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October
2016

High School Persisters: An Examination of College and Workforce Outcomes

Submitted by:

Maryland Longitudinal Data System Center
Ross Goldstein, Executive Director
Terry V. Shaw, Ph.D., Principal Investigator
Angela K. Henneberger, Ph.D., Director of Research

Authored by:

Mathew C. Uretsky, Ph.D.
Angela K. Henneberger, Ph.D.
Michael E. Woolley, Ph.D.
University of Maryland, Baltimore

Maryland Longitudinal Data System Center

550 West Baltimore Street

Baltimore, MD 21201

410-706-2085

mlds.center@maryland.gov

<http://mldscenter.maryland.gov/>

Ross Goldstein

Executive Director

James D. Fielder, Jr., Ph.D.

Secretary of Higher Education,

Chair, MLDS Governing Board

Larry Hogan

Governor

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Suggested Citation

Uretsky, M.C., Henneberger, A.K., & Woolley, M.E. (2016). *High School Persisters: An Examination of College and Workforce Outcomes*. Baltimore, MD: Maryland Longitudinal Data System Center.

Acknowledgement

This report was prepared by the Research Branch of the Maryland Longitudinal Data System Center (MLDSC). The Research Branch would like to thank the entire staff of the MLDSC for their assistance with this report.

If you have questions regarding this publication, please contact mlds.center@maryland.gov.

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Executive Summary

This report examined the college and workforce outcomes of high school persisters, students who did not formally withdraw from high school, nor earn a regular high school diploma, four years after entering high school as a first-time ninth grader. We used data from the Maryland Longitudinal Data System (MLDS) to identify the population of students enrolled as first-time ninth graders in a Maryland public high school for a period of 90 days or more during the 2009-2010 academic year and attended a Maryland public high school in the 2012-2013 academic year. The analyses conducted for this report identified a population of Maryland students who persisted into and through their fourth year of high school without earning a high school diploma that was larger than the population of students who dropped out of high school in their fourth year. Non-white and Hispanic students, as well as students in vulnerable sub-groups (eligible for free and reduced price meals (FARMs), homeless, immigrant, English learners, and special education) tended to have less favorable outcomes in their fourth and fifth years of high school. Overall, persisters had more negative college and workforce outcomes when compared to students who earned a high school diploma. Policy implications and directions for future research are addressed.

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Introduction

The success of dropout prevention efforts in recent decades has resulted in more students staying in school longer (DiPaoli et al., 2015). During the same period, states and school districts have implemented increasingly stringent graduation criteria, including high stakes standardized testing (Holme, Richards, Jimerson, & Cohen, 2010; Reardon, Arshan, Atteberry, & Kurlaender, 2010). Although this reduction in dropout is clearly a positive finding, there remains an often-overlooked population of students who persist into and through four, or even five years, of high school without earning a diploma (Kena et al., 2015). National data from 2012 suggest that nearly one in five (17%) first-time ninth graders who attended a U.S. public school persisted through four years of high school, but did not graduate on time (Stetser & Stillwell, 2014). As a result, the need for more research attention followed by policy and practice efforts to improve graduation rates for students in their fourth year of high school has become ever more critical. This report is in response to that need and will detail key trends in high school, workforce, and college outcomes for this vulnerable population of students.

Background

Research examining the correlates and consequences of not earning a high school diploma is extensive, however, most such research has excluded students who persisted through four years of high school without earning a diploma from research analyses or combined such students with dropouts into a single group labeled “dropouts.” This decision is typically not well-detailed, making it difficult to determine and compare the exact population of high school non-completers included in each study. It is likely that the factors that relate to dropout or on-time graduation are different than those that predict persistence into and through four years of high school without graduating (Goldschmidt & Wang, 1999). Therefore, research focused on such persistent non-graduating students is needed to inform policy and practice to advance graduation rates for this population of students (Lakkaraju et al., 2015). This section will begin with definitions for key terms and concepts, followed by a discussion of the background and significance of not earning a high school diploma.

High School Graduates, Dropouts, and Persisters

There is some inconsistency and lack of clarity with terms used to describe students who leave school without a high school diploma. Therefore, we will start with some definitions of terms used in this report with the goal of clear and consistent communication about these important issues. A student who earns a diploma four years after their first time entering the ninth grade is an *on-time graduate* (Maryland State Department of Education [MSDE], 2015). A student who formally withdraws from high school without enrolling in another degree granting program or institution is a *dropout* (MSDE, 2015). A student who does not formally withdraw from high school, nor earn a regular diploma after attending four (and sometimes even five) years of high school is a *persistor*. It is worth noting that the term *persistor* has been in use for

at least five decades in the context of referring to college students (see for example Rose & Elton, 1966 or Jones & Dennison, 1972). Here, we extend its application to high school students.

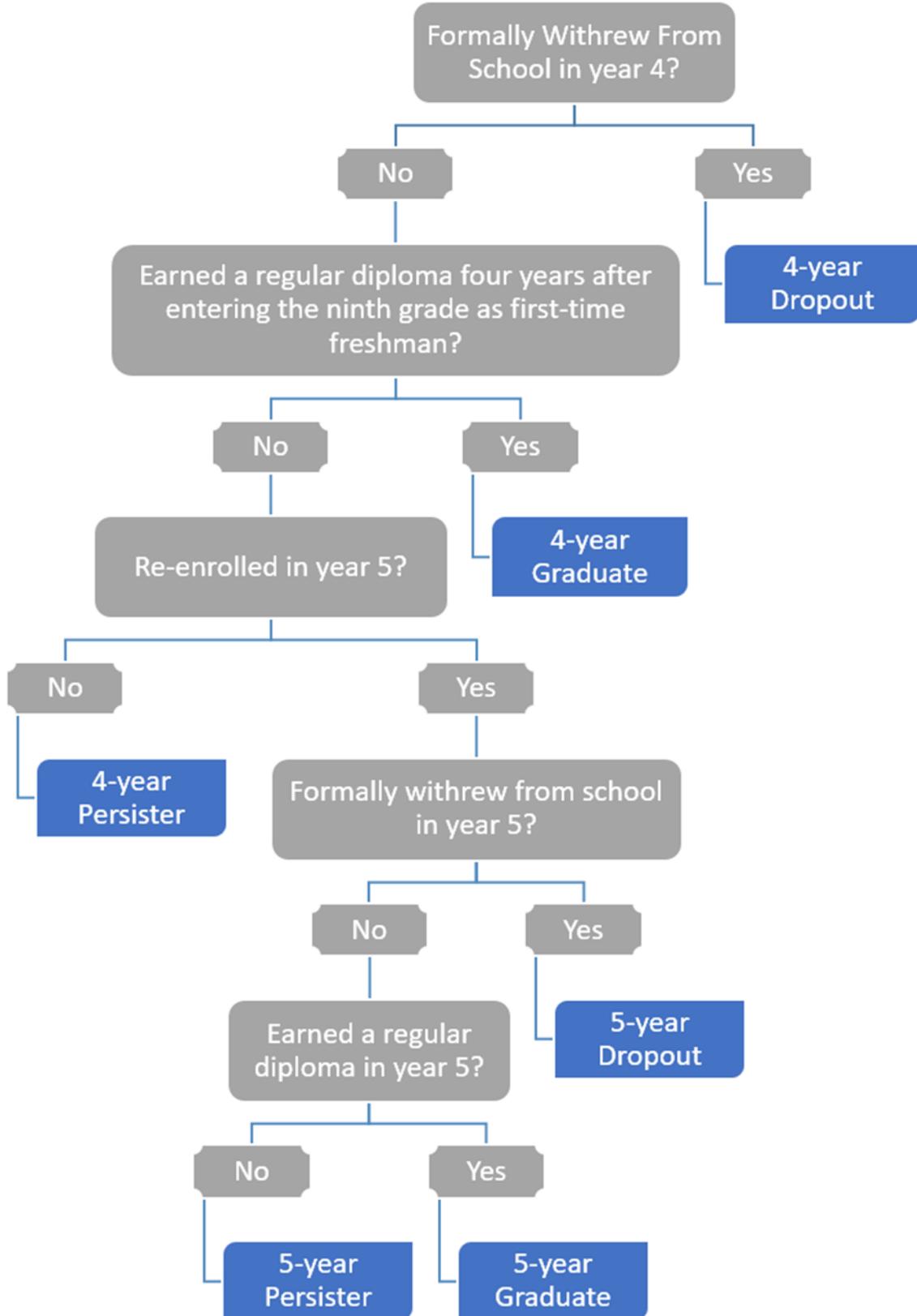
An important characteristic of persisting is that, like dropping out, persisting is an action, not an outcome. A student who is a persister in the fourth year, has the potential to re-enroll in the subsequent year and earn a high school diploma, dropout, or persist through their fifth year without earning a diploma. In order to provide some additional clarity, Figure 1 presents a flowchart of the possible student outcomes that are relevant to this report. All students began in a Maryland public high school as a first-time ninth grader and were also enrolled in a Maryland public high school in the fourth year.

Impact of Not Earning a High School Diploma

Students who leave high school without earning a diploma face a number of negative outcomes later in life. As students transition from adolescence to adulthood, lower levels of educational attainment predict important negative adult outcomes such as higher rates of unemployment (US Department of Labor, 2014), poorer health and mental health (Pleis, Ward, & Lucas, 2010; Rumberger, 2011), and increased contact with law enforcement and the criminal justice system (Aud et al., 2011; Rumberger, 2011; Vaughn, Salas-Wright, & Maynard, 2014). In addition, students who do not earn a high school diploma earn less money over their lifetime (Rouse, 2007) and are more likely to rely on social welfare programs (Levin, Belfield, Muennig, & Rouse, 2007; Maynard, Salas-Wright, & Vaughn, 2015) than students who earn a high school diploma. A recent national study by Maynard and colleagues (2015) found that young adults who dropped out of school had increased odds of reporting recent arrests for theft or assault. In addition, dropouts were more likely to be arrested for drug offenses compared to high school graduates, despite having a roughly equivalent risk of drug dependency. Dropouts were also more likely to be unemployed, have a poverty level household income, receive government assistance, and have a recent suicide attempt (Maynard et al., 2015).

In summary, leaving high school without a diploma predicts a cluster of negative outcomes in adulthood that negatively impacts the individual and society. Non-graduation also impacts the overall economy through the cost of service provision, lost productivity, and lost tax revenue. For example, the combined cost to society for the more than three million youth (ages 16-24) who were no longer actively seeking a diploma in 2011 will total to nearly two trillion dollars over their lifetime (Belfield, Levin, & Rosen, 2012).

Figure 1. Flowchart of Possible Outcomes for High School Students in the Study Population



Research Questions

The current report aims to improve our understanding of the college and workforce outcomes of the population of Maryland students who persist through four years of high school, but do not graduate on time. The overall goal of this report is to inform policy, programming, and practice in order to promote on-time graduation, preparation for the workforce, and college readiness. This report responds to the following Maryland Longitudinal Data System Center (MLDSC) Research Agenda questions:

Research Agenda Question #1 - Are Maryland students academically prepared to enter postsecondary institutions and complete their programs in a timely manner?

Research Agenda Question #2 - What percentage of Maryland high school exiters go on to enroll in Maryland postsecondary education?

Research Agenda Question #20 - What are the workforce outcomes of Maryland high school non-completers?

Method

The data used for this report were from the Maryland Longitudinal Data System (MLDS). The population accessed for this report included students who were enrolled as first-time ninth graders in a Maryland public high school for a period of 90 days or more during the 2009-2010 academic year and attended a Maryland public high school in the 2012-2013 academic year. Students who transferred out of the Maryland Public Schools in the 2012-2013 academic year were removed from the analyses. Students whose educational plan specified that they were seeking a certificate of completion rather than a diploma; or who attended schools that exclusively served special education students were removed from the analyses.

Findings

This section describes the results of the analyses conducted for this report. First, data detailing the high school population of interest are presented. Second, data are presented describing the workforce outcomes of students in the population. Next, college outcomes are presented.

High School Population

Just over 54,000 students were enrolled as first-time freshmen in a Maryland public high school in the 2009-2010 academic year and were also enrolled in a Maryland public high school in their fourth year. Approximately 3,500 students persisted into and through their fourth year

of high school (found in a Maryland public high school in the fourth year) without earning a diploma. About three-quarters of the students who persisted into and through their fourth year of high school without earning a diploma re-enrolled for a fifth year in a Maryland public high school.

Table 1 displays the demographic characteristics of students who persisted into their fourth year of high school. Overall, more than 9 out of 10 students who persisted into their

fourth year of high school earned a high school diploma in year 4, 2% of students dropped out during their fourth year of high school and 7% of students were persisters; meaning that they did not dropout or earn a high school diploma by the end of year 4. A greater percentage of male students (8%) were persisters and 4-year dropouts (3%) compared to female students (5% and 1% respectively). A lower percentage of White students (3%) were persisters when compared to Black students (11%) and students in the other race category (7%). However, there were no meaningful differences in the dropout rate among the racial groups. A greater percentage of Hispanic students (12%) were persisters and 4-year dropouts (4%) compared to non-Hispanic students (6% and 2% respectively). A higher proportion of students eligible for free and/or reduced price meals (FARMs) were persisters (13%) and 4-year dropouts (4%) compared to students not eligible for FARMs (3% and 1% respectively). A higher proportion of students who were identified as experiencing homelessness in year 4 were persisters (21%) and 4-year dropouts (6%) compared to students who were not identified as experiencing homelessness (6% and 2% respectively). A higher proportion of immigrant students were persisters

	4-year Graduate %	4-year Dropout %	Persister %
Total	91	2	7
Female	94	1	5
Male	89	3	8
White	95	2	3
Black	85	3	11
Other	91	2	7
Hispanic	84	4	12
Non-Hispanic	92	2	6
FARMs	82	4	13
Not FARMs	95	1	3
Homelessness	73	6	21
No Homelessness	91	2	6
Immigrant	78	5	17
Not Immigrant	91	2	6
English Learner	73	5	21
Not English Learner	91	2	6
Special Education	78	5	16
Not Special Education	92	2	6

Note: Data were from the 2009-2010 9th grade cohort. "Other" includes Asian, Hawaiian, Native American, and two or more races. Less than one percent of students transferred out of the Maryland public high school system during their fourth year. Percentages may not add to 100 due to rounding.

(17%) and 4-year dropouts (5%) compared to non-immigrant students (6% and 2% respectively). A higher proportion of English learner (EL) students were persisters (21%) and 4-year dropouts (5%) when compared to non-EL students (6% and 2% respectively). A higher proportion of students who received special education services were persisters (16%) and 4-year dropouts (5%) than students who did not receive special education services (6% and 2% respectively).

Table 2 presents the demographic characteristics of persisters who re-enrolled in year 5 by students' final year 5 enrollment status. Just over half of the persisters who re-enrolled in a Maryland high school earned a high school diploma by the end of their fifth year and 14% dropped out. Thirty percent of students persisted through the fifth year without dropping out or earning a high school diploma.

A higher proportion of male students were 5-year graduates (55%) compared to female students (53%). However, a higher proportion of female students were 5-year persisters (32%) compared to male students (28%). There were no meaningful differences in the 5-year dropout rate by gender. A higher proportion of white students were 5-year graduates (60%) and 5-year dropouts (20%) compared to Black students (51% and 12% respectively) and students in the other race category (58% and 17% respectively). A higher proportion of Black students were persisters (34%) compared to white students (20%) and students in the other race category (24%). A higher proportion of Hispanic students were 5-year graduates (58%) and 5-year dropouts (16%) compared to non-Hispanic students (53% and

	5-year Graduate %	5-year Dropout %	5-year Persister %
Total	54	14	30
Female	53	14	32
Male	55	14	28
White	60	20	20
Black	51	12	34
Other	58	17	24
Hispanic	58	16	25
Not Hispanic	53	14	31
FARMS	50	14	34
Not FARMS	64	15	19
Homelessness	44	16	37
No Homelessness	55	14	29
Immigrant	54	14	30
Not Immigrant	58	17	25
English Learner	60	18	22
Not English Learner	54	14	30
Special Education	50	15	32
Not Special Education	56	14	29

Note: Data were from the 2009-2010 9th grade cohort. "Other" includes Asian, Hawaiian, Native American, and two or more races. Less than two percent of students transferred out of the Maryland public high school system during their fifth year. Percentages may not add to 100 due to rounding.

14% respectively). However, a lower proportion of Hispanic students (25%) were 5-year persisters compared to non-Hispanic students (31%).

A lower proportion of students who were eligible for FARMs were 5-year graduates (50%) and 5-year dropouts (14%) compared to students not eligible for FARMs (64% and 15% respectively). However, a higher proportion of students eligible for FARMs were 5-year persisters (34%) compared to students not eligible for FARMs (19%). A lower proportion of students who were identified as experiencing homelessness in year 4 were 5-year graduates (44%) compared to students who were not identified as experiencing homelessness (55%). Accordingly, a higher proportion of students who were identified as experiencing homelessness in year 4 were 5-year persisters (37%) and 5-year dropouts (16%) compared to students who were not identified as experiencing homelessness (29% and 14% respectively). A lower proportion of immigrant students were 5-year graduates (54%) and 5-year dropouts (14%) compared to non-immigrant students (58% and 17% respectively). However, a higher proportion of immigrant students were 5-year persisters (30%) compared to non-immigrant students (25%). A higher proportion of EL students were 5-year graduates (60%) and a lower proportion were 5-year persisters (22%) when compared to non-EL students (54% and 30%, respectively). However, EL students had a higher 5-year dropout rate (18%) than non-EL students (14%). A lower proportion of students who received special education services were 5-year graduates (50%) compared to students who did not receive special education services (56%). A higher proportion of students who received special education services were 5-year dropouts (15%) and 5-year persisters (32%) than students who did not receive special education services (14% and 29% respectively).

Table 3 details the percentage of students who earned a diploma through the General Equivalency Diploma (GED) program among students who did not earn a regular high school diploma. The GED program helps students to obtain a high school diploma and is an alternative to a regular high school diploma. Students who formally dropped out of school in year 4 had the highest proportion of diplomas earned through the GED program (18%). This was followed by students who dropped out in year 5 (6%) and students who were four-year persisters (4%).

Table 3. Percentage of Students Who Earned a Diploma Through the GED Program by December of 2015 by Student Outcome	
	Earned Diploma through GED %
4-year Dropout	18
4-Year Persister	4
5-year Dropout	6
<i>Note: Labels represent student's final outcome.</i>	

Workforce Participation

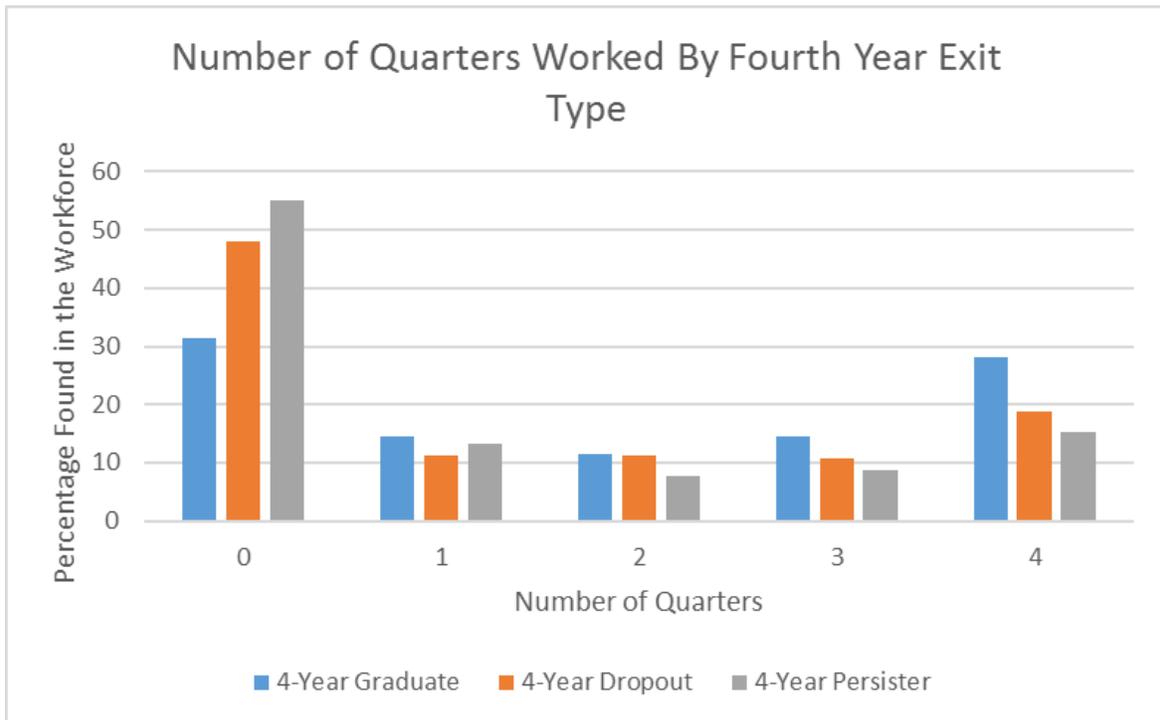
Table 4 and Figure 2 detail workforce participation in the year after students' final high school enrollment for students who did not re-enroll in year 5. The table and figure are presented by exit type (4-year graduate, 4-year dropout, and 4-year persister) and number of quarters worked. There are four quarters in a calendar year. The four quarters examined here cover the time period between July 2014 and June 2015. The MLDS workforce data do not include federal employees, military employees, independent contractors, and individuals who are self-employed. Overall 67% of the students who did not re-enroll in year 5 earned some wages in the year following their final high school

enrollment and 27% earned wages in all four quarters. Students who graduated in year 4 had the highest proportion of students who participated in the workforce (69%) and were the group most likely to have earned wages in all four quarters (28%), followed by 4-year dropouts (52% and 19% respectively), and 4-year persisters (45% and 15% respectively).

	Any Wages Earned %	Number of Quarters with Earned Wages				
		0 %	1 %	2 %	3 %	4 %
Total	67	33	14	11	14	27
4-Year Graduate	69	31	14	11	14	28
4-Year Dropout	52	48	11	11	11	19
4-Year Persister	45	55	13	8	9	15

Note: The MLDS workforce data do not include federal employees, military employees, independent contractors, and individuals who are self-employed. Percentages may not add to 100 due to rounding.

Figure 2. Workforce Participation in the Year after Last High School Enrollment for Students Who Did Not Re-enroll in Year 5 by Number of Quarters with Earned Wages and Exit Type



College Participation

Table 5 displays the percentage of students in the population who enrolled in college within one year of their final high school enrollment. A higher proportion of students who graduated in year 4 enrolled in college (71%) compared to persisters (12%) and 4-year dropouts (6%). Among students who persisted into and through their fourth year, but did not graduate on-time, 5-year graduates had the highest percentage of students who enrolled in college in the year following their final high school enrollment (22%), followed by 4-year persisters (9%), 5-year dropouts (5%), and 5-year persisters (2%).

	College Enrollment	
	% No	% Yes
4-year Dropout	94	6
4-year Graduate	29	71
Persisters (Total)	88	12
4-year Persister	91	9
5-year Dropout	95	5
5-year Graduate	78	22
5-year Persister	98	2

Note: Percentages may not add to 100 due to rounding.

Table 6 displays the percentage of Maryland high school graduates who enrolled in a college within one year of their final high school enrollment by institution type. A larger percentage of 5-year graduates enrolled in a two-year institution (85%) compared to students who graduated in four years (46%). Additionally, a larger percentage of 5-year graduates enrolled in public institutions (90%) compared to 4-year graduates (82%).

	4-year Graduate	5-year Graduate
	%	%
2-year Institution	46	85
4-year Institution	54	15
Public Institution	82	90
Private Institution	18	10

Summary of Findings

This report found that 7% of the cohort of Maryland public high school students enrolled as first-time 9th graders in the 2009-2010 academic year persisted into and through their fourth year of high school, but did not earn a high school diploma. This is larger than the percentage of students who dropped out of school in their fourth year (2%). Non-white and Hispanic students, as well as students in vulnerable sub-groups (FARMs, homeless, immigrant, English learners, and special education) were more likely to be persisters at the end of year 4. Persisters who did not re-enroll for a fifth year (4-year persisters) earned high school diplomas through the GED program at a lower rate than 4- and 5-year dropouts. Four-year persisters had the lowest rate of workforce participation among students who did not re-enroll in year 5 and were the group least likely to have earned wages in all four quarters. Overall persisters enrolled in college at a rate far below 4-year graduates. Among students who persisted into and through their fourth year, but did not graduate on-time, 5-year graduates had the highest rates of college enrollment in the year following their final high school enrollment. However, 5-year graduates enrolled in college at a much lower rate than 4-year graduates. In addition, 5-year graduates who did enroll in college were more likely to enroll in a two-year institution compared to 4-year graduates.

Discussion

The findings in this report were consistent with previous research on high school non-completers in a number of ways. First, this report confirmed that a population of Maryland students did not formally withdraw from high school, nor earn a regular diploma, after attending four (and sometimes even five) years of high school (Kena et al., 2015; Stetser & Stillwell, 2014). The percentage of the Maryland population who were persisters at the conclusion of their fourth year was larger than the percentage that dropped out in their fourth year. Also consistent with prior research (Rouse, 2007; US Department of Labor, 2014), students who did not earn a diploma four years after their first freshmen year, had lower rates of college and workforce participation than students who earned a high school diploma on-time.

Policy Implications

This report focused on the college and workforce outcomes of high school persisters, students who did not formally withdraw from high school, nor earn a regular diploma, after attending four (and sometimes even five) years of high school. Studying this subgroup using data from the MLDS presented a unique opportunity because data were linked longitudinally across State agencies, which enabled us to offer the first insights about the college and workforce outcomes of this student subgroup in Maryland. Presenting this information gives state policy makers a starting place to create targeted prevention and intervention goals to improve the outcomes of high school persisters. Since persisters continue to engage with the public school system for longer than traditional dropouts, this student group represents an

optimal target for prevention and intervention that could be delivered within the school system itself. A targeted focus on early identification of persisters is important because this subgroup, which has come so close to graduating from high school, faces more negative college and workforce outcomes when compared to high school graduates. Prevention and intervention efforts should focus on helping students complete a high school diploma. Furthermore, this specific group of high school students may benefit from additional workforce training and/or college preparation prior to high school graduation.

Future Research

A number of future directions for research on the college and workforce outcomes of high school persisters using data from the MLDS are noteworthy. First, this study offered an initial look at the workforce participation of high school persisters. Future research should examine the wages earned by high school persisters in comparison to high school dropouts and diploma earners. Second, this study offered an initial look at the college enrollments of high school persisters. With additional years of linked longitudinal data, future research will be able to examine the degree outcomes of high school persisters in comparison to high school dropouts and diploma earners. Third, with additional years of linked longitudinal data, future research will be able to examine the trends in college and workforce outcomes of high school persisters over time. This study offered an initial examination of outcomes in the year following high school, but with additional years of data, we will be able to determine whether the college and workforce outcomes of high school persisters are improving over time.

Conclusion

This report offered a first look into the college and workforce outcomes of high school persisters in Maryland. The analyses conducted for this report identified a population of Maryland students who persisted into and through their fourth year of high school without earning a high school diploma that is larger than the population of students who dropped out of high school in their fourth year. Students from traditionally underserved racial, ethnic, and social groups tended to have less favorable outcomes in their fourth and fifth years of high school. Overall, persisters had more negative college and workforce outcomes when compared to students who earned a high school diploma. This was true even for persisters who went on to graduate in the fifth year, suggesting the need for interventions that promote college and workforce readiness across the population of persisters.

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