetings varied among targeted and non-targeted students, students of various race/ethnic groups, economically disadvantaged and non-economically disadvantaged students, and ELs and non-ELs. Likelihood-ratio tests were conducted to determine if the addition of the interaction effects resulted in an improvement in model fit. If there was no improvement in model fit, the interaction effects were removed from the model and were not included in these analyses. Only those interactions that resulted in an improvement in model fit were discussed here.

Appendix

Table 1. Descriptive Statistics with t-tests for HISD Graduating Seniors

	Baseline (2014-2015)	Cycle 1, Year 1 (2015-2016)	Cycle 1, Year 2 (2016-2017)
Number of Advising Sessions	--	1.04 [c]	1.60 [b]
FAFSA Submission	44% [b,c]	53% [a,c]	56% [a,b]
College Applications			
ApplyTexas Two-Year	29% [b,c]	36% [a,c]	43% [a,b]
ApplyTexas Four-Year	56% [b,c]	60% [a,c]	58% [a,b]
CommonApp Four-Year	--	28% [c]	12% [b]
College Enrollment			
On-time (First summer & First fall)	50% [c]	51% [c]	53% [a,b]
Two-Year	20%	20%	21%
Four-Year	30% [c]	31%	31% [a]
Delayed (First spring & Second summer)			
First spring	12% [c]	11% [c]	7% [a,b]
Two-Year	10% [c]	9% [c]	6% [a,b]
Four-Year	3% [b,c]	2% [a,c]	1% [b,c]
Second summer	3% [b]	2% [a]	--
Two-Year	3% [b]	2% [a]	--
Four-Year	0%	0%	--
College Persistence among On-time Enrollees			
First spring	90%	89%	89%
Second fall	84%	86%	--

[a] T-test statistically significant when compared to baseline sample ($p<0.05$)
[b] T-test statistically significant when compared to cycle 1, year 1 sample ($p<0.05$)
[c] T-test statistically significant when compared to cycle 1, year 2 sample ($p<0.05$)
Source: HISD student-level administrative data
(Baseline (2014-15) – 9,297 students; Year 1 (2015-16) – 9,581 students; Year 2 (2016-17) – 9,718 students)

Appendix

Table 2. Descriptive Statistics for HISD Graduating Seniors in Cycle 1, Years 1 and 2	
	%
Targeted	
Targeted *(ref.)*	32.72
Not targeted, low GPA (<2.87)	34.62
Not targeted, high GPA (>=2.87)	32.66
Number of Advising Meetings	
Zero *(ref.)*	42.86
One	26.68
Two	14.07
Three-plus	16.38
Race/ethnicity	
Non-Hispanic Asian	4.48
Non-Hispanic Black	25.89
Hispanic	60.03
Non-Hispanic Other	8.67
Non-Hispanic White *(ref.)*	0.93
Gender	
Male *(ref.)*	48.93
Female	51.07
Economic Disadvantage	
No *(ref.)*	29.64
Yes	70.36
English Learner	
No *(ref.)*	93.13
Yes	6.87

Source: HISD student-level administrative data, 2015-16 and 2016-17 (N=18,948)

Appendix

Table 3. Odds ratios from fixed-effects logistic regression models predicting FAFSA submission in Cycle 1, Years 1 and 2

	Model 1			Model 2 (Targeted * Advising)			Model 3 (Race/ethnicity * Advising)		
	OR (SE)			OR (SE)			OR (SE)		
Targeted									
Targeted *(ref.)*									
Not targeted, low GPA	0.57	(0.03)	***	0.45	(0.04)	***	0.57	(0.03)	***
Not targeted, high GPA	2.25	(0.10)	***	2.22	(0.18)	***	2.24	(0.10)	***
Number of Advising Meetings									
Zero *(ref.)*									
One	1.57	(0.07)	***	1.34	(0.11)	***	1.46	(0.19)	**
Two	2.35	(0.13)	***	1.97	(0.18)	***	2.39	(0.49)	***
Three-plus	3.80	(0.23)	***	3.36	(0.31)	***	3.45	(0.81)	***
Targeted * Advising Interactions									
Not targeted, low GPA * 1 meeting				1.46	(0.16)	***			
Not targeted, low GPA * 2 meetings				1.63	(0.21)	***			
Not targeted, low GPA * 3+ meetings				1.74	(0.24)	***			
Not targeted, high GPA * 1 meeting				1.00	(0.11)				
Not targeted, high GPA * 2 meetings				0.94	(0.13)				
Not targeted, high GPA * 3+ meetings				0.79	(0.10)	†			
Race/ethnicity									
Non-Hispanic Asian	1.43	(0.14)	***	1.42	(0.14)	***	1.40	(0.18)	**
Non-Hispanic Black	2.30	(0.16)	***	2.36	(0.18)	***	2.01	(0.19)	***
Hispanic	1.07	(0.07)		1.10	(0.08)		1.10	(0.10)	
Non-Hispanic Other	1.44	(0.26)	*	1.48	(0.27)	*	1.25	(0.30)	
Non-Hispanic White *(ref.)*									
Race/ethnicity * Advising Interactions									
Asian * 1 meeting							0.90	(0.21)	
Asian * 2 meetings							0.84	(0.30)	
Asian * 3+ meetings							2.03	(0.81)	†
Black * 1 meeting							1.22	(0.18)	
Black * 2 meetings							1.30	(0.30)	
Black * 3+ meetings							1.51	(0.39)	
Hispanic * 1 meeting							1.04	(0.14)	
Hispanic * 2 meetings							0.87	(0.19)	
Hispanic * 3+ meetings							0.95	(0.23)	
Other * 1 meeting							1.06	(0.44)	

Other * 2 meetings							2.22	(1.50)	
Other * 3+ meetings							2.02	(1.47)	
Gender									
Male *(ref.)*									
Female	1.31	(0.04)	***	1.30	(0.04)	***	1.30	(0.04)	***
Economic Disadvantage									
No *(ref.)*									
Yes	1.21	(0.05)	***	1.21	(0.05)	***	1.20	(0.05)	***
English Learner									
No *(ref.)*									
Yes	0.55	(0.04)	***	0.55	(0.04)	***	0.54	(0.04)	***

*** p<0.001; ** p<0.01; * p<0.05; † p<0.10

Source: HISD student-level administrative data (N=18,937)

Appendix

Table 4. Coefficients from fixed effects linear regression models predicting total number of 2-year college applications submitted in Cycle 1, Years 1 and 2

	Model 1			Model 2 (Targeted * Advising)			Model 3 (English Learner * Advising)		
	B (SE)			B (SE)			B (SE)		
Targeted									
Targeted *(ref.)*									
Not targeted, low GPA	0.16	(0.02)	***	-0.04	(0.03)		0.16	(0.02)	***
Not targeted, high GPA	-0.23	(0.02)	***	-0.26	(0.03)	***	-0.23	(0.02)	***
Number of Advising Meetings									
0 *(ref.)*									
1	0.11	(0.02)	***	-0.03	(0.03)		0.09	(0.02)	***
2	0.14	(0.02)	***	0.02	(0.04)		0.11	(0.02)	***
3+	0.12	(0.02)	***	-0.04	(0.04)		0.10	(0.02)	***
Targeted * Advising Interactions									
Not targeted, low GPA * 1 meeting				0.29	(0.04)	***			
Not targeted, low GPA * 2 meetings				0.31	(0.05)	***			
Not targeted, low GPA * 3+ meetings				0.61	(0.06)	***			
Not targeted, high GPA * 1 meeting				0.00	(0.05)				
Not targeted, high GPA * 2 meetings				-0.06	(0.05)				
Not targeted, high GPA * 3+ meetings				-0.03	(0.05)				
Race/ethnicity									
Non-Hispanic Asian	0.02	(0.04)		0.02	(0.04)		0.02	(0.04)	
Non-Hispanic Black	-0.02	(0.03)		-0.01	(0.03)		-0.02	(0.03)	
Hispanic	0.03	(0.03)		0.05	(0.03)	†	0.03	(0.03)	
Non-Hispanic Other	-0.01	(0.07)		0.01	(0.07)		-0.01	(0.07)	
Non-Hispanic White *(ref.)*									
Gender									
Male *(ref.)*									
Female	0.08	(0.01)	***	0.07	(0.01)	***	0.08	(0.01)	***
Economic Disadvantage									
No *(ref.)*									
Yes	0.04	(0.02)	**	0.04	(0.02)	**	0.04	(0.02)	**
English Learner									
No *(ref.)*									
Yes	0.05	(0.03)	†	0.05	(0.03)	†	-0.10	(0.04)	**
English Learner * Advising Interactions									
EL * 1 meeting							0.18	(0.06)	**

EL * 2 meetings							0.37	(0.08)	***
EL * 3+ meetings							0.38	(0.08)	***
Constant	0.51	(0.03)	***	0.60	(0.04)	***	0.52	(0.03)	***

*** p<0.001; ** p<0.01; * p<0.05; † p<0.10

Source: HISD student-level administrative data (N=18,948)

Appendix

Table 5. Coefficients from fixed effects linear regression models predicting total number of 4-year college applications submitted in Cycle 1, Years 1 and 2

	Model 1			Model 2 (Targeted * Advising)			Model 3 (Race/ethnicity * Advising)		
	B (SE)			B (SE)			B (SE)		
Targeted									
Targeted *(ref.)*									
Not targeted, low GPA	-1.21	(0.07)	***	-1.13	(0.12)	***	-1.19	(0.07)	***
Not targeted, high GPA	2.05	(0.07)	***	2.45	(0.13)	***	2.04	(0.07)	***
Number of Advising Meetings									
0 *(ref.)*									
1	0.31	(0.06)	***	0.50	(0.13)	***	-0.16	(0.19)	
2	0.78	(0.08)	***	0.92	(0.14)	***	0.44	(0.29)	
3+	1.65	(0.08)	***	1.96	(0.14)	***	1.00	(0.33)	**
Targeted * Advising Interactions									
Not targeted, low GPA * 1 meeting				0.17	(0.17)				
Not targeted, low GPA * 2 meetings				0.17	(0.20)				
Not targeted, low GPA * 3+ meetings				-0.37	(0.21)	†			
Not targeted, high GPA * 1 meeting				-0.65	(0.17)	***			
Not targeted, high GPA * 2 meetings				-0.50	(0.20)	*			
Not targeted, high GPA * 3+ meetings				-0.65	(0.18)	***			
Race/ethnicity									
Non-Hispanic Asian	0.93	(0.14)	***	0.93	(0.14)	***	1.36	(0.19)	***
Non-Hispanic Black	0.85	(0.11)	***	0.89	(0.11)	***	0.33	(0.14)	*
Hispanic	-0.42	(0.10)	***	-0.38	(0.10)	***	-0.63	(0.13)	***
Non-Hispanic Other	0.50	(0.26)	†	0.53	(0.26)	*	-0.08	(0.36)	
Non-Hispanic White *(ref.)*									
Race/ethnicity * Advising Interactions									
Asian * 1 meeting							-1.04	(0.34)	**
Asian * 2 meetings							-1.14	(0.50)	*
Asian * 3+ meetings							-0.58	(0.48)	
Black * 1 meeting							0.94	(0.23)	***

Black * 2 meetings							0.74	(0.32)	*
Black * 3+ meetings							1.25	(0.35)	***
Hispanic * 1 meeting							0.47	(0.21)	*
Hispanic * 2 meetings							0.33	(0.30)	
Hispanic * 3+ meetings							0.54	(0.34)	
Other * 1 meeting							0.77	(0.62)	
Other * 2 meetings							1.42	(0.89)	
Other * 3+ meetings							2.29	(0.87)	**
Gender									
Male *(ref.)*									
Female	0.48	(0.05)	***	0.47	(0.05)	***	0.47	(0.05)	***
Economic Disadvantage									
No *(ref.)*									
Yes	0.10	(0.06)		0.10	(0.06)	†	0.11	(0.06)	†
English Learner									
No *(ref.)*									
Yes	-0.82	(0.10)	***	-0.82	(0.10)	***	-0.82	(0.10)	***
Constant	2.11	(0.11)	***	1.89	(0.14)	***	2.32	(0.13)	***

*** p<0.001; ** p<0.01; * p<0.05; † p<0.10Source: HISD student-level administrative data (N=18,948)

Appendix

Table 6. Odds ratios from fixed effects logistic regression models predicting any on-time college enrollment in Cycle 1, Years 1 and 2

	Model 1			Model 2 (Targeted *Advising)		
	OR (SE)			OR (SE)		
Targeted						
Targeted *(ref.)*						
Not targeted, low GPA	0.52	(0.02)	***	0.46	(0.04)	***
Not targeted, high GPA	2.78	(0.13)	***	3.17	(0.27)	***
Number of Advising Meetings						
Zero *(ref.)*						
One	1.46	(0.07)	***	1.42	(0.12)	***
Two	1.87	(0.11)	***	1.92	(0.18)	***
Three-plus	2.82	(0.17)	***	2.71	(0.25)	***
Targeted * Advising Interactions						
Not targeted, low GPA * One meeting				1.27	(0.14)	*
Not targeted, low GPA * Two meetings				1.22	(0.16)	
Not targeted, low GPA * Three-plus meetings				1.38	(0.19)	*
Not targeted, high GPA * One meeting				0.81	(0.10)	†
Not targeted, high GPA * Two meetings				0.66	(0.09)	**
Not targeted, high GPA * Three-plus meetings				0.83	(0.11)	
Race/ethnicity						
Non-Hispanic Asian	1.34	(0.16)	*	1.34	(0.16)	*
Non-Hispanic Black	1.07	(0.09)		1.10	(0.08)	
Hispanic	0.79	(0.06)	**	0.81	(0.06)	**
Non-Hispanic Other	0.96	(0.18)		0.99	(0.19)	
Non-Hispanic White *(ref.)*						
Gender						
Male *(ref.)*						
Female	1.12	(0.04)	***	1.12	(0.04)	***
Economic Disadvantage						
No *(ref.)*						
Yes	0.84	(0.04)	***	0.84	(0.04)	***
English Learner						
No *(ref.)*						
Yes	0.59	(0.04)	***	0.59	(0.04)	***

*** p<0.001; ** p<0.01; * p<0.05; † p<0.10

Source: HISD student-level administrative data (N=18,948

Appendix

Table 7. Odds ratios from fixed-effects logistic regression models predicting on-time two-year (ref.) vs. four-year college enrollment in Cycle 1, Years 1 and 2

	Model 1			Model 2 (Targeted *Advising)		
	OR (SE)			OR (SE)		
Targeted						
Targeted *(ref.)*						
Not targeted, low GPA	0.31	(0.03)	***	0.25	(0.04)	***
Not targeted, high GPA	5.07	(0.33)	***	4.95	(0.67)	***
Number of Advising Meetings						
Zero *(ref.)*						
One	1.10	(0.08)		0.94	(0.13)	
Two	1.23	(0.11)	**	1.08	(0.16)	
Three-plus	1.72	(0.15)	***	1.75	(0.26)	***
Targeted * Advising Interactions						
Not targeted, low GPA * 1 meeting				1.61	(0.33)	*
Not targeted, low GPA * 2 meetings				1.39	(0.34)	
Not targeted, low GPA * 3+ meetings				1.46	(0.34)	
Not targeted, high GPA * 1 meeting				1.15	(0.20)	
Not targeted, high GPA * 2 meetings				1.15	(0.23)	
Not targeted, high GPA * 3+ meetings				0.74	(0.13)	†
Race/ethnicity						
Non-Hispanic Asian	1.03	(0.16)		1.02	(0.16)	
Non-Hispanic Black	1.91	(0.22)	***	1.92	(0.22)	***
Hispanic	0.44	(0.05)	***	0.45	(0.05)	***
Non-Hispanic Other	0.86	(0.23)		0.86	(0.23)	
Non-Hispanic White *(ref.)*						
Gender						
Male *(ref.)*						
Female	1.00	(0.05)		0.99	(0.05)	
Economic Disadvantage						
No *(ref.)*						
Yes	0.75	(0.05)	***	0.74	(0.05)	***
English Learner						
No *(ref.)*						
Yes	0.28	(0.05)	***	0.28	(0.04)	***

*** p<0.001; ** p<0.01; * p<0.05; † p<0.10

Source: HISD student-level administrative data (N=9,993)

Appendix

Table 8. Odds ratios from fixed-effects logistic regression models predicting first Spring and second Fall postsecondary persistence among on-time college enrollees in Cycle 1, Year 1

	First Spring			Second Fall		
	OR (SE)			OR (SE)		
Targeted						
Targeted *(ref.)*						
Not targeted, low GPA	0.65	(0.06)	***	0.58	(0.07)	***
Not targeted, high GPA	2.33	(0.21)	***	2.67	(0.32)	***
Number of Advising Meetings						
Zero *(ref.)*						
One	1.19	(0.11)	†	1.12	(0.14)	
Two	1.18	(0.13)		1.08	(0.17)	
Three-plus	1.46	(0.17)	***	1.56	(0.26)	**
Race/ethnicity						
Non-Hispanic Asian	1.19	(0.31)		1.43	(0.47)	
Non-Hispanic Black	0.96	(0.17)		0.77	(0.16)	
Hispanic	0.82	(0.14)		0.91	(0.18)	
Non-Hispanic Other	0.58	(0.20)		0.84	(0.44)	
Non-Hispanic White *(ref.)*						
Gender						
Male *(ref.)*						
Female	1.37	(0.10)	***	1.01	(0.10)	
Economic Disadvantage						
No *(ref.)*						
Yes	0.80	(0.07)	**	0.89	(0.10)	
English Learner						
No *(ref.)*						
Yes	1.39	(0.24)	†	1.06	(0.25)	

*** p<0.001; ** p<0.01; * p<0.05; † p<0.10

Source: HISD student-level administrative data (N=4,365)

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