CHARACTERISTICS OF STUDENTS WITH A STOPOUT EXPERIENCE IN NEW JERSEY

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NJSDS
New Jersey Statewide Data System

Introduction

Higher education is one avenue of improving long-term individual financial stability (Simone, Zafar, Bacani, & Cruz-Nagoski, 2023). Unfortunately, many students who enroll in college are unable to complete their degree, accumulating debt and incurring opportunity costs without the benefit of completion. This study seeks to review predictors of completion for those with any period of non-enrollment following their first semester in college. In addition, it identifies similar characteristics among students with stopout experience by conducting a cluster analysis to better inform the design of interventions. Supporting individuals toward degree completion will not only improve graduation rates in New Jersey, but also expand the pool of the educated workforce. In addition, successful attainment of postsecondary credentials can help improve quality of life and increase the chances of upward social mobility for the state population and also increase state income in the form of taxes.

Methodology

This study uses data from the New Jersey Statewide Data System (NJSDS), a state longitudinal data system that includes data from K–12 education through the workforce. For the purpose of the analysis, this review is limited to students who were in their first semester of college and seeking an associate or Bachelor's degree in the fall of 2011. This brief explores enrollment and completion experiences for this one group over time. Following this sample selection, this analysis reviews education trajectory by analyzing enrollment status for 150% time of the standard completion timeframe for each degree. Figure A-1 in the appendix outlines the process of cohort formation and analysis. Students were then grouped into three categories:

- **Non-stopout Completer:** Any student who had continuous enrollment from fall of 2011 to 150% of standard completion timeframe and completed the degree;

- **Stopout Completer:** Any student who did not have continuous enrollment; in other words, they had a stopout experience, but eventually completed the degree; and

- **Stopout Non-completer:** Any student who did not have continuous enrollment, had a stopout experience, and did not complete their degree as of 2021.
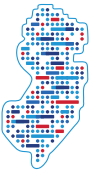
Significant Predictors of Completion for Students with a Stopout Experience

Some students may be more likely to complete a degree following a stopout experience than others. To test this, this analysis explores significant predictors[1] of completion for those with any stopout experience using a logistic regression. Results highlight the characteristics of those more likely to return to complete a degree following a stopout experience.

Several student characteristics were included in the analysis, such as employment and earnings, race, sex, age, and program of study. A summary of descriptive statistics for the cohort is provided in Table 1.

Table 1: Cohort Characteristics

Category	Non-stopout Completers	Stopout Completers	Stopout Non-completers
Count	17,761	11,037	24,363
Race			
White	61%	57%	48%
Black/African American	8%	12%	21%
Hispanic	9%	14%	16%
Multiple	8%	8%	9%
Asian	13%	9%	6%
Sex			
Female	54%	55%	48%
Male	46%	45%	52%
Major			
Arts & Humanities	24%	32%	40%
Business & Communication	14%	13%	12%
Education	5%	3%	3%
Health	4%	7%	9%
Social & Behavioral Sciences & Human Services	8%	9%	10%
Science, Technology, Engineering, & Mathematics	14%	15%	12%
Trades	1%	1%	2%
Undeclared Major	30%	20%	11%
Financial Status (proxy age)			
Dependent	98%	96%	90%
Independent	2%	4%	10%
Employment Status			
Not in Wage Data[2]	50%	45%	46%
Full Time	22%	24%	24%
Part Time	28%	31%	29%
Institution Type			
Public	95%	79%	93%
Private	5%	21%	7%

[1] Student postsecondary records were matched with wage data for 2011 to see annual wages, annual weeks worked, and employment status. Age is used as a proxy for dependency status, with individuals below age 24 categorized as dependent or otherwise. Furthermore, the Classification of Instructional Programs (CIP) code is used to categorize majors into broad classifications.

[2] Employment status records that do not match include federal, out of state, not covered by Unemployment Insurance, unemployed, and self-employed, all of which are not covered under Unemployment Insurance wage data in New Jersey.
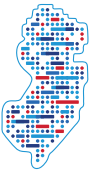
Results

The results of the logistic regression show several significant predictors of completing a degree following a stopout experience, as presented in Figure 1. Related to college type, those with a stopout experience enrolled in a public college are significantly less likely to return to complete a degree compared to those in a private college. With respect to race, students who are Asian or white with a stopout experience are more likely to complete than Hispanic students. Further, African-American students are significantly less likely to complete a degree following a stopout experience compared to Hispanic students.

For major classifications, students from Business & Communication, Education, and Science, Technology, Engineering, & Mathematics fields are more likely to complete following a stopout experience compared to students from Arts & Humanities. The odds of completion for students with an undeclared major at enrollment increases as much as 82% compared to those in the Arts & Humanities. This finding is related to a limitation of this analysis — major declaration was captured at initial enrollment, so those students who went on to complete a degree would have declared a major. That said, those who enroll without a major declared are more likely to complete following a stopout experience than those who enrolled in an Arts & Humanities field.

Related to individual characteristics, the odds of completion are higher for females than males. The odds of completion for an independent student decrease by 56% compared to a student with a dependent status. Since age is used as a proxy to determine dependency status for this research, this analysis indicates that as the age goes beyond 24, the odds of completion for students having stopout experience decreases. Finally, this research shows that employment is a positive contributor toward degree completion after having a stopout experience, as the odds of completion increase for both part- and full-time employed students in comparison to those who are not present in the wage records for 2011.

Figure 1: Odds Ratio of Significant Predictors with 95% Confidence Intervals
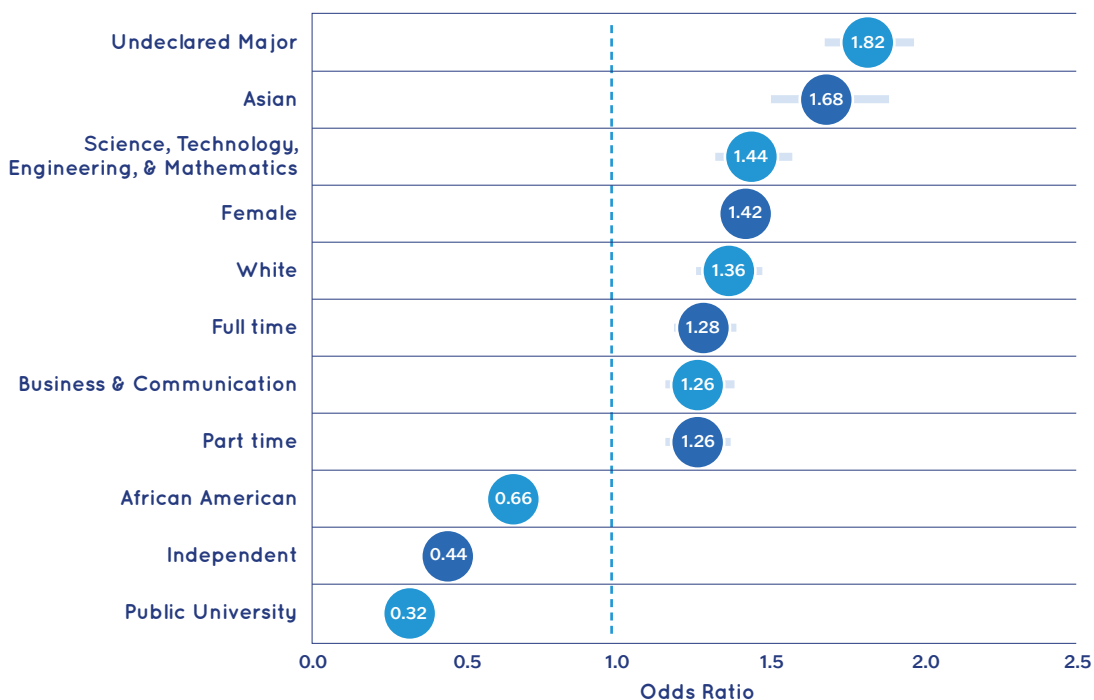
Cluster Analysis

Following the logistic regression, a cluster analysis[3] was conducted to better understand and identify similar traits of students who had a stopout experience. This informs how to effectively design interventions and communicate with the target population by identifying trends and patterns. A random subset was established from the cohort for the purposes of this analysis. Cluster analyses compare individual records of data and calculate the similarity or difference of each. The distance for each record in the data set ranges from 0 to 1, 0 representing no difference and 1 representing maximum difference.

The dominant characteristics of students in each cluster is presented in Table 2. From this table, one can see that the first cluster mainly consists of students who are stopout non-completers; they attended a public university; are mostly white, Hispanic, or Black/African American; majored in Arts & Humanities; and had an average of 24 accumulated credits. The second cluster is comprised of stopout completers who mostly have a Bachelor's degree; attended a public university; are white, Asian, Black/African American, or Hispanic; had undeclared majors at enrollment; and had an average of 132 accumulated credits. The third cluster is comprised of stopout completers who mostly have an associate degree, attended a public university, are white or Hispanic, majored in Arts & Humanities, and possessed an average of 74 accumulated credits.

Table 2: Cluster Characteristics

		Cluster 1	Cluster 2	Cluster 3
		Stopout Non-completers	Stopout Completers – Bachelor's	Stopout Completers – Associate
Count		8,817	4,690	4,127
Award Type	No Degree	100.0%	0.0%	0.0%
	Associate	0.0%	0.3%	Suppressed
	Bachelor's	0.0%	99.7%	Suppressed
Institution	Public	93.6%	70.3%	96.2%
	Private	6.4%	29.7%	3.8%
Sex	Male	50.9%	Suppressed	43.5%
	Female	48.7%	54.9%	56.2%
	Other/Not Disclosed	0.4%	Suppressed	0.3%
Race	White	49.0%	55.8%	60.4%
	African American	19.1%	11.4%	11.3%
	Hispanic	16.5%	11.3%	15.2%
	Multi-race	9.2%	8.1%	7.3%
	Asian	5.3%	12.9%	5.2%
	Alaskan/Pacific Islander	0.8%	0.5%	0.6%
Major	Arts & Humanities	41.7%	18.3%	45.9%
	Business & Communication	12.6%	15.0%	10.8%
	Social & Behavioral Sciences & Human Services	9.9%	9.1%	Suppressed
	Science, Technology, Engineering, & Mathematics	11.5%	15.3%	11.1%
	Other	13.3%	10.2%	22.7%
	Undeclared	11.0%	32.1%	Suppressed
Credits	Average Credits	24	132	74

[3] Cluster analysis is a statistical method to identify similar groups of cases in data based on select characteristics. Gower clustering was used as a method for the mixed data type — data had both numerical and categorical variables. Data pre-processing steps included limiting variables from the regression model to seven and top coding of the credit accumulation variable. The final shape of the data was 17,634 individuals with seven variables.
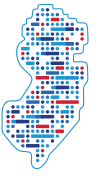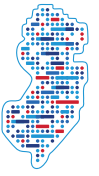
Conclusion

Students with a stopout experience are less likely to complete a degree than their non-stopout peers, and likely accumulate debt and lost time without the long-term benefits of a degree. There are numerous strategies being tested across the nation to support this group of students on their pathway back to degree completion, including those designed to reengage students with information, financial aid, and academic support (Society for Research on Educational Effectiveness, n.d.). This analysis highlights the characteristics of stopout students who are more likely to return to complete a degree using longitudinal administrative data from New Jersey to help inform those reengagement efforts. Findings from both complementary analyses reveal that white and Asian students are more likely to return to complete a degree than Black/African-American and Hispanic students. Similarly, female students are more likely to return to complete a degree than males. Program of study declaration has a significant but complex relationship with completion. There are limitations of the major field data included in this analysis as it captures major at point of enrollment, but those who declare Science, Technology, Engineering, & Mathematics degrees or do not declare a major were more likely to complete than those who declared a major in the Arts & Humanities field. Finally, those with some employment are more likely to return following a stopout experience than those who are not employed. There are limitations to the state administrative data that hinder the ability to draw conclusions from this analysis, including the lack of information about students who end their enrollment within New Jersey but reenroll at a school outside of New Jersey and thus appear as non-completers in the records. Future analyses should continue to expand this analysis to explore additional student and institutional characteristics and evaluate potential reengagement strategies, add granularity to the analysis within the state, as well as seek to expand the geographic borders of the analysis.
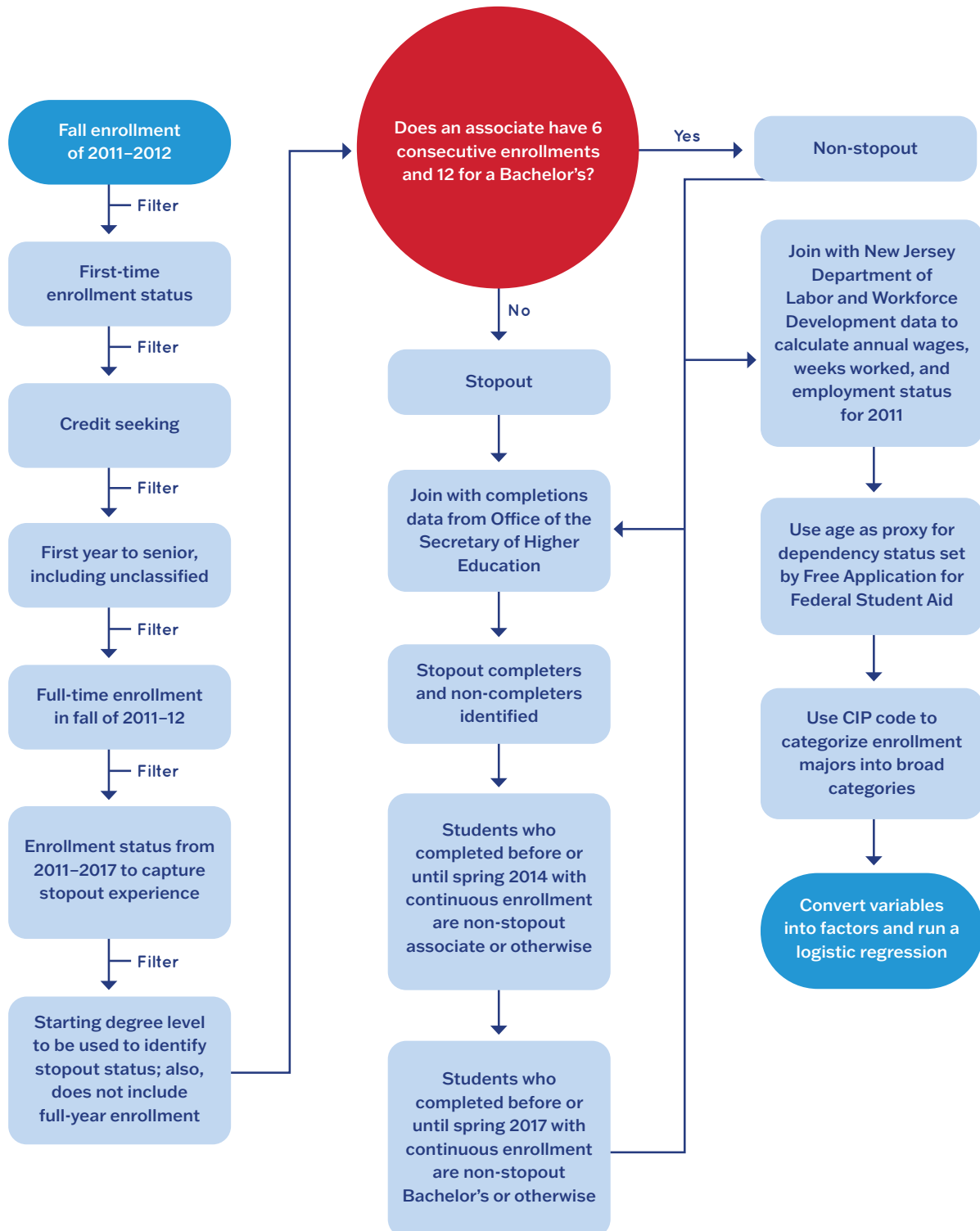
References

Simone, S., Zafar, A. S., Bacani, K. J., & Cruz-Nagoski, J. (2023). *Benefits of higher education in New Jersey*. John J. Heldrich Center for Workforce Development, Rutgers University.
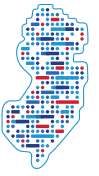
Society for Research on Educational Effectiveness. (n.d.). *Adult learner and some college, no degree student program typology*. **https://www.sree.org/assets/Summer_Fellows_Reports/Typology.pdf**

Appendix

Figure A-1: Cohort Selection Flowchart

```
Fall enrollment
of 2011–2012
        │ Filter
        ▼
First-time
enrollment status
        │ Filter
        ▼
Credit seeking
        │ Filter
        ▼
First year to senior,
including unclassified
        │ Filter
        ▼
Full-time enrollment
in fall of 2011–12
        │ Filter
        ▼
Enrollment status from
2011–2017 to capture
stopout experience
        │ Filter
        ▼
Starting degree level
to be used to identify
stopout status; also,
does not include
full-year enrollment
```

```
Does an associate have 6
consecutive enrollments
and 12 for a Bachelor's?
    │ No              │ Yes
    ▼                 ▼
Stopout          Non-stopout
    │                 ▼
    ▼          Join with New Jersey
Join with completions    Department of
data from Office of the  Labor and Workforce
Secretary of Higher      Development data to
Education                calculate annual wages,
    │                    weeks worked, and
    ▼                    employment status
Stopout completers       for 2011
and non-completers          ▼
identified           Use age as proxy for
    │                dependency status set
    ▼                by Free Application for
Students who         Federal Student Aid
completed before or     ▼
until spring 2014 with   Use CIP code to
continuous enrollment    categorize enrollment
are non-stopout          majors into broad
associate or otherwise   categories
    │                       ▼
    ▼                Convert variables
Students who         into factors and run a
completed before or  logistic regression
until spring 2017 with
continuous enrollment
are non-stopout
Bachelor's or otherwise
```

Acknowledgments

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. Developed in 2012 through a grant from the U.S. Department of Education, 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, located within 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 their workforce and workforce readiness programs, create jobs, and remain competitive. The center's work strives to build an efficient labor market that matches workers' skills and knowledge with the evolving demands of employers.