

# vsac special report

## **Vermont's Class of 2012:**

*Highlights and challenges for pursuing a postsecondary education*

### **Introduction**

National data indicate that by 2020 two-thirds of all new jobs will require postsecondary education (Lumina Foundation 2013). The Vermont Department of Labor projects that by the year 2022, Vermont will have nearly 10,000 new job openings — due to both growth and replacing retiring workers — that require at least a postsecondary certificate (Vermont Department of Labor 2015). Our state's ability to fill those jobs is important for Vermont's future economic well-being. Even more critical will be the state's ability to attract the kind of employers and entrepreneurs whose innovations will create new jobs for Vermont workers.

Policymakers and stakeholders increasingly recognize that postsecondary education and training is a big part of the strategy to do both.

To meet these employment and economic development imperatives, the state's policymakers have set the goal that by the year 2020 at least 60 percent of working-age Vermonters will hold a high-quality postsecondary credential. Achieving the state goal will require significant increases in the percent of Vermont students who enroll in postsecondary education. It will also require significant increases in the rate at which these students persist, complete their studies, and obtain their credentials. According to the U.S. Census, 45.5 percent of Vermont adults currently have a postsecondary degree (Lumina Foundation 2015).

As this report shows, the postsecondary pipeline for Vermont's recent high school graduates is complex. We must answer important quantitative and qualitative questions in order to better address the challenges and opportunities of increasing postsecondary opportunity. Who is most likely to make decisions not to pursue education and training directly after high school? When are these decisions being made, in consultation with whom? Once the decision is made to go to college, what keeps high school graduates from following through? What happens once our students enroll? How are decisions to drop out being made, in consultation with whom? How many complete their degrees or certificate programs and find employment?



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The purpose of this report is to present Vermont’s policymakers with deeper insights into the complexity of the postsecondary experience of our youth, as well as provide information that can help inform decisions about the investment of resources. Additionally, this report provides estimates that can become the baseline by which our policymakers measure progress in achieving the state’s goal. We invite others to use these findings as a starting point for exploring the challenges and opportunities for increasing postsecondary education participation within their own spheres of responsibility.

Previous research on the postsecondary aspiration patterns of the Vermont High School Class of 2012 found three-quarters of high school graduates from the Class of 2012 planned to enroll in a postsecondary education or training program within six months of graduating from high school (Vermont Student Assistance Corporation 2014). Findings from that report suggested Vermont’s “aspiration rate,” or the proportion of students who intended to continue their studies, was slightly higher than the national average of 73 percent (Ingels and Dalton 2013). However, the report also revealed how college aspiration has increasingly become as much a function of gender, family education and geography as of hard work and aptitude.

This paper seeks to extend this research by presenting findings from a follow-up study of Vermont’s High School Class of 2012 nearly two years after graduating from high school. The data used in this report gives us a better understanding of the postsecondary trajectories for a recent cohort of Vermont high school graduates.

We examine several postsecondary outcomes and focus on key transition points along the way. The first section of this report provides a closer look at changes in aspiration over time for the Class of 2012. We then focus on the cohort of students who immediately entered a two- or four-year postsecondary institution — who they are, where they came from and where they went. We also look at students who delayed entering a postsecondary institution until the fall of 2013.

Next we look at student persistence — the percentage of students who complete the first year of college and return to college (to either the same or a different institution) in the fall of 2013. We explore the postsecondary outcomes of students by gender and parental education attainment and, where possible, provide comparisons to national rates.

Some of the major findings of this report:

- **Vermont’s postsecondary enrollment rates lag behind the national rates:** 60 percent of Vermont graduates continued immediately as compared to 66 percent for the U.S. Findings reveal where those differences lie: Vermont’s gender gap in enrollment is wider than the national rate, and both first-generation graduates and graduates who are not first generation have enrollment rates lower than comparable national rates. There is a 14-point difference in enrollment rates by gender in Vermont (67 percent for females and 53 percent for males) compared to the 10-point difference nationally. Vermont postsecondary enrollment rates by parent educational attainment can range between 2 and 15 percentage points lower than the national rates.
- **Vermonters enroll in four-year institutions at a higher rate than their New England and national counterparts:** Postsecondary enrollment at four-year institutions (53 percent)

exceeds the national average for recent high school graduates (37 percent) and the regional rate (47 percent). Vermont graduates' enrollment in two-year institutions (7 percent) is significantly lower than the national average (29 percent) and the regional average (15 percent).

- **A quarter of first-year students either drop out (14 percent) or transfer to another institution (11 percent) by the fall of 2013:** These overall averages mask wide variation among institutions.
  - **Dropout rates:** At two-year institutions, 39 percent of first-year students dropped out after one year (37 percent of students enrolling at an out-of-state two-year institution and 40 percent of students who enrolled at the Community College of Vermont). At Vermont's four-year institutions, the overall dropout rate was lower (10 percent), but ranged from 7 percent at the University of Vermont to 27 percent at Johnson State College among public institutions and 11 percent among private, four-year institutions.<sup>1</sup>
  - **Transfer rates:** Among Vermont's public four-year institutions, the percentage of students who transferred from their initial schools to different schools in fall 2013 (9 percent) was slightly lower than the national rate (11 percent), and ranged from 6 percent at the University of Vermont to 12 percent at Lyndon State College. The transfer rate among survey participants who enrolled in Vermont's private institutions in the fall of 2013 was 9 percent. The transfer rate for students attending the Community College of Vermont was lower (12 percent) than that of students at other two-year institutions in general (14 percent) and for students initially enrolling at two-year institutions located outside of Vermont (20 percent).
- **Postsecondary aspirations are dynamic, changing even after graduating from high school:** Students' decisions about what activities they will pursue after graduating from high school evolved over time. The timing of these decisions varied considerably by gender, parental education attainment and perceived parental aspirations. Sixteen percent of graduates intending to matriculate by the fall of 2012 changed their minds over the summer. There appears to be a risk in taking an intentional "gap year" — 57 percent failed to enroll by the fall of 2013.
- **Postsecondary enrollment varied by geography:** The percentage of graduates enrolling at two- or four-year postsecondary institutions ranged from a low of 50 percent in Orange and Lamoille counties to 67 percent in Chittenden County. Differences in enrollment rates between students who were first generation and those who were not first generation varied by county as well, the gap between them ranging from 8 percentage points in Essex and Windsor counties to as many as 28 percentage points in Rutland and Orange counties.

## Data and methodology

The data used for this report comes from two sources. Every two years, the Vermont Student Assistance Corporation conducts a nonrandom survey of Vermont high school seniors attending public and private high schools. In 2012, a total of 5,902 out of 6,958 graduating seniors (85 percent) participated in the survey. Data on postsecondary enrollment is based on 5,853 usable records of the 5,902 participants that were submitted to the National Student Clearinghouse (NSC) and supplemented with information from VSAC's proprietary database for the Vermont Grant Program. These archival data were down-

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<sup>1</sup> Dropout and transfer rates were not computed individually for Vermont's four-year private institutions because of small sample sizes. The average dropout and transfer rates for these institutions are weighted by enrollment.

loaded in November of 2014. The survey data and the enrollment verification data were merged and form the basis of the findings presented here (n=5,853).

A four-page, paper-pencil survey was administered to students in their schools and by school staff that chose the day of the survey's administration — as early as March 2012 or as late as graduation practice. Student participation was voluntary, but encouraged. The high schools receive reports comparing their school results to the overall state results, so most schools make the effort to collect the information as completely as possible. If students were not present on the day the survey was administered, no effort was made to contact them again. Only data from students who graduated (as confirmed by graduation rosters) were included in the analysis. Data from adult graduates, GED recipients, residents of other states and foreign exchange students who obtained a high school diploma were not included in these analyses. The majority of participants, 87 percent of the cohort, graduated from Vermont public high schools, 12 percent from Vermont private schools (including those that serve as public schools), and 1 percent from Vermont residents attending public high schools in adjacent states, e.g., New Hampshire and New York.

The NSC collects enrollment information from more than 3,600 colleges and universities — 96 percent of all students enrolled in public, private nonprofit and private for-profit, two- and four-year institutions in the United States. NSC also includes enrollment verification for nearly 150 institutions located outside of the U.S. We primarily relied on the NSC for information about students' postsecondary enrollment, but we supplemented enrollment verification data by using VSAC's proprietary database for the Vermont Grant Program. For the Class of 2012, nearly 200 records that were not verified by NSC were identified by VSAC's database as being enrolled.

If enrollment by December 2012 could not be confirmed by these two methods, participants were classified as not having enrolled in a postsecondary education or training program for the period covered for this study. Of special note, enrollment in postsecondary training programs of less than two years (such as certificate programs, apprenticeships or other types of nondegree education) is not typically reported by the NSC and was not included in this report. As such, the enrollment rates included in this report likely understate the totality of students who continued some form of postsecondary training or education.

The Vermont Agency of Education (AOE) conducts its own research on the postsecondary enrollment rate of students who graduate from Vermont's public high schools (and the four independent high schools that serve as public high schools). It reported that approximately 52 percent of public high school graduates enrolled for academic year 2012–13 at a two- or four-year college by October 1, 2012 — the lowest college enrollment rate among the New England states (New England Secondary School Consortium 2013). The AOE also reported that 58.7 percent of these students enrolled in a two- or four-year college within 16 months of having graduated from high school (Vermont Agency of Education 2015). This latter AOE report captured students who delayed their postsecondary enrollment by a semester or year.

VSAC methodology and nonrandom sample differs from the AOE's population, accounting for the difference in reported rates.

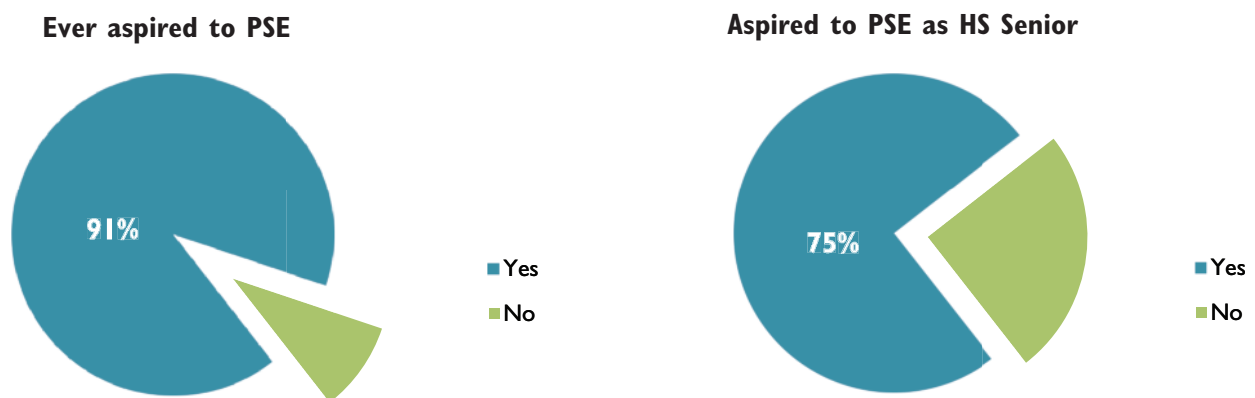
Using 18 months of enrollment verification data, we explore the postsecondary enrollment rate — i.e., whether high school graduates from both the state’s public and private high schools subsequently enrolled at either a two- or four-year postsecondary institution within six months of their high school graduation. We also present findings on student persistence and transfer rates.

Typically, the percentage of first-time college enrollees who return for a second year is reported as the retention rate at the institutional level. While important, retention rates such as those reported to the U.S. Department of Education by separate institutions don’t allow us to look at a statewide cohort such as the Class of 2012 or by sending high school. This report, based on an 18-month, post-high school period, examines the percentage of students who enrolled at any two- or four-year institution in the fall of 2012 and who returned in the fall of 2013, as well as those who delayed their enrollment by a semester or by a year. Future research will focus on postsecondary completion within four years and six years of initial enrollment (see Appendix A).

### Changes in Vermont postsecondary outcomes over time

Vermont has one of the highest public high school cohort graduation rates in the nation. Approximately 88 percent of Vermont’s ninth graders, compared to 80 percent nationally, complete high school within four years (Stetser and Stillwell 2014). Further, VSAC Senior Survey data show that nine out of 10 high school graduates (Senior Survey participants from both public and private high schools in the state) believed at one time in their K–12 journey that they would go to college after high school (Figure 1). By the time these students were about to graduate from high school, however, many had changed their mind. There was a 16-point drop in postsecondary aspiration, which according to respondents happened primarily in grades 11 and 12. We found that 75 percent of all survey participants in the Class of 2012 intended to pursue some form of postsecondary training or education in the fall of 2012, including training or certificate programs.

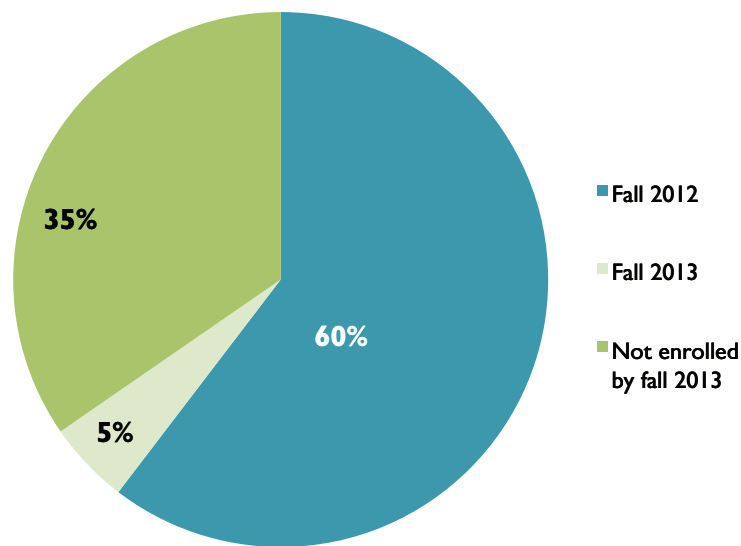
**Figure 1. The postsecondary aspirations for the Vermont Class of 2012 (n=5,853)**



The next transition point happened sometime between high school graduation and the first day of college. A sizable percentage of survey participants (18 percent) changed course from their stated intentions. The vast majority (nearly 90 percent) of this group were high school graduates who intended to enroll immediately, but did not. A smaller percentage of high school graduates were those who didn't plan to enroll when surveyed in the spring of their senior year, but matriculated in the fall of 2012.

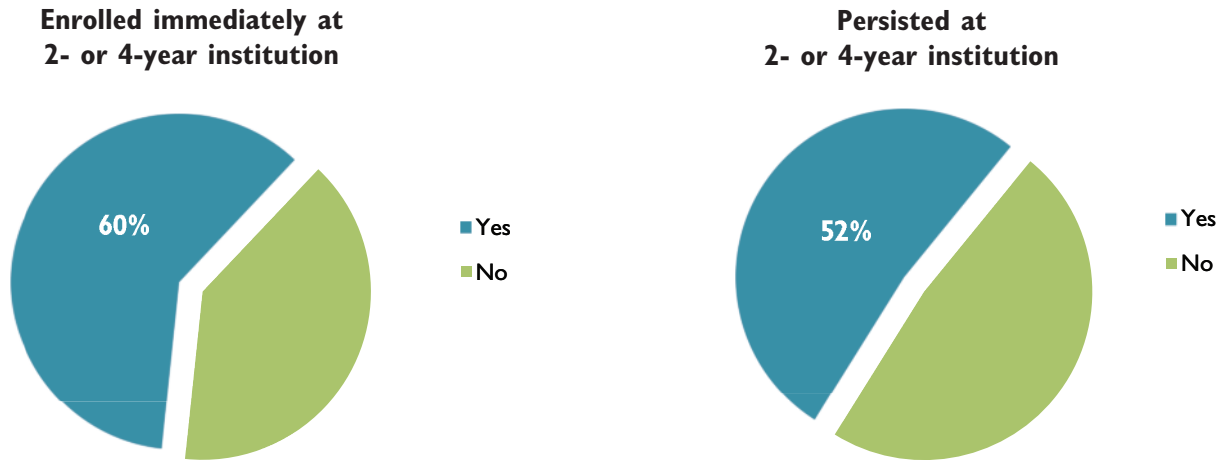
By the fall of 2012, 60 percent of all Class of 2012 high school graduates were enrolled at a two- or four-year institution. An additional 5 percent of the Class of 2012 had enrolled by the fall of 2013. In all, 65 percent of the Class of 2012 had matriculated at some point during the 18-month study period (Figure 2).

**Figure 2. The postsecondary enrollment by fall 2013 for the Vermont Class of 2012 (n=5,853)**  
*At a 2- or 4-year postsecondary institution*



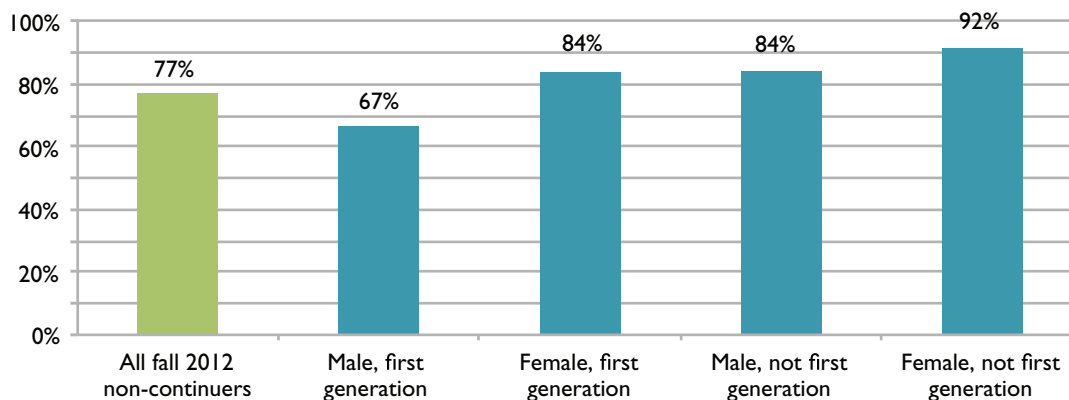
By the end of the study period (i.e., 18 months after high school graduation), we find that 86 percent of those who began in the fall of 2012 (a little over half of all Class of 2012 graduates) had completed a full year of college and were enrolled for their second year (Figure 3, following page).

**Figure 3. The postsecondary outcomes for the Vermont Class of 2012 (n=5,853)**



Data from the VSAC Senior Survey provide some additional information about the decrease in postsecondary aspiration. Among students who did not enroll in postsecondary education in the fall of 2012 (herein referred to as non-continuers, n=2,319), 77 percent reported there was a time when they thought they would continue their education immediately after high school. However, aspiration rates differed significantly by gender and parents’ educational attainment, ranging from 67 percent for first-generation, male non-continuers who ever aspired to 92 percent for female non-continuers who are not first generation (see Figure 4).<sup>2</sup> These gaps in aspiration by gender and parental education attainment reported by non-continuers who say they once had hoped to go to college are consistent with those previously reported (VSAC 2014).

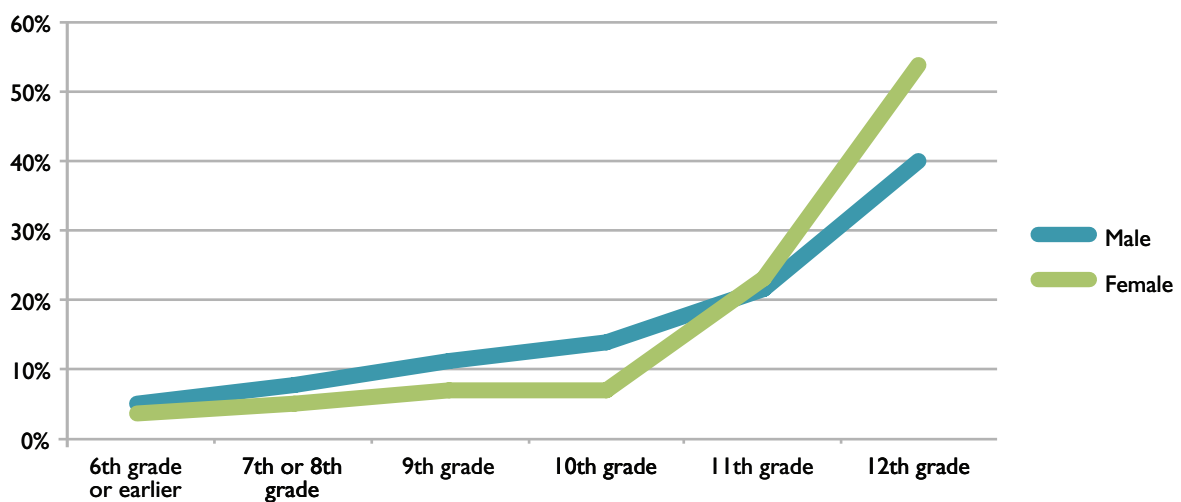
**Figure 4. Vermont Class of 2012 non-continuers who once aspired to enroll immediately after HS, by gender and parents’ educational attainment level (n=2,319)**



<sup>2</sup> For the purposes of this report, students who report neither of their parents (or guardians) has obtained a four-year degree are referred to as first-generation students. Students with at least one parent who has obtained a four-year degree are not first generation.

Non-continuers who once aspired to enroll report that the final decision to forego college occurs primarily in high school (89 percent) and most frequently in the last two years of high school (68 percent). Relatively few students of either gender made the decision prior to the eighth grade not to pursue their postsecondary studies (Figure 5). In general, gender differences begin to appear during high school, where there is a gradual increase in the percentage of males who report they are deciding to not pursue college after high school. In contrast, the proportion of females who choose not to attend college is relatively flat until the 10th grade; then jumps in 11th grade. The majority of non-continuing females (54 percent) make the decision as seniors.

**Figure 5. When Vermont Class of 2012 non-continuers changed their minds about postsecondary enrollment after HS, by gender (n=828 who answered the question)**



There is a sizable minority of non-continuers in the Class of 2012 (8 percent, n=474) who reported not ever having thought they would enroll in any training program or college immediately after high school. These students were predominantly first generation (78 percent) and male (73 percent). Male non-continuers were more than twice as likely (30 percent) as females (13 percent) to report having decided, before even beginning high school, not to continue their education.

This finding may help explain why only 54 percent of non-continuers who never planned to continue their studies after graduating from high school report having completed Algebra II, compared to 76 percent of non-continuers who once aspired to enroll in college immediately after high school. Having made the decision to not go to college, these students appear less likely to choose higher math courses in high school.

Previous research has shown that a rigorous high school curriculum, including high-level mathematics courses, is a key contributing factor to students' postsecondary success (Adelman 2006). In our study, we look at whether a student has taken a higher math class, such as Algebra II or Integrated Math III, as an indicator of a student's postsecondary preparedness. To the extent that Algebra II also functions as a "gateway" course to enrollment (i.e., required) at many institutions, the decision not to take Algebra II precludes future postsecondary enrollment opportunities for these students.



These findings highlight the importance of engaging students even before they transition to high school and of developing more effective methods to continuously monitor and support postsecondary aspirations over the subsequent four years. Aspirations for postsecondary education and training can and should be broadly defined to include every student — from those who have always known they would go to college, to those who have known since an early age that the “college” path was not for them.

#### *Nontraditional students*

Increasingly, nontraditional students make up a large proportion of the college-going population in the U.S. Nontraditional students — those who delayed enrollment into postsecondary education; attend college part-time; work full-time; are financially independent for financial aid purposes; have dependents other than a spouse; are a single parent as well as those who do not have a high school diploma — often don’t have ready access to the resources they most likely would have had as a high school senior. Once these students graduate from high school without having completed foundational coursework, they lose the support they might need in order to explore career options, find and enroll in postsecondary institutions or reputable training programs that are the best match for them, understand how to apply for financial aid and, if needed, make sound choices on student loans. VSAC’s federally funded Educational Opportunity Center program reports that over half of its caseload (approximately 55 percent) is younger than 25 years old. This highlights the need to strengthen programs for recent high school graduates and find ways to serve adults further removed in time from their most recent education or training experience.

### **The summer after high school graduation**

This survey confirms that the summer after high school graduation is a time when many students are still deciding whether or not to enroll in the fall, posing a risk to many students who aspire to continue their studies. Researchers estimate that between 8 and 40 percent of high school graduates with intentions of enrolling in the fall after high school graduation do not enroll. Referred to as summer melt, they report that this change in plans varies by family income and whether students intended to enroll at a two- or four-year institution (Castleman and Page 2014).

Data from the Senior Survey allows us to quantify the summer melt among Vermont’s college-aspiring high school graduates, as well as compare these students to students who matriculate as planned. To better understand summer melt among the Class of 2012, we analyzed the behavior of students who reported they intended to enroll at a two- or four-year institution located in the United States. We excluded students who intended to complete a training program of less than two years and students who intended to enroll at foreign institutions. Both these exclusionary criteria were implemented because the NSC does not collect enrollment verification on certificate programs or foreign schools Vermonters might attend.

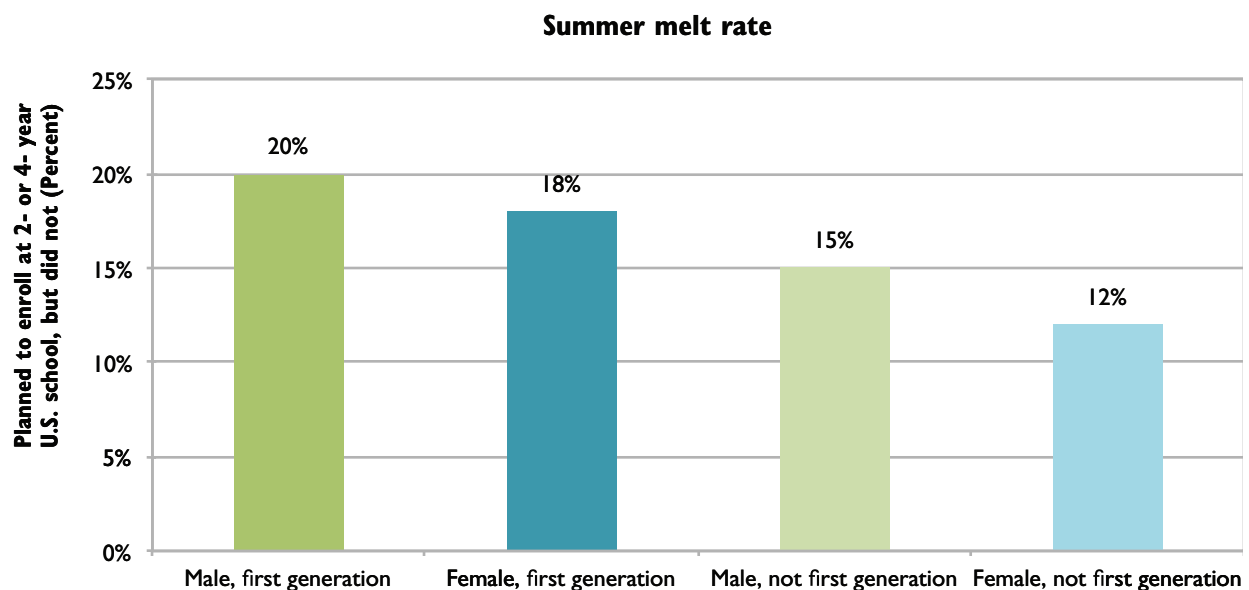
#### *Institutional type*

Sixteen percent of the seniors who reported in the spring that they planned to enroll in the fall of 2012 at a two- or four-year school in the U.S. did not enroll (n=627). Students who did not enroll were more likely to report that they had intended to attend a two-year institution (32 percent) than students who enrolled (8 percent). Students who did not enroll were slightly more likely to have planned to attend a Vermont institution (52 percent) than students who did enroll (47 percent).

### Gender and parental education

Summer melt varied by gender and parental educational attainment. Twenty percent of first-generation males planned to enroll as seniors, but didn't. They were followed by first-generation females (18 percent) and males who are not first generation (15 percent). Females who were not first generation were least likely to change their postsecondary plans: 12 percent did not enroll in the fall following high school graduation (Figure 6).

**Figure 6. Summer melt, by gender and parent education attainment level, for the Vermont Class of 2012**



While the majority of these students reported that their parents wanted them to go to college, students who did not enroll were less likely to report parents wanting them to continue their studies (72 percent) than students who enrolled in the fall of 2012 (83 percent). Students who did not enroll were more likely to report that their parents wanted whatever the student wanted to do (20 percent) or wanted them to enter the workforce (5 percent) than students who did enroll (15 and 2 percent, respectively).

### Academic preparation

Arnold, Fleming, DeAnda, Castleman, and Wartman (2009) have stated that summer melt isn't only about academic preparation — the students in their study had applied to, and been accepted at, two- and four-year institutions. Our study, however, finds that summer melt rates were dramatically linked to academic preparation. Among students who aspired to enroll immediately after high school, those who had completed an advanced math course (Algebra II, Integrated Math III, or its equivalent) were less likely to change their plans (14 percent did not enroll) than those who had not completed advanced algebra (39 percent did not enroll). Survey participants who had completed an Advanced Placement course were less likely not to enroll (11 percent) than those who reported not having taken AP classes (23 percent). Students with a self-reported GPA of C or lower were less likely to enroll (34 percent) than students who reported a GPA of B (17 percent) or a GPA of A (10 percent).

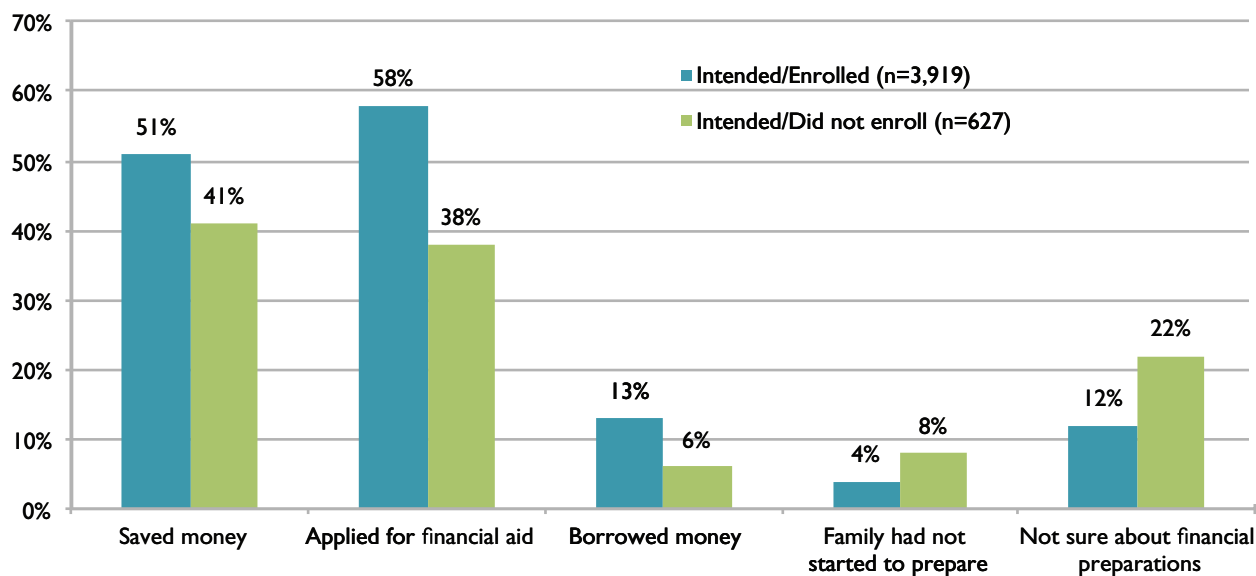
### Most common reasons offered by students

It is tempting to hypothesize that some high school graduates recognize they may not be academically prepared to continue their studies at this time, despite the desire to do so. In the summer of 2011, VSAC conducted a follow-up survey of the Class of 2010, one year after graduation (VSAC unpublished). Sixteen percent of graduates who had planned to continue their studies by the fall of 2010, but didn't, reported thinking they were not academically prepared for college. However, students cited other reasons more frequently. These non-continuers reported that they wanted to take a break from their studies (40 percent), could not afford to continue (37 percent), and were unsure of their academic goals (35 percent).

### Financial planning and preparation

Consistent with the findings of Arnold et al. (2009) and Castleman and Page (2014), our data show that planning for college financing can also be a factor in whether or not students with the intention of enrolling do so. Survey participants were asked what types of activities their families had undertaken to financially prepare for their college education (see Figure 7). Seniors who intended to enroll, but did not do so by fall 2012, were significantly less likely to report having saved for college, having applied for financial aid or having applied for a student loan at the time the data were collected. They were more than twice as likely to report that they were unaware of the family's plans for financing the cost of attendance and that the family had not yet started to prepare for paying for college. Low reported rates of some of the activities associated with paying for college are evident for both first-generation students and those who are not first generation — indicating a continuing need to assist families with financial planning regardless of educational background.

**Figure 7. Vermont Class of 2012 financial preparation for postsecondary education, by enrollment status (percent who answered yes)**



Note: Students could select more than one option.

Twenty-four percent of students who had intended to, but failed to, enroll expressed having major concerns about being able to pay for college. These students were twice as likely to indicate that they planned to work full time while enrolled (19 percent) as were students who did enroll (8 percent). Planned enrollment intensity also differed between these groups. Only 3 percent of the students who enrolled as intended planned to enroll as part-time students, compared to 21 percent of the students who did not enroll as planned. When we combine intended work schedule and intended enrollment intensity, the fall of 2012 enrollment pattern that emerges is quite dramatic (see Table 1).

**Table 1. Vermont Class of 2012 planned enrollment and employment**

<b>HS grads who planned to combine going to school and working</b>	<b>Intended/Enrolled (n=3,235)</b>	<b>Intended/Did not enroll (n=597)</b>
Plan to enroll full time & work part time or less (n=3,313)	88%	12%
Plan to enroll full time & work full time (n=294)	79%	21%
Plan to enroll part time & work part time or less (n=155)	52%	48%
Plan to enroll part time and work full time (n=70)	30%	70%
<b>Overall</b>	<b>84%</b>	<b>16%</b>

In general, students planning to enroll full time were planning on attending a four-year school. The opposite was true of students planning to enroll as part-time students; they were more likely to plan to attend a two-year institution.

That high school graduates who plan to enroll part time and work full time were less likely to enroll reflects the difficulty of balancing school work and full-time employment. Research suggests that working more than 20 hours per week, particularly off campus, and enrolling as part-time students has adverse effects on continued postsecondary enrollment (Adelman 2006). Further complicating the financial situation for these students is the fact that college students who begin but do not complete their studies often have borrowed student loans and then have difficulty repaying (Board of Governors of the Federal Reserve System 2015).

*Need for additional interventions*

As suggested in the previous section and consistent with these findings, academic preparation plays a role in students' changing postsecondary aspirations before and after graduating from high school, lending support to the need for better integration of post-high school planning before and throughout the high school years. Students who successfully complete Algebra II, higher mathematics courses, and AP courses are more likely to enroll. However, the summer melt rate among Vermont's academically prepared students (those with GPA of B or better who completed advanced math) is only 3 percentage points lower than the overall Vermont rate of 16%. Thus, academic preparation is only one factor in summer melt.

As Castleman and Page report, summer melt is also linked to lack of support that students may face over the summer. Students in their study who received summer assistance with award letters, finalizing financing, completing housing and other college forms, etc., either from the high school staff or postsecondary institution, were more likely to enroll. More research is needed to understand which factors are most likely to be associated with Vermonters' changing postsecondary enrollment plans the summer after graduation and to help design programs that address these challenges.

Most supports for students and their families are structured to align with the academic school year. College Pathways, a series of statewide conferences that typically take place in the spring, help Vermont families of high school sophomores and juniors plan for how to pay for college. Programs such as Paying for College nights and Financial Forms nights at the local high schools are available while seniors are still enrolled.<sup>3</sup> It is clear that there is a continuing need to provide extended support for some students and their families through the summer prior to and up to matriculation.

## Postsecondary enrollment by fall 2012

It is commonly reported that Vermont has one of the highest high school completion rates and one of the lowest college continuation rates in the country. This view was reinforced by a recent report that confirmed that Vermont ranks last among five of the six New England states in immediate postsecondary enrollment of public high school students (New England Secondary School Consortium 2013). Postsecondary enrollment rates of the member states ranged from 52 percent (Vermont) to 67 percent (Connecticut). However, a deeper analysis of the VSAC Senior Survey data provides a more complicated picture.

Nationally, immediate college enrollment is defined as the annual percentage of high school completers (high school graduates and GED recipients) who enroll in two- or four-year colleges in the fall immediately after completing high school. The national college-going rate for the Class of 2012 was 66 percent (U.S. Department of Labor 2013).

For this study of the Class of 2012, the Senior Survey postsecondary enrollment data was obtained from the National Student Clearinghouse and supplemented with information from VSAC's database for the Vermont Grant Program for those students who completed the original in-school survey.<sup>4</sup> Six out of 10 survey participants who graduated from one of Vermont's public or private high schools in the spring of 2012 were enrolled at either a two- or four-year postsecondary institution by the fall of 2012.

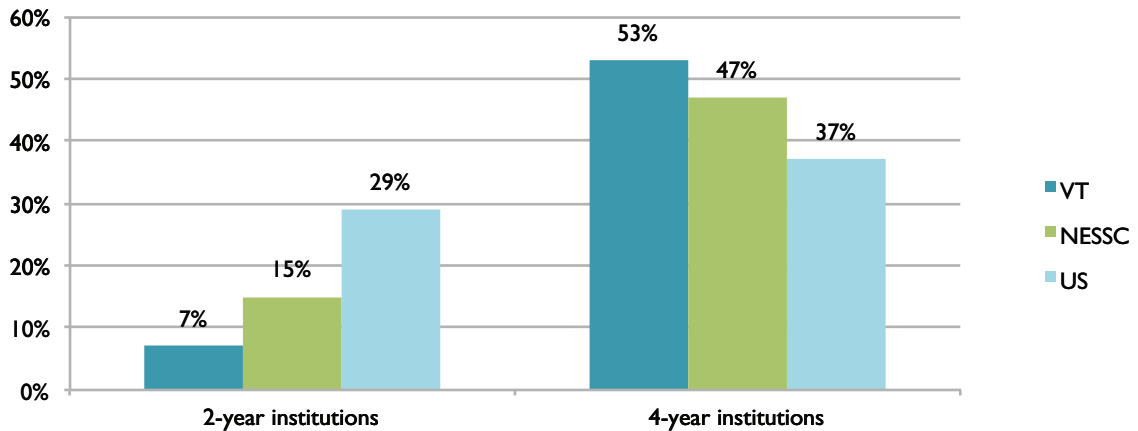
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<sup>3</sup> "Paying for College" and "Financial Forms" nights are VSAC-sponsored workshops that are designed to provide assistance to families filing student financial aid applications. They are free and open to the general public and take place annually at more than 65 public high schools throughout the state.

<sup>4</sup> This report uses data from the National Student Clearinghouse for information about students' postsecondary enrollment, supplemented by enrollment verification data from VSAC's proprietary database for the Vermont Grant Program. If enrollment could not be confirmed by these two methods, it was assumed that a student did not enroll in a postsecondary education or training program for the period covered for this study. NSC collects enrollment information from more than 3,600 colleges and universities — enrolling 98 percent of all students in public and private U.S. institutions. NSC also includes enrollment verification for nearly 150 institutions located outside of the U.S. The data extract for the Class of 2012 returned no records of students attending vocational or technical postsecondary training programs. For a detailed description of the methodology used in this report, contact [research@vsac.org](mailto:research@vsac.org).

A closer look at the data reveals a significant difference in the college-going behavior of members of the Vermont High School Class of 2012 (Figure 8). Vermont (53 percent) exceeds the nation (37 percent) in the percentage of recent high school graduates enrolled at four-year institutions (U.S. Department of Education 2014b). In contrast, the percentage of recent Vermont high school graduates enrolled at two-year institutions (7 percent) is significantly lower than for their national peers (29 percent). In comparison to the nation, data from the five-state consortium (Connecticut, Maine, New Hampshire, Rhode Island, Vermont) shows that this region also enrolls a higher percentage of their high school graduates at four-year schools (47 percent) than at two-year institutions (15 percent). This suggests a regional influence in the level of postsecondary institutions recent high school graduates are likely to attend.

**Figure 8. Class of 2012 high school graduates who enrolled in 2- and 4-year institutions, for Vermont, region, and the U.S.**



*Note: The New England Secondary School Consortium includes Connecticut, Maine, New Hampshire, Rhode Island, and Vermont. VSAC analysis of data provided by NESSC.*

### Vermont’s immediate continuers

For the purposes of this study, immediate continuers are defined as Class of 2012 survey participants who enrolled at a postsecondary institution in the fall of 2012. Immediate continuers were more likely to be female than male (57 percent and 43 percent, respectively), to have completed higher mathematics classes than not (94 and 6 percent), and to have taken AP courses than not (59 percent and 41 percent). The gender split differs slightly from the national data, where 54 percent of immediate continuers are female, and 47 percent are male (U.S. Department of Education 2014b).

#### Gender

Prior VSAC reports have shown that students’ gender and their parents’ education attainment levels are significantly related to postsecondary aspirations. These demographic factors were also associated with postsecondary enrollment in the fall of 2012. Vermont females were more likely to have enrolled in a postsecondary institution than males: 67 percent of all female high school graduates had enrolled by the fall of 2012, compared to 53 percent of all male high school graduates. These rates are lower than those reported nationally for Class of 2012 graduates, where 71 percent of all females

and 61 percent of all males were enrolled at either two- or four-year colleges by October of 2012 (U.S. Department of Labor 2013). The gender gap is also somewhat wider in Vermont (14 percentage points) than in the nation (10 points).

*Parent education level*

The U.S. Census Department 2013 American Community Survey estimates that 45.5 percent of Vermont adults aged 25 to 64 hold either a two-year or four-year degree (Lumina Foundation 2015). The Vermont High School Class of 2012 was evenly split by the level of education their parents (or guardians) had completed. The postsecondary enrollment rate among first-generation students (52 percent) was 20 percentage points lower than students who were not first generation (72 percent.)<sup>5</sup> Thus, first-generation students are underrepresented among students who enrolled in the fall of 2012: 42 percent were first generation and 58 percent were not first generation. Students from families with adults who have a four-year degree continue to hold a significant advantage in successful pursuit of education or training after high school.

*Geographic differences*

The VSAC report published in 2014 provided a county-by-county comparison of gaps in postsecondary aspirations — the percent of 2012 high school graduates who intended to enroll by the fall of 2012 — by parental education attainment. That report revealed the role that geography plays in the aspirations of first-generation students.

Consistent with the prior findings regarding aspirations, postsecondary enrollment rates vary significantly by county, ranging from a low of 50 percent in Orange County to nearly 67 percent in Chittenden County (Table 2).

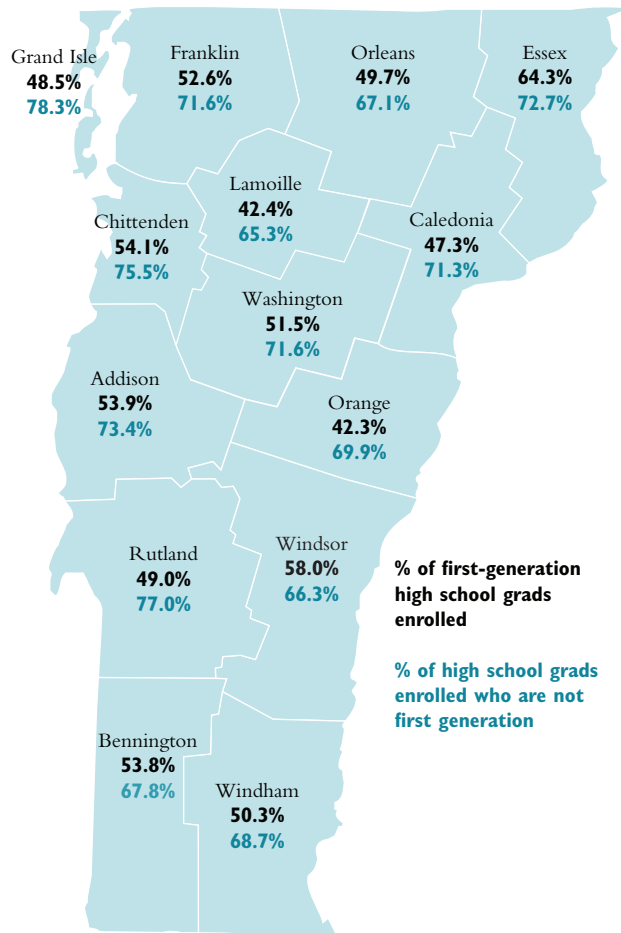
**Table 2. Postsecondary enrollment rates of the Vermont Class of 2012 who enrolled at 2- or 4-year institutions in fall 2012, by county**

<b>Addison</b>	<b>Bennington</b>	<b>Caledonia</b>	<b>Chittenden</b>	<b>Essex</b>	<b>Franklin</b>	<b>Grande Isle</b>
61.5%	60.3%	55.4%	66.7%	65.9%	57.9%	60.0%
<b>Lamoille</b>	<b>Orange</b>	<b>Orleans</b>	<b>Rutland</b>	<b>Washington</b>	<b>Windham</b>	<b>Windsor</b>
50.2%	49.8%	53.2%	59.0%	61.4%	58.7%	60.7%

<sup>5</sup> The Senior Survey does not collect data on students’ eligibility for the free- and reduced-price lunch program, and uses parental education attainment as a proxy. However, the VT AOE has compared students who are eligible for free and reduced-price lunch and students who are not, and has found a 23-point difference between the groups in postsecondary enrollment rates within 16 months of graduation (Vermont Agency of Education 2015).

Figure 9 presents the differences in the continuation rates between first-generation and not-first-generation students by county. The postsecondary enrollment gap between first-generation students and those who are not first generation varies from 8 percentage points in Essex and Windsor counties to as many as 28 points in each of Rutland and Orange counties.

**Figure 9. Class of 2012 immediate college enrollment by family education and county**



*National benchmarks*

Vermont’s postsecondary enrollment rates are somewhat lower than national estimates of postsecondary enrollment rates by parent education or family income. Nationally in 2011, 83 percent of recent high school graduates who were not first generation enrolled in college by the October following graduation (National Science Board 2014). The percentage of first-generation high school graduates who enrolled in college ranged from 54 percent (among students whose parents had a high school diploma or equivalent) to 67 percent (among students with at least one parent who had completed some college).

National enrollment rate data by family income suggest similar disparities. The gaps in immediate college enrollment rates between students who were from high-income families (81 percent) or middle-income families (65 percent) and for those students from low-income families (52 percent)



are similar to those by parental education, approximately 29 and 16 percentage points, respectively (U.S. Department of Education 2014a).

What is striking about the comparison to national figures is not only that Vermont’s postsecondary enrollment lags behind that of the nation and other New England states because first-generation students are enrolling at a lower rate than students that are not first generation, but that students who are not first generation are also failing to enroll at rates that are comparable to the national rates. Thus, Vermont’s task is to increase postsecondary enrollment overall, by understanding the differences and similarities in the challenges faced by students from varying socioeconomic backgrounds. To this end, we examined two factors that have served as reliable indicators of high school graduates’ postsecondary enrollment: students’ impression of what their parents want them to do after high school, and completion of a higher-level math courses.

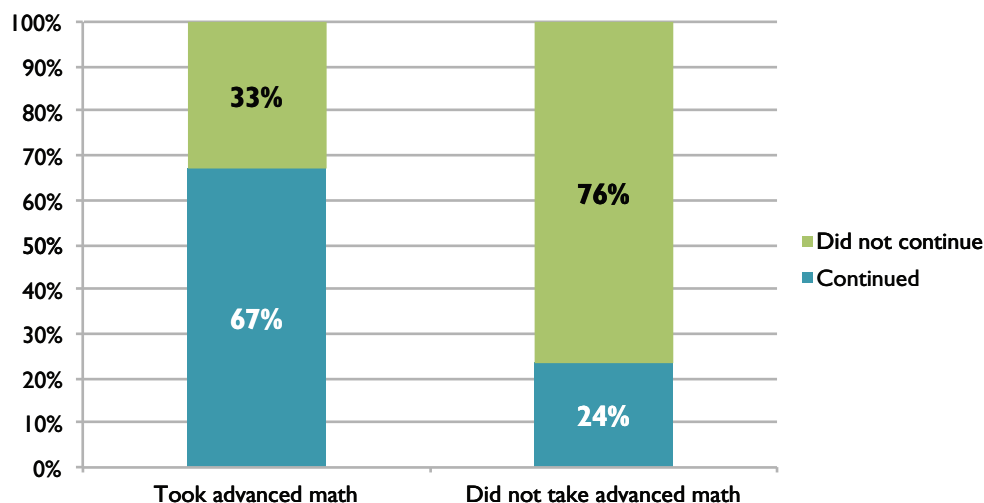
#### *Role of parental expectations*

In general, recent high school graduates’ postsecondary enrollment aligned closely with what they perceived their parents wanted them to do, regardless of parent education attainment. Nearly 72 percent of first-generation students who reported their parents wanted them to go to college enrolled by the fall of 2012; 83 percent of students who were not first generation and whose parents wanted them to enroll did so. Lack of clarity about expectations, regardless of parents’ education level, has a different effect. Students who reported their parents would support whatever they chose to do were less likely to enroll: 34 percent of first-generation students and 59 percent of students who were not first generation enrolled.

#### *Role of taking advanced math*

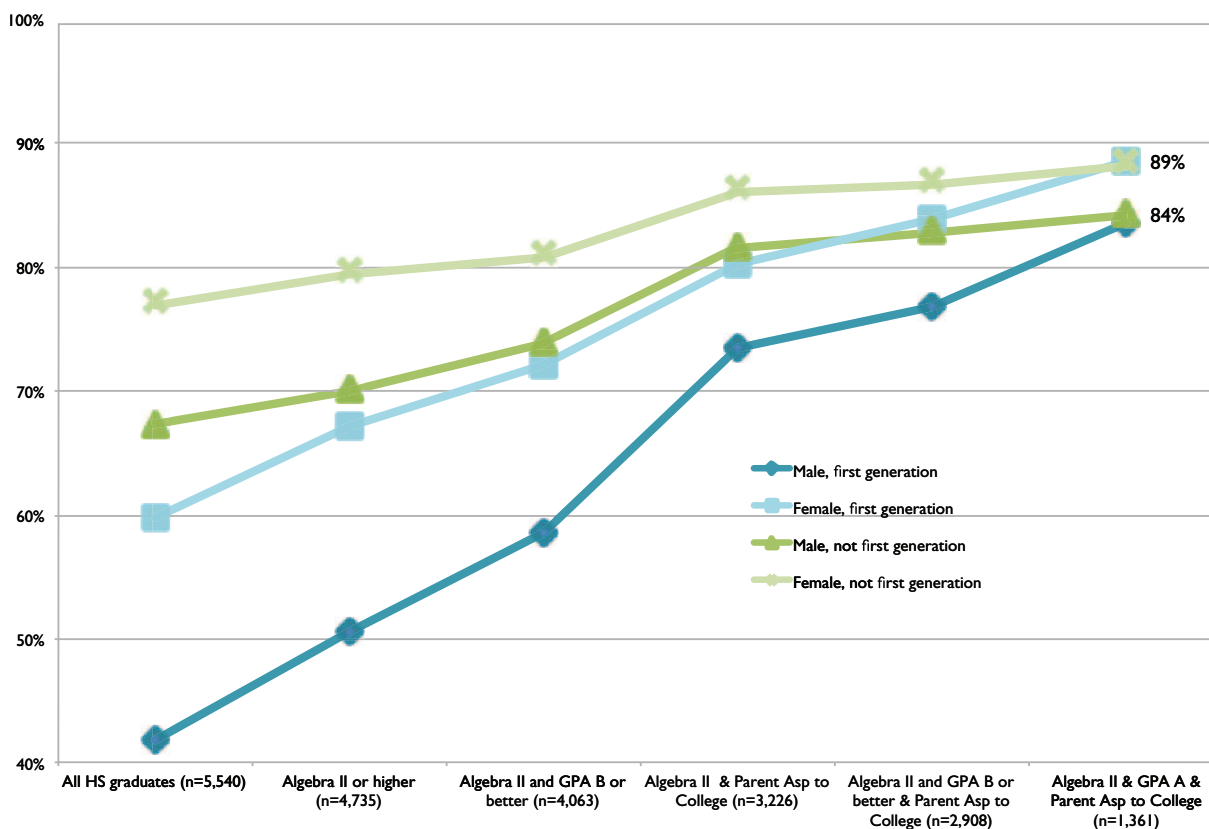
Figure 10 shows the stark reality of the importance of the completion of an advanced math course. The college enrollment rate of graduates who reported completing an advanced math course (Algebra II, Integrated Math III, or its equivalent) was 67 percent, compared with 24 percent for graduates who did not complete an advanced math course.

**Figure 10. Vermont Class of 2012 immediate postsecondary enrollment and advanced math**



These findings raise questions about the interplay of the two factors students don't have control over (gender and parent education) and the two factors that can be influenced (academic preparation and parent expectations) on postsecondary enrollment rates among Vermont students. Figure 11 shows the postsecondary enrollment rates of different segments of the Class of 2012. As can be seen, college enrollment rates initially differ significantly by gender and parent education. Enrollment rates rise for all groups and the gaps between the groups narrow as other academic and parental expectations factor into the analysis. That is, as we include the completion of higher math, higher GPA and students' perceptions of what their parents want them to do, students' enrollment rates increase. In the end, there is no statistical difference in PSE enrollment between the four groups if students report completing Algebra II or higher math course, report a GPA of A, and perceive their parents' wishes for them to continue their education immediately after high school.

**Figure 11. Vermont Class of 2012 immediate postsecondary enrollment by gender, parental education level, academic preparation, and parent expectations**



First-generation students who had an A average, completed Algebra II and had prescriptive parents had the same continuation rates as students who are not first generation and had an A average, completed Algebra II and had prescriptive parents — that is to say, academic excellence and parent expectations appears to trump gender and parental education attainment.

Together, these findings suggest that while gender and parent education influence postsecondary enrollment (and postsecondary aspiration as found previously), there are opportunities to leverage work with students and families that can positively affect other intervening factors.

Additional research is needed to determine if these — the academic advising and foundation coursework needed to excel in high school, and assisting parents in ways of effectively communicating their expectations toward continuing education — can be influenced to increase the likelihood of postsecondary enrollment among all Vermont high school graduates. While it appears that the most dramatic gains may be achieved through an examination of first-generation students and male students, the data suggests that efforts to improve Vermont’s overall continuation rates relative to the nation’s require work to understand and increase the aspirations of students who are not first generation.

### **The postsecondary institutions chosen by immediate continuers**

There are approximately 4,600 two- and four-year Title IV postsecondary institutions in the United States.<sup>6</sup> In the fall of 2012, NSC data show Vermont students were enrolled at 480 different institutions, located in all 50 states, the District of Columbia and internationally. The majority of students enrolled as full-time students (91 percent) at four-year institutions (88 percent) and public institutions (57 percent). These rates are different from comparable national rates. Among the national Class of 2012 high school graduates, 88 percent enrolled full time and 57 percent enrolled at four-year institutions (U.S. Department of Education 2014b) and 77 percent enrolled at public institutions.<sup>7</sup> As is discussed later, these differences in patterns of initial enrollment may have implications for students’ persistence to second-year enrollment.

The migration patterns of first-year students, both to and from Vermont, have been closely monitored throughout the years. Like Vermont, several states in the Northeast and Mid-Atlantic regions have a high percentage of their college-going high school graduates pursue studies at institutions in other states and regions. In Vermont, this phenomenon has been offset by our success at attracting out-of-state students. In 2000, about 60 percent of first-year Vermont students left to study elsewhere while enrollment of non-Vermont students accounted for 72 percent of the combined institutional postsecondary enrollment for the state (Postsecondary Education Opportunity 2002 and 2014).

The trend in recent years is for a larger share of Vermont residents to study in Vermont. The share of recent high school graduates leaving the state has declined by 9 points since the fall of 2000 with the result that nearly half of immediate continuers in the fall of 2012 enrolled at two- and four-year postsecondary institutions located in Vermont (49 percent). Vermont ranked second behind the District of Columbia (82 percent) in the percentage of first-time, first-year students enrolled outside of the state, followed by New Hampshire (46 percent), Connecticut (45 percent), and New Jersey (43 percent). Because enrollment of first-time freshman at Vermont institutions has grown 20 percent during this period, the proportion of non-resident students enrolled in all of Vermont’s institutions has remained relatively constant, 71 percent in the fall of 2012.

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<sup>6</sup> U.S. Department of Education, <https://nces.ed.gov/fastfacts/display.asp?id=84>.

<sup>7</sup> VSAC analysis of the U.S. Department of Education’s Integrated Postsecondary Education Data System (IPEDS) data.

Eight of the top 10 schools most attended by Vermonters are located in Vermont. Twenty schools (listed in Table 3) accounted for over 57 percent of all first-year Vermont students enrolled at any two- and four-year institution in the fall of 2012.

**Table 3. Vermont Class of 2012 institutions attended in fall 2012, ranked by percent of the cohort enrolled**

<b>Rank</b>	<b>Fall 2012 school</b>	<b>Valid %</b>
1	University of Vermont	13.6
2	Community College of Vermont	9.4
3	Castleton University	7.3
4	Vermont Technical College	4.0
5	Johnson State College	3.3
5	Lyndon State College (tied)	3.3
7	Saint Michael's College	2.7
8	Champlain College	2.3
9	University of New Hampshire Main Campus	1.4
9	Clarkson University (tied)	1.4
11	Norwich University	1.2
12	St. Lawrence University	1.1
13	Plymouth State University	1.0
14	Colby-Sawyer College	.9
15	Keene State College	.8
15	University of New England (tied)	.8
15	Ithaca College (tied)	.8
18	University of Maine	.7
18	Northeastern University (tied)	.7
18	University of Massachusetts Amherst (tied)	.7

### *Differences by parent educational level*

First-generation students were significantly more likely to remain in Vermont to pursue postsecondary studies than students who were not first generation; a finding consistent with the Vermont Grant Program, the state's only need-based financial aid program, which shows that 71 percent of need-based grants in fiscal year 2012-13 went to students attending Vermont postsecondary institutions.<sup>8</sup> Forty-two percent of males who are not first generation and 39 percent of females who are not first generation enrolled at a Vermont institution. In contrast, first-generation males were 40 percent more likely to attend a Vermont institution. The differences were even more pronounced for women. First-generation females were 59 percent more likely to attend a Vermont institution than their peers who were not first generation.

Parental educational attainment was also related to other differences in enrollment. First-generation students were more likely to enroll at a two-year institution than students who were not first generation (19 percent and 7 percent, respectively) and to be a part-time student (14 percent) compared to students who were not first generation (5 percent).

### *Vermont's public institutions*

Vermont's six public institutions enrolled 41 percent of all immediate continuers, allowing us to explore the differences between students attending these institutions. As might be expected given each institution's unique mission, the student profiles for their share of the Class of 2012 differ considerably (Table 4, following page).

The differing student profiles at each institution reflect different education and recruitment strategies, but also suggest possibilities for future strategies and partnerships. For example, first-generation males in Lamoille County have some of the lowest postsecondary aspirations in the state but also enjoy close proximity to Johnson State College, which enrolled a relatively low percentage of first-generation males from the Class of 2012. Similarly, the enrollment patterns at each of Vermont's public and private institutions when aligned with regional and local aspiration and continuation data may reveal new opportunities to collaborate to increase education opportunity for first-generation students. Among first-generation students, the most important reasons for choosing to attend one of these public institutions were affordability (32 percent), proximity to home (19 percent), and academic reputation (12 percent).

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<sup>8</sup> VSAC's Vermont Grant Program data.

**Table 4. Student profiles at Vermont’s public postsecondary institutions (n=1,442)**

<b>Demographic</b>	<b>Castleton</b>	<b>Johnson</b>	<b>Lyndon</b>	<b>UVM</b>	<b>VTC</b>	<b>CCV</b>	<b>Total</b>
Male	44%	26%	45%	46%	63%	35%	43%
Female	56%	74%	55%	54%	37%	65%	57%
First gen	58%	68%	67%	28%	66%	66%	52%
Not first gen	42%	32%	33%	72%	34%	34%	48%
Male, first gen	21%	15%	25%	12%	36%	20%	19%
Female, first gen	37%	53%	42%	16%	30%	46%	33%
Male, not first gen	24%	11%	19%	33%	25%	15%	24%
Female, not first gen	18%	21%	14%	39%	9%	19%	24%
HS GPA B or better & Algebra II	85%	71%	65%	97%	83%	60%	80%
<b>Intended degree</b>							
Bachelor’s	92%	88%	85%	97%	47%	40%	76%
Associate’s	3%	6%	7%	1%	52%	35%	15%
Other or not specified	5%	6%	8%	2%	1%	25%	9%
<b>Fall 2012 enrollment</b>							
Full time	99%	95%	98%	96%	n/a	34%	81%
Part time	1%	4%	2%	3%	n/a	54%	15%
Less than half time	0%	1%	0%	1%	n/a	12%	4%

*Note: Enrollment intensity for Vermont Technical College was not reported in the NSC records.*

## Delayed continuers

Up to this point, to align our data with national definitions and analysis on continuation, we have examined the role of gender, parental education attainment, academic preparation and region among others on immediate enrollment, i.e., students who are considered “traditional” students in that they graduated from high school in June and enrolled in college immediately in the fall. “Nontraditional students,” who increasingly make up a larger share of the national college-going population, are defined as students who delay enrolling in postsecondary education by one or more years; or adult students who enroll, then stop-out, and then return to college. In this section, we look at students who graduated in 2012 and enrolled for the first time in the fall of 2013 — one year after graduating from high school.

Five percent of the Class of 2012 did not enroll immediately after high school graduation. Instead, these students enrolled in the fall of 2013. Delayed continuers were more likely to be male (50 percent) than were immediate continuers (43 percent). They were less academically prepared: delayed continuers were less likely to have completed higher math courses (86 percent) or to self-report overall GPAs of B or better (80 percent) than immediate continuers (94 percent and 92 percent, respectively). Delayed continuers were also less likely to report that they aspired to earn advanced degrees (i.e., master’s, doctorate) than those who enrolled immediately (31 percent and 43 percent, respectively). There was no significant difference between delayed continuers and immediate continuers in terms of parent education level (36 percent and 42 percent were first generation.) The most striking difference between delayed and immediate continuers was the perception of their parent’s expectations: 42 percent of delayed continuers and 82 percent of immediate continuers reported that parents wanted them to continue their studies after high school, while 36 percent of delayed continuers and 15 percent of immediate continuers reported their parents would support any decision they made.

These delayed continuers also had a different institutional profile than immediate continuers. Nearly 38 percent of delayed continuers enrolled in a two-year school, compared with 12 percent of immediate continuers. Additionally, students who delayed enrollment were more likely to enroll at public institutions. Two-thirds of delayed continuers enrolled in a public college or university, compared with 57 percent of immediate continuers. Both groups were evenly split in terms of remaining or leaving the state to enroll. Table 5 shows the distribution of enrollment by sector (public or private) and level (two- and four-year institution) for immediate and delayed continuers.

**Table 5. Vermont Class of 2012 immediate and delayed continuers, enrollment by sector and level**

<b>Sector &amp; level</b>	<b>Immediate continuers (n=3,534)</b>	<b>Delayed continuers (n=293)</b>
Public & Private 2-year*	12%	38%
Public, 4-year	45%	30%
Private, 4-year	43%	32%
<b>Total</b>	<b>100%</b>	<b>100%</b>

\* Because only 25 students enrolled at private, two-year institutions, we combined public and private two-year counts in this table.

It should be noted that nearly 44 percent of delayed continuers were students who intended to enroll immediately, but for one reason or another did not do so. They constitute less than 20 percent of the summer melt group described earlier. That is to say, more than 80 percent of those who wanted to, but didn't enroll immediately at a two- or four-year school and were academically prepared to do so (i.e., had completed Algebra II and reported a GPA of B or better) had still not enrolled by the fall of 2013. This finding serves as further evidence for the need to find ways of minimizing summer melt: waiting to enroll dramatically reduces the chances of enrolling at a later date.

Another group of delayed continuers (about 4 percent of all survey participants) are those who, as seniors in high school, were intentional about taking a year off before attending college (sometimes referred to as “taking a gap year”). The popular press reports the benefits of taking a gap year, but there is little empirical research to support these claims.<sup>9</sup> A gap year can be a very structured and expensive post-high school enrichment experience, or it can be a time that students take to work and save for their future postsecondary expenses. The VSAC Senior Survey data on the nature of the gap year experience is limited. However, more than 55 percent of students who indicated they were taking a gap year had applied for admission to college or a training program at the time the survey was administered. Participants cited “planning to travel” (23 percent), being “unsure of plans or goals” (20 percent), “need a break from school” (17 percent) and “want/need to work” (16 percent) as the most important reasons for not enrolling immediately.

How did these gap-year students fare? The majority of students who had planned to take one year off and then enroll in the fall of 2013 failed to do so: 57 percent of these students had not enrolled by the fall of 2013. Nearly a third (31 percent) did as planned and enrolled in the fall of 2013 after taking a year break from school. A minority of the students who originally intended to take a gap year (12 percent) actually enrolled immediately rather than taking their planned break, a path that the literature suggests increases the likelihood of completing their college studies. The proportion of first-generation students who failed to enroll is higher than the proportion of students who were not first generation (80 percent and 47 percent, respectively). More research on the benefits and consequences of taking a gap year — and clearly outlining the range of gap year experiences — is warranted, given the increased promotion of gap year experiences and the high rate of not enrolling within 18 months of graduating from high school.

## **Persistence = retention + transfer**

Much of the state's previous research has been on measuring the percentage of high school graduates who pursue their postsecondary education after high school. Its focus has primarily been to see how well we, as a state, have succeeded at enrolling high school graduates in some form of education or training program, preferably by the fall after graduation.

The state (and national) focus has expanded to include understanding the extent to which students can remain enrolled and progress to a degree. Until recently, the information has been limited. The U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) data collects

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<sup>9</sup> As reported in [http://www.huffingtonpost.com/2013/07/05/gap-year-advice\\_n\\_3552333.html](http://www.huffingtonpost.com/2013/07/05/gap-year-advice_n_3552333.html) and <http://www.usnews.com/education/best-colleges/articles/2014/09/23/how-a-gap-year-can-make-students-successful>.



only the data on institutional retention rates: that is, the percentage of first-time students who enrolled at a given institution and went on to enroll at that same institution the following year. While the measure is useful for both institutions and prospective students and their families to gauge an institution's ability to retain students, it limits policymakers' understanding of what is actually happening to first-year students generally. Specifically, this approach has underestimated the percentage of students who enroll for a second year, by excluding those who transferred out of the institution where they initially enrolled. Further, this approach has never disaggregated the retention rate of first-time, first-year students by residency, generational status or other variables available through the VSAC Senior Survey. Thus, retention rates have invariably provided an institutional perspective at best — not a student-level perspective — on the issue of student outcomes.

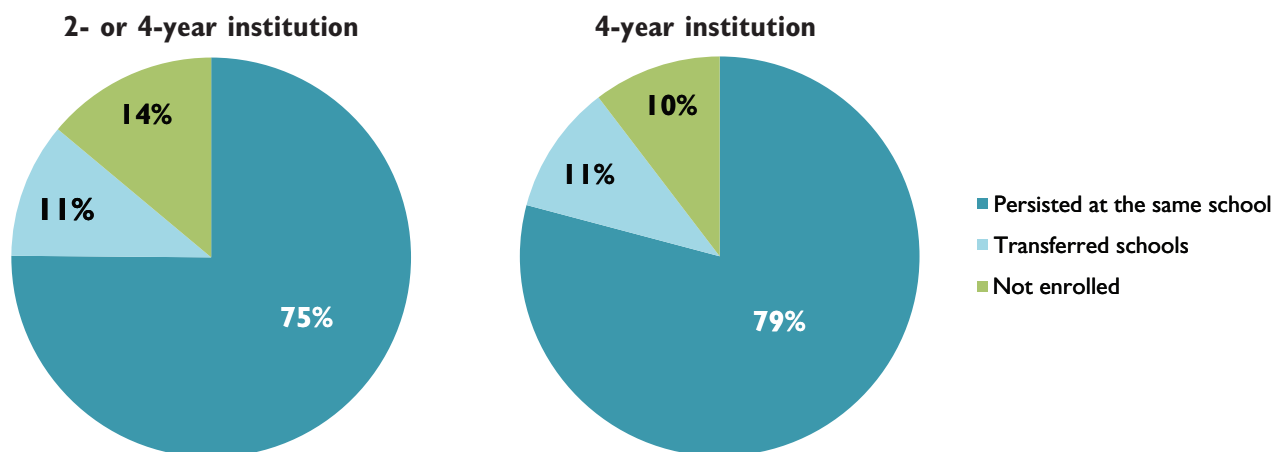
Access to enrollment verification data from the National Student Clearinghouse has not only helped improve the way we measure immediate postsecondary enrollment; it has made it possible to extend that research window throughout students' postsecondary journey for a specific cohort of students. In this section, we distinguish between survey participants who re-enroll at the institution where they began as well as those who re-enrolled elsewhere. Finally, we continue our examination of differences by gender and parental educational attainment as they pertain to overall persistence, institutional retention and student transfer.

### A year later ...

Of the survey participants who continued their education in the fall of 2012, 75 percent re-enrolled at the same school at which they started. This rate exceeds the national retention rate of 58 percent for the class who started college in the fall of 2012 (National Student Clearinghouse 2014). Eleven percent of Vermont students who began at one institution chose to enroll somewhere else, a transfer rate that matches the national rate of 11 percent.

Together then, 86 percent of all participants who first enrolled in the fall of 2012 persisted, returning to a two- or four-year institution in the fall of 2013 (Figure 12). Compared to the 69 percent national persistence rate, survey respondents who began their college studies were more likely than their national peers to continue to a second year.

**Figure 12. Persistence of Vermont Class of 2012 immediate continuers at postsecondary institutions**



One reason for Vermont’s relative performance in persistence may be tied to the choices being made by students at initial enrollment. Nationally, persistence rates are generally higher among those who enroll as full-time students, or attend four-year institutions, or attend nonprofit, private institutions (National Student Clearinghouse 2014). In an earlier section, we discussed the fact that the study’s immediate continuers were significantly more likely to enroll as: full-time students (91 percent vs. 88 percent nationally), in four-year institutions (88 percent vs. 57 percent nationally), and less likely to enroll in public institutions (57 percent vs. 77 percent nationally). Vermont’s overall pattern of enrollment, different from the national pattern, may explain why the state’s cohort retention rate is higher than the national rate, while the cohort transfer rate is the same as the national rate. While the overall statewide persistence rate appears to be better than national averages, further examination reveals that gaps do exist; this is consistent with national data and the differing enrollment patterns of Vermont students.

Full-time students had a 91 percent persistence rate; part-time students had a significantly lower persistence rate of 54 percent. Persistence rates also differed between survey participants who started at two-year schools and those who started at four-year schools. Ninety percent of students who started at four-year schools persisted to a second year (79 percent at the same school and 11 percent at a different school), compared to 61 percent of students who started at two-year schools (47 percent at the same school and 14 percent at a different school). Persistence for Vermont students starting at private, four-year institutions in Vermont (80 percent) or in other states (82 percent) was slightly higher than for those at public, four-year institutions in Vermont (78 percent) or in other states (76 percent). Nationally, persistence rates for students enrolling in the fall of 2012 were 57 percent at two-year public institutions, 79 percent for students at four-year publics and 83 percent at four-year privates (National Student Clearinghouse 2014).

#### *Retention and persistence at Vermont public institutions*

Retention rates among survey participants for Vermont’s four-year public institutions (Table 6, following page) ranged from 62 percent at Johnson State College to 87 percent at the University of Vermont. The Community College of Vermont had the lowest retention rate of all of Vermont’s public institutions, enrolling less than half of its students to a second year. Transfer rates — the proportion of students who began college at one of Vermont’s four-year public institutions and enrolled elsewhere after one year — ranged from 6 percent at UVM to 12 percent at Lyndon State College.<sup>10</sup>

Combining retention and transfer rates, we find overall persistence was highest for students who began their studies at the University of Vermont and Castleton University. Persistence rates for students who began at the Vermont State College’s other four-year institutions were slightly lower than the national public, four-year rate of 79 percent, as well as lower than this study’s out-of-state, four-year public institutions. Persistence at the Community College of Vermont was slightly higher than the national rate, but lower than at the two-year, public institutions attended by survey participants enrolled outside of Vermont.

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<sup>10</sup> For comparison purposes, among Vermont’s private institutions the average retention rate was 80 percent. Nine percent of students who initially enrolled in one of Vermont’s private institutions transferred to another institution in the fall of 2013. Retention and transfer rates were not computed individually for Vermont’s four-year private institutions because of small sample sizes. The average retention and transfer rates presented for these institutions are weighted by enrollment.

**Table 6. Class of 2012 Persistence by Vermont public institution, location and sector**

<b>Institution location/sector</b>	<b>Retention rate</b>	<b>Transfer rate</b>	<b>Persistence rate</b>	<b>Not enrolled</b>
Vermont, 4-year, public	78%	9%	86%	14%
University of Vermont	87%	6%	93%	7%
Castleton University	79%	11%	90%	10%
Lyndon State College	65%	12%	77%	23%
Vermont Technical College	68%	8%	76%	24%
Johnson State College	62%	11%	73%	27%
Community College of Vermont	48%	12%	60%	40%
Vermont, 4-year, private	80%	9%	89%	11%
Out-of-state, 2-year	43%	20%	63%	37%
Out-of-state, 4-year public	76%	14%	90%	10%
Out-of-state, 4-year, private	82%	11%	93%	7%
<b>Total</b>	<b>75%</b>	<b>11%</b>	<b>86%</b>	<b>14%</b>
All 2-year institutions	47%	14%	61%	39%
All 4-year institutions	79%	11%	90%	10%

*Influence of parent education level*

First-generation Vermont students were less likely to enroll for a second year of postsecondary education; 20 percent of first-generation students did not return to school in the fall of 2013, compared to 9 percent of students who are not first generation. Even so, persistence rates for Vermont’s first-generation students were higher than the overall national rates at either two- or four-year institutions. Table 7 (following page) summarizes the differing enrollment and persistence rates between Vermont’s first-generation students and those who are not first generation.

**Table 7. Vermont Class of 2012 postsecondary enrollment and persistence by parental education attainment**

Category	First generation	Not first generation
Class of 2012 PSE enrollment rate	51%	72%
Enrolled at a 2-year school, % of continuers	19%	7%
Enrolled at a 4-year school, % of continuers	81%	93%
Persistence rate	80%	91%
Starting from a 2-year school	56%	75%
Starting from a 4-year school	85%	92%

Although males were initially less likely to continue their education immediately after high school, the gender disparity all but disappeared in persistence to a second year. Specifically, 85 percent of males and 87 percent of females enrolled for a second year of postsecondary education, either at the two- or four-year schools where they initially enrolled or at another institution.

### Where did those transferring students go?

Eleven percent of survey participants who started at one school in the fall of 2012 enrolled at another school in the fall of 2013. The National Student Clearinghouse data not only allow us to track transfer rates, it helps us better understand and measure the movement of these students.

As mentioned earlier, delayed continuers enrolled at a higher rate at Vermont institutions. Data reveal that Vermont schools also attracted transferring students (Table 8). Seventy percent of transfer students who began at institutions outside of Vermont returned to Vermont in their second year. Among these, 56 percent left another New England state to return, and an additional 27 percent returned after attending an institution in New York or Pennsylvania.

**Table 8. Vermont Class of 2012 inter- and intra-state migration of transferring students (n=387)**

Location of fall of 2012 school	Transferred to, in fall 2013		Total
	Vermont school	Out-of-state school	
Vermont	78%	22%	100%
Out-of-state	70%	30%	100%

There was no gender difference in the percentage of students who transferred. First-generation students were slightly more likely to transfer (15 percent) than students who are not first generation (12 percent). There was no difference between the groups in terms of the direction of the migration: the majority of students (73 percent of transfers) migrated to Vermont schools (as shown in Table 8). Students with high school GPAs of C and below were more likely to transfer (24 percent) than students with average high school GPAs of B (15 percent transferred) or A (9 percent transferred), perhaps pointing to differences in the degree of academic match between student and school as a factor. The potential gains in Vermont's enrollment due to students transferring from out-of-state institutions were offset by the lower retention rates for students originally attending Vermont institutions.

At the end of the 18-month period covered by this report, 51 percent of all students who were enrolled at a postsecondary institution in the fall of 2013 were attending a Vermont school, the majority of these at four-year institutions (81 percent) and public institutions (83 percent).

#### *First-year dropouts or stop-outs*

Despite Vermont's success on some measures, the fact remains that 14 percent of Vermont's high school graduates who entered a two- or four-year postsecondary institution in the fall of 2012 did not return to any institution the following year. The state's average persistence rate masks a wide variation in institutional persistence rates (retention and transfer to another institution), which ranged from a high of 93 percent to a low of 60 percent at Vermont public institutions. The number of students who enroll, but either drop out (or stop out) is no small problem — the Lumina Foundation estimates there are 61,000 Vermont adults with some college, but no degree (Lumina Foundation 2015).

The majority of students who did not persist reported they were academically prepared, having at least completed Algebra II and reported a GPA of B or better (67 percent). In the fall of 2012, 65 percent had attended a four-year institution, and 67 percent had enrolled as full-time students. Fifty-eight percent had attended one of Vermont's public institutions. However, 82 percent reported having at least some concerns about their ability to pay for college, 79 percent planned to work part time, and 14 percent planned to work full time. Sixty-two percent were first generation, and more than half (55 percent) were female.

In all probability, many of these students took out student loans to finance their first year of school and retain the repayment obligation without obtaining the economic benefits of completing a degree. Improving student retention and developing strategies for helping Vermonters with some college but no degree should be a critical focus of future education and workforce development strategies.

## The Class of 2012: A summary

In 2014, VSAC released a report that discussed the plans and aspirations of graduating Vermont high school seniors from the Class of 2012. This report has examined the extent to which these plans were progressing for the Class of 2012. Subsequent reports will follow the journey of this class through graduation to learn how successful they were in completing their aspirations: obtaining a degree. Some of the major findings of this report:

- **Vermont’s postsecondary enrollment rates lag behind the national rates by 6 percentage points:** Two factors that may be contributing to the difference is that gender gap in Vermont’s secondary enrollment is wider than the national rate, and both first-generation graduates and graduates who are not first generation have enrollment rates lower than comparable national rates.
- **Vermonters’ enrollment patterns differ from the nation and region, enrolling in four-year institutions at a higher rate than their New England and national counterparts.** Postsecondary enrollment at four-year institutions (53 percent) exceeds the national average for recent high school graduates (37 percent). Vermont graduates’ enrollment in two-year institutions (7 percent) is significantly lower than the national average (29 percent).
- **A quarter of first-year students either dropped out (14 percent) or transferred to another institution (11 percent) by the fall of 2013:** These overall averages mask wide variation among institutions.
  - **Dropout rates:** Among two-year institutions, 39 percent of first-year students dropped out after one year (37 percent of students enrolling at an out-of-state two-year institution and 40 percent of students who enrolled at the Community College of Vermont). Among Vermont’s four-year institutions, the overall dropout rate was lower (10 percent), but ranged from 7 percent at the University of Vermont to 27 percent at Johnson State College among public institutions and 11 percent among private, four-year institutions.
  - **Transfer rates:** Among Vermont’s public four-year institutions, the percentage of students who transferred from their initial school to another school in the fall of 2013 (9 percent) was slightly lower than the national rate (11 percent), but ranged from 6 percent at the University of Vermont to 12 percent at Lyndon State College. The transfer rate among survey participants who enrolled in Vermont’s private institutions in the fall of 2013 was 9 percent. The transfer rate for students attending the Community College of Vermont was lower (12 percent) than that of students at other two-year institutions in general (14 percent) and for students initially enrolling at two-year institutions located outside of Vermont (20 percent).
- **Postsecondary aspirations are dynamic, changing even after graduating from high school:** Sixteen percent of graduates intending to matriculate by the fall of 2012 changed their minds over the summer. There is a risk in taking an intentional gap year — 57 percent failed to enroll by the fall of 2013.
- **Postsecondary enrollment varied by geography, continuing the pattern identified in VSAC’s 2014 report on postsecondary aspirations:** The percentage of graduates enrolling at two- or four-year postsecondary institutions ranged from a low of 50 percent in Orange and Lamoille counties to 67 percent in Chittenden County. Differences in enrollment rates

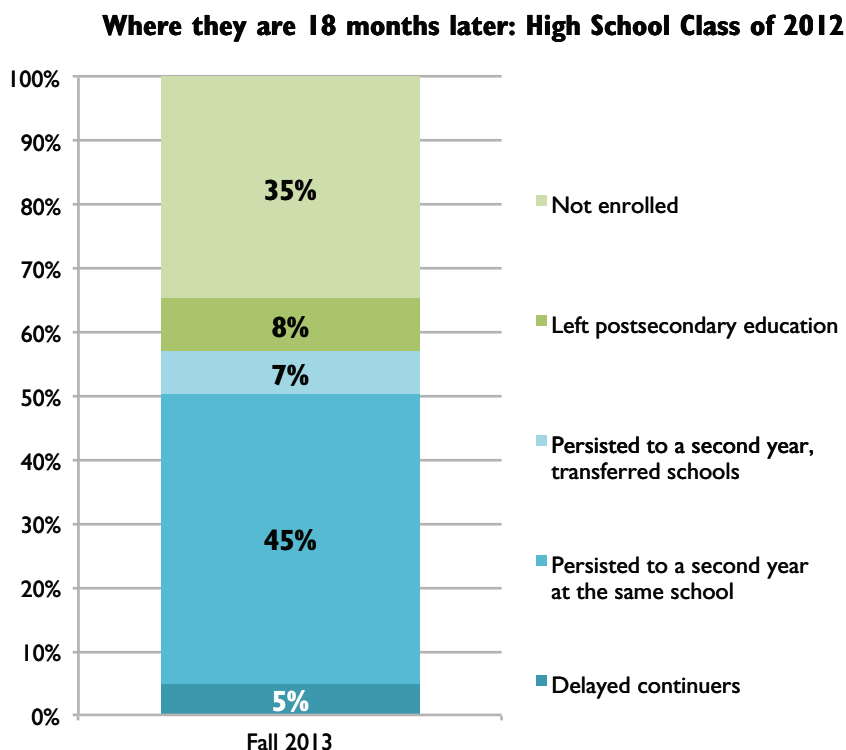
between students who were first generation and those who were not first generation varied by county as well, the gap between them ranging from 8 percentage points in Essex and Windsor counties to as many as 28 percentage points in Rutland and Orange counties.

This report has taken an important step toward a deeper understanding of the postsecondary journey of this class of high school graduates. In addition to reporting Vermont’s rates for postsecondary enrollment, retention and transfer behavior, this report looks at points along the continuum that pose challenges and opportunities to expanding postsecondary education and training to as many of our young adults as possible.

We began this report by looking at the big picture — the status of Vermont’s high school graduating Class of 2012. Figure 13 provides a status report of the 5,853 Senior Survey participants in this project at the end of the time period covered in this report.

Sixty-five percent of the cohort enrolled at a two- or four-year institution at some point within 18 months of graduating from high school. The majority of those students enrolled immediately and remained matriculated for two years (52 percent of the entire cohort). However, 8 percent of all high school graduates started and then either dropped or stopped out of college within a year. Five percent of graduates delayed continuing their studies, entering a two- or four-year postsecondary institution by the fall of 2013. Finally, more than a third of all graduates (35 percent) pursued other activities, which may have included alternative training and certification programs, joining the military or entering the workforce or some other activity.

**Figure 13. Vermont Class of 2012 enrollment status in fall 2013 (n=5,853)**



## Future directions

Increasingly, experts from a variety of disciplines are contributing to a body of evidence that points to a postsecondary pipeline that begins early and can last a lifetime. The literature shows that a rigorous middle school and high school curriculum, coupled with high-quality career and education counseling, helps prepare students — especially those from low-income families and/or whose parents may have limited postsecondary experiences — to apply and enroll in the postsecondary or training program that best meets their needs (Massell 2010). Building on a strong foundation, students can make informed choices (such as the benefits of attending college full time, limiting off-campus employment hours, etc.) that increase the likelihood of persisting and ultimately completing a degree (Adelman 2006). For some it will be smooth sailing, but for many others there will be bumps, stops and starts all along the way. These are the students for whom we need to make a difference.

Three out of every four Class of 2012 high school graduates planned to enroll immediately, 70 percent at a two- or four-year college. Had these students realized their dreams, we would be solidly on the path to reaching the state's goal of having 60 percent of working-aged adults obtain a postsecondary credential. The reality, however, is that the Class of 2012 began losing potential college-goers before they ever graduated high school. The state is at a critical juncture, needing to find strategies to change the trajectory of educational attainment of our youth, while assisting those Vermonters who wish to resume the postsecondary journey they began but didn't complete.

The purpose of this report is to help policymakers focus our continuing efforts to improve the postsecondary outcomes of our most valuable asset: our children. The evidence is clear that postsecondary education benefits individuals as well as society (Baum, Ma, and Payea 2013). A well-educated citizenry also drives economic development for the state and region. This is part of the rationale for the state to adopt the Lumina Foundation's goal of 60 percent of adults having a postsecondary degree or high-quality certificate by the year 2020.

Education and training after high school are essential strategies for earning a livable wage. In 2013, U.S. adults aged 25 to 32 with only a high school diploma earned \$28,000 annually, 11 percent less in constant dollars than they did in 1965. In contrast, adults aged 25 to 32 with a baccalaureate degree earned \$45,500 annually, 17 percent more than they did in 1965 (Pew Research Center 2014). Studies also indicate that individuals who have some postsecondary training after high school, even if they do not earn a degree, on average have higher wages and lower unemployment rates than individuals with only a high school degree.

It is clear that all Vermonters will need some education and training after high school. It is the gateway to a good income, a strong economy, and the most potent tool we have to fight income inequality.

The McClure Foundation, with the Vermont Department of Labor, has identified 67 high-pay, high-growth jobs in Vermont. Only 9 can be obtained with a high school diploma and training, while 17 require an associate's degree and the rest require a four-year degree or higher (McClure Foundation 2014).



The evidence is abundant that a well-educated workforce is the cornerstone of a vibrant economy because those individuals:

- Earn more, pay more in taxes, and save more for retirement.
- Are healthier, have better health outcomes, and are more involved in their local communities.
- Raise children who perform better in school and are motivated to pursue higher education or training themselves.
- Have higher employment rates and are less likely to require public assistance.
- Re-enter the workforce more quickly if they become unemployed.

Findings from this report give urgency to the need for action. A convening of stakeholders from higher education to workforce development, including community leaders, lawmakers and business leaders, will enrich our collective understanding of the issues and opportunities raised from this research. Such a gathering will allow the state to identify areas and touchpoints and bring a concentrated focus on specific strategies to increase the access and affordability of postsecondary credentials for more Vermonters.

Increasing the proportion of high school graduates and nontraditional students that enroll and complete a postsecondary degree or certification is not only a lofty goal, but our state's imperative. It requires us to forge effective partnerships across a diverse and committed group of stakeholders, develop innovative interventions in our schools and communities, and foster the use of data and program evaluation to track and measure success.

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### **About VSAC** — *Changing Lives through Education and Training since 1965*

Vermont Student Assistance Corporation is a public, nonprofit agency established by the Vermont Legislature in 1965 to help Vermonters achieve their education and training goals after high school. VSAC serves students and their families in grades 7-12, as well as adults returning to school, by providing education and career planning services, need-based grants, scholarships and education loans. VSAC has awarded more than \$600 million in grants and scholarships for Vermont students, and also administers Vermont's 529 college savings plan. Find us at [www.vsac.org](http://www.vsac.org).

## **Appendix A:** VSAC Senior Survey Longitudinal Study of 2012

### Overview

The VSAC Senior Survey Longitudinal Study of 2012 (VSSLS12) features:

- Longitudinal study of 5,900+ high school graduates from 61 public and private high schools, representing 85 percent of all Vermont high school graduates
- Postsecondary enrollment through 2018

### VSSLS12 Focus:

- What are students' postsecondary aspirations? Trajectories?
- How do postsecondary trajectories differ by student characteristics?
- What types of institutions do students decide to attend?
- What percentages of students graduate within four years, six years?

### VSSLS12 Collection Waves:

- Base year (2012): Senior Survey Questionnaire
- First Follow-up (2013): Fall 2012 and Fall 2013 Enrollment Verification using National Student Clearinghouse
- Second Follow-up (Planned for fall 2016)
- Third Follow-up (Planned for fall 2018)

### VSSLS12 Reports and Documentation:

- Gaps in postsecondary education aspiration: A report on disparities among Vermont's high school graduates (April 2014)
- Methodology for Vermont Senior Survey Project (March 2015)
- Vermont's Class of 2012: Highlights and challenges for pursuing a postsecondary education (October 2015)
- VSAC Senior Survey Individual School Reports, Base Year (April 2013)
- VSAC Senior Survey Individual School Reports, First Follow-up (May 2015)

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