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RESEARCH BRIEF:

Measurable Education Achievements for Different Populations in Pennsylvania

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Abstract

This study sought to highlight the various post-secondary pathways and outcomes of different student groups in Pennsylvania (PA). These pathways are a particularly relevant area of study, as today's post-secondary students are choosing various pathways to achieve their desired outcomes and were also affected by the Covid-19 pandemic, potentially affecting rates of persistence, enrollment (National Student Clearinghouse, 2021) and vertical transfers (Causey et al., 2022). Additionally, previous literature indicates that different student groups often have different post-secondary outcomes (McFarland et al., 2019; National Center for Education Statistics, 2022a; Shapiro et al., 2017, Velez et al., 2019). Overall, this study presents descriptive findings for four cohorts of PA high school graduates (2014-2017) to examine some pathways to degree attainment. The vast majority of post-secondary degree earners in this study earned a bachelor's degree or above as their highest degree by December of 2021. Further, about a third of 2-year institution graduates in each cohort initiated a vertical transfer by subsequently enrolling in a 4-year institution. Low percentages of all cohorts completed a vertical transfer by December of 2021 (9–26%), but 2-year institution graduates in the earlier cohorts (2014 and 2015) had the highest rates of subsequently graduating from a 4-year institution. Although this study highlighted various differences in post-secondary outcomes for different student groups in PA, future research should continue to examine the post-secondary pathways of recent high school graduates in the current landscape of higher education.



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KEY FINDINGS:

Degree Attainment by December of 2021

- The majority of post-secondary graduates in each cohort had earned a single credential.
- At least 84% of post-secondary graduates in each cohort earned a bachelor's or above as their highest degree.
- Compared to males, female post-secondary graduates in each cohort had slightly higher rates of earning a bachelor's degree or above as their highest degree (86–88%).
- Although the majority of previously Special Education Status and Economic Disadvantaged Status post-secondary graduates in each cohort earned a bachelor's degree or above as their highest degree, compared to their counterparts, the rates were much lower.
- About half of previously EL Status post-secondary graduates in the 2014–2016 cohorts earned a bachelor's degree or above as their highest degree earned.
- More than half of previously EL Status post-secondary graduates in the 2017 cohort earned an associate's degree as their highest degree earned.
- At least 90% of Asian post-secondary graduates in each cohort earned a bachelor's degree or above as their highest degree.
- Although the majority of Hispanic and Black or African American post-secondary graduates in each cohort earned a bachelor's degree or above as their highest degree (65–73% and 75–81%, respectively), compared to other racial/ethnic groups, these graduates consistently had the lowest rates.
- A majority of post-secondary graduates earned a bachelor's degree or above as their highest degree by December of 2021, regardless of geographic region.
- Post-secondary graduates from suburban high schools consistently had the highest rates of earning a bachelor's degree or above as their highest degree (87–89%).
- Post-secondary graduates from urban high schools consistently had the lowest rates of earning a bachelor's degree or above as their highest degree (77–82%) and the highest rates of earning an associate's degree as their highest degree (15–21%), compared to graduates from other geographic regions.

Is credential earning different by sector?

- PA high school graduates who started their post-secondary career by enrolling in a 4-year institution had higher rates of degree attainment, both in degree completion and the highest degree earned, than those who initially began at a 2-year institution.
- PA high school graduates who initially enrolled in a private institution had slightly higher rates of educational attainment than those who started at a public institution.

KEY FINDINGS:

Initiated and Completed Vertical Transfers by December of 2021

- About one-third of 2-year institution graduates in each cohort initiated a vertical transfer by enrolling in a 4-year institution.
- The latter cohorts, 2015, 2016, and 2017, had slightly higher rates of initiating vertical transfers (32–33%) than the 2014 cohort (29%).
- Post-secondary graduates in the earlier cohorts, 2014 and 2015, had higher rates of completing vertical transfers by subsequently earning a bachelor's degree or graduating from a 4-year institution, compared to the 2016 and 2017 cohorts.
- Female 2-year institution graduates initiated and completed vertical transfers at higher rates than males in each cohort.
- Compared to their counterparts, previously Special Education Status graduates had much lower rates of initiating and completing (by either measure) a vertical transfer.
- Previously EL Status 2-year institution graduates in the 2014, 2015, and 2016 cohorts initiated vertical transfers at higher rates than non-EL status graduates.
- Asian 2-year institution graduates consistently had the highest rates of initiating vertical transfers (46–59%) by subsequently enrolling in a 4-year institution.
- Asian post-secondary graduates completed vertical transfers, by either measure, at higher than average rates.
- White post-secondary graduates initiated (28–32%) and completed vertical transfers at rates comparable to the overall average of each cohort.
- Hispanic and Black or African American graduates initiated vertical transfers (29–36% and 31–37%, respectively) at rates comparable to the overall average, however the rates of completing for these student groups were consistently lower than average.
- Post-secondary graduates from urban and suburban high schools consistently initiated vertical transfers (30–36% and 32–36%, respectively) at higher rates than graduates from other geographic regions.
- Post-secondary graduates from suburban high schools had higher than average rates of completing vertical transfers across cohorts.

Introduction

Across the nation, rates of overall educational attainment have been increasing (De Brey et al., 2021; Espinosa et al., 2019). Further, disaggregation of educational attainment data by student group shows differences across gender, race/ethnicity, and various statuses. The student groups female, Asian, White (Espinosa et al., 2019; National Center for Education Statistics, 2022a), and high family socioeconomic status (Kena et al., 2015; McFarland et al., 2019) have better educational attainment outcomes, at any level, than their counterparts. These trends hold true for other educational outcomes, including initial post-secondary enrollment (McFarland et al., 2019; National Center for Education Statistics, 2022b).

The National Student Clearinghouse (NSC) Research Center reports that the majority of credential earners each year are first time post-secondary graduates (Karamarkovich, Ryu, and Scheetz, 2022). However, recent reports (Karamarkovich, Ryu, and Scheetz, 2022; Meyer and Castleman, 2021) indicate a growing trend of post-secondary graduates “stacking” credentials and pursuing vertical pathways to bachelor’s degree attainment. The “traditional” vertical pathway of transferring from a 2-year to 4-year institution (Baccalaureate program) can be an accessible and economical path upward. However, it is important to note that not all who vertically transfer with intent to earn a bachelor’s degree persist to completion (Jenkins & Fink, 2015). Additionally, those who earn a credential (or credentials) in route to bachelor’s degree attainment will have longer time-to-degree completion. Although commonly referred to as “4-year” and “2-year” programs, a recent study found that bachelor’s degrees (with or without a prior associate’s degree) are often not earned within four years, and most associate’s degrees are not earned within two years (Shapiro et al., 2016). Again, disaggregation of data regarding “time-to-degree” found that student groups female, Asian, and White, on average finish their bachelor’s degrees in fewer months than their counterparts (Velez et al., 2019).

Finally, an obstacle to post-secondary enrollment and completion that must be addressed is the disruption of in-person learning that began with the outbreak of the Covid-19 Pandemic in the spring of 2020. In the fall of that year, national post-secondary enrollment overall declined slightly (2.5%), but first-time student enrollment dropped by 13.1% (National Student Clearinghouse, 2020). Further, in the fall of 2021, the NSC reported a 2.7% decrease in enrollment, but the rate of first-time student enrollment had stabilized (National Student Clearinghouse, 2021). The Covid-19 Pandemic also negatively impacted rates of vertical transfers for post-secondary students. According to a 2022 NSC report, there was a steep decline of 9.7% in rates of vertical transfers (2-year to 4-year institution) in the two years since the start of the pandemic (Causey et al., 2022). Thus, these conditions, particularly in the context of current time-to-degree studies, must be considered when interpreting the post-secondary outcomes of recent high school graduates.

Methodology and Data Sources

The goal of this study was to identify trends in both post-secondary degree attainment and transfers to baccalaureate programs by answering the following questions from [PDE's Research Agenda](#):

- **What are the measurable educational achievements for different populations in PA?**
- **Is credential earning different by sector (2-year/4-year or public/private)?**

Individual high school graduation records were obtained through the Pennsylvania Information Management system (PIMs) for the 2014–2017 school years. Further, post-secondary enrollment and graduation records of students who graduated high school during one of those four years were obtained from the NSC Student Tracker Services. The NSC data included postsecondary records as of December 2021. For the main research question (addressing highest degree earned and transfers to baccalaureate programs), only those who graduated high school in the years 2014–2017 and subsequently earned a post-secondary credential by December of 2021 were included in the analysis. This December 2021 cut-off is 4.5 years after the 2017 cohort graduated high school. All four cohorts were examined separately to explore potential differences in outcomes over time and based on demographic and geographic factors.

Based on the frequency distribution of the degrees earned, post-secondary degrees and credentials were tiered to determine highest degree earned and rates of vertical transfer. The lowest tier, “Undergraduate Certificate”, included the non-degree values of “Credential”, “Post-secondary Diploma”, and “Undergraduate Certificate”. The second tier was “Associate’s Degree”, and the third tier was “Bachelor’s degree or Above” which included “Bachelor’s Degree”, “Post-bachelor’s Certificate”, “Master’s Degree”, and “Doctoral Degree”. The decision to tier the credentials this way was based on traditional vertical transfer pathways in post-secondary education, as discussed in the literature review (associate’s degree to bachelor’s degree).

For purposes of analysis, three measurements of vertical transfer were used based on the data available as well as previous literature:

- *The first measure, “Initiating a Vertical Transfer”, indicates enrollment in a 4-year institution after having previously graduated from a 2-year institution.*
- *“Completing a 4-Year Vertical Transfer”, indicates that one graduated from a 4-year institution after having previously graduated from a 2-year institution.*
- *Finally, “Completing a bachelor’s degree Vertical Transfer” indicates that one earned a bachelor’s degree after first earning an undergraduate certificate or an associate’s degree.*

Although a vertical transfer is commonly measured by attending a 2-year then 4-year institution, it was determined that another measurement was needed as many post-secondary students earn their associate’s degree or undergraduate certificate at a 4-year institution while simultaneously working towards earning their bachelor’s degree. Those students would not be captured in the “Completing a 4-Year Vertical Transfer” measure. To answer the research questions being addressed, crosstabulations were run to explore and report outcomes by different student groups.

Participants and Initial Descriptive Statistics

The total number of high school graduates in each cohort, as reported by PDE, is included in Table 1 for context. Additionally, Table 1 indicates that a consistent 68–71% of PA high school graduates each year went on to enroll in a post-secondary institution by December of 2021 (*Post-Secondary Enrollees as of December 2021*). The total number of high school graduates each year who then earned a post-secondary credential by December of 2021 is also included (*Post-secondary Graduates as of December 2021*). The composition of post-secondary graduates was very similar across cohorts. However, the fourth cohort was comprised of a lower number of post-secondary graduates (40,008). As explored in both the literature review and methodology sections, a likely explanation of the roughly 10,000 case difference between this cohort and the others is that the average post-secondary student will take approximately five years to earn a “4-year degree”. The five-year estimate reported by the NSC (Shapiro et al., 2016) does not take into account the recent effects of Covid-19 on post-secondary enrollment, persistence, and retention. Despite the difference in the total number of post-secondary graduates, the general demographic breakdown is comparable to the other cohorts.

TABLE 1. Demographic Statistics for Post-Secondary Graduates by Cohort

| | 2014 % (n) | 2015 % (n) | 2016 % (n) | 2017 % (n) |
|---|---------------|---------------|---------------|---------------|
| High School Graduates (PDE) | 128,042 | 123,788 | 125,051 | 125,505 |
| Post-Secondary Enrollees as of Dec. 2021 | 70.8 (90,669) | 70.3 (87,020) | 69.1 (86,432) | 68.3 (85,663) |
| Post-secondary Graduates as of Dec. 2021 | 63.0 (57,156) | 62.8 (54,655) | 58.7 (50,761) | 46.7 (40,008) |
| Gender | | | | |
| Female | 55.8 (31,866) | 56.7 (30,970) | 56.8 (28,856) | 59.1 (23,634) |
| Male | 44.2 (25,290) | 43.3 (23,685) | 43.2 (21,905) | 40.9 (16,374) |
| Race/Ethnicity | | | | |
| American Indian/Alaskan Native | 0.1 (63) | 0.1 (57) | 0.1 (48) | 0.1 (34) |
| Black or African American | 6.7 (3,837) | 6.7 (3,664) | 6.5 (3,275) | 5.3 (2,108) |
| Hispanic | 3.7 (2,122) | 3.9 (2,158) | 4.0 (2,035) | 4.2 (1,677) |
| White | 83.6 (47,801) | 82.9 (45,319) | 82.6 (41,921) | 83.7 (33,474) |
| Multi-racial | 1.0 (549) | 1.1 (575) | 1.2 (628) | 1.2 (496) |
| Asian | 4.8 (2,746) | 5.2 (2,836) | 5.6 (2,822) | 5.5 (2,184) |
| Native Hawaiian or other Pacific Islander | 0.1 (38) | 0.1 (46) | 0.1 (32) | 0.1 (35) |
| Special Education Status | | | | |
| No | 95.5 (54,574) | 95.5 (52,209) | 95.6 (48,548) | 96.0 (38,391) |
| Yes | 4.5 (2,582) | 4.5 (2,446) | 4.4 (2,213) | 4.0 (1,617) |
| Economic Disadvantaged Status | | | | |
| No | 81.3 (46,462) | 80.5 (43,977) | 80.3 (40,762) | 79.9 (31,965) |
| Yes | 18.7 (10,694) | 19.5 (10,678) | 19.7 (9,999) | 20.1 (8,043) |
| EL Status | | | | |
| No | 99.4 (56,809) | 99.4 (54,336) | 99.4 (50,476) | 99.4 (39,777) |
| Yes | 0.6 (347) | 0.6 (319) | 0.6 (285) | 0.6 (231) |
| Geographic Region | | | | |
| City | 11.7 (6,663) | 11.3 (6,182) | 11.3 (5,748) | 10.6 (4,236) |
| Rural | 16.6 (9,486) | 16.4 (8,944) | 16.3 (8,271) | 16.2 (6,497) |
| Suburban | 63.3 (36,187) | 63.8 (34,896) | 64.2 (32,585) | 64.8 (25,925) |
| Town | 8.4 (4,820) | 8.5 (4,633) | 8.2 (4,157) | 8.4 (3,350) |

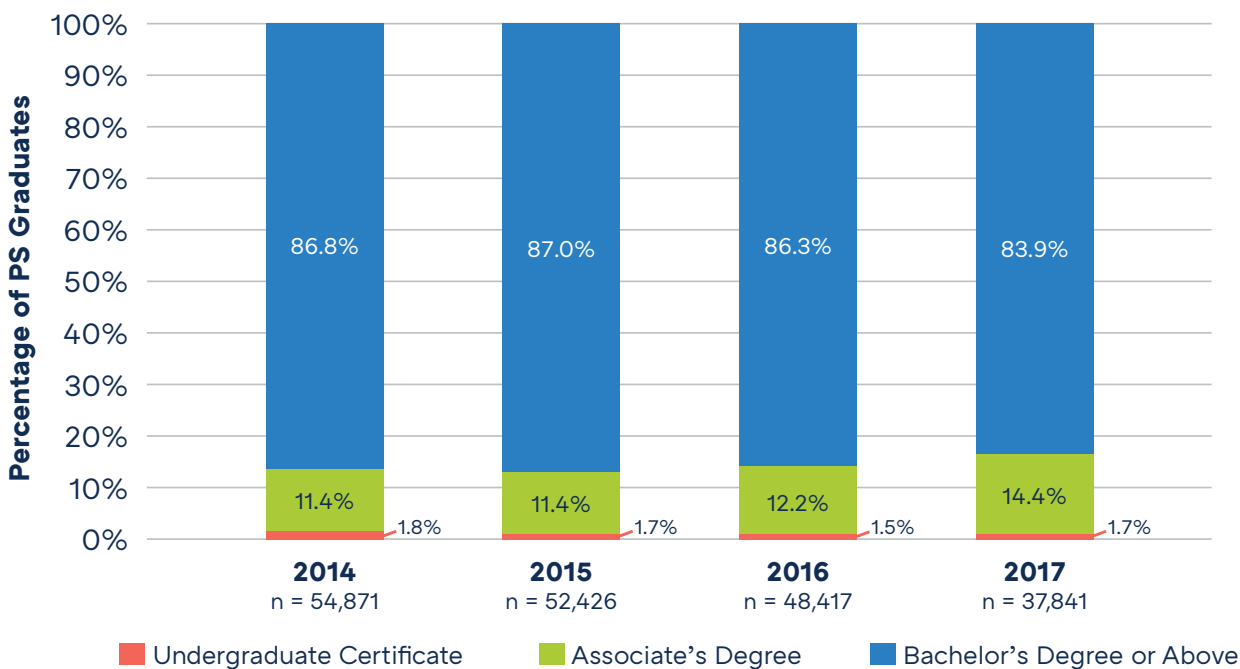
Note: No full results will be reported for post-secondary graduates who identify as Native Hawaiian or other Pacific Islander and American Indian/Alaskan Native as the number of participants in each cohort became too low to report when broken out by outcome.

Discussion of Results

Several key findings emerged in the exploration of rates of degree attainment and transfers to baccalaureate programs for four cohorts of high school graduates who subsequently earned a post-secondary degree/credential. The majority of post-secondary graduates earned one credential by December of 2021, with the 2014 and 2015 cohorts having the highest percentages of earning multiple credentials (25.8% and 21.6%, respectively). In terms of highest degree earned, the majority of post-secondary graduates in each cohort earned a bachelor’s degree or above as their highest degree by December of 2021. Figure 1 shows that although the majority of the 2017 cohort had earned a bachelor’s degree or above, compared to the other cohorts they had the lowest rate and had a slightly higher rate of earning an associate’s degree as highest degree earned. As noted throughout the report, this is likely due to the December 2021 cut-off date being only 4.5 years after the 2017 graduates’ high school graduation. These graduates’ post-secondary enrollment and persistence were also likely impacted by the Covid-19 Pandemic.

Although the majority of the 2017 cohort had earned a bachelor’s degree or above, compared to the other cohorts they had the lowest rate. This is likely due to the December 2021 cut-off date being only 4.5 years after the 2017 graduates’ high school graduation.

FIGURE 1. Highest Degree Earned by December of 2021 by Cohort



Note: Some post-secondary students with a graduation record were missing “degree type” data, thus were excluded from “highest degree earned” results.

The majority of post-secondary 2-year institution graduates in each cohort did not initiate a vertical transfer by enrolling in a 4-year institution, but approximately 30% of each cohort did. Specifically, Figure 2 shows that the latter cohorts, 2015, 2016, and 2017, had slightly higher rates of initiating a vertical transfer (33.0%; 33.2%; 32.3%) compared to the 2014 cohort (29.4%). Conversely, Figure 3 indicates that the earlier cohorts, 2014 and 2015, had higher rates of completing a vertical transfer, by either measure, compared to the 2016 and 2017 cohorts. Although, this is unsurprising as the December 2021 cut-off date is 7.5 and 6.5 years after the 2014 and 2015 cohorts graduated high school (respectively), allowing more time to complete the transfer.

FIGURE 2. Initiated a Vertical Transfer by December of 2021 by Cohort

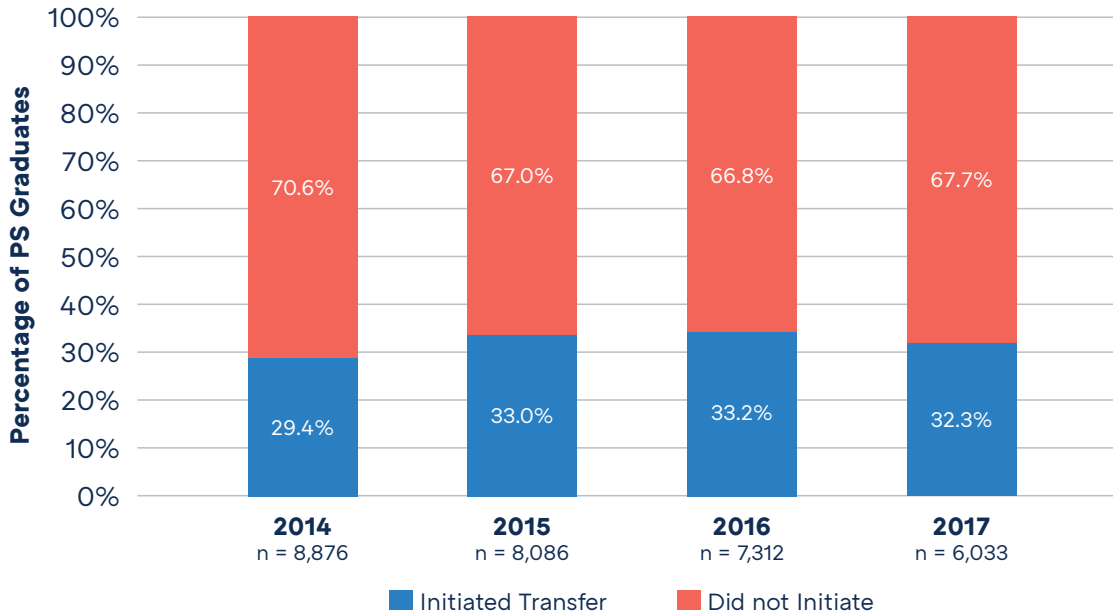
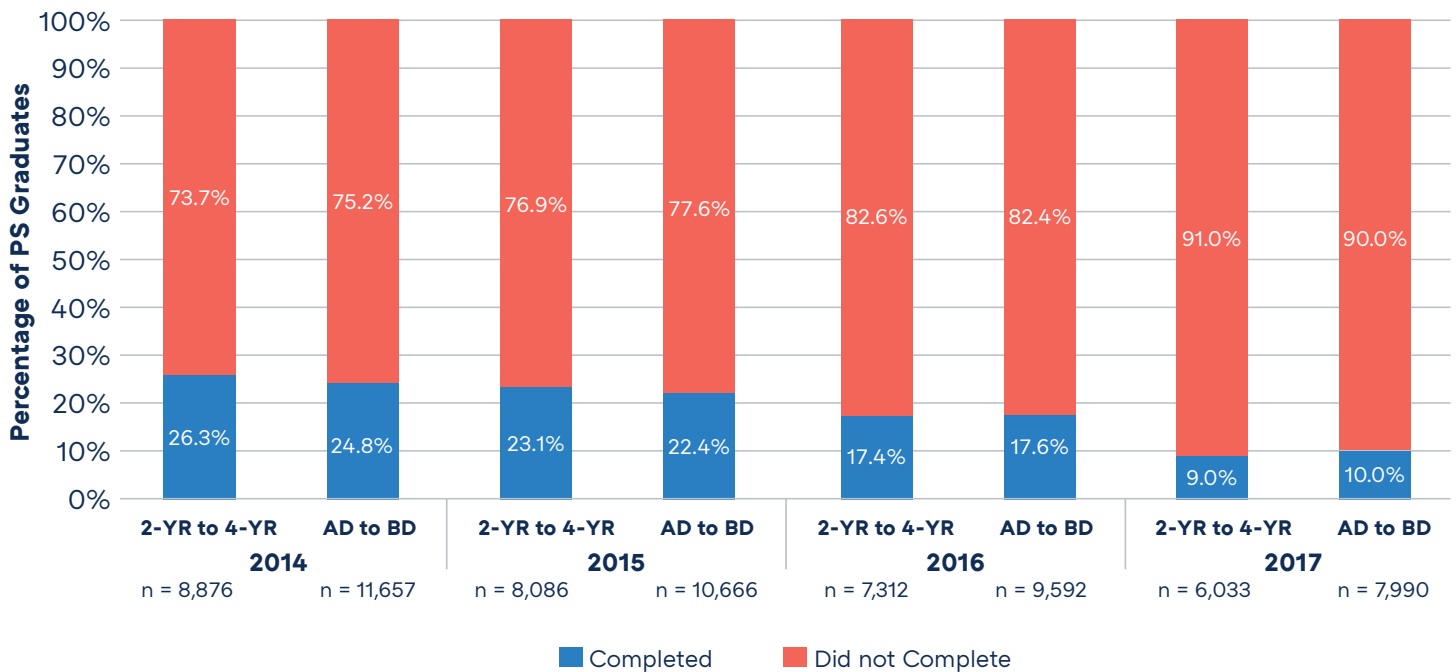


FIGURE 3. Completed a Vertical Transfer Through December of 2021 by Cohort

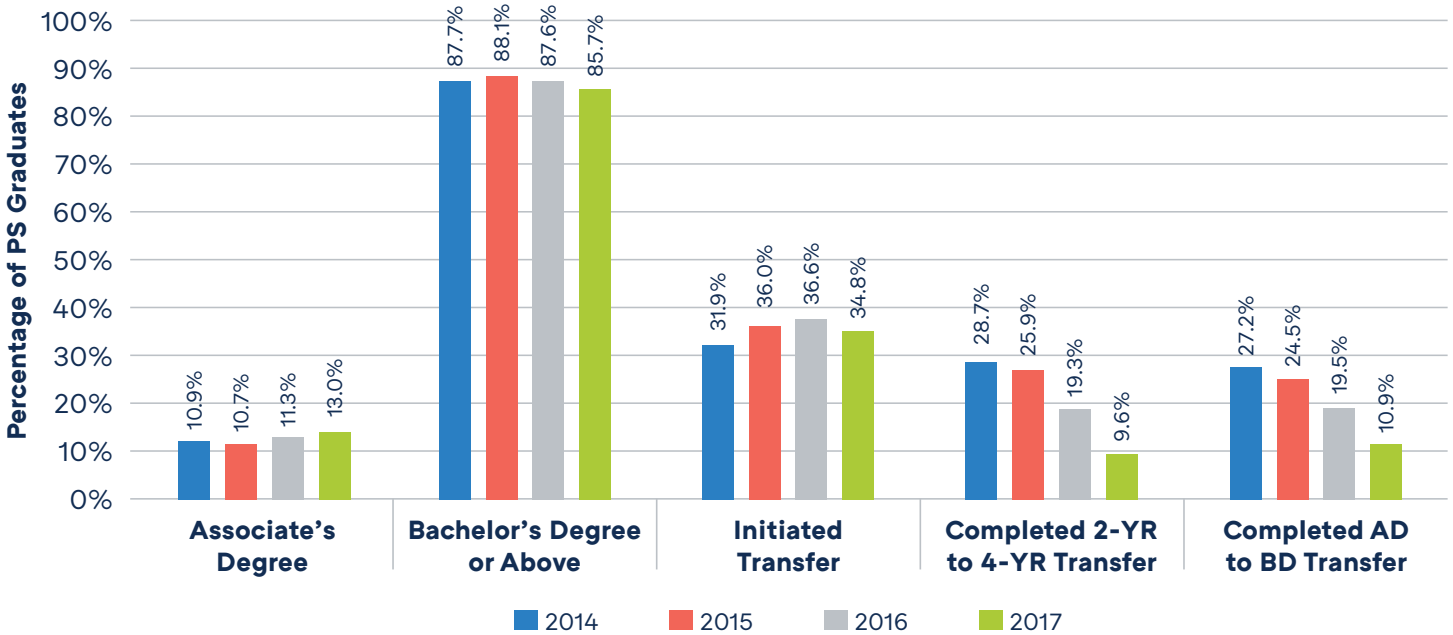


Gender

At least 84% of both male and female post-secondary graduates in each cohort earned a bachelor’s degree or above as their highest degree by December of 2021. Figures 5 and 6 show that female post-secondary graduates had slightly higher rates of earning a bachelor’s degree or above as their highest degree across cohorts compared to male post-secondary graduates (86–88% vs 81–86%). Further, while the majority of each cohort did not initiate a vertical transfer by December of 2021, the rate of female 2-year institution graduates who initiated a vertical transfer (32–37%) was slightly higher than that of males in each cohort (26–30%). Additionally, Figures 4 and 5 show that female post-secondary graduates

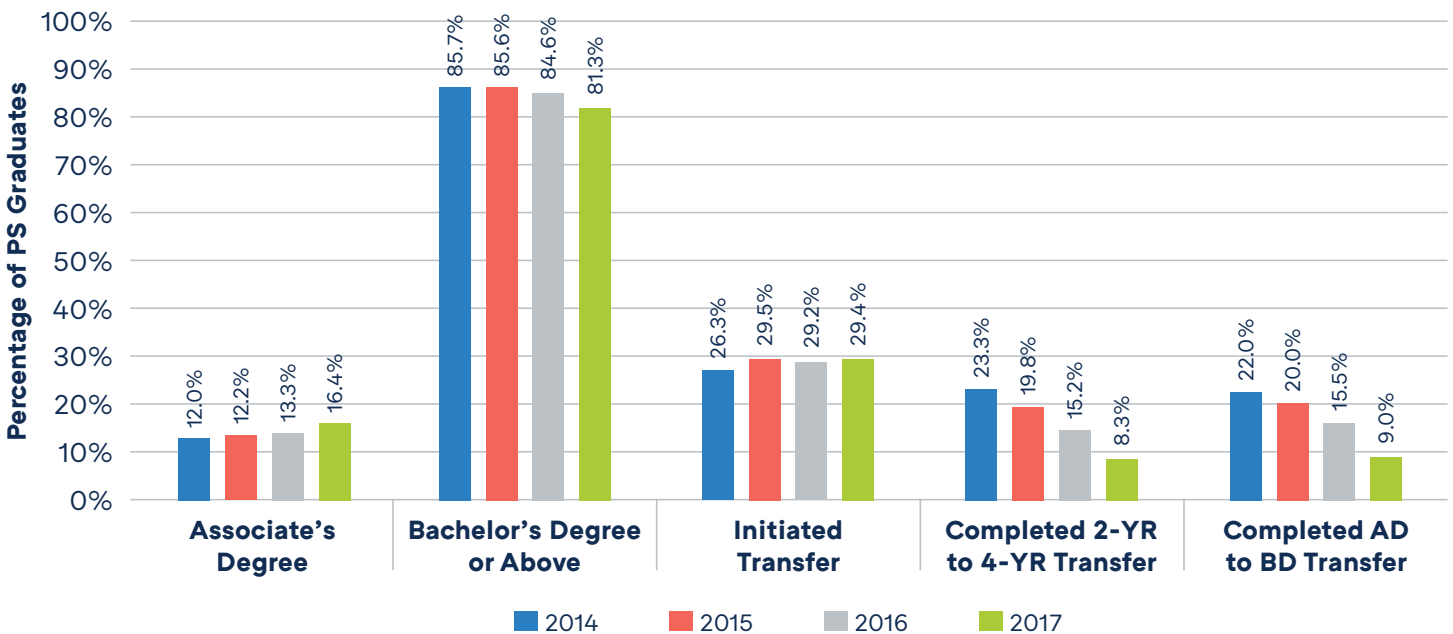
in each cohort completed vertical transfers, by both measures, at slightly higher rates than males. These findings are consistent with a trend over the last decade of women generally reaching higher levels of degree attainment (National Center for Education Statistics, 2022a), and more recent findings of women having shorter average time to degree completion than their male counterparts (Velez et al., 2019). Additionally, regarding vertical transfers, the findings of this study were consistent with those of Shapiro et al. (2017) who found that women have higher rates of transferring out of 2-year institutions (with or without earning a credential) than their male counterparts.

FIGURE 4. Post-Secondary Outcomes through December of 2021 by Gender – Female



See Appendix Table 1 for n's listed by outcome.

FIGURE 5. Post-Secondary Outcomes through December of 2021 by Gender – Male



See Appendix Table 1 for n's listed by outcome.

Special Education Status at High School Graduation

While the majority of post-secondary graduates who were Special Education Status at the time of their high school graduation earned a bachelor's degree or above as their highest degree earned by December of 2021 (51–64%), compared to non-Special Education Status graduates (85–88%) the rate was much lower. Previously Special Education Status graduates in this study also had significantly higher rates of earning an associate's degree (29–41%) as their highest degree compared to non-Special Education Status graduates (11–13%). Further, compared to their counterparts, across cohorts, Special Education Status graduates had much lower rates of initiating and completing a vertical transfer (either measure).

Economic Disadvantaged Status at High School Graduation

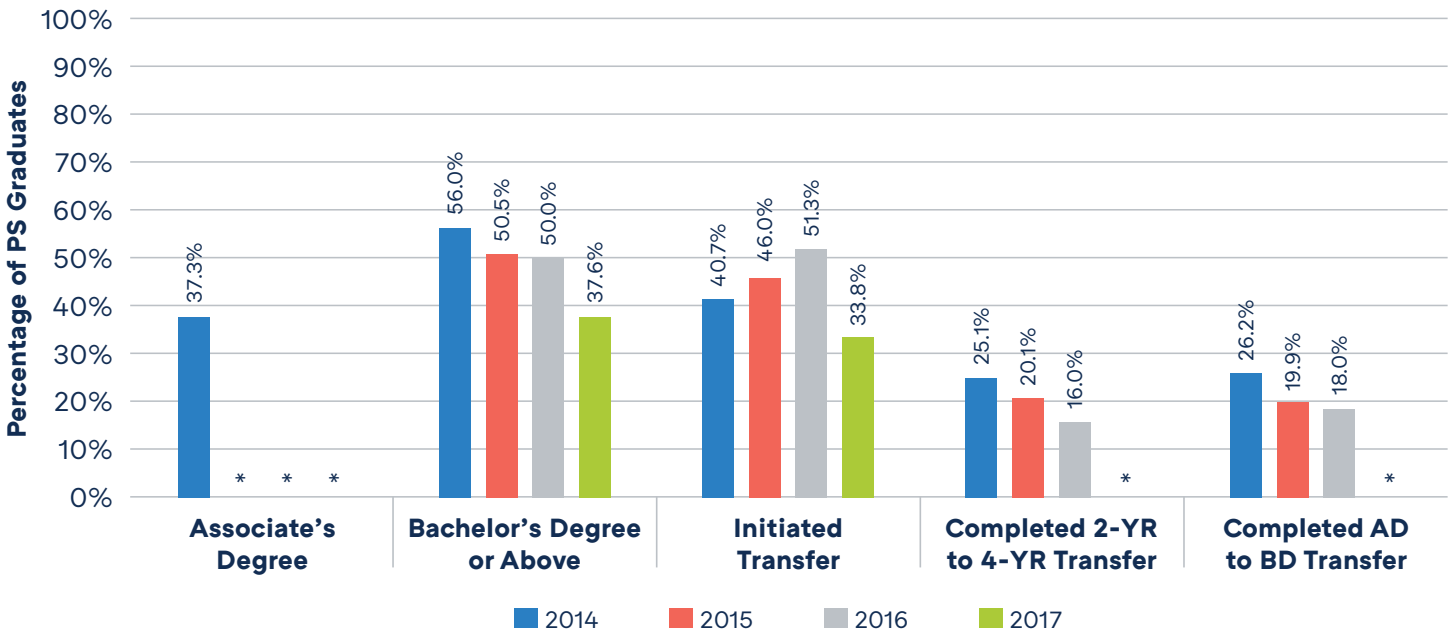
The majority of post-secondary graduates who were Economic Disadvantaged Status at the time of their high school graduation earned a bachelor's degree or above as their highest degree by December of 2021 (71–76%), but across cohorts, the rates were lower than those of non-Economic Disadvantaged Status graduates (87–90%). Conversely, the percentages of previously Economic Disadvantaged Status graduates in each cohort who earned an associate's degree (20–26%) as their highest degree were higher than those of non-Economic Disadvantaged Status graduates (9–12%). Although the rates of initiating a vertical transfer for previously Economic Disadvantaged Status graduates (29–33%) were comparable to those of non-Economic Disadvantaged Status graduates in each cohort, the rates of completing a vertical transfer, by either measure, were slightly lower.

EL Status at High School Graduation

About half of post-secondary graduates who were EL Status at the time of their high school graduation in the 2014–2016 cohorts earned a bachelor's degree or above as their highest degree by December of 2021, however, these rates were significantly lower than non-EL Status graduates (84–87%). Although unsurprising within the context provided throughout this report, only 38% of previously EL-Status graduates in the 2017 cohort had earned a bachelor's degree or above as their highest degree as of December of 2021. Interestingly, Figures 6 and 7 show that previously EL Status graduates in the 2014, 2015, and 2016 cohorts initiated vertical transfers at rates significantly higher than non-EL Status graduates. For the 2017 cohort, the rates were comparable. Finally, the rates at which previously EL Status graduates in the 2014, 2015, and 2016 cohorts completed either measure of a vertical transfer was comparable to the average rate of each cohort. The higher rates of earning an associate's degree and initiating vertical transfers may indicate that previously EL Status graduates in PA are pursuing vertical transfer pathways to bachelor's degree attainment at higher rates than their counterparts. Although, EL Status students may be initiating vertical transfers at a higher rate than non-EL status students, the rates of completing either measure of vertical transfer were comparable between student groups.

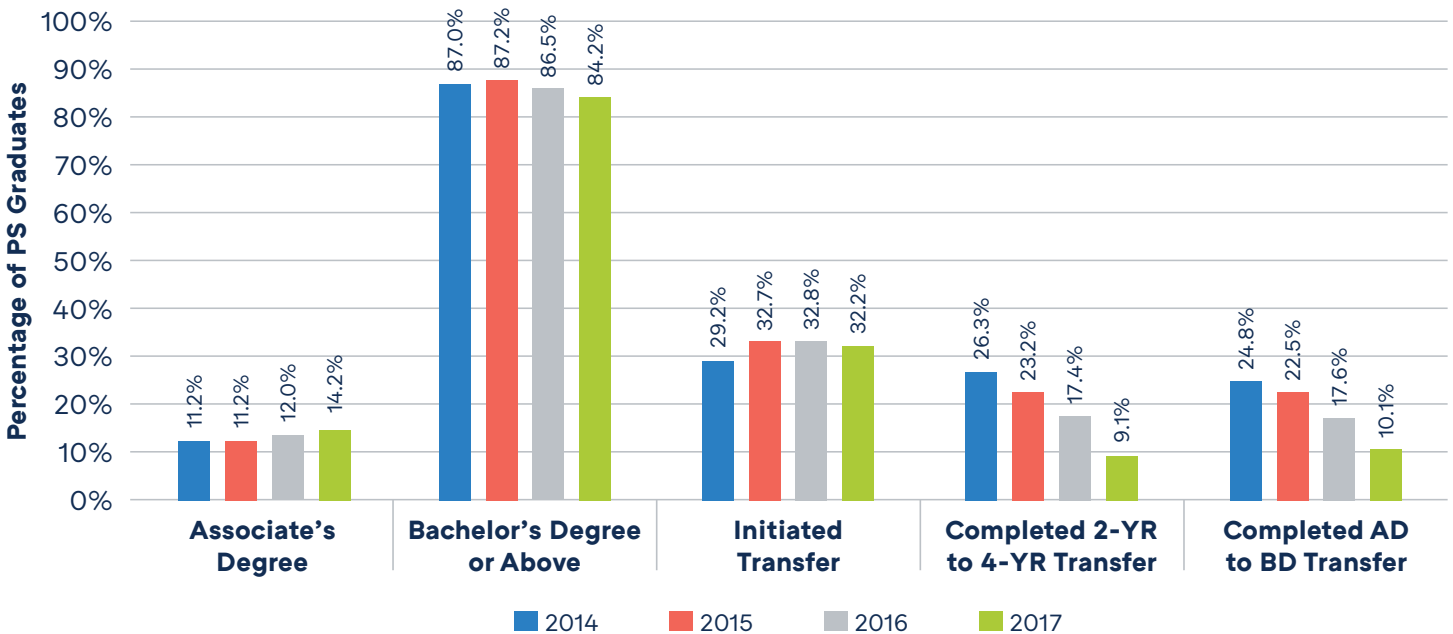
The higher rates of earning an associate's degree and initiating vertical transfers may indicate that previously EL Status graduates in PA are pursuing vertical transfer pathways to bachelor's degree attainment at higher rates than their counterparts.

FIGURE 6. Post-Secondary Outcomes through December of 2021 by EL Status



*Counts too low to report
See Appendix Table 2 for n's listed by outcome.

FIGURE 7. Post-Secondary Outcomes through December of 2021 by Non-EL Status

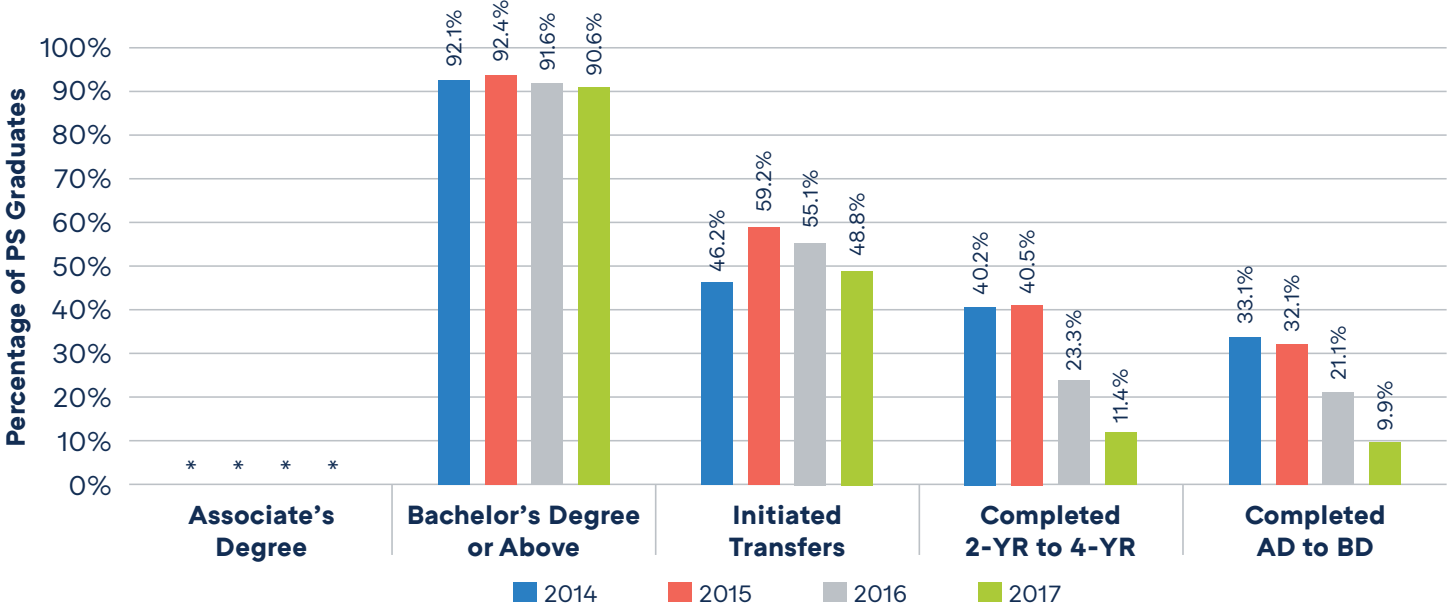


See Appendix Table 2 for n's listed by outcome.

Race/Ethnicity

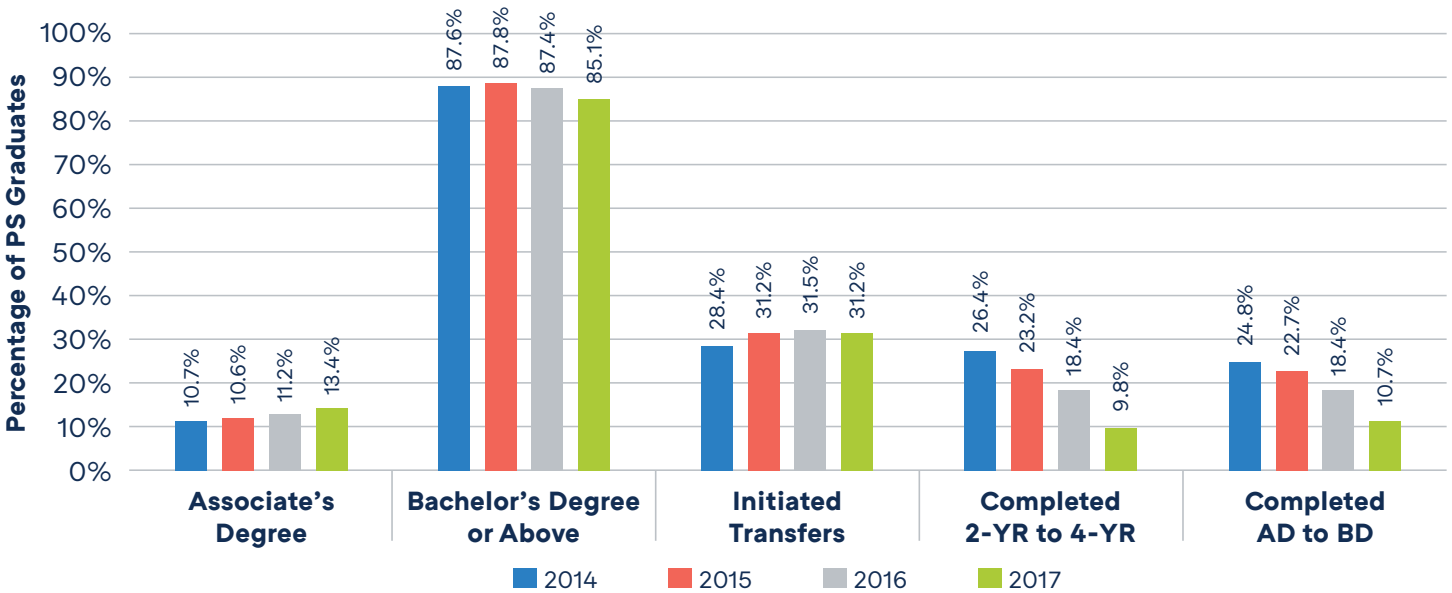
Across all cohorts, a majority of post-secondary graduates earned a bachelor’s degree or above as their highest degree by December of 2021, regardless of race/ethnicity. Figure 8 shows that Asian post-secondary graduates consistently had the highest rates of earning a bachelor’s degree or above as their highest degree as well as initiating and completing vertical transfers by December of 2021. Such findings are consistent with previous findings of Asian students having higher post-secondary educational attainment outcomes than students of other racial/ethnic backgrounds (Espinosa et al., 2019; National Center for Education Statistics, 2022a). Further, Figure 9 indicates that White graduates achieved each outcome at rates consistent with the overall averages.

FIGURE 8. Post-Secondary Outcomes through December of 2021 by Race/Ethnicity: Asian



*Counts too low to report
See Appendix Table 3 for n's listed by outcome.

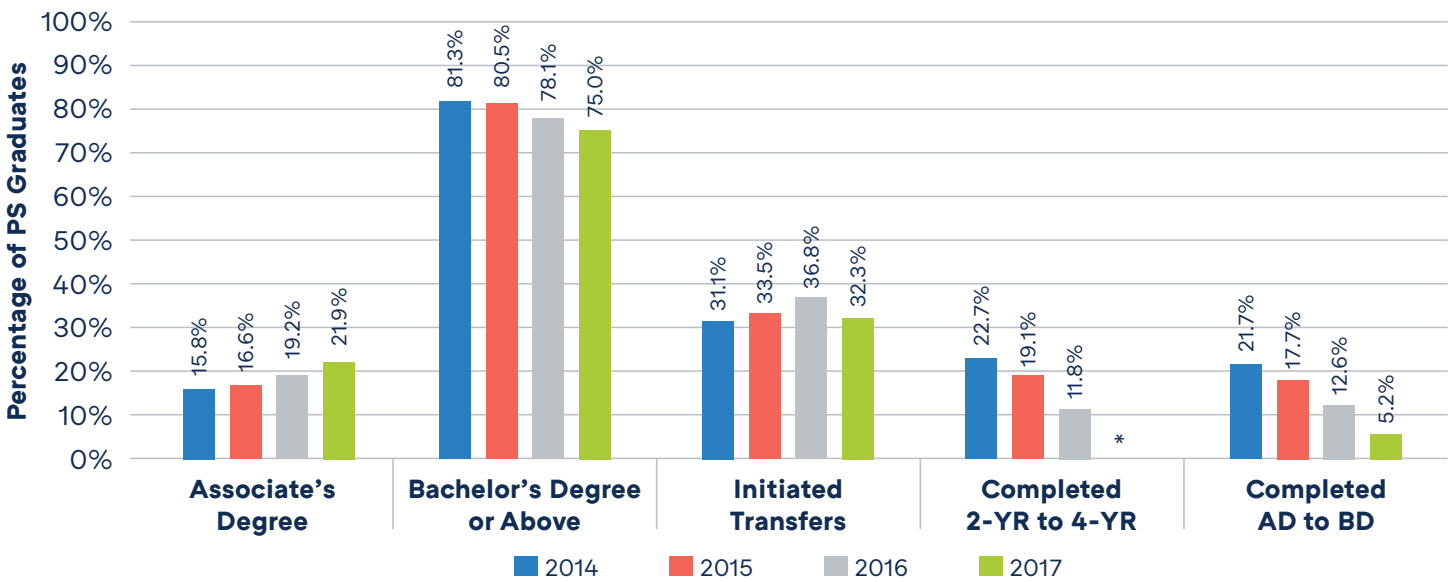
FIGURE 9. Post-Secondary Outcomes through December of 2021 by Race/Ethnicity: White



See Appendix Table 3 for n's listed by outcome.

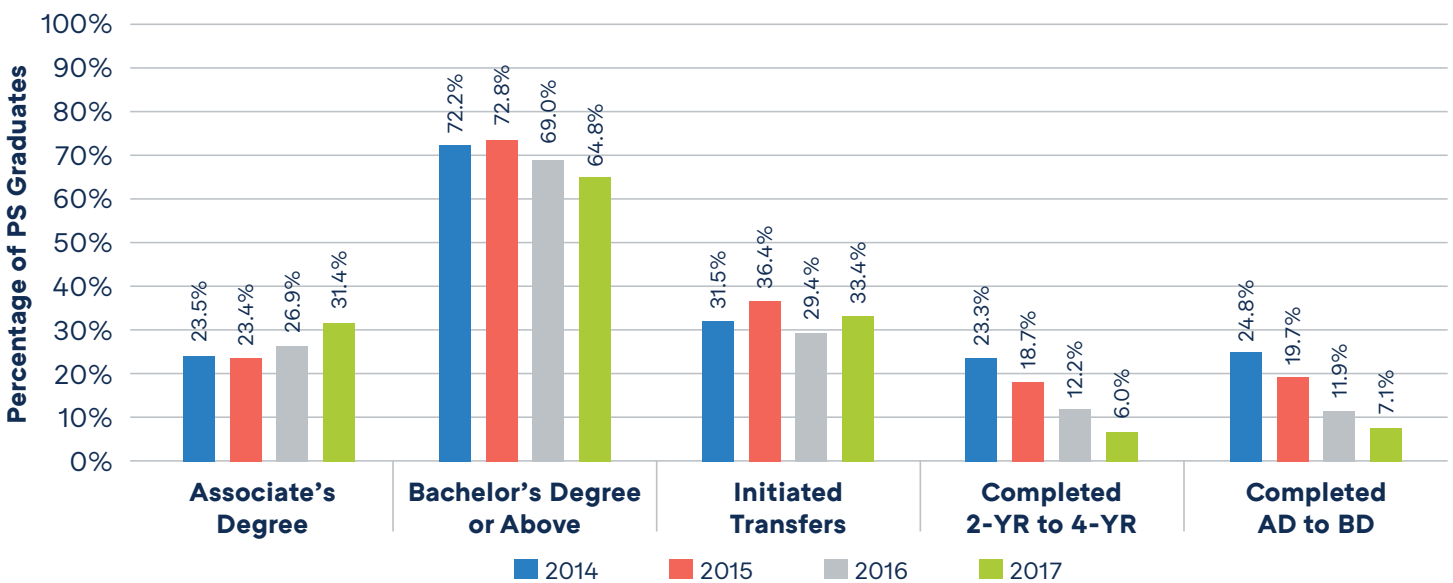
Black or African American, Hispanic, and Multi-Racial graduates all had lower than average rates of earning a bachelor’s degree or above as their highest degree, and rates of initiating a vertical transfer that were consistent with the overall average. However, with regards to completing vertical transfers by either measure, Figures 10-12 show that the rates for these student groups were consistently lower. Previous literature indicates a national trend of Black or African American, Hispanic, and Multi-racial graduates taking longer to earn a bachelor’s degree, on average, than students of other racial/ethnic backgrounds (Velez et al., 2019). The findings of this study, when examined with the findings of Velez et al. (2019), may indicate that in PA, Black or African American, Hispanic, and Multi-racial post-secondary students are potentially utilizing vertical pathways, thus taking longer to reach bachelor’s degree attainment. Future research in PA could more closely examine this trend.

FIGURE 10. Post-Secondary Outcomes through December of 2021 by Race/Ethnicity: Black or African American



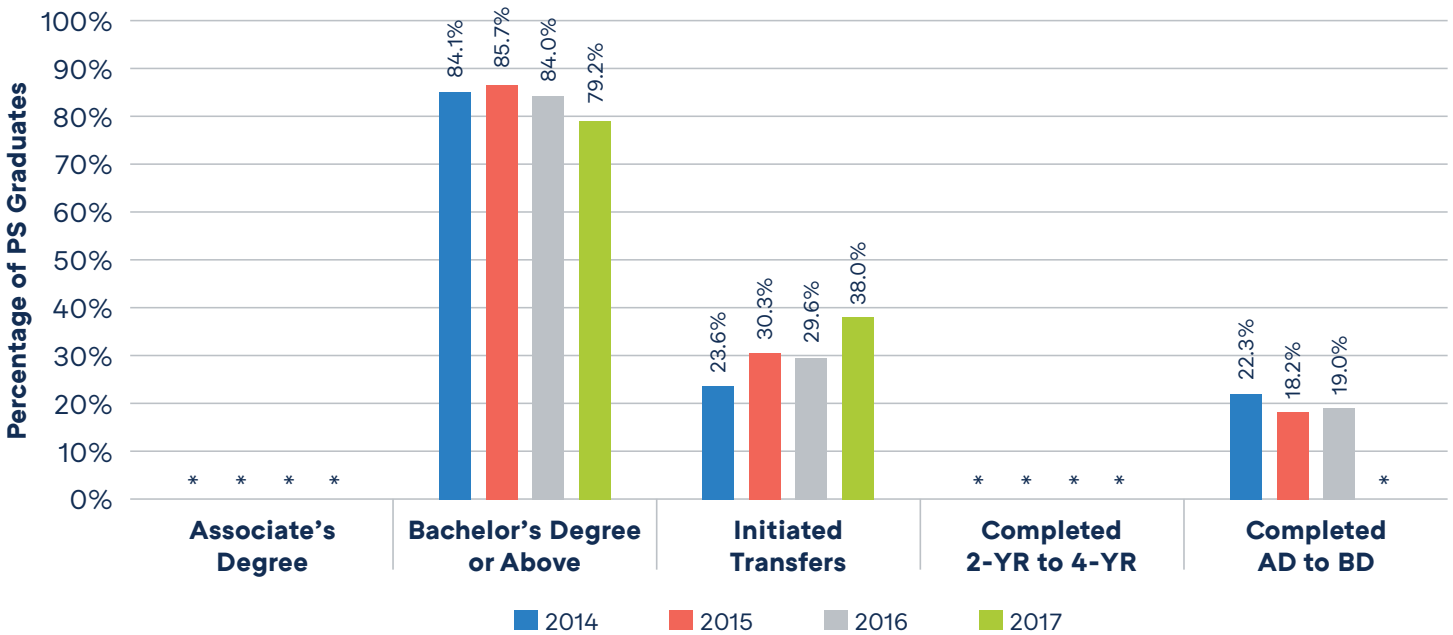
*Counts too low to report
See Appendix Table 3 for n's listed by outcome.

FIGURE 11. Post-Secondary Outcomes through December of 2021 by Race/Ethnicity: Hispanic



See Appendix Table 3 for n's listed by outcome.

FIGURE 12. Post-Secondary Outcomes through December of 2021 by Race/Ethnicity: Multi-Racial



*Counts too low to report
See Appendix Table 3 for n's listed by outcome.

Geographic Region

While the majority of graduates from each geographic region earned a bachelor's degree or above as their highest degree by December of 2021 (77%+), post-secondary graduates from suburban high schools consistently had the highest rates of earning a bachelor's degree or above as their highest degree (87–89%). Further, post-secondary graduates from cities consistently had the highest rates of earning an associate's degree as their highest degree (15–21%), compared to other regions. Greater percentages of suburban graduates initiated and completed vertical transfers, indicating that in PA, suburban graduates had greater overall educational outcomes compared to graduates of other geographic regions. Post-secondary graduates from urban and rural high schools initiated and completed vertical transfers at rates comparable to or lower than the overall average, while graduates from towns consistently had lower than average rates of initiating and completing vertical transfers.

Is credential earning different by sector?

The final portion of this report includes descriptive findings of PA high school graduates based on the type of institution they first enrolled in. In this study, high school graduates who started their post-secondary career by enrolling in a 4-year institution had higher rates of degree attainment, both in degree completion and the highest degree earned, than those who initially began at a 2-year institution. Figure 13 shows that only 23–33% of students who initially enrolled in a 2-year institution earned a credential of any kind by December of 2021, compared to a majority of students who initially enrolled in a 4-year institution (52–72%). Figure 14 shows that although the majority of graduates who initially enrolled in a 2-year institution earned an associate's degree or below (47–73%), a significant portion also went on to earn a bachelor's degree or above. The vast majority (95%) of degree earners who started at a 4-year institution earned a bachelor's degree or above as their highest degree.

FIGURE 13. Credential Earning Through December of 2021 by 2-Year/4-Year Initial Enrollment

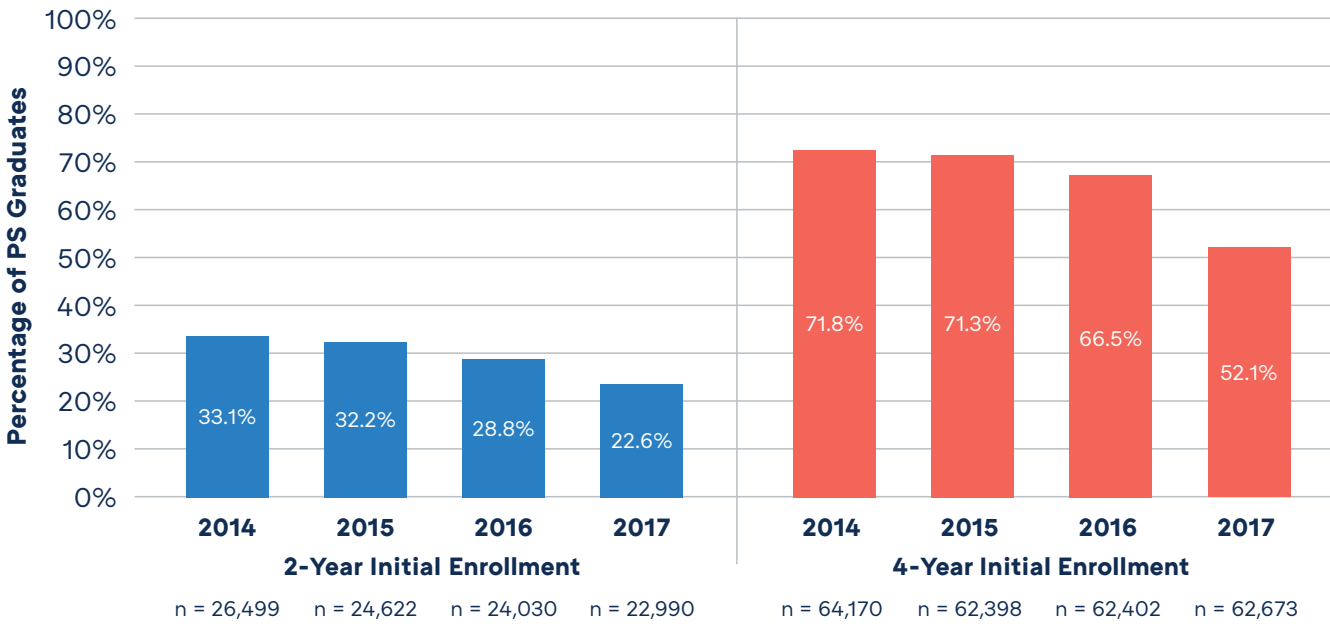
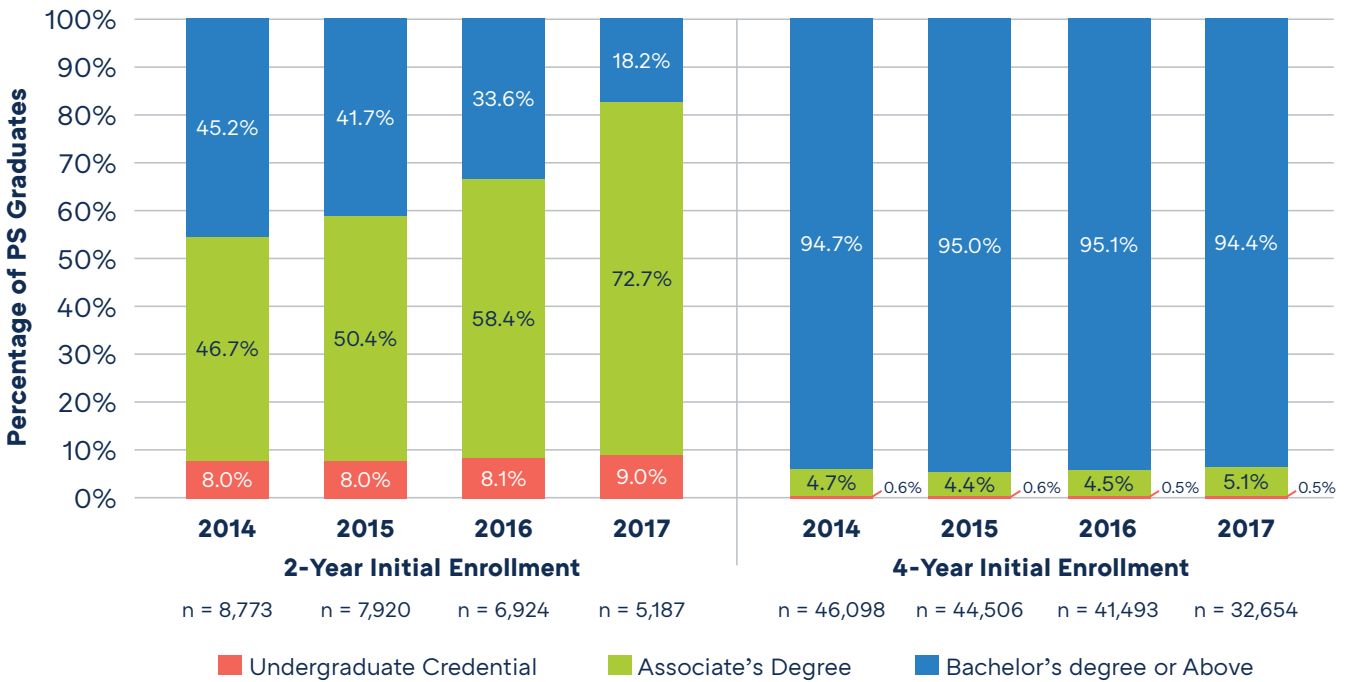


FIGURE 14. Highest Degree Earned by December of 2021 by 2-Year/4-Year Initial Enrollment



This study also found that PA high school graduates who initially enrolled in a private institution had slightly higher rates of educational attainment than those who started at a public institution. Figure 15 shows that 52–69% of those who started at a private institution earned a credential of any kind by December of 2021. Of those who did earn a credential, Figure 16 shows that 92% earned a bachelor’s degree or above as their highest degree. Lower rates of those who started at a public institution earned a credential of any kind (41–58%). High rates of those who initially enrolled in a public institution earned a bachelors’ degree or above as their highest degree (80–85%) but compared to those who began at a private institution, the rate was slightly lower.

FIGURE 15. Credential Earning Through December of 2021 by Public/Private Initial Enrollment

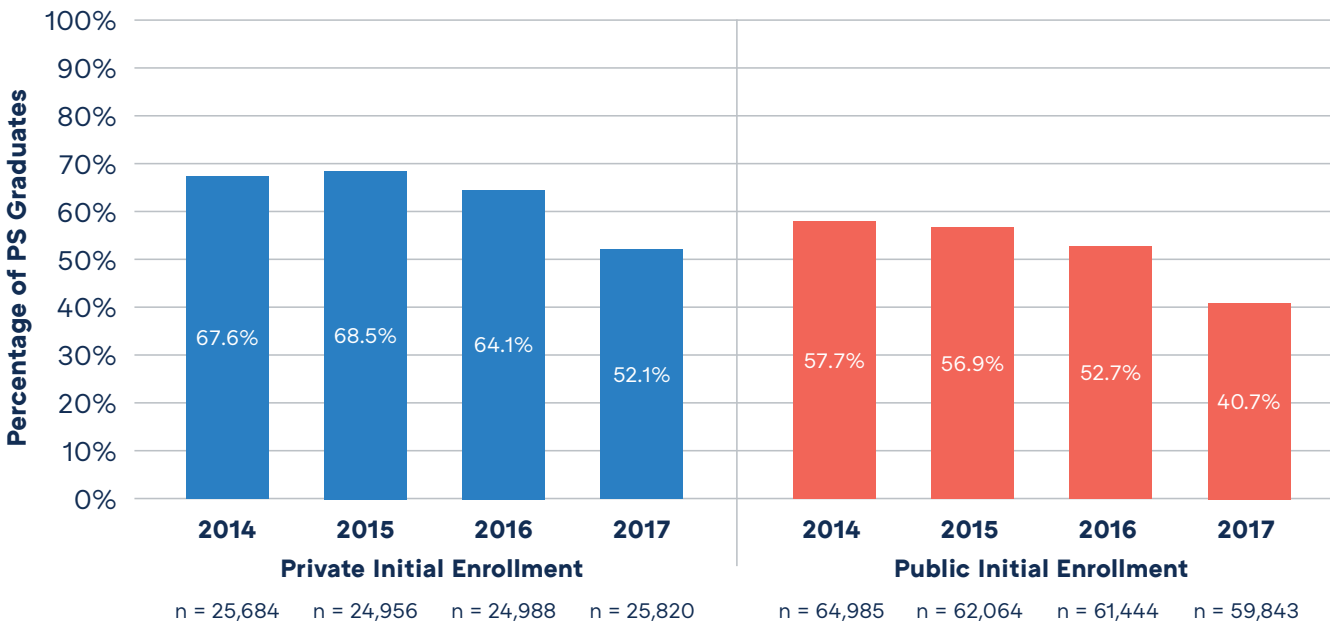
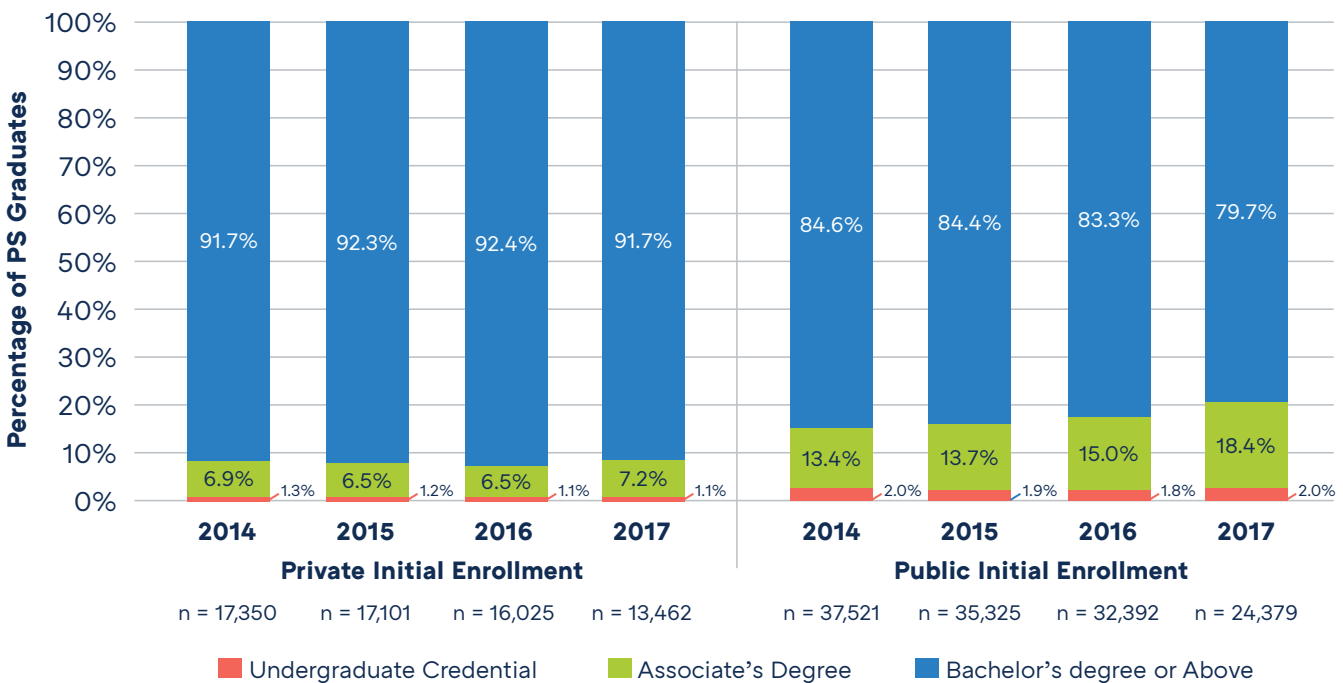


FIGURE 16. Highest Degree Earned by December of 2021 by Public/Private Initial Enrollment



Conclusion

Today, navigating higher education can look much different than it has in the past. Across the nation, rates of overall educational attainment have been increasing (De Brey et al., 2021; Espinosa et al., 2019), and students are choosing various pathways to achieve their desired post-secondary outcomes. Additionally, today's post-secondary students continue to be affected by the Covid-19 pandemic, which not only disrupted in-person learning, but potentially impacted rates of persistence, enrollment (National Student Clearinghouse, 2021) and vertical transfers (Causey et al., 2022). Overall, this study presented descriptive findings to identify some pathways to degree attainment for different student groups in PA. Future research should continue to examine the post-secondary pathways of recent high school graduates in this current landscape of higher education.

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Appendix

TABLE 1. Post-Secondary Outcomes through December of 2021 by Gender

| Female (n) | | | | |
|-------------------------------|--------|--------|--------|--------|
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 30,430 | 29,587 | 27,459 | 22,332 |
| Initiated Transfer | 4,893 | 4,353 | 3,914 | 3,179 |
| Completed 2YR to 4YR Transfer | 4,893 | 4,353 | 3,914 | 3,179 |
| Completed AD to BD Transfer | 6,320 | 5,746 | 5,127 | 4,287 |
| Male (n) | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 24,441 | 22,839 | 20,958 | 15,509 |
| Initiated Transfer | 3,983 | 3,733 | 3,398 | 2,854 |
| Completed 2YR to 4YR Transfer | 3,983 | 3,733 | 3,398 | 2,854 |
| Completed AD to BD Transfer | 5,337 | 4,920 | 4,465 | 3,703 |

TABLE 2. Post-Secondary Outcomes through December of 2021 by EL Status

| EL Status (n) | | | | |
|-------------------------------|--------|--------|--------|--------|
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 327 | 297 | 260 | 202 |
| Initiated Transfer | 167 | 174 | 150 | 130 |
| Completed 2YR to 4YR Transfer | 167 | 174 | 150 | 130 |
| Completed AD to BD Transfer | 202 | 186 | 161 | 130 |
| Non-EL Status (n) | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 54,544 | 52,129 | 48,157 | 37,639 |
| Initiated Transfer | 8,709 | 7,912 | 7,162 | 5,903 |
| Completed 2YR to 4YR Transfer | 8,709 | 7,912 | 7,162 | 5,903 |
| Completed AD to BD Transfer | 11,455 | 10,480 | 9,431 | 7,990 |

TABLE 3. Post-Secondary Outcomes through December of 2021 by Race/Ethnicity

| Asian (n) | | | | |
|--------------------------------------|-------------|-------------|-------------|-------------|
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 2,964 | 2,796 | 2,767 | 2,128 |
| Initiated Transfer | 316 | 316 | 287 | 211 |
| Completed 2YR to 4YR Transfer | 316 | 316 | 287 | 211 |
| Completed AD to BD Transfer | 426 | 442 | 418 | 322 |
| White (n) | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 45,952 | 43,521 | 40,035 | 31,673 |
| Initiated Transfer | 6,910 | 6,208 | 5,496 | 4,652 |
| Completed 2YR to 4YR Transfer | 6,910 | 6,208 | 5,496 | 4,652 |
| Completed AD to BD Transfer | 9,315 | 8,438 | 7,473 | 6,358 |
| Black or African American (n) | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 3,614 | 3,434 | 3,043 | 1,949 |
| Initiated Transfer | 852 | 817 | 761 | 508 |
| Completed 2YR to 4YR Transfer | 852 | 817 | 761 | 508 |
| Completed AD to BD Transfer | 987 | 910 | 820 | 561 |
| Hispanic (n) | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 1,989 | 2,031 | 1,902 | 1,550 |
| Initiated Transfer | 677 | 638 | 641 | 548 |
| Completed 2YR to 4YR Transfer | 677 | 638 | 641 | 548 |
| Completed AD to BD Transfer | 781 | 732 | 720 | 609 |
| Multi-Racial (n) | | | | |
| | 2014 | 2015 | 2016 | 2017 |
| Highest Degree Earned | 527 | 545 | 593 | 477 |
| Initiated Transfer | 106 | 89 | 108 | 100 |
| Completed 2YR to 4YR Transfer | 106 | 89 | 108 | 100 |
| Completed AD to BD Transfer | 130 | 121 | 137 | 120 |

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