

## Summer Melt: College Intentions vs. College Enrollment of 2020 School District of Philadelphia Seniors

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### Key Findings

- **Summer melt** refers to high school seniors' intentions to attend college in the fall "melting away" during the summer.
- The **summer melt rate** is the percentage of college-intending seniors who do not enroll in college their first fall after graduation. The summer melt rate for college-intending<sup>1</sup> 2020 SDP high school seniors was 36.2%, which was higher than the summer melt rate for 2019 SDP high school seniors (31.5%).
- Male students, Black/African American students, Hispanic/Latinx students, English Learners, students receiving special education services, and students with economically disadvantaged status had higher summer melt rates than their peers but all subgroups' summer melt rates increased from 2019.
- Positive experiences with adults and school counselors in high school are associated with lower summer melt rates.

### What is Summer Melt?

The summer after high school graduation is a critical transition time. Research finds that many high school graduates who intend to enroll in post-secondary education do not follow through with their intentions following the summer after high school graduation.<sup>1</sup> This phenomenon is known as **summer melt**, and the national summer melt rate ranges from 10-40%.<sup>2</sup>

This brief summarizes findings from a study of the summer melt rates of the cohort of college-intending 2020 School District of Philadelphia (SDP) high school seniors. College intention was identified via the 2020 Senior Exit Survey, which is mandated by the Pennsylvania Department of Education to be offered to all high school seniors.<sup>3</sup> It asks students whether they are planning to pursue additional education, employment, or other activities after high school; about their high school activities (including volunteering, internships, and clubs); and what support they received in preparing for college and career.<sup>4</sup>

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<sup>1</sup>This group includes students who intended to matriculate to a post-secondary institution immediately but also some who may plan to enroll after a delay.

<sup>2</sup>Castleman, B. L., Page, L. C., & Snowdon, A. L. (2013). Summer Melt Handbook: A Guide to Investigating and Responding to Summer Melt. Harvard University Center for Education Policy Research.

<sup>3</sup> For more information about the Senior Exit Survey, refer to [Senior Exit Survey Results: District Level Report](#).

<sup>4</sup> Summer Melt: College Intentions vs. College Enrollment of SDP Seniors (2016-17 through 2018-19) <https://www.philasd.org/research/wp-content/uploads/sites/90/2020/10/Summer-Melt-College-Intentions-vs-College-Enrollment-of-SDP-Seniors-Research-Brief-October-2020.pdf>

## Summer Melt in the Context of COVID-19

Previous SDP Office of Research (ORE) studies have found that the percentage of SDP seniors in spring 2017 to spring 2020 who intended to pursue post-secondary education ranged from 85% to 88%. However, across all three years, nearly a third of seniors who intended to pursue post-secondary education did not follow through with their intention.

Students who graduated in spring 2020 were faced with the additional challenges of the COVID-19 pandemic, including the suspension of in-person learning during their senior year, beginning in March 2020. While national numbers on 2020 summer melt rates are not yet published, the National Student Clearinghouse (NSC) has announced decreases in college matriculation for both fall 2020 and spring 2021. Freshmen enrollment declined 13.1% from fall 2019 with public two-year institutions hit hardest with a 21% decrease-20 times that of the previous year.<sup>5</sup>

To examine whether the COVID-19 pandemic affected the plans of SDP high school seniors, the 2020 Senior Exit Survey included questions about changes in students' plans before and after the onset of the COVID-19 pandemic. Over a quarter of student respondents (26.3%) stated their post-graduation plans had changed because of the virus with one in three confirming they will attend school later than they originally planned.<sup>6</sup>

### Research Questions

This brief answers the following research questions for the SDP senior class of 2020:

1. What was the summer melt rate for college-intending 2020 SDP high school seniors? Did it vary among student demographic groups?
2. In the context of COVID-19 and school closures, did summer melt rates change from previous years?
3. Based on students' responses on the Senior Exit Survey, what are some high school experiences associated with a reduction in the odds of summer melt?

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<sup>5</sup> National Clearinghouse Research Center (2021). [Stay Informed with the Latest Enrollment Information](#). National Student Clearinghouse.

<sup>6</sup> Data in this report was retrieved from the Qlik Senior Exit Survey Application on March 15, 2021.

# Methods

We used the spring 2020 Senior Exit Survey to identify 2019-20 seniors who had the intention of pursuing post-secondary education upon graduating from high school. At the end of the fall semester of 2020, we matched these students against the NSC college matriculation data to identify which students followed through with their intention. Finally, we analyzed students' responses on the Senior Exit Survey to identify high school experiences associated with reduced summer melt.

## Response Rate and Representativeness of the Sample

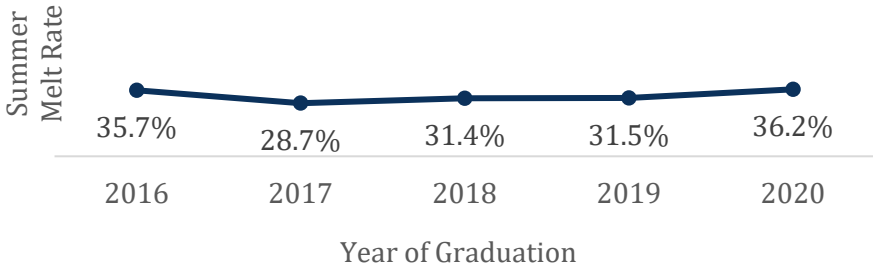
While historically the response rate to the Senior Exit Survey has hovered around 70% of exiting seniors, the spring 2020 response rate declined to 52.9%. However, the demographic characteristics of the Senior Exit Survey respondents in 2019-20 were within 5 percentage points of the demographic characteristics of seniors enrolled in District schools and within 2 percentage points of District seniors who graduated from SDP at the end of the school year. While 2019-20 Senior Exit Survey respondents were relatively representative of seniors, they were less representative than they were in 2018-19. Respondents were less likely to be students identified as male (-5.1 percentage points), Hispanic/Latinx (-3.9 percentage points), English Learner (-1.6 percentage points), or receiving special education services (-5.9 percentage points).

## What We Found

**More than one in three seniors (36.2%) who intended to enroll in post-secondary education did not follow through with their intentions by the end of fall 2020, the highest rate in the past five years.**

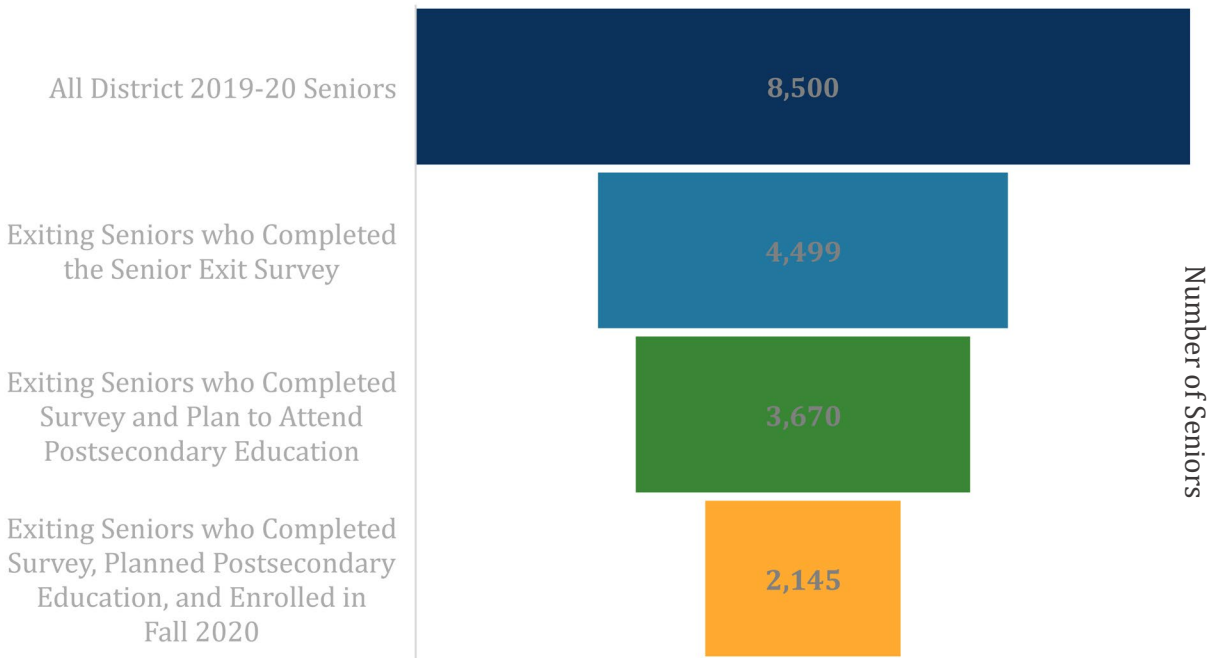
The Senior Exit Survey was offered to 8,500 District seniors in spring 2020. Of those students, 4,499 seniors completed the survey (52.9% response rate). Of the students who completed the survey, 3,670 students (81.6%) expressed their intent to pursue post-secondary education after high school, which included two-year colleges, four-year colleges, as well as trade/technical schools (Figure 2). In fall 2020, 2,145 of students who intended to enroll matriculated, and 1,525 did not (including 296 who did not graduate). At 36.2%, the summer melt rate for 2020 high school seniors was the highest seen in the past five years (Figure 1).

Figure 1. Five-year trend of SDP summer melt rate



**Note:** Data is dependent on what SDP receives from NSC for students who matriculate in the fall following their graduation.

Figure 2. College intention and enrollment of 2020 Senior Exit Survey respondents



**Summer melt rates in 2020 varied by demographic groups.**

Overall, the District summer melt rate in 2020 was 36.2%. However, this rate varied for different demographic groups. For instance, college-intending male students had higher summer melt rates than female students (40.7% vs. 33.1%), college-intending Hispanic/Latinx students had a summer melt rate of 47.3% compared to 40.6% for Black/African American students and 31.6% for white students, college-intending English Learners (ELs) had much higher summer melt rates than non-English learner students (50.7% vs. 34.9%), and college-intending students with economically disadvantaged status had higher summer melt rates than students who were not economically disadvantaged (29.7% vs. 41.7%) (Table 1).

Table 1. District-wide summer melt rates by demographic groups

		Intended	Enrolled	Summer melt rate (%)	Summer melt rate change from 2018-19 to 2019-20 (percentage points)
<b>Overall</b>		<b>3,374</b>	<b>2,145</b>	<b>36.2%</b>	<b>+4.7</b>
Sex	Female	2,012	1,337	33.1%	+6.7
	Male	1,362	808	40.7%	+2.7
Race / Ethnicity	Asian	534	450	16.0%	+3.2
	Black/African American	1,857	1,097	40.6%	+3.3
	Hispanic/Latinx	433	225	47.3%	+5.4
	Multi-Racial/Other	91	60	36.3%	+16.6
	White	459	313	31.6%	+5.5
English Learner	No	3,100	2,007	34.9%	+4.9
	Yes	274	138	50.7%	+5.8
Receiving Special Education Services	No	3,112	2,056	33.6%	+3.4
	Yes	262	89	67.2%	+3.8
Economically Disadvantaged	No	1,474	1,037	29.7%	+3.7
	Yes	1,900	1,108	41.7%	+6.6

**Note:** The far-right column presents year-over-year change in the summer melt rate for 2018-19 seniors compared to 2019-20 seniors. A plus sign indicates an increase in summer melt for 2019-20 seniors as compared to the 2018-19 seniors. This table does not include the 296 seniors who completed the survey and intended further education but did not graduate in spring 2020.

Summer melt rates increased for nearly all the subgroups we examined from fall 2019 to fall 2020 but changes were larger for some groups than others. While female students have tended to have lower summer melt rates than male students in previous years, female students experienced a higher *increase* in summer melt in fall 2020 (+6.7 vs. +2.7 percentage points). This increase was even more prevalent for female students of certain subgroups compared to male students of the same subgroup. Female students identified as Asian (7.4 vs. -1.2 percentage points), Black/African American (+5.0 vs. +2.2 percentage points), white (+9.2 vs. +1.8 percentage points), Multi-Racial/Other ethnicity (+17.1 vs. +14.7 percentage points), English Learners (+10.2 vs. +1.3 percentage points), or receiving special services (+9.3 vs. -1.3 percentage points) were all higher than their male counterparts (Table 2). Summer melt rates slightly decreased for Asian male students and male students receiving special education services from the previous year, however, both of these groups represent a small number of students. These data reveal a change in post-secondary education plans for female graduates not seen in previous years.

Table 2. There was an increase in summer melt rates for students in nearly all student groups

		Female Students (N=2,186)		Male Students (N=1,484)	
		Summer melt rate (%)	Summer melt rate change from 2018-19 to 2019-20 (percentage points)	Summer melt rate (%)	Summer melt rate change from 2018-19 to 2019-20 (percentage points)
<b>Overall</b>		<b>33.1%</b>	<b>+6.7</b>	<b>40.7%</b>	<b>+2.7</b>
Race / Ethnicity	Asian	17.9%	+7.4	13.9%	-1.2
	Black/African American	35.8%	+5.0	48.8%	+2.2
	Hispanic/Latinx	42.7%	+4.8	54.0%	+6.2
	Multi-Racial/Other	32.0%	+17.1	41.5%	+14.7
	White	28.3%	+9.2	35.9%	+1.8
English Learner	No	31.7%	+6.6	39.8%	+3.0
	Yes	51.7%	+10.2	49.6%	+1.3
Receiving Special Education Services	No	31.4%	+5.8	37.0%	+0.7
	Yes	62.5%	+9.3	70.7%	-1.3

**Note:** The far-right column presents year-over-year change in the summer melt rate for 2018-19 seniors compared to 2019-20 seniors. A plus sign indicates an increase in summer melt for 2019-20 seniors as compared to the 2018-19 seniors.

District summer melt rates were higher for students who planned to attend two-year institutions compared to students who planned to attend four-year institutions with an increase of 9.6 vs. 3.8 percentage points compared to fall 2019. While the summer melt rate for students who intended to attend four-year institutions increased from 13.3% to 17.1%, the summer melt rate for students who intended to attend two-year institutions increased from 57.0% to 66.6%. All subgroups saw an increase in summer melt rates for students who intended to attend two-year institutions to at least 58%, with the exception of Asian students (37.7%) (Table 3).

Table 3. There was an increase in summer melt rates for students intending to attend two-year institutions

		Two-year Institutions (N=1,556)		Four-year Institutions (N=2,114)	
		Summer melt rate (%)	Summer melt rate change from 2018-19 to 2019-20 (percentage points)	Summer melt rate (%)	Summer melt rate change from 2018-19 to 2019-20 (percentage points)
<b>Overall</b>		<b>66.6%</b>	<b>+9.6</b>	<b>17.1%</b>	<b>+3.8</b>
Race / Ethnicity	Asian	37.7%	+9.4	10.0%	+3.0
	Black/African American	71.1%	+7.9	18.5%	+2.6
	Hispanic/Latinx	68.4%	+8.1	23.8%	+6.9
	Multi-Racial/Other	58.3%	+15.0	21.8%	+10.8
	White	64.5%	+10.9	16.5%	+12.5

**Note:** Students who did not answer this question on the Senior Exit Survey were excluded from this analysis. Not all data for matriculation are currently available or provided to the NSC. The summer melt rate change columns present year-over-year change in the summer melt rate for 2018-19 seniors compared to 2019-20 seniors. A plus sign indicates an increase in summer melt for 2019-20 seniors as compared to the 2018-19 seniors.

The 2019-20 Senior Exit Survey included a new question that asked students whether they planned to continue their education after high school part-time or full-time. Of the 3,670 respondents who said they intended to pursue further education, 19% indicated they intended to attend school part-time (with 61% of these intending to go to a two-year institution). However, only 16% of students planning to attend school part-time matriculated in fall 2020, compared to the 68% planning to attend full-time (Table 4).

Table 4. Summer melt and matriculation for part-time vs. full-time students

	Planned Part-Time Attendance		Planned Full-Time Attendance	
	Count	Percentage	Count	Percentage
<b>College-intending (all)</b>	696	19%	2974	81%
College-intending (2-year institution)	425	61%	718	24%
Summer melt (2-year)	284	67%	319	44%
Matriculation (2-year)	81	19%	340	47%
College-intending (4-year institution)	81	12%	2033	68%
Summer melt (4-year)	50	62%	313	15%
Matriculation (4-year)	25	31%	1679	83%
Matriculation for all post-secondary institution types	108	16%	2037	68%

**Note:** Students who did not answer one or both of these questions on the Senior Exit Survey were excluded from this analysis. Not all data for matriculation is currently available or provided to the National Student Clearinghouse.

**Positive high school experiences, such as having adults at school helping students with college applications and positive relationships with counselors, are associated with a reduction in summer melt rates.**

What can schools do to help reduce summer melt rates? To help answer this question, we used students' responses on the Senior Exit Survey to identify high school experiences associated with reduced summer melt. The 296 college-intending students who did not graduate in spring 2020 were excluded from the analysis, as were other students with one or more missing data points, which reduced our final analytic sample (n=4,102).

The results of this analysis are reported in Table 5. An odds ratio greater than 1 indicates that students' characteristics specified in column 1 are associated with an increased likelihood of summer melt than students not in that group, while an odds ratio less than 1 suggests a reduced likelihood of summer melt. Consistent with results in Table 1, we confirmed that male students, Black/African American students, Hispanic/Latinx students, ELs, students receiving special education services, and students with economically disadvantaged status were associated with an increased likelihood of summer melt.

We also found that positive high school experiences with adults during the college application process and with school counselors in planning for life after high school were associated with reduced summer melt, even after controlling for demographic variables. Students who strongly agreed with the statement, "Adults at my school gave me help in applying for college" were less likely to experience summer melt than students who did not (OR=0.81). Similarly, students who identified a "Guidance Counselor" as one of the most important people in planning life after high school were less likely to experience summer melt than students who did not (OR=0.71).

Our findings yet again suggest that efforts focused on building strong adult support in the college application process and with school counselors in planning life after high school can reduce summer melt rates for District seniors intending post-secondary education.<sup>7</sup>

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<sup>7</sup> Summer Melt: College Intentions vs. College Enrollment of 2017 SDP Seniors  
<https://www.philasd.org/research/wp-content/uploads/sites/90/2018/08/Summer-Melt-Research-Brief-August-2018.pdf>;

Summer Melt: College Intentions vs. College Enrollment of SDP Seniors (2016-17 through 2018-19)  
<https://www.philasd.org/research/wp-content/uploads/sites/90/2020/10/Summer-Melt-College-Intentions-vs-College-Enrollment-of-SDP-Seniors-Research-Brief-October-2020.pdf>



Table 5. Results of logistic regression: Certain demographics are more likely to experience summer melt while school interventions can decrease summer melt rates

	Odds Ratio (OR) <sup>a</sup>
<b>Increases summer melt</b>	
Male	1.61***
Black/African American	1.47***
Hispanic/Latinx	1.87***
English Learner	2.40***
Receipt of Special Education Services	3.65***
Economically Disadvantaged	1.18***
<b>Decreases summer melt</b>	
Asian	0.34***
Adults at my school gave me help in applying for college (Answered: <i>Strongly agree</i> )	0.81**
Most important person in planning for life after high school (Selected: <i>Guidance Counselor</i> as one of the responses)	0.71***
n=4,102 <sup>b</sup>	

\*\*\* p<0.01, \*\* p<0.05

<sup>a</sup> The odds ratio reported in the second column estimates the change in the odds of experiencing summer melt for the group identified in the first column compared to students who are not in that group. For example, in this model, the odds ratio of 1.61 for the male student variable is interpreted as the following: the odds of a male student experiencing summer melt is 1.61 times the odds of a female student experiencing summer melt controlling for all the other variables included in the model.

<sup>b</sup> The analytic sample was the reduced subset of 3,670 students who expressed the intent to enroll in post-secondary education. Only the college-intending students who successfully graduated from high school and had no missing data in all the predictor and outcome variables were included in the logistic regression analysis (n=4,102).

## Why is this Important to SDP?

Understanding summer melt in the District is an important part of supporting students in graduating from high school ready for college and career.<sup>8</sup> College readiness requires not only high school success and college admission but also successful completion of the tasks required for matriculation, including time-sensitive forms and tuition payments. By assessing District-wide summer melt, we can identify high school students who may be at risk of not matriculating, despite having intended to do so during the last semester of high school. This information can also be useful for the District’s multiple college readiness partners as they work to allocate resources and refine programming. Moreover, by connecting summer melt with student responses on the Senior Exit Survey, we have revealed a consistent connection between supportive adults in schools and decreased summer melt rates.

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<sup>8</sup> Graduating ready for college and career is a District priority, as reflected in Board Goals 4 and 5.