EDUCATIONAL AND EMPLOYMENT OUTCOMES FOR THE NEW JERSEY HIGH SCHOOL CLASSES OF 2014 AND 2015

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NJSDS
New Jersey Statewide Data System

Abstract

This report utilizes data stored in the New Jersey Statewide Data System to analyze the trajectories of New Jersey high school students who graduated in the spring of 2014 or 2015. Researchers used descriptive statistics to analyze these graduates' educational and employment outcomes, such as enrollment in postsecondary education, financial aid received, degree attainment, and employment after high school. This analysis highlights the pathways of students after graduation, showing that 66% either immediately enroll in postsecondary education or join the workforce.

Executive Summary

Overview

This is the first in a series of research reports from the New Jersey Statewide Data System (NJSDS) regarding the educational and employment outcomes of New Jersey's high school graduates. This report analyzes the trajectories of high school students after they graduate, including credited higher education and workforce entry, and focuses on differences linked to sex and race/ethnicity.

This study provides evidence to better understand the educational and employment outcomes among different demographic groups, which could support targeted educational and workforce interventions for those who need extra guidance. The insights from this study can be used for shaping policy, thereby fostering an effective transition to both employment and the higher education system. Future analyses should continue to investigate the complexity of these educational and employment outcomes, including the myriad pathways graduates take after high school.

Methods

This study integrated K–12 education through workforce data from all state agencies participating in NJSDS, including the New Jersey Department of Education, the Office of the Secretary of Higher Education, the Higher Education Student Assistance Authority, and the New Jersey Department of Labor and Workforce Development. Researchers used descriptive statistics to analyze educational and employment outcomes, such as enrollment in postsecondary education, financial aid received, degree attainment, and employment after high school. The review focused on aggregated information about New Jersey public high school students who graduated in the spring of 2014 or 2015, totaling 174,162 individuals. The analysis included a minimum seven-year follow-up period.

Findings

Researchers found that 33% of the cohort enrolled in postsecondary education, graduated with some credential or degree, and became employed in New Jersey at some point during the seven-year follow-up period. The second most common trajectory, also among 33% of the cohort, corresponded to entering the workforce in New Jersey after high school without pursuing credited postsecondary education.[1]

[1] There is a slight difference between these two trajectories. The first trajectory, involving enrollment in postsecondary education, graduation, and subsequent employment in New Jersey, includes 33.1% of the individuals. The second trajectory, which consists of entering the workforce directly after high school without pursuing further education, contains 33.1% of the individuals.

Black and Hispanic high school graduates were more likely to pursue postsecondary education without graduating and work in New Jersey at some point during the follow-up period. The majority of Asian high school graduates enrolled in and graduated from postsecondary institutions and became employed in New Jersey. Conversely, white and Black high school graduates were more likely to enter the workforce directly after high school without further education.

In terms of enrollment in credited postsecondary education, 78% of students enrolled immediately after high school with 35% receiving state financial assistance. The seamless enrollment characteristic is relevant according to the research literature, given that those who delay enrollment are less likely to graduate (Bozick & DeLuca, 2005). Heldrich Center researchers found that 61% of those who enrolled directly after high school graduated, while only 33% of those who delayed their enrollment went on to obtain a degree during the study period. In total, 52% of the individuals who pursued further education graduated.

Finally, the employment for this group is reported. The results are consistent with the employment-population ratio for New Jersey, with an annual employment rate ranging from 60% in the seventh year after high school graduation to 72% in the first year after high school graduation.[2]

Future research will include more detailed information on educational attainment beyond high school and a closer analysis of the pathways of the individuals represented in this study. This will provide a better understanding of the individual pathways and the intricate relationships between individuals' decisions about further education and their workforce outcomes.

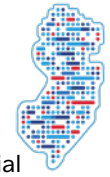
Introduction

Upon graduating from high school, New Jersey students face a variety of pathways, including enrolling in higher education, beginning vocational training, enlisting in the military, or entering directly into the workforce, among other possible experiences. In recent years, the decision-making process regarding these pathways has become increasingly complex due to the United States' shift from a manufacturing-based economy to a knowledge and service-dominated economy, which places a higher premium on advanced education and specialized skills (Carnevale & Rose, 2015). This shift is underscored by recent data showing that New Jersey's higher education enrollment grew by 1% in 2023, the first increase after a decade of decline. Community colleges saw a 4% increase, while four-year public institutions experienced just a 0.2% uptick during this period (Office of the Secretary of Higher Education, 2024).

Amid these economic transformations, several factors may influence the decision on which path to pursue. First, college education costs have risen significantly, making college a substantial financial burden. The increase in tuition, coupled with reduced state and federal support, usually results in students incurring significant debt (Mitchell et al., 2016). Second, there is often a lack of adequate career counseling available to students, which hampers their ability to make informed decisions about their educational and career paths (Strada Education Network, 2023). Additionally, transitioning from education to the workforce can be particularly challenging due to insufficient quality work-based learning opportunities that fail to adequately bridge the gap between the skills job seekers have and the skills sought by employers (Maag et al., 2021; Ross et al., 2020).

These educational and career pathway challenges are exacerbated by systemic disparities that manifest along the lines of sex, race, geographic location, and socioeconomic status. Rural students, often from lower socioeconomic backgrounds and with limited access to advanced programs, face significant obstacles in transitioning to higher education (Byun et al., 2012; Wells et al., 2019). Disparities in sex also persist, with female students demonstrating higher educational participation and persistence

[2] The employment-population ratio for New Jersey in 2022 and 2023 was 61.5% and 62%, respectively (U.S. Bureau of Labor Statistics, 2024).



rates than their male counterparts (Wells et al., 2019; Ross et al., 2012). Moreover, historical disadvantages contribute to racial and ethnic enrollment disparities (Bushnell, 2021; Ross et al., 2012), and English learners and youth with disabilities encounter unique challenges, particularly when accessing four-year colleges (Karvonen et al., 2021; Long et al., 2021; Kanno & Cromley, 2015; Newman et al., 2009). Recognizing and addressing these disparities is essential for advancing the broader goal of promoting educational equity and increasing attainment rates.[3]

To fully understand educational and employment outcomes and their associated disparities, New Jersey policymakers and educators need comprehensive data on the postsecondary paths of high school graduates across the state. This study, the first in a series of reports, explores these pathways. This report delineates post-high school trajectories of individuals, emphasizing distinctions linked to sex and race/ethnicity. Using data from NJSDS, this analysis focuses on the postsecondary outcomes of students who graduated from high school in the 2013–14 or 2014–15 academic years across all regions of New Jersey. It seeks to uncover the diverse outcomes, including engagement in vocational training, higher education, and entry into the workforce, and how these intersect with different demographic characteristics.[4] Future analyses will delve deeper into the nuances of educational and employment pathways.

This study is driven by the need to understand the educational and employment outcomes of post-high school students in New Jersey and how these trajectories vary across different demographic groups. The insights gained from this study are intended to inform targeted interventions to support all students, particularly those facing the most significant barriers to success. Through this analysis, stakeholders can better understand the dynamics of educational attainment and workforce integration, which is crucial for developing policies that support effective transitions into the workforce and higher education systems.

Methodology

This study utilized data from NJSDS, a longitudinal data system that includes administrative data from K–12 education through the workforce in New Jersey. The data used for this study contains information from all agencies that collaborate with NJSDS, including the New Jersey Department of Education, the Office of the Secretary of Higher Education, the Higher Education Student Assistance Authority, and the New Jersey Department of Labor and Workforce Development. Researchers employed descriptive statistics to analyze transition patterns to postsecondary decisions such as college certificates, degree attainment, and employment after high school graduation. Detailed breakdowns by student demographics, including sex and race/ethnicity, were conducted to assess their impacts on post-graduation outcomes.[5]

The study focused on New Jersey high school students who graduated from public schools in the spring of 2014 or 2015, with a cohort comprising 85,735 students from the 2013–14 academic year and 88,427 students from the 2014–15 academic year, providing at least a seven-year follow-up period depending on the cohort.[6] For most of the analysis, both cohorts were combined, resulting in a total sample of 174,162 students. Notably, 1,771 individuals were found only in the New Jersey

[3] For more details, please refer to Appendix A.

[4] Throughout this report, the terms “trajectories” and “experiences” are used interchangeably to explore the educational and employment decisions of high school graduates, viewing them as static points in time (or stock) rather than dynamic processes (or flow). However, distinguishing these concepts from “pathways” is essential, as they refer to postsecondary students’ decisions regarding education and employment. They are seen as dynamic processes in time rather than static points.

[5] For additional information, please refer to Appendix B.

[6] Researchers included only postsecondary students who graduated from public schools in the specified cohorts and had unique hashed Social Security Numbers. This criterion reduced the final cohort size by 10.1% of the high school graduates from those cohorts, corresponding to a reduction from 193,676 to 174,162 individuals. The follow-up period extended from mid-2014 to mid-2022.

Department of Education data. This discrepancy may be attributed to these graduates relocating outside New Jersey, not pursuing further education or becoming employed in New Jersey after high school, working for the federal government, being self-employed, or otherwise not being covered in the Unemployment Insurance wage data.

The study analyzed the educational and employment outcomes of high school graduates without restrictions on postsecondary enrollment after graduation.[7] Only the highest level of completion was included in the analysis. Some students, therefore, completed multiple degrees, but their highest level of education is included in this study. For employment outcomes, the analysis primarily examined annual employment for high school graduates who worked during the follow-up period.

Limitations

This report analyzes information from individuals who graduated from high school in New Jersey in 2014 and 2015. Researchers combined this information from the New Jersey Department of Education with data from other agencies within NJSDS. However, some individuals might be excluded from the information available. For instance, Office of the Secretary of Higher Education data exclude individuals attending proprietary institutions who are not required to report to the federal Integrated Postsecondary Education Data System. Similarly, Unemployment Insurance data do not include individuals working for the federal government or those who are self-employed.

The study faced three limitations. First, a constraint arose from the choice to incorporate only the first postsecondary enrollment of students who graduated from high school. Researchers investigated whether these individuals enrolled at any point after graduation and, if so, whether their enrollment was seamless.

Second, the analysis only considered the highest degree of completion attained by individuals. While this approach allowed researchers to discern the "sheepskin effect" or the signaling impact of holding a degree (Jaeger & Page, 1996), it precluded differentiation of effects among students concurrently pursuing multiple degrees. This limitation highlights a gap in understanding the subtle impacts of educational attainment among individuals navigating multifaceted academic trajectories, a limitation that will be addressed in subsequent reports.

Third, researchers defined employment as any work performed in New Jersey during the corresponding year to provide snapshots of this employment outcome. While this approach facilitated the analysis, it also introduced ambiguity in assessing working dynamics.

Despite these limitations, the study sets the stage for future efforts to improve the analytical framework. Ongoing discussions are focused on enhancing the depth and reliability of the dataset to better understand the intricate relationship between educational and employment pathways in a more dynamic sense.

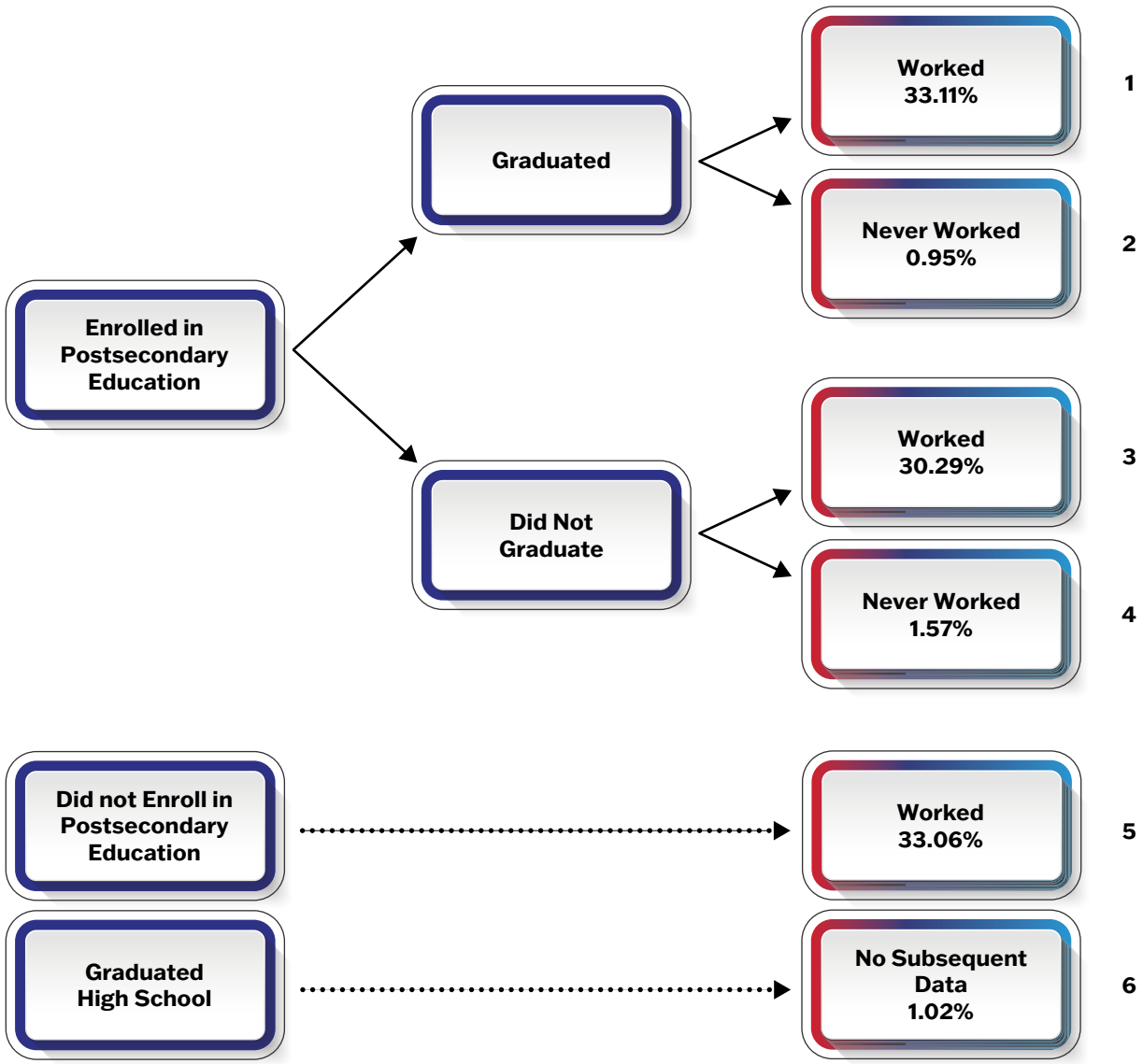
[7] This indicates that researchers accounted for all postsecondary school enrollments, ranging from a single course to doctoral education.

Results and Findings

Post-High School Educational and Employment Outcomes

The first step in the analysis was to define the trajectories reviewed in this initial approximation to better understand the educational and employment decisions students make after high school graduation. The richness of the data available in NJSDS allowed for several student experiences to be analyzed (see Appendix C). However, to summarize the available information and provide common aggregate levels, researchers identified six primary trajectories based on three main outcomes (see Figure 1).

Figure 1: Decision Tree Diagram of Educational and Employment Trajectories



The first outcome is whether the high school graduate enrolls in credited postsecondary education. Of the total cohort, 66% pursued further education as captured in the Office of the Secretary of Higher Education's enrollment records. This broad definition included any enrollment in either a two- or four-year institution, ranging from less than two-year awards to doctoral studies.[8] Of all the individuals who pursued further education, 59% enrolled in a two-year institution, while 41% enrolled in a four-year institution.

The second outcome is whether the students enrolled in further education completed a degree. Of those enrolled, 52% graduated within the seven-year follow-up period. Researchers considered the highest degree or certificate conferred to individuals who pursued further education. This methodological decision aimed to provide insights into the effects of these educational achievements on labor market outcomes and to understand the educational composition of individuals entering the workforce. Of those who graduated, 21% graduated from a two-year institution, while 79.5% graduated from a four-year institution.

The third outcome is whether the individuals who graduated from high school worked at some point during the seven-year follow-up period. Of this cohort, 96% were employed at some point, while 2% were not captured in the workforce data. Employment was defined as working during any quarter of a year during the follow-up period that contributed to Unemployment Insurance data, encompassing both part- and full-time jobs, irrespective of wage levels. Although this methodological approach simplifies the varied post-high school experiences, it offers a snapshot of employment outcomes at specific points in time. Many individuals may have combined work and study in different forms, such as seasonal employment, working while continuing education, or returning to school after being in the workforce. Despite this oversimplification, the results provide a clear and concise overview of these experiences. As noted, future research reports will aim to deepen this analysis, presenting more dynamic trajectories.

Considering the three outcomes, Heldrich Center researchers identified six distinct educational and employment trajectories for high school graduates in New Jersey. Trajectories through which employment records were found, capturing most cohort members, include the first, third, and fifth trajectories. As shown in Figure 1, the first trajectory, involving 33% of individuals, showed that these graduates pursued further education, completed it, and participated in the workforce at some point during the seven-year follow-up period after graduating from high school. The third trajectory captured 30% of the cohort; these individuals enrolled in further education but did not complete their studies and were employed. The fifth trajectory consisted of another 33% of the cohort who bypassed credit-bearing higher education and entered the workforce directly after high school.

Additionally, there are three less common trajectories. The second trajectory included just under 1% of the cohort who completed their education but did not engage in any form of employment. The fourth trajectory includes 1.57% who neither graduated from further education nor participated in the workforce. The sixth trajectory involved 1% of the cohort for whom there was no subsequent data, likely reflecting various life paths, such as relocation out of state. Researchers analyzed the six identified trajectories by cohort year, with the findings detailed in Appendix D. The results showed minimal differences in these trajectories across each academic year for the graduating cohorts. Additionally, a statistical means test was conducted to assess differences in the demographic composition across the two cohorts. It was found that there were no significant statistical differences between the cohorts by sex and Asian race/ethnicity. However, demographic differences were observed in other racial/ethnic groups. The 2014 cohort had more white students, whereas the 2015 cohort had more Black and Hispanic students, as well as those who identify in the "other" racial/ethnic category.[9] Given similar trends in educational and

[8] For students who enrolled in more than one degree or certificate program after high school graduation, only the date of the first enrollment was considered. Further analysis is under development to include information about individuals with multiple enrollments.

[9] The "other" racial/ethnic group includes the following races/ethnicities: American Indian or Alaska Native, multiple races/ethnicities, Native Hawaiian or Pacific Islander, and unspecified.

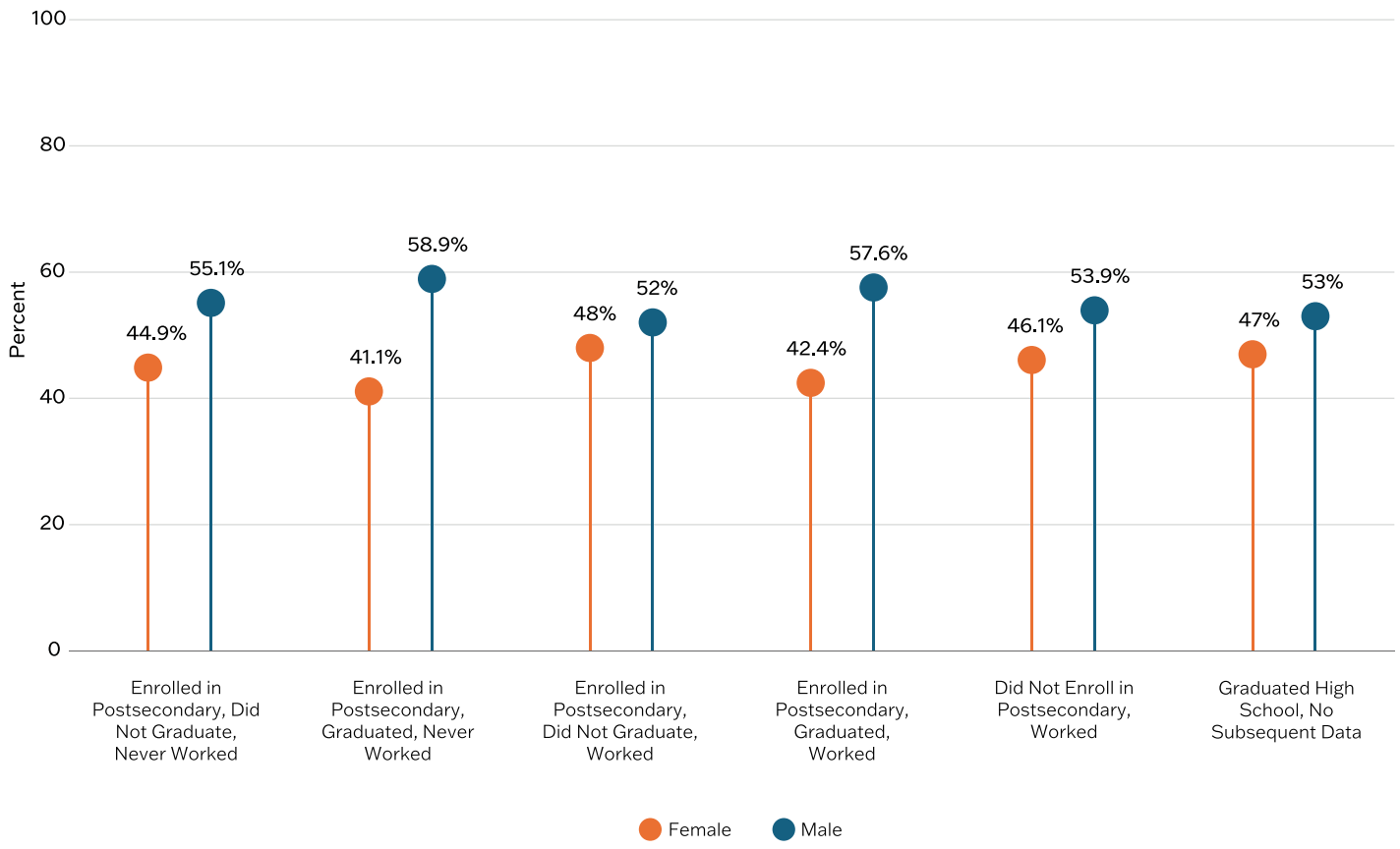
employment experiences and acknowledging the demographic similarities and differences across the cohorts, all further analysis is conducted on the aggregated data. This approach provides a larger sample size and increases the generalizability of the study's results.

Post-High School Educational and Employment Outcomes by Demographic Characteristics

This section explores the demographic variations in the identified six educational and employment outcomes among New Jersey students. The outcomes were segmented by sex and race/ethnicity to understand how these characteristics influence educational and employment experiences following high school.

Figure 2 delineates the sex-specific variations in the six identified post-high school educational and employment outcomes.[10] Of the total cohort, 49.7% were females and 50.3% were males. Building on this, males had particularly high participation rates in scenarios that combine education with employment. For example, 58% of those who enrolled in postsecondary education graduated and worked at any point during the seven-year follow-up period were male, while only 42% were female. This indicates a notably higher proportion of males than females among those who completed postsecondary education and participated in the workforce at some point during the follow-up period. However, the sex distribution is more balanced when looking at those who engaged in employment at any point during the seven-year follow-up period but did not complete their postsecondary education. In this experience, the representation was 52% male and 48% female, suggesting a more even participation in employment for those who did not finish their educational journeys.

Figure 2: Aggregate Postsecondary Outcomes by Sex



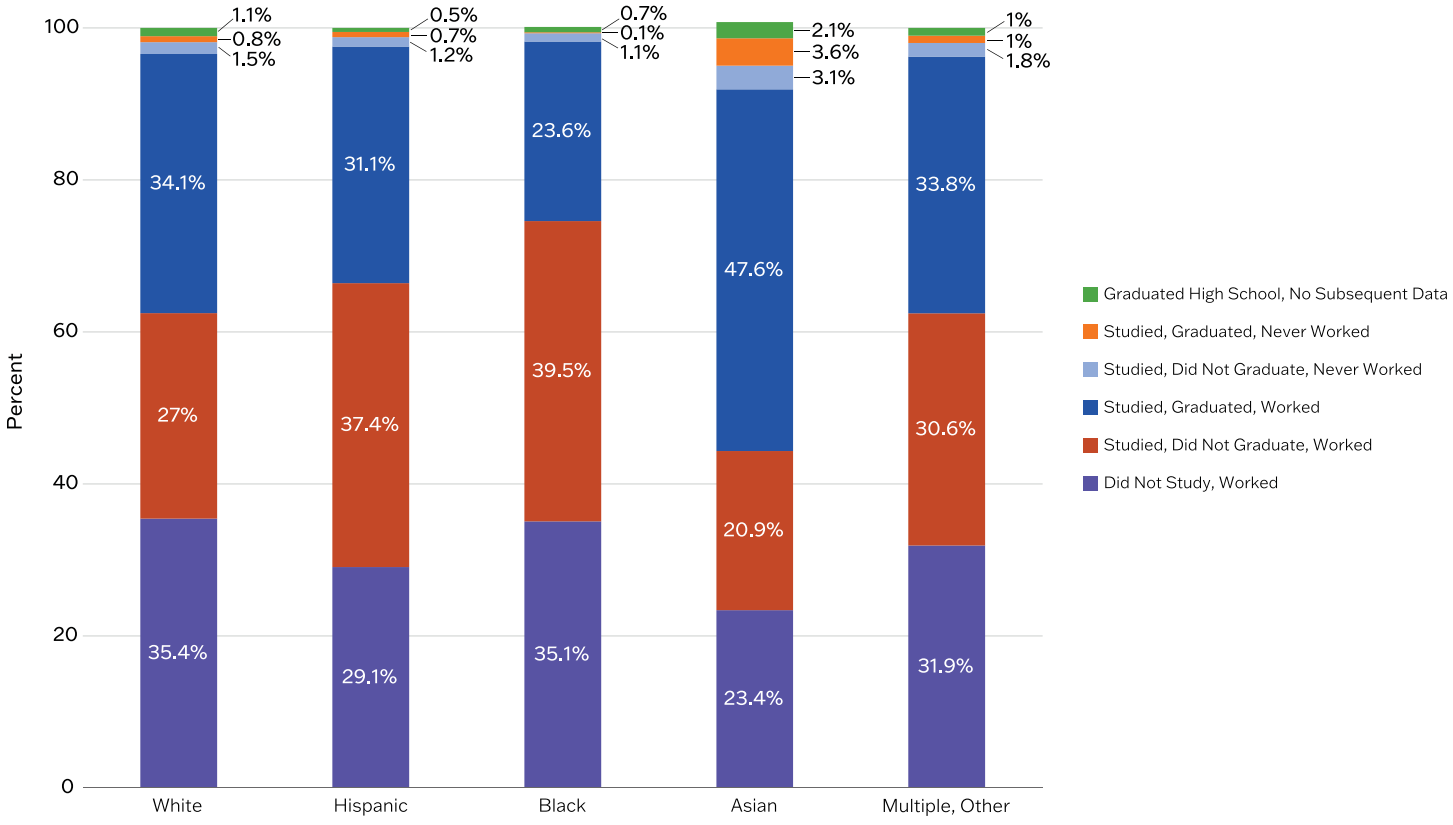
[10] Researchers use sex instead of gender because the data categorizes individuals as either male or female and does not include any other category.

Figure 3 illustrates the variation in the six identified educational and employment trajectories across race/ethnicity.[11] Asian students led with 47.6% completing postsecondary education and participating in the workforce within the seven-year follow-up period. They were followed by white students (34.1%) and the "other" category (33.8%).

Conversely, Black (39.5%) and Hispanic (37.4%) students had the largest percentages of individuals who began postsecondary education but did not complete it yet were seen in the workforce during the follow-up period. This suggests potential barriers to completing postsecondary education for these groups. Additionally, Black (35.1%) and white (35.4%) students showed substantial proportions who engaged in the workforce without participating in postsecondary education during the follow-up period, indicating their direct involvement in the labor force without further educational pursuits.

Black and Hispanic students were more likely to enroll in but not complete postsecondary education, though they remained active in the workforce. This persistent trend underscores the need for research into the barriers that impede postsecondary completion for these students, potentially guiding future educational interventions and support mechanisms.

Figure 3: Aggregate Postsecondary Outcomes by Race/Ethnicity



[11] Researchers have aggregated data from several smaller demographic groups — American Indian or Alaska Native, multiple races, Native Hawaiian or Pacific Islander, and unspecified — into the "other" category to minimize data suppression.

Post-High School Graduation Outcomes for Individuals Pursuing Further Education

This section provides information about the outcomes for high school graduates who enrolled in credit-bearing postsecondary education. As previously mentioned, enrollment in further education includes both two- and four-year institutions across various types of awards. Researchers distinguished between seamless enrollment — immediately after high school graduation — and delayed enrollment — enrollment that occurred after the fall semester following high school graduation. This distinction is significant because evidence shows that students who postpone enrollment are less likely to graduate (Bozick & DeLuca, 2005). Additionally, students who delay enrollment are more likely to come from families with fewer resources and are typically first-generation college students (Bozick & DeLuca, 2005; Wells & Lynch, 2012).

Figure 4 shows enrollment into further education, whether enrollment was seamless, and whether the individuals graduated. Students who seamlessly enrolled in education immediately after high school graduation had a higher graduation rate than those who delayed this decision. Specifically, 61% of those who enrolled seamlessly graduated, while only 33% of those who delayed their enrollment graduated.

Additional research should focus on identifying the characteristics of students who delay their enrollment to understand the reasons behind this decision, as these factors may also affect their graduation rates.

Figure 4: Aggregate Enrollment in Further Educational Outcomes

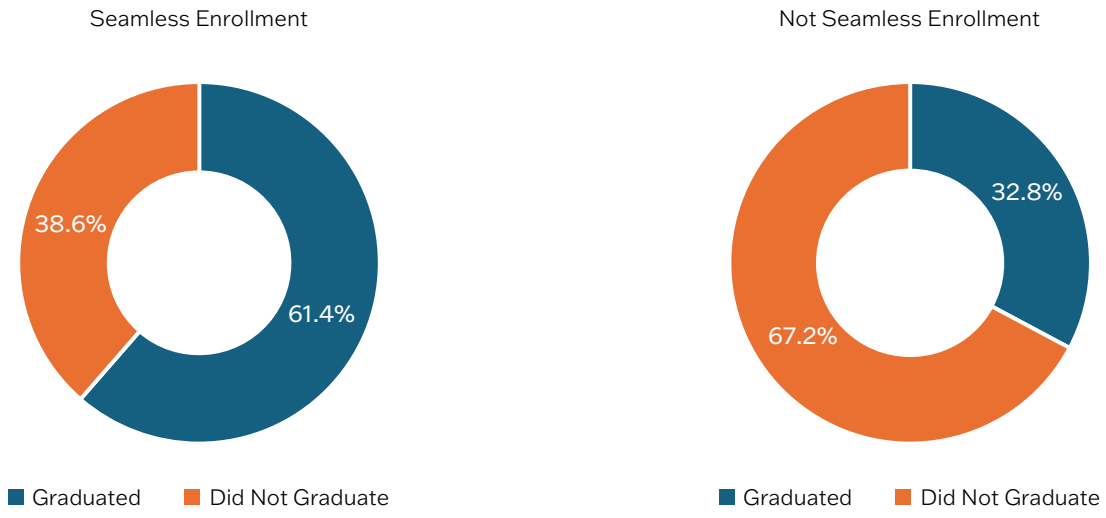
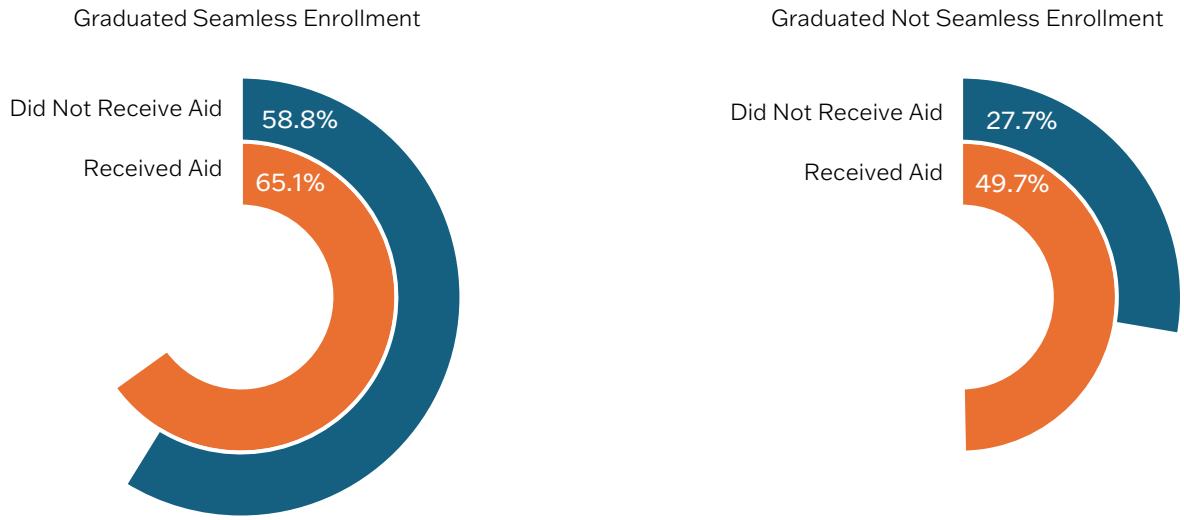


Figure 5 provides information on whether students received financial aid at any point during their further education. Financial aid significantly affects a student's ability to afford higher education, and research indicates that financial assistance is crucial for completion (Benson, 2019). Among students who seamlessly enrolled in further education after high school and graduated, 65% received financial aid. Additionally, among students who did not seamlessly enroll in further education after high school and graduated, 50% received financial aid.

Figure 5: Aggregate Aid Received in Further Educational Outcomes



Students who did not receive financial aid were more likely to graduate than those who did receive support. This difference was particularly pronounced among individuals who delayed their enrollment, as 65% graduated without financial aid. Moreover, the highest number of non-graduates was found among those who delayed their enrollment, especially among those who did not receive financial aid. These findings suggest that while financial aid is crucial for many students, those who delay enrollment and do not receive aid are particularly at risk of not completing their education.

Higher Education Award Type Aggregated by Demographic Characteristics

This section provides detailed information about individuals who enrolled in further education and successfully obtained their certifications or degrees.[12] Fifty-two percent (52%) of the individuals who pursued further education graduated, representing 59,332 individuals.

The degree with the highest concentration of recipients was a bachelor's degree (67%), followed by an associate degree (20%) and a master's degree (10%). These results align with findings from Espinosa et al. (2019), who analyzed educational experiences by race and ethnicity. Their report, based on the 2017 Current Population Survey, examined educational attainment across all levels, whereas this analysis focused solely on further attainment for high school graduates.

[12] It is relevant to mention again that if an individual received more than one award in the seven-year follow-up period, the highest certification or degree awarded was considered by the researchers.

Figure 6 presents the breakdown of degrees awarded by sex, considering that among all graduates, females correspond to 55%. This result is consistent with Espinosa et al. (2019), who found higher educational attainment percentages for females across racial and ethnic groups. For the first three degrees attained, the differences between female and male students were relatively small. However, for other degrees and certificates, female students exceeded 60% of the total number of individuals who achieved those awards. This result suggests that females are more likely to pursue higher degrees seamlessly during the follow-up period.

Figure 6: Highest Degree Attained in Postsecondary Education by Sex[13]

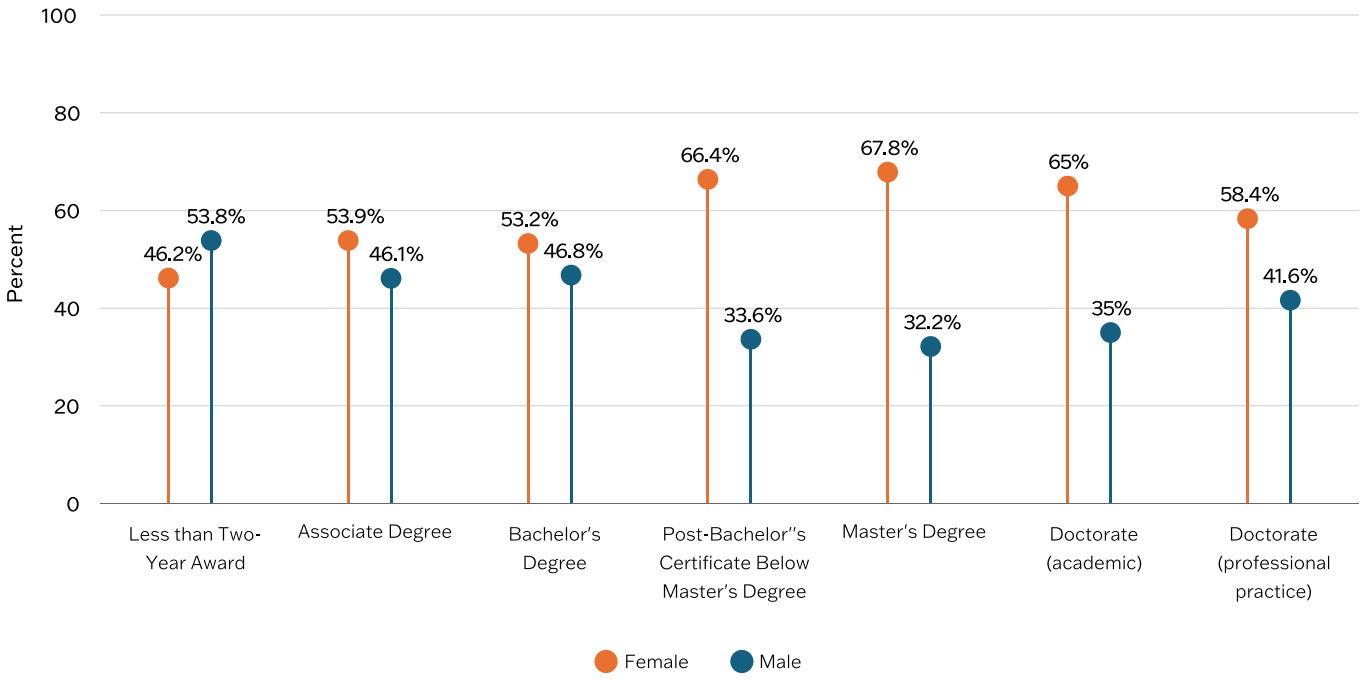
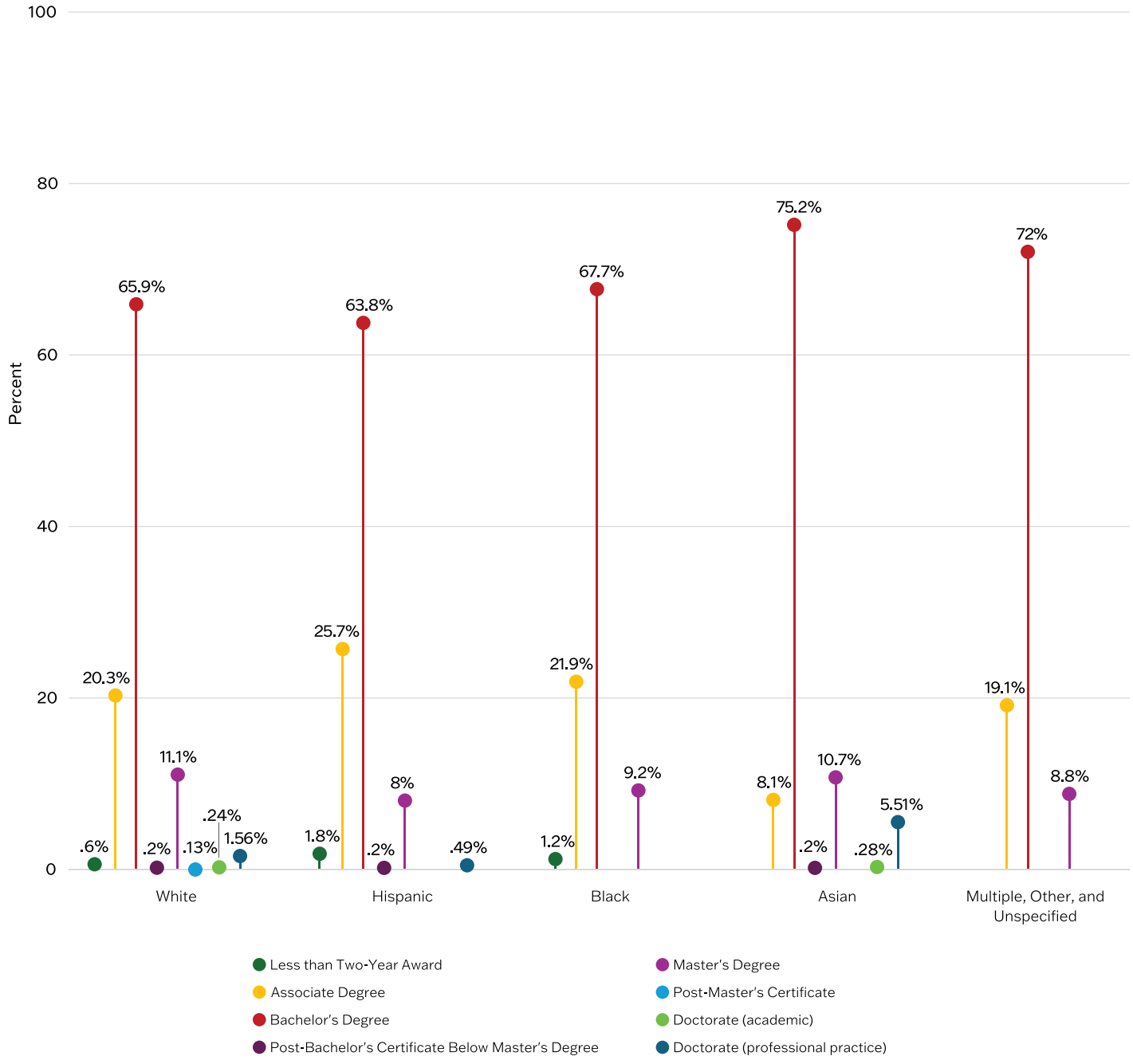


Figure 7 provides information on educational attainment by race/ethnicity. provides information on educational attainment by race/ethnicity. White students had fewer than 1% of degrees or certifications in less than two-year awards (0.6%), post-bachelor's certificates below a master's degree (0.2%), post-master's certificates (0.13%), and academic doctorates (0.24%).

Among those who pursued further education and obtained a degree, most of the students were white (58%), followed by Hispanic (18%) and Asian (13%). These values are somewhat close to the population distribution of New Jersey according to 2020 U.S. Census data, which list the individuals' race/ethnicity composition as white (62%), followed by Hispanic (19%), Black (12%), and Asian (6%), with the remainder for other categories. However, one notable difference exists: Asian students were overrepresented in degree attainment (Espinosa et al., 2019).

[13] Data were suppressed in categories with fewer than 10 individuals to protect privacy, such as in the case of "post-master's certificate" recipients.

Figure 7: Highest Degrees Attained in Postsecondary Education by Race/Ethnicity



White students had fewer than 1% of degrees or certifications in less than two-year awards, post-bachelor's certificates below a master's degree, post-master's certificates, and academic doctorates. Their distribution primarily includes some professional practice doctorates, but mostly associate, bachelor's, and some master's degrees. Hispanic students showed a similar pattern but had a higher number of less-than-two-year awards and associate degrees. Black students exhibited a similar distribution to Hispanic students, though the number of doctoral awards in academic and professional practice is suppressed due to small sample sizes. Asian students had the third-highest number of bachelor's degrees and the second-highest number of

professional practice doctorates. The final category, which includes multiracial/ethnic, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, and unspecified individuals, comprised around 530 individuals and followed the same trends as the overall cohort.

Overall, the results in this section indicate that a bachelor's degree is the most attained degree in further education across all races and ethnicities. White individuals led in all categories, but Hispanics followed closely in less-than-two-year awards, and Asian graduates were prominent in doctoral (professional practice) degrees. Additionally, when considering the cumulative percentages of individuals who attained a degree or certificate in further education, Heldrich Center researchers found that Asians had a higher representation compared to their overall population percentage in New Jersey.

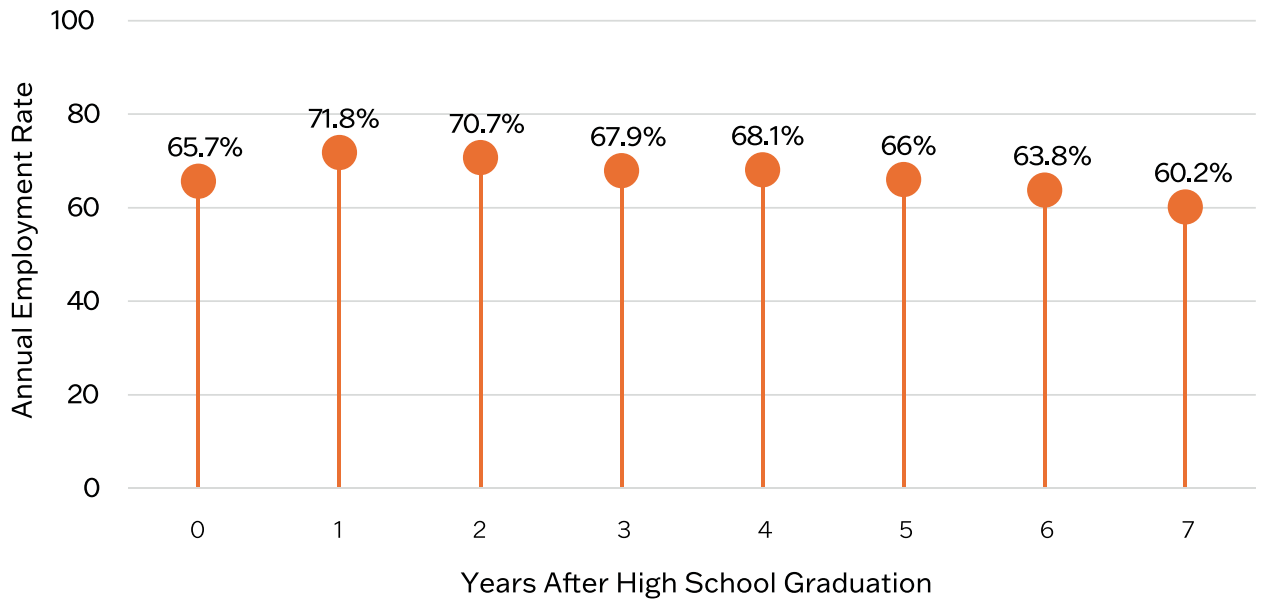
Post-High School Graduation Workforce Outcomes

The final analysis examines workforce outcomes, specifically annual employment in New Jersey during the seven-year follow-up period. An individual was considered employed if they worked in any quarter of that year in a job that was covered by Unemployment Insurance. This includes both part- and full-time jobs and does not impose any minimum-wage requirements.

Figure 8 shows the proportion of individuals who worked at least one quarter during the year after high school graduation relative to the total number of individuals in the cohort. This shows an annual employment rate ranging from 60% in the seventh year after high school graduation to 72% in the first year after graduation. These findings are consistent with the employment-population ratio for New Jersey in 2022 and 2023, which was around 62% (U.S. Bureau of Labor Statistics, 2024).

In the year immediately following high school (year zero), the annual employment rate was around the middle of the range observed over the seven years. It peaked in the first year after high school and then gradually declined in subsequent years. However, further research is needed to include a closer analysis of the pathways of the individuals represented in Figure 8 and more information regarding their employment trends.

Figure 8: Annual Employment in New Jersey After High School



Conclusion

As high school graduation approaches, New Jersey students may feel overwhelmed by the various paths available to them, including moving on to higher education, enrolling in vocational training, joining the military, and entering the workforce, among other potential pathways. The process of making these decisions has become more complex due to a rapidly changing labor market.

This study represents the first in a series of reports that describe critical trajectories of postsecondary education and workforce participation for New Jersey high school students who graduated in 2014 or 2015.

Researchers found that 33% of the cohort enrolled in postsecondary education, graduated with some credential or degree, and were employed in New Jersey at some point during the seven-year follow-up period. The second most common trajectory, also with 33% of the cohort, involved entering the workforce in New Jersey after high school without pursuing postsecondary education. Males consistently showed higher workforce participation across all trajectories.

In terms of race/ethnicity, Black and Hispanic graduates were more likely to pursue postsecondary education without graduating and work in New Jersey at some point during the follow-up period. A majority of Asian graduates pursued postsecondary education, graduated, and became employed in New Jersey at some point during the follow-up period. Conversely, white and Black graduates were more likely to enter the workforce directly after high school without further education.

In terms of enrollment in further education, 78% of students enrolled immediately after high school. Only 52% of those who pursued further education graduated. Among those who enrolled directly after high school, 61% graduated, compared with only 32.8% of those who delayed their enrollment. These results are consistent with the research literature that indicates benefits associated with seamlessly enrolling in further education.

Among all students who enrolled in further education, only 35% received financial aid. Most students who received aid (78%) enrolled immediately after graduating from high school. Interestingly, there was a high graduation rate among students who did not receive financial aid compared with students who received assistance, especially among the deferred category, where 65% graduated without aid.

By degrees awarded, the most significant proportion was awarded at the bachelor's level (67%), followed by the associate level (20%) and the master's level (10%). Females accounted for 55% of all graduates. Educational attainment by race/ethnicity largely paralleled the New Jersey population distribution, except that Asian graduates' percentage representation in educational attainment surpassed their percentage in the overall population.

The last outcome reviewed by researchers was the annual employment rate, which ranged from 60% in the seventh year after high school graduation to 72% in the first year. Though the results are consistent with current figures, further efforts are being analyzed to be able to include information about wages and a closer analysis of the pathways of the individuals represented in this study.

This report summarizes the initial exploration of high school graduates' post-graduation experiences. The results highlight the diverse paths taken and the impact of decisions such as seamless enrollment and financial aid on outcomes, which varied across sex and race/ethnicity. However, further research is needed to identify the nuances of these trajectories and to determine the statistical significance of the findings presented in this report.

Appendix A: Literature Review

As the economy transitions from manufacturing to a knowledge-based model, most jobs now require some level of postsecondary education (Carnevale & Rose, 2015). In 2023, 61.1% of high school students in the United States directly entered college (U.S. Bureau of Labor Statistics, 2023). Despite this trend, differences persist in who completes various levels of postsecondary education, often resulting in disparities in earnings and employment rates. An array of systemic factors, including race, sex, socioeconomic status, and disability, influences these educational pathways. This appendix explores how these factors shape college and career participation and success, highlighting the crucial role of higher education in today's economy and the ongoing challenges related to equitable access to education and the workforce.

Sex

In recent years, the lens of sex has increasingly been used to examine disparities in educational attainment and subsequent career outcomes. In 2022, the immediate college enrollment rate for male students was 57% compared with 66% for females, with significant disparities in enrollment in four-year institutions (38% for males compared with 51% for females) (National Center for Education Statistics, 2024). Females continue to face persistent wage gaps despite higher educational attainment. Moreover, females earned only 81 cents for every dollar earned by males in 2016. This figure has only modestly increased from 1975 (Kochhar, 2023). This wage disparity is the consequence of a variety of systemic issues. For example, females require higher degrees to achieve earnings comparable to males and even with identical qualifications, they earn 92 cents for every dollar earned by males in similar roles (Carnevale et al., 2018). Females are underrepresented in high-paying fields and leadership positions and are disproportionately concentrated in lower-earning fields like education, despite recent modest increases in their participation in science, technology, engineering, and mathematics (STEM) fields (Schieder & Gould, 2016).

The progress of females in higher education has not translated into equivalent success in the workforce. Factors such as sex discrimination in the workplace, the undervaluation of female-dominated fields, and substantial domestic caregiving responsibilities impede their inclusive integration into the labor force (Shaw et al., 2020). Moreover, cultural stereotypes and implicit biases also discourage females from pursuing STEM from a young age, funneling them into careers that lead to lower wages. This inhibits females from entering lucrative engineering and information technology fields (Hill et al., 2010). To address these disparities, initiatives to increase female visibility in STEM and challenge societal stereotypes have been launched. These efforts are imperative not only for closing the sex wage gap but also for ensuring that females have equal opportunities to succeed in high-paying and influential careers (Parmaxi et al., 2024).

Race/Ethnicity

Research shows that disparities in college enrollment rates across racial and ethnic groups exist among young adults. According to the National Center for Education Statistics (2022), Asian students had the highest enrollment in postsecondary institutions at 61%, followed by white students at 41%, with Black and Hispanic students at 36% and 33%, respectively. Pacific Islanders and American Indian/Alaska Natives had the lowest enrollment rates at 27% and 26%, respectively. This pattern has remained consistent since 2012, indicating entrenched systemic barriers (National Center for Education Statistics, 2022). Research also shows that disparities at the intersection of race and socioeconomic status exacerbate educational inequalities. For instance, upward mobility is more prevalent among white and Hispanic populations compared to Black or American Indian groups (Chetty et al., 2019). This differential in educational progress is also influenced by the availability of advanced educational programs, which are often less accessible to Black and Indigenous students. These programs, including advanced placement and dual enrollment, are crucial for college readiness yet are predominantly available in high-resourced white neighborhood schools (Reber & Smith, 2023).

Moreover, the field of study choices contributes to long-term earnings inequalities. While STEM fields offer high earning potential, white and Asian males are more likely to pursue these majors compared to their Black and Hispanic counterparts. Even within these high-earning fields, Black/African-American and Hispanic/Latino workers often earn less than their white and Asian peers with similar qualifications (Fry et al., 2021). These disparities are exacerbated by student debt, which particularly affects African-American females who also face challenges in wealth accumulation due to higher educational debt. This debt, along with minimal access to high-paying jobs, perpetuates a cycle of economic disadvantage for African-American females (Scott-Clayton & Li, 2016; Mefferd, 2022). Systemic inequities are also rooted in early education. Children from racial and ethnic minority groups are disproportionately from low socioeconomic backgrounds and they often attend under-resourced schools due to discriminatory school funding mechanisms based on local property taxes. This historical policy and ongoing discrimination in housing and education continue to disadvantage racial and ethnic minorities, thereby limiting their access to quality education and higher-paying careers (García & Weiss, 2017). Addressing these layered challenges calls for a multidimensional approach that addresses the interplay of racial and socioeconomic status and how they inhibit educational opportunities from early childhood through professional life for minority communities.

Socioeconomic Status

Socioeconomic status (SES) has a significant influence on educational attainment. In 2015, the postsecondary enrollment gap between high school graduates from low-income families and those from middle-income families narrowed for the first time since 1990. However, students from low-SES backgrounds continued to lag behind their high-income peers, with a 20% enrollment gap (National Center for Education Statistics, 2018). These inequities in postsecondary education enrollment and completion for low-SES students are driven by financial constraints such as the inability to afford college (National Association of Student Financial Aid Administrators, 2023). These economic responsibilities on SES individuals are coupled with academic challenges as students from low-SES backgrounds are less likely to perform well in standardized assessments like mathematics, which correlates strongly with college completion rates (Carnevale et al., 2019).

Parental influence also plays a role in perpetuating these disparities. Families with higher SES have the means to provide resources that enhance their children's cognitive and literacy development from an early age. In contrast, families with lower SES might face financial and time constraints that limit these opportunities, affecting their children's educational paths (Hackworth et al., 2018). Almost all children from higher-SES quartiles grow up in households where education is highly valued. Their parents not only have college degrees themselves, but they also have social networks that can guide and support their children's educational pursuits.

On the other hand, children from lower-SES backgrounds may not see college as an achievable goal due to a lack of educational role models and limited guidance on navigating the educational system (Carnevale et al., 2019; Reardon, 2011). These disparities in expectations and preparedness have long-lasting effects, and interestingly, even among high-achieving students, those from lower-SES families are less likely to enroll in or complete college compared to their higher-SES counterparts. This trend persists regardless of academic ability, suggesting that SES affects educational outcomes beyond simple measures of academic readiness (Carnevale, 2022). Therefore, policies must be multifaceted, providing financial aid but also focusing on enhancing parental engagement, expanding access to quality pre-K programs, and ensuring that all students have access to high-quality schooling and college preparatory resources.

Disability Status

The 2019–20 Integrated Postsecondary Education Data System shows that 21% of all enrolled undergraduate students and 11% of all enrolled graduate students reported having a disability. However, only 8% of these students registered their disabilities with their institutions (National Center for Education Statistics, 2023). This registration gap suggests a possible underutilization of available accommodations, which could contribute to the lower graduation rates observed among students with disabilities; 23% of undergraduate students who reported a disability graduated with a bachelor's degree by 2017, compared with 38% of those who did not report a disability (Postsecondary National Policy Institute, 2023). The economic implications of these educational disparities extend into the workforce. Ten years after receiving a bachelor's degree, graduates with disabilities reported an average gross income of $69,064, which is lower than the $77,008 reported by those without disabilities. Additionally, the gap in wealth accumulation is evident in homeownership rates, with 55% of graduates with disabilities owning a home compared with 63% of graduates without disabilities (Postsecondary National Policy Institute, 2023).

Several systemic barriers on campuses exacerbate these disparities. Students with disabilities frequently encounter challenges such as inadequate accommodations, faculty unawareness of their needs, and physical accessibility issues, including poorly marked walkways, buildings without ramps, and gaps in disability-focused services and programs. Such obstacles not only hinder academic progress but also affect the sense of inclusion and support, with students with disabilities reporting feeling less welcome and supported compared to their peers without disabilities (Scott, 2019; Soria, 2021; Davis et al., 2021). Addressing these disparities requires a multifaceted approach that improves awareness, enhances faculty training, ensures comprehensive support services, and fosters a campus environment that is inclusive and accessible for all students.

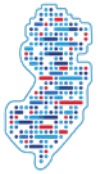
Appendix B: Methodology

This study utilized data from the New Jersey Statewide Data System (NJSDS). These data were sourced from the following agencies:

- **New Jersey Department of Education:** Provides information on K–12 educational experiences and demographics.
- **New Jersey Department of Labor and Workforce Development:** Provides information on employment outcomes.
- **Higher Education Student Assistance Authority:** Provides information on financial aid.
- **Office of the Secretary of Higher Education:** Provides information on higher education enrollment, progression, and attainment.

Population

The study used deidentified student data from NJSDS. The population consists of all students who graduated from the 2014 and 2015 New Jersey high school cohorts.



Methods

The three research questions were analyzed using descriptive statistics. For the first research question, cross-tabular descriptive statistics were calculated to report the percentages of graduates who followed each of the six identified educational and employment outcomes, along with their demographic characteristics. For the second question, cross-tabular descriptive statistics were used to report the percentages of high school graduates who attained a college certificate or degree. For the third research question, cross-tabular descriptive statistics were applied to report the annual employment rate during the seven-year follow-up period.

Limitations

These limitations are supplementary to the limitations mentioned in the methodology section.

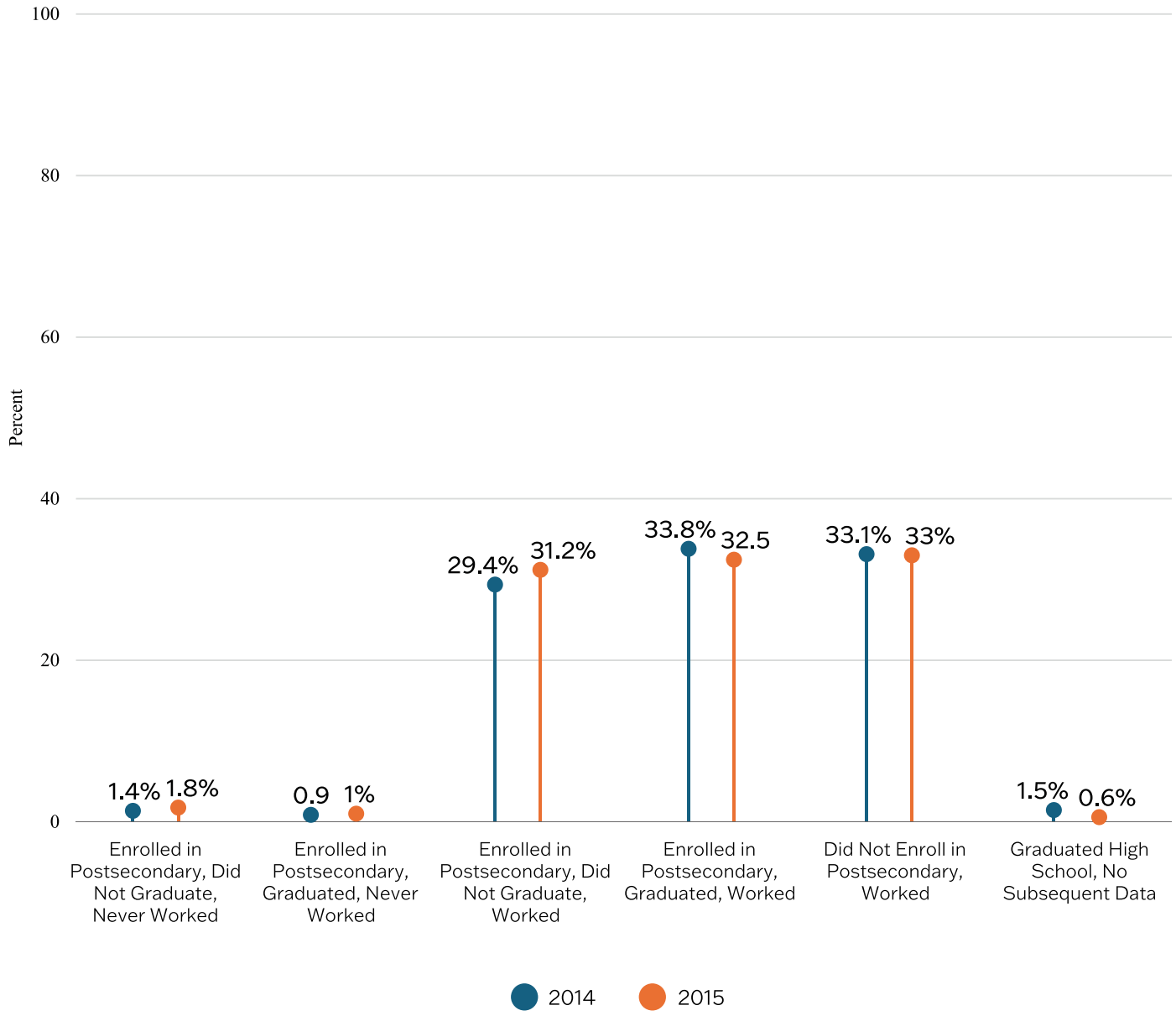
Description of Limitation

Descriptive Nature of Findings: The study's findings are descriptive and not causal. The two demographic variables used, namely sex and race/ethnicity, may reflect unmeasured social and nonacademic differences (for example, motivation levels, self-discipline, perseverance, family traditions, and resources) rather than direct causes.

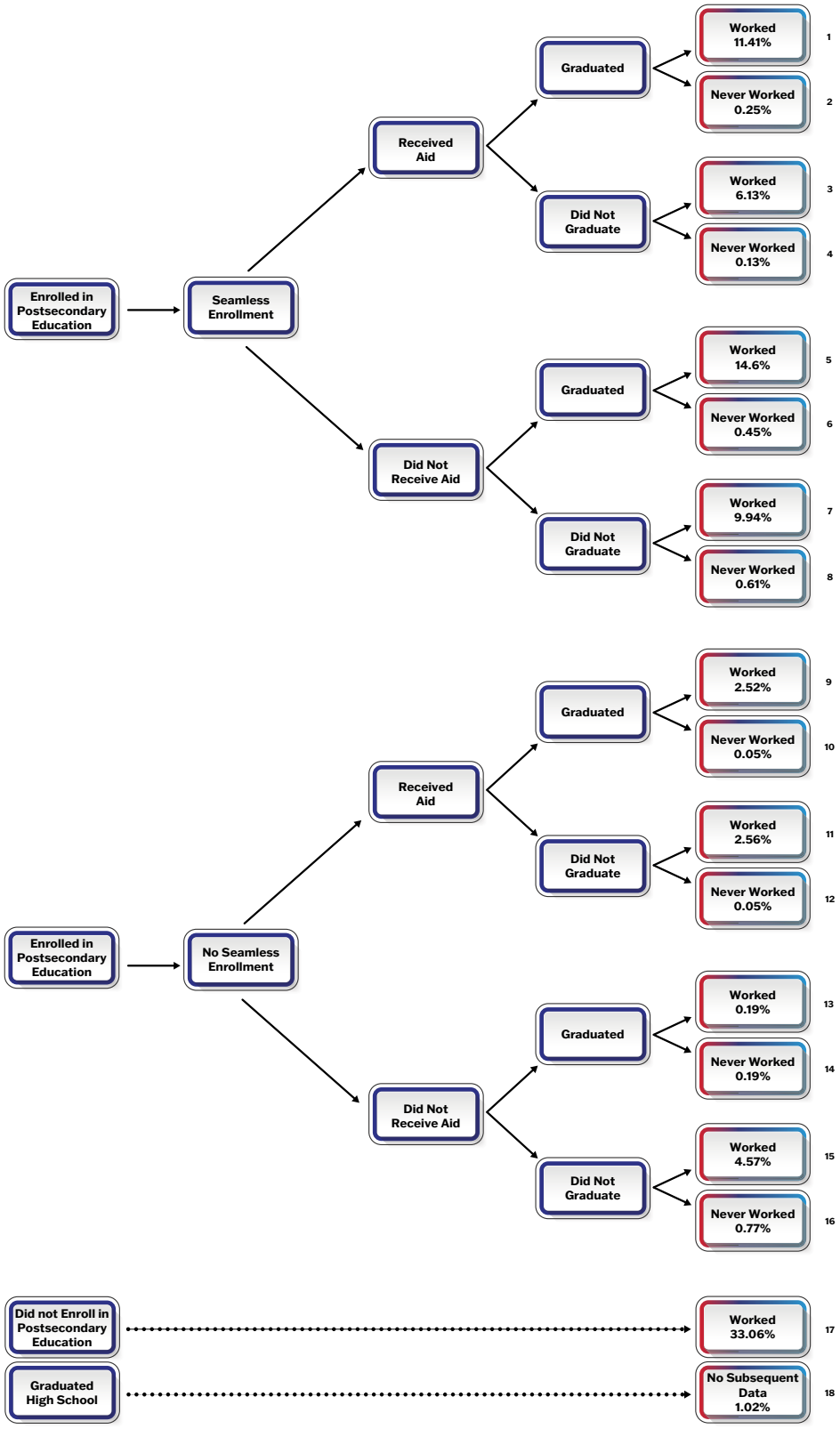
Data Limitations on Post-High School Graduation Experiences: The study did not cover all potential post-graduation experiences, such as military service or employment outside New Jersey. This constraint may lead to an incomplete understanding of the full range of post-high school experiences.

Focus on Postsecondary Credentials: This study only captured credentials attained from postsecondary institutions after high school graduation. It did not account for industry credentials obtained during high school, through on-the-job training, or via dual-enrollment programs. This may result in an incomplete picture of graduates' qualifications and skills, potentially underestimating their full range of competencies and achievements.

Appendix C: Postsecondary Outcomes Differentiated by Cohort



Appendix D: Decision Tree Diagram of Educational and Employment Trajectories



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About the New Jersey Statewide Data System

The New Jersey Statewide Data System (NJSDS) is the State of New Jersey's centralized longitudinal data system for education and workforce data. Its mission is to safely use the state's existing administrative data for evidence-based policymaking. NJSDS creates a single place where state education, postsecondary education, employment, and workforce longitudinal data are securely stored to help stakeholders make data-informed decisions to improve student learning and labor market outcomes. The data system is owned by the State of New Jersey and operated by the John J. Heldrich Center for Workforce Development at Rutgers, The State University of New Jersey. NJSDS is a collaboration between the New Jersey Office of the Secretary of Higher Education, the New Jersey Department of Labor and Workforce Development, the New Jersey Department of Education, and the New Jersey Higher Education Student Assistance Authority.

About the Heldrich Center for Workforce Development

The John J. Heldrich Center for Workforce Development at Rutgers University is devoted to transforming the workforce development system at the local, state, and federal levels. The center, based at the Edward J. Bloustein School of Planning and Public Policy, provides an independent source of analysis for reform and innovation in policymaking and employs cutting-edge research and evaluation methods to identify best practices in workforce development, education, and employment policy. It is also engaged in significant partnerships with the private sector, workforce organizations, and educational institutions to design effective education and training programs. It is deeply committed to assisting job seekers and workers attain the information, education, and skills training they need to move up the economic ladder.

As captured in its slogan, "Solutions at Work," the Heldrich Center is guided by a commitment to translate the strongest research and analysis into practices and programs that companies, community-based organizations, philanthropy, and government officials can use to strengthen workforce and workforce readiness programs, create jobs, and remain competitive. The center's work strives to build an labor market that matches workers' skills and knowledge with the evolving demands of employers.