

**The Impact of the Onward We Learn GEAR UP
Program on Six-Year College Outcomes of Onward
Participants from Three Cohorts Combined
(SY 2007-08, SY 2008-09, and SY 2009-10)**

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Introduction

The 1990s saw the implementation of educational reform that refocused the nation's elementary and secondary system on student outcomes. However, the performance standards, conceptual measures, and the data required to actual measure the outcomes were in short supply in most states. With federal support most states began to build robust data systems that systematically captured unit record data for all students that enrolled in an elementary or secondary educational program. In turn, measures of student progress, academic achievement, and student persistence became widely available with many states publishing school performance data online.

With this widespread unit record data availability, the U.S. Department of Education began mandating more sophisticated net impact studies of federal educational programs based on experimental or quasi-experimental methods. These net impact studies were to supplement descriptive measures of processes and outcomes with estimates of the net impact on outcomes from participation in an educational activity. The GEAR UP program was among the first federally sponsored educational program to require net impact studies of student outcomes that were to be performed by independent third-party evaluators, most often housed at local colleges and universities.

The authors began serving as the third-party evaluator of the Onward GEAR UP program in 2001 and completed net impact evaluation studies of nine separate cohorts of Onward GEAR UP program participants. The impact evaluation is based on a quasi-experimental design that entails the selection of a matched comparison group designed to serve as the counterfactual against which the outcomes of program participants are compared to estimate the impact of the Onward GEAR UP program. Propensity Score Matching (PSM) is used to select a group of students from the sixth-grade classmates of participants that are closely matched on key educationally relevant and demographic traits with Onward participants.

Using longitudinal data, both groups of students (Onward participants and their sixth-grade comparison group classmates) are then tracked from sixth grade through high school graduation and college to measure key educational outcomes along the way. The educational outcomes of Onward participants are then compared with those of the matched comparison group and differences between the outcomes of the two groups are assessed for statistical

significance. Any differences between the educational outcomes of Onward participants and the matched comparison group that meets the threshold of statistical significance represent the impact of the GEAR UP program on Onward participants.

To date, we have conducted quasi experimental evaluation studies of the impact of participation in the Onward GEAR UP program on educational outcomes of nine separate cohorts of GEAR UP program participants in Rhode Island. The first cohort in our evaluation consists of students from five Rhode Island school districts¹ who had enrolled in the GEAR UP program as rising sixth graders in SY 2007-08; the most recent cohort for which we have completed the evaluation of the impact of the GEAR UP program consists of students from these school districts who had enrolled in the GEAR UP program as rising sixth/seventh² graders in SY 2015-16.

The federal requirements of our research evaluation efforts mandated that we assess outcomes for each of these sixth-grade cohorts through expected initial college enrollment. Our evaluation has primarily focused on the following four educational outcomes along the pathway from sixth grade to college:

- i) Attaining twelfth grade on time: measures the share of sixth graders who entered twelfth grade on time. This outcome is a summary measure of successful grade promotion in each school year between their enrollment in the GEAR UP program in the sixth grade and the twelfth grade.
- ii) On-time high school graduation measures the share of sixth graders who graduated high school on time.
- iii) Immediate college enrollment rate measures the share of on-time high school graduates who enrolled in college immediately (in the summer or fall semester) after graduating high school.

¹ The Onward GEAR UP program operates in the following five Rhode Island school districts during the period of these nine cohort studies including: Central Falls, Cranston, Pawtucket, Providence, and Woonsocket.

² Enrollment in the Onward GEAR UP program was limited to sixth graders for five consecutive cohorts between 2007-08 to 2011-12. Starting with the 2012-13 cohort, enrollment in the Onward GEAR UP program was expanded to include students from the sixth and seventh grades.

- iv) cumulative measure of immediate college enrollment measures the share of sixth graders who were enrolled in college in the summer or fall semesters of the year of their expected high school graduation.

As additional college enrollment data became available for each cohort, we expanded our evaluation to measure the impact of the GEAR UP program on the persistence of Onward participants through the college freshman year. Freshman-year retention is widely viewed as one of the best predictors of college completion and degree attainment. Aughinbaugh has reported that of those students who complete their first year of college at either a two or a four-year institution, at least 60 percent go on to complete their degree.³ Research on the retention of college students has demonstrated that the highest risk of dropping out of college occurs during the freshman year; students who persist through the first year of college are less likely to drop out during their second year, and the likelihood of dropping out declines sharply with each successive year of attendance.⁴ Since the risk of dropping out of college is highest in the freshman year, we have used this measure to provide insights on the likelihood among Onward participants of continued progress in college towards completion and earning a college credential.⁵

Working through the Rhode Island Longitudinal Data System we have gained access to additional college enrollment/completion data from the National Student Clearinghouse through August of 2023 which covers a period of six years after initial college enrollment for the first three cohorts of Onward GEAR UP participants: those who enrolled in the GEAR UP program

³ Aughinbaugh, Alison. "Who Goes to College? Evidence from NLSY97," *Monthly Labor Review Online*, 131(8) (August 2008): 33-43. Retrieved from: <http://www.bls.gov/opub/mlr/2008/08/art3abs.htm>

⁴ Astin, Alexander W. *What Matters in College? Four Critical Years Revisited*. San Francisco, CA: Jossey-Bass, 1993; Braxton, John M., Amy S. Hirschy, and Shederick A. McClendon. *Understanding and Reducing College Student Departure: ASHE-ERIC Higher Education Report*. 30(3). Indianapolis, IN: Jossey-Bass, November 2004; Horn, Laura. *Stopouts or Stayouts? Undergraduates Who Leave College in Their First Year*, Washington, DC: National Center for Education Statistics, United States Department of Education, 1998; Lee, John Michael Jr., and Anita Rawls. *The College Completion Agenda 2010 Progress Report*. New York, NY: The College Board, 2010; Schneider, Mark. *Finishing the First Lap: The Cost of First-Year Student Attrition in America's Four-Year Colleges and Universities*. Washington, DC: American Institute for Research, October 2010; Tinto, Vincent, *Leaving College: Rethinking the Causes and Cures of Student Attrition*. Chicago, IL: University of Chicago Press, 1987.

⁵ The use of freshman year retention as a signal of persistence through college completion was necessitated because we had to wait for a period of 6 years since initial college enrollment to measure a commonly used college completion rate that measures completion of college after the passage of 150% of the time needed to complete a college course of study; that is, 3 years for a 2-year degree, and 6 years for a 4-year degree.

as rising sixth graders during the school years 2007-08, 2008-09, and 2009-10. These data enable us to measure six-year college completion outcomes for the first three cohorts of Onward GEAR UP participants.

The educational pathway for each of these three cohorts is summarized in Table 1 and it shows that the sixth year since initial college enrollment for students from the three cohorts (2007-08, 2008-09, and 2009-10) respectively occurred in SY 2019-20, SY 2020-21, and SY 2021-22. These dates represent the expected college graduation years of the SY 2007-08, 2008-09, and 2009-10 cohorts assuming a six-year window after high school to complete a course of study leading to a degree or certificate. Any academic award including certificates alone, all undergraduate and graduate degrees awarded by a postsecondary institution eligible to receive federal financial aid are included as a positive postsecondary completion.

Table 1:
Pathway from Sixth Grade to Six-Year College Graduation/Positive Outcome for Onward GEAR UP Participants from the 2007-08, 2008-09, and 2009-10 Sixth Grade Cohorts Combined and their Matched Comparison Group Counterparts

School Year/Educational Outcome	SY 2007-08 Cohort	SY 2008-09 Cohort	SY 2009-10 Cohort
School Year of Enrollment in the Onward GEAR UP program →	Fall 2007	Fall 2008	Fall 2009
6th grade	SY 2007-08	SY 2008-09	SY 2009-10
7th grade	SY 2008-09	SY 2009-10	SY 2010-11
8th grade	SY 2009-10	SY 2010-11	SY 2011-12
9th grade	SY 2010-11	SY 2011-12	SY 2012-13
10th grade	SY 2011-12	SY 2012-13	SY 2013-14
11th grade	SY 2012-13	SY 2013-14	SY 2014-15
12th grade	SY 2013-14	SY 2014-15	SY 2015-16
On-Time High School Graduation	Spring 2014	Spring 2015	Spring 2016
Immediate College Enrollment	Summer/Fall 2014	Summer/Fall 2015	Summer/Fall 2016
Sixth Year Since Immediate College Enrollment	SY 2019-20	SY 2020-21	SY 2021-22

In this research brief we present findings from our impact evaluation analysis of the six-year college completion outcome among students from the three cohorts combined. We have combined the three cohorts to increase the precision of our estimates of impact yielding 745 students from the three cohorts of Onward participants and 745 of their corresponding

comparison group counterparts. Using the RILDS data we have tracked the progress of these students from the time of their initial enrollment in the Onward GEAR UP program as rising sixth graders to their college completion status six years after expected initial college enrollment.

Along the pathway from sixth grade to college completion, our evaluation has focused on the following educational outcomes: on-time twelfth grade attainment, on-time high school graduation, enrollment in college immediately after on-time high school graduation, and the status of college completion or continued college enrollment six years after immediate college enrollment. Our previous evaluation reports for these three cohorts have ended with assessment of the impact on the outcome of immediate college enrollment.

As time passed, we have been able to access additional years of NSC data that have allowed us to produce impact estimates on outcomes beyond immediate college enrollment—outcomes of college persistence and completion. Although these outcomes were not an evaluation standard for the GEAR UP program for these three cohorts, Onward management was interested in understanding the program’s impact on longer-term educational outcomes such as college persistence and completion. With access to six years of NSC data after initial college enrollment, we are now able to measure the impact of Onward GEAR UP program participation on the likelihood of earning a postsecondary award six years after high school completion.

We have presented two outcomes that students could within six years after initial college enrollment: i) six-year college completion which measures college completion (with a credential) at any time within six years since initial college enrollment; and ii) six-year positive college outcome which measures college completion with a credential at any time within six years since initial college enrollment or continued enrollment in college at the end of six years since initial college enrollment. These two outcomes are presented for two groups of students:

- i) Students who had graduated high school on time and enrolled in college immediately after graduating high school, and
- ii) All sixth-grade students in the cohort.

Attainment of the two outcomes for the entire group of sixth graders measures the culmination of positive outcomes and impact from sixth grade when these students first enrolled in the Onward

GEAR UP program, to six years after on-time high school graduation when they are expected to graduate from college.⁶

Six-Year College Graduation and Positive College Outcome Among On-Time High School Graduates who had Immediately Enrolled in College

On-time high school graduates who had enrolled in college immediately after graduating high school comprised 363 Onward participants and 271 students from the matched comparison group. Out of these immediately college-enrolled on-time high school graduates, the share who had earned a college credential within six years after their initial college enrollment was 43.3 among Onward participants and 35.8 percent among their matched comparison group counterparts. The difference of 7.5 percentage points in favor of Onward participants was marginally statistically significant at the .10 level (Table 2).

Table 2:
Six-Year College Graduation and Positive College Outcome of Onward Participants and Comparison Group Students from SY 2007-08, 2008-09, and 2009-10 Cohorts Combined, Among On-Time High School Graduates who had Immediately Enrolled in College

Universe: Immediately College-Enrolled On-Time HS Graduates					
	Total Number	Number Graduated in Six Years	Percent Graduated in Six Years	Number Graduated or Remained Enrolled in Six Years	Percent Graduated or Remained Enrolled in Six Years
Onward Participants	363	157	43.3%	191	52.6%
Comparison Group	271	97	35.8%	127	46.9%
Difference (percentage points)			7.5*		5.8

*** p <.01, ** p<.05, * p<.10

⁶ Six-year graduation is a commonly used metric to measure college completion for students in four-year colleges. It represents college graduation within 150 percent of the time required to complete a four-year college course of study. For two-year colleges, an equivalent measure of college completion is graduation within three years of initial enrollment. In this research paper, we have used a broad measure of the outcomes of college completion and college positive outcome; measuring both outcomes over a six-year time period for all students regardless of the type of college (two-year or four-year) in which they were first enrolled.

As noted in a previous section, the second outcome measure (positive college outcome) includes students who had earned a college credential within six years and those without a credential who remained enrolled in college at the end of six years since initial enrollment. Findings presented in the last two columns of Table 2 reveal that nearly 53 percent of Onward participants and 47 percent of the matched comparison group students had attained a positive college outcome at the end of six years since initial college enrollment. The difference of 5.8 percentage points in favor of Onward participants failed to meet standards of statistical significance.

Sex and Race-Ethnicity

Analysis of the impact of the Onward GEAR UP program on these two outcomes among different demographic subgroups of students is restricted by the smaller number of observations available. The smaller number of observations reduces the likelihood of a statistically significant finding for any given group. Therefore, analysis of these two outcomes is restricted to gender (Table 3), race-ethnicity⁷ (Table 4), and the type of college of initial enrollment (Charts 1 and 2).

The share of college-enrolled on-time high school graduates who had earned a college credential in six years after high school was over nine percentage points higher among male Onward participants and nearly seven percentage points higher among female Onward participants than among their respective comparison group counterparts. However, these differences in favor of Onward participants did not meet the threshold of statistical significance. The advantage of Onward participants (relative to comparison group students) on the six-year positive college outcome stood at 11.4 percentage points among male students (marginally significant at the .10 level) and only three percentage points among female students (not statistically significant).

While the net impact for male GEAR UP participants was greater than for females, a simple comparison of the performance between male and female students reveals a sizeable advantage of females over their male counterparts. Women had an advantage of 7.6 percentage points over men among Onward participants (46.1% versus 38.5%) and 10.2 percentage points among the comparison group students (39.4% versus 29.2%) on the measure of six-year

⁷ Analysis by race-ethnicity is restricted to just two groups—Black and Hispanic—because the numbers of students in the remaining race-ethnicity subgroups were too small for statistically precise measurement.

graduation. The female advantage over male students was even larger on the six-year positive college outcome: 14.2 percentage points among Onward participants (57.9% versus 43.7%) and 22.6 percentage points among comparison group students (54.9% versus 32.3%) (Table 3).

Table 3:
Six-Year College Graduation and Positive College Outcome of Onward Participants and Comparison Group Students from Three (SY 2007-08, 2008-09, and 2009-10) Cohorts Combined, Among On-Time High School Graduates who had Immediately Enrolled in College, by Sex

Sex	Universe: Immediately College-Enrolled On-Time HS Graduates					
	Six Year Graduation			Six-Year Positive College Outcome		
	Onward	Matched Comparison Group	Difference (percentage points)	Onward	Matched Comparison Group	Difference (percentage points)
Male	38.5	29.2	9.4	43.7	32.3	11.4*
Female	46.1	39.4	6.6	57.9	54.9	3.0

*** p <.01, ** p<.05, * p<.10

The measure of the likelihood of college completion as well as attaining a positive college outcome was higher among Black Onward participants than among their comparison group counterparts; by seven percentage points on the outcome of six-year college completion, and three percentage points on the six-year positive college outcome. Albeit in favor of Onward participants, these differences were not statistically significant.

Table 4:
Six-Year College Graduation and Positive College Outcomes of Onward Participants and Comparison Group Students from Three (SY 2007-08, 2008-09, and 2009-10) Cohorts Combined, Among On-Time High School Graduates Immediately Enrolled in College, by Race-Ethnicity

Race-Ethnicity	Universe: Immediately Enrolled On-Time HS Graduates					
	Six Year Graduation			Six-Year Positive College Outcome		
	Onward	Matched Comparison Group	Difference (percentage points)	Onward	Matched Comparison Group	Difference (percentage points)
Black	40.2	32.8	7.4	44.8	41.8	3.0
Hispanic	42.1	33.3	8.8*	55.1	46.4	8.7*

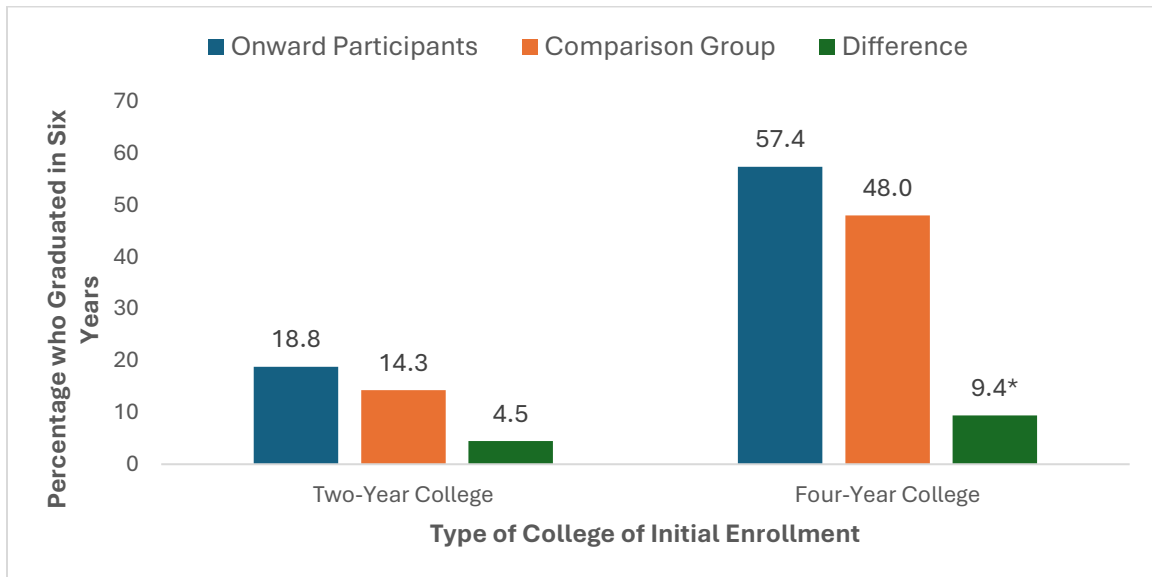
*** p <.01, ** p<.05, * p<.10

Hispanic Onward participants also performed better than the comparison group on these two. The share of Hispanic Onward participants with college graduation within six years of initial enrollment exceeded that of the comparison group by nearly nine percentage points (marginally significant at the .10 level). A similar gap (8.7 percentage points) existed between Hispanic Onward participants and students in the comparison group on the six-year positive college outcome; marginally significant at the .10 level) (Table 4).

Type of College of Initial Enrollment

The likelihood of graduating college with a credential within six years after initial enrollment was higher among Onward participants than comparison group students. However, the gap between Onward participants and comparison group students in the share of students with a college credential in six years was twice as high among those who had initially enrolled in a four-year college (9.4 percentage points, marginally significant at the .10 level) than those who began their postsecondary education in a two-year college (4.5 percentage points, not statistically significant).

Chart 1:
Six-Year College Graduation of Immediately College-Enrolled On-Time High School Graduate Onward Participants and Comparison Group Students from SY 2007-08, 2008-09, and 2009-10 Cohorts Combined, by Type of College of Initial Enrollment

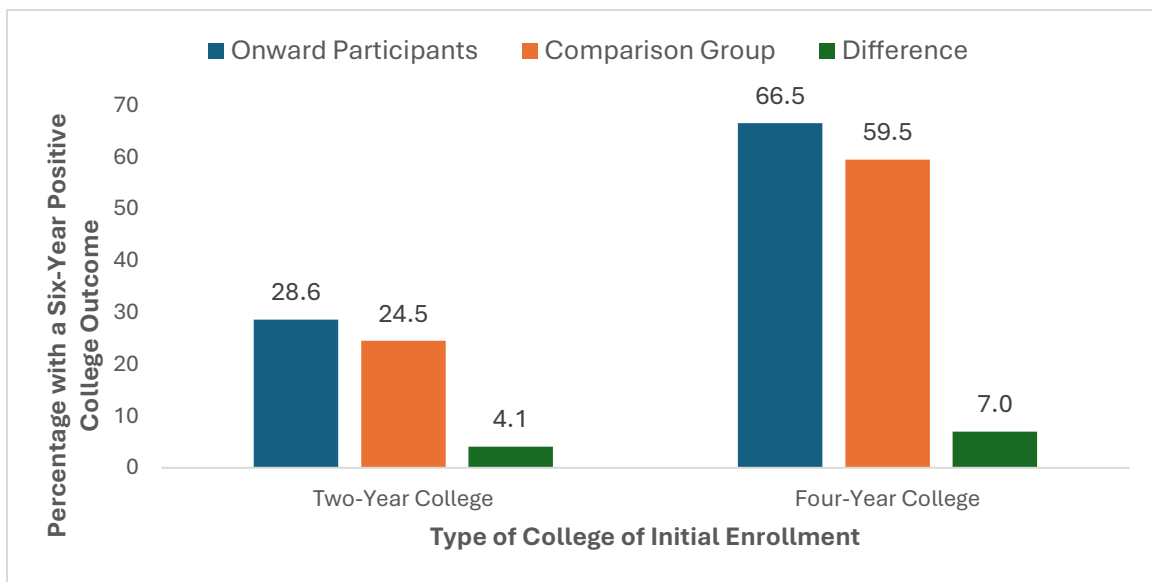


*** p <.01, ** p<.05, * p<.10

It must also be noted that students (Onward participants as well as comparison group students) who began college in a four-year school were considerably more likely to earn a college credential within six years compared to those who started at a two-year college. The likelihood of six-year college completion among Onward participants with initial enrollment at a four-year college compared to those with initial enrollment at a two-year college was three times higher (57.4% versus 18.8%). Comparison group students saw a similarly large gap (3.4 times) between the six-year college completion rate of those who first enrolled in a four-year college (48%) and those who initially enrolled in a two-year college (14.4%) (Chart 1).

Like the outcome of six-year college graduation, the likelihood of a positive college outcome in six years after initial enrollment was higher among Onward participants than comparison group students. Furthermore, the gap in this outcome (between Onward participants and the comparison group) was higher among those who had initially enrolled in a four-year college than among those who began their postsecondary education in a two-year college. However, these differences were not statistically significant (Chart 2).

Chart 2:
Six-Year Positive College Outcome of Immediately College-Enrolled On-Time High School Graduate Onward Participants and Comparison Group Students from SY 2007-08, 2008-09, and 2009-10 Cohorts Combined, by Type of College of Initial Enrollment



*** p <.01, ** p<.05, * p<.10

Similar to the outcome of six-year college completion, the likelihood of a six-year positive college outcome was also much higher among students (Onward participants and comparison group students) who began college at a four-year school than those who enrolled in a two-year school: 2.3 times higher among Onward participants (66.5% versus 28.6%) and 2.4 times higher than comparison group students (59.5% versus 24.5%) (Chart 2).

Cumulative Summary Outcome: Six-Year College Completion and Positive College Outcome among All Sixth Graders

Along the path from sixth grade to college, there are a few ways in which students can falter:

- i) they could be held back in one or more grades delaying their progress towards twelfth grade resulting in a failure to graduate high school on time,
- ii) they could exit the Rhode Island public school system to a school elsewhere or simply drop out of engagement in schooling activities entirely before high school graduation,
- iii) they could graduate high school on time but fail to enroll in college,
- iv) they could enroll in college and fail to earn a credential within six years, or
- v) they could enroll in college and fail to earn a credential within six years and not remain enrolled in college at the end of six years to pursue a college credential beyond six years.

The outcome of college completion (or continued college enrollment) is a culmination of positive outcomes along the path from sixth grade to college completion. The cumulative summary outcomes of college completion and positive college outcome are a cumulative measure of outcomes along the pathway from sixth grade to college completion or continued enrollment six years after on-time high school graduation. It is measured as the share of all sixth-grade students from the three cohorts who had completed college (earned a college credential) or had not earned a college credential but remained enrolled in college six years after their expected on-time high school graduation.

Elements of this measure have been used to explore year to year progress of participants and comparison group members and so identify key inflection points of school exit prior to graduation in all nine of our earlier impact studies. These exits at the elementary and secondary level then, in turn, exert important influence on the likelihood of college completion as

differences between participants and comparison group members emerge in on-time progress through both middle and high school.

Among all 745 Onward participants from these three cohorts, the likelihood of graduating from college within six years after their expected high school graduation was considerably higher than that of the 745 matched comparison group students: 28.6 percent versus 19.3 percent. The difference of 9.3 percentage points in favor of Onward participants was statistically significant at the .01 level. This means that Onward participation increased the likelihood of earning a college award by 48 percent. On the six-year positive college outcome measure, 37.2 percent of Onward participants attained this outcome versus 26.4 percent of their comparison group counterparts. The Onward advantage of 10.7 percentage points was statistically significant at the .01 level (Table 5).

Table 5:
Six-Year College Graduation and Positive College Outcome of Onward Participants and Comparison Group Students from SY 2007-08, 2008-09, and 2009-10 Cohorts Combined,
Among the Entire Base Cohort of Sixth Graders

Universe: The Entire Cohort (All Sixth Graders)					
	Total Number	Number Graduated in Six Years	Percent Graduated in Six Years	Number Graduated or Remained Enrolled in Six Years	Percent Graduated or Remained Enrolled in Six Years
Onward Participants	745	213	28.6%	277	37.2%
Comparison Group	745	144	19.3%	197	26.4%
Difference (percentage points)			9.3***		10.7***

*** p <.01, ** p<.05, * p<.10

Below we present estimates of the impact of the Onward GEAR UP program on the cumulative summary outcomes of college completion and positive college outcome among Onward participants by their demographic characteristics (sex and race-ethnicity), in-school behavioral traits (sixth grade school suspension status and attendance), and academic proficiency (performance on the NECAP reading test). Onward participants in every subgroup outperformed their comparison group participants, and in almost every case the Onward participant advantage met the threshold of statistical significance.

Sex and Race-Ethnicity

Male as well as female Onward participants substantially outperformed their comparison group counterparts on both outcomes. The size of the Onward male participant advantage was nearly ten percentage and nine percentage points among females for the six-year college graduation measure; and thirteen percentage points among males and nine percentage points among females for the six-year positive college outcome (Table 6).

The Onward participant advantage among Black students of 6.6 percentage point for six-year college graduation was not statistically significant whereas the 10-percentage point advantage for six-year positive college outcome was statistically significant at the .05 level. Among Hispanic students, Onward participants were nine percentage points more likely than comparison group students to earn a college degree in six years and eleven percentage points more likely than comparison group students to attain a positive college outcome in six years. Both impact estimates were statistically significant at the .01 level.

Table 6:
Six-Year College Graduation and Positive College Outcomes of Onward Participants and Comparison Group Students from Three (SY 2007-08, 2008-09, and 2009-10) Cohorts Combined, by Sex

	Universe: The Entire Cohort (All Sixth Graders)					
	Six Year Graduation			Six-Year Positive College Outcome		
	Onward	Matched Comparison Group	Difference (percentage points)	Onward	Matched Comparison Group	Difference (percentage points)
Sex						
Male	24.1	14.4	9.7***	30.0	16.6	13.4***
Female	31.7	22.9	8.8***	42.2	33.6	8.7***
Race-Ethnicity						
Black	26.4	19.8	6.6	36.0	26.0	10.0**
Hispanic	27.5	18.5	9.0***	37.4	26.2	11.2***

*** p <.01, ** p<.05, * p<.10

Sixth-Grade School Suspension Status and Attendance Rate

Suspension from school in the sixth grade is an important predictor of the probability of completing college as illustrated in Table 7 below. The net impact study found that the six-year college completion was 9 percentage points higher (p<.01) among Onward participants than the comparison group among those without any sixth-grade school suspensions and 11 percentage

points ($p < .05$) among those with one or more sixth-grade school suspensions (Table 7). Similarly large Onward participant advantages were recorded for the six-year positive college outcome: nearly 11 percentage points ($p < .01$) among those without any sixth-grade school suspensions and nearly 12 percentage points ($p < .10$) among those with one or more sixth-grade school suspensions (Table 7).

Findings in Table 7 also reveal a close association between sixth grade suspension status and the likelihood of six-year college graduation or six-year positive college outcomes among both Onward participants as well as comparison group students. Onward students with no sixth-grade school suspension were 1.77 times more likely to earn a post secondary award than those without any suspensions. Among the comparison group students, we found even more dramatic gaps in the risk of not achieving a college award. Comparison groups members were an astonishing 3.9 times more likely to graduate from college if they had not been suspended in the sixth grade relative to those who were suspended.

Table 7:
Six-Year College Graduation and Positive College Outcomes of Onward Participants and Comparison Group Students from Three (SY 2007-08, 2008-09, and 2009-10) Cohorts Combined, by Sixth Grade School Suspension Status

Sixth Grade School Suspension Status	Universe: The Entire Cohort (All Sixth Graders)					
	Six Year Graduation			Six-Year Positive College Outcome		
	Onward	Matched Comparison Group	Difference (percentage points)	Onward	Matched Comparison Group	Difference (percentage points)
Without any Suspensions	29.9	20.9	9.0***	38.9	28.3	10.7***
With 1+ Suspensions	16.9	5.3	11.6**	22.1	10.5	11.6*

*** $p < .01$, ** $p < .05$, * $p < .10$

Regular school attendance has proven to be an important influence on positive postsecondary outcomes. Our prior work with Onward reveals large and significant impacts on the likelihood of on-time high school graduation, on time college enrollment, and college freshman year retention. Similarly, our current analysis reveals that Onward participants outperformed their comparison group counterparts in each of the four sixth-grade attendance rate quartiles in attaining six-year college graduation as well as six-year positive college outcome.

The Onward participation advantage met the threshold of statistical significance for all but one (second lowest) attendance rate quartiles. In the second quartile, the cumulative summary outcomes of six-year college graduation and six-year positive college outcome were higher among Onward participants than the comparison group, but the differences were not statistically significant (Table 8). These findings also clearly indicate that Onward participants as well as comparison group students with better sixth-grade attendance rates were much more likely to succeed in earning a college credential or remain enrolled in college in six years after high school graduation.

Table 8:
Six-Year College Graduation and Positive College Outcomes of Onward Participants and Comparison Group Students from Three (SY 2007-08, 2008-09, and 2009-10) Cohorts Combined, by Sixth Grade Attendance Rate Quartile

Sixth Grade Attendance Rate Quartile	Universe: The Entire Cohort (All Sixth Graders)					
	Six Year Graduation			Six-Year Positive College Outcome		
	Onward	Matched Comparison Group	Difference (percentage points)	Onward	Matched Comparison Group	Difference (percentage points)
Lowest	18.9	5.9	13.0***	27.0	11.8	15.3***
Second	21.3	15.6	5.7	34.0	26.7	7.4
Third	33.3	22.9	10.5**	41.1	28.2	13.0***
Highest	42.9	24.9	18.0***	48.2	31.3	16.9***

*** p <.01, ** p<.05, * p<.10

Proficiency Level on the Sixth-Grade NECAP Reading Test

Unsurprising to any reader is the vital role of foundational skills in postsecondary success. Indeed, even a casual glimpse of findings in Table 9 reveal a strong connection between reading skills in sixth grade and the likelihood of college completion thirteen years later. Our analysis relies on the NECAP scaled reading scores achieved by both Onward participants and their comparison group counterparts as our measure of foundational skill.

The Onward participant advantage over their comparison group counterparts on the cumulative summary outcome of six-year college graduation was largest among those with the best performance (proficient with distinction) on the sixth -grade NECAP reading test, 17.7 percentage points (significant at the .05 level), and fell to 8.4 percentage points (significant at the

.01 level) and 9.3 percentage points (significant at the .05 level), respectively, among those with the second best (proficient) and third best (partially proficient) performance on test (statistically significant at the .01 level). Although in favor of Onward participants, the difference between the six-year college graduation of Onward participants and comparison group students with the worst performance (substantially below proficient) on the NECAP test was not statistically significant (Table 9).

On the six-year positive college outcome, the performance of Onward participants exceeded that of the comparison group by 13.2 percentage points in the lowest two performance levels on the sixth-grade NECAP reading test (substantially below proficient and partially proficient) (significant at the .05 and .01 levels, respectively), and fell to 8.4 percentage points among those with second best performance on the test (proficient) (significant at the .05 level). Among students with the best performance (proficient with distinction), the difference between Onward participants and comparison group students was sizeable but not statistically significant (Table 9).

Table 9:
Six-Year College Graduation and Positive College Outcomes of Onward Participants and Comparison Group Students from Three (SY 2007-08, 2008-09, and 2009-10) Cohorts Combined, by Proficiency Level Achieved on the Sixth Grade NECAP Reading Test

Proficiency Level on the Sixth-Grade NECAP Reading Test	Universe: The Entire Cohort (All Sixth Graders)					
	Six Year Graduation			Six-Year Positive College Outcome		
	Onward	Matched Comparison Group	Difference (percentage points)	Onward	Matched Comparison Group	Difference (percentage points)
Proficient with Distinction	54.8	37.1	17.7**	58.1	45.2	12.9
Proficient	31.9	23.6	8.4***	41.6	33.2	8.4**
Partially Proficient	21.2	11.9	9.3**	29.1	15.8	13.2***
Substantially Below Proficient	11.8	4.4	7.4	20.6	7.4	13.2**

*** p < .01, ** p < .05, * p < .10

Students with lower levels of academic proficiency are less likely to persist and succeed in college. A finding that should be given extra consideration is that the GEAR UP program

appears to have helped participants with lower levels of academic proficiency in their college persistence beyond six years evident in the sizeable gap between their ability to persist in college beyond six years and that of their matched comparison group counterparts (Table 9).

Understanding how the GEAR UP treatments were able to create such a large gain for students with substantial reading deficits entering middle school would be very useful to educators in a Rhode Island public school system with substantial skill deficit problems, especially in the communities served by the Onward GEAR UP program.

Educational Pathway from Sixth Grade to Six-Year College Graduation and Positive College Outcome

A review of the educational pathway of the three combined cohorts of Onward participants and their comparison group counterparts is presented in Charts 3 and 4. The pathway begins with a total of 745 sixth grade Onward participants and an equal number of sixth grade students in the matched comparison group. The number of students who entered twelfth grade on time was 617 students (82.8%) among Onward participants and 552 students (74.1%) among their counterparts in the matched comparison group. Over three-quarters of Onward participants (573 out of 745) graduated high school on time compared to two-thirds (507 out of 745) of students in the matched comparison group.

The outcome of immediate college enrollment was attained by 410 Onward participants and 316 students in the matched comparison group, representing 55 percent and 42 percent of total (sixth graders), respectively. At the end of six years after on-time high school graduation/immediate college enrollment, 213 Onward participants (28.6%) and 197 students from the comparison group (19.3%) earned a college credential. Some students had not earned a credential at the end of six years but were still enrolled in college. Combining these students with those who had earned a college credential yields the six-year positive college outcome measure. The share of Onward participants with a six-year positive college outcome was 37.2 percent compared to 26.4 percent among their matched comparison group counterparts.

Chart 3:
Pathway from Sixth Grade to Six-Year College Graduation/Positive Outcome: Percent of All (745) RI GEAR UP Participants and All (745) Matched Comparison Group Students with On-Time Grade Attainment, On-Time High School Graduation, Immediate College Enrollment, and Six-Year Positive Outcome or College Graduation, 2007-08, 2008-09, and 2009-10 Sixth Grade Cohorts Combined

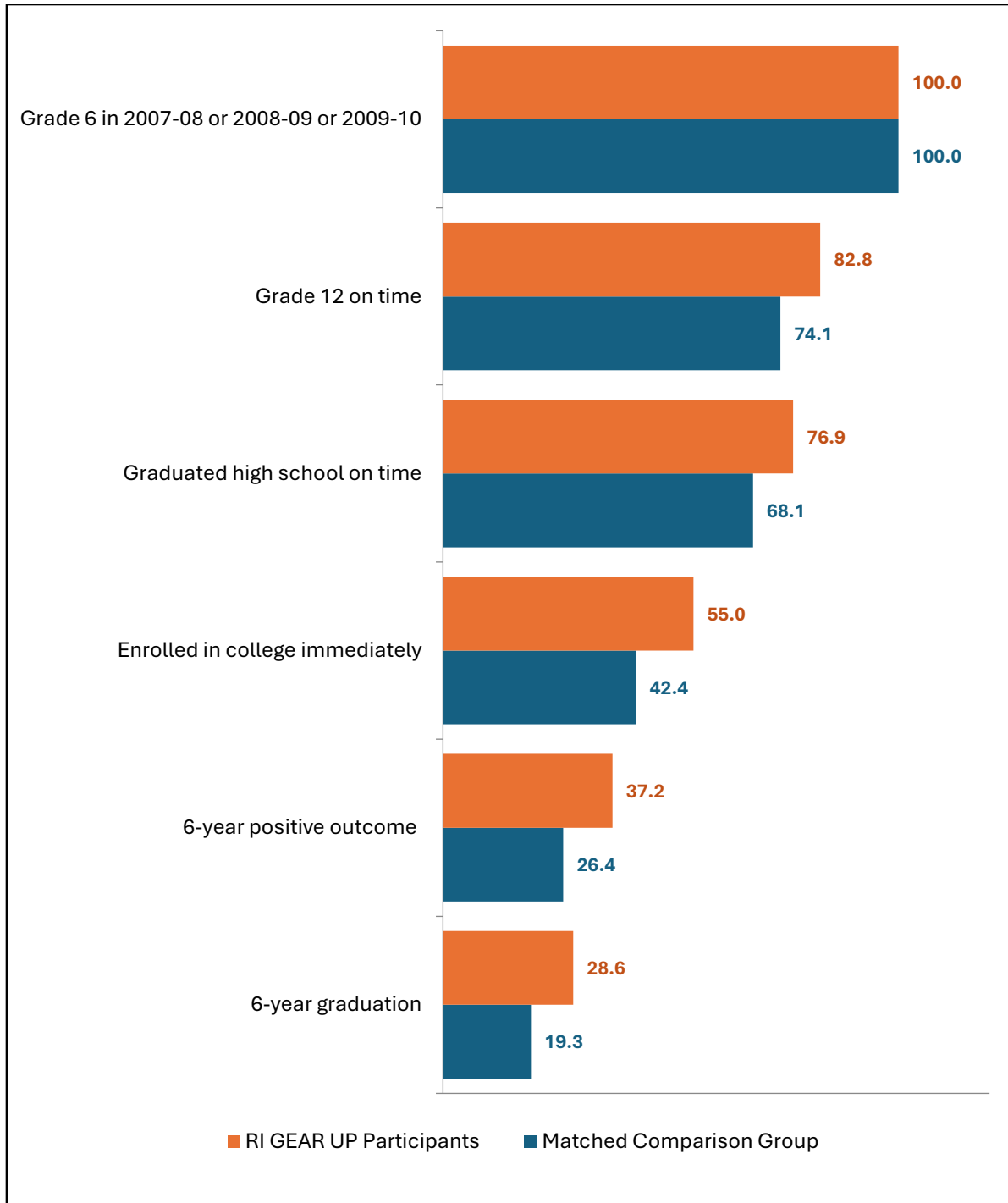
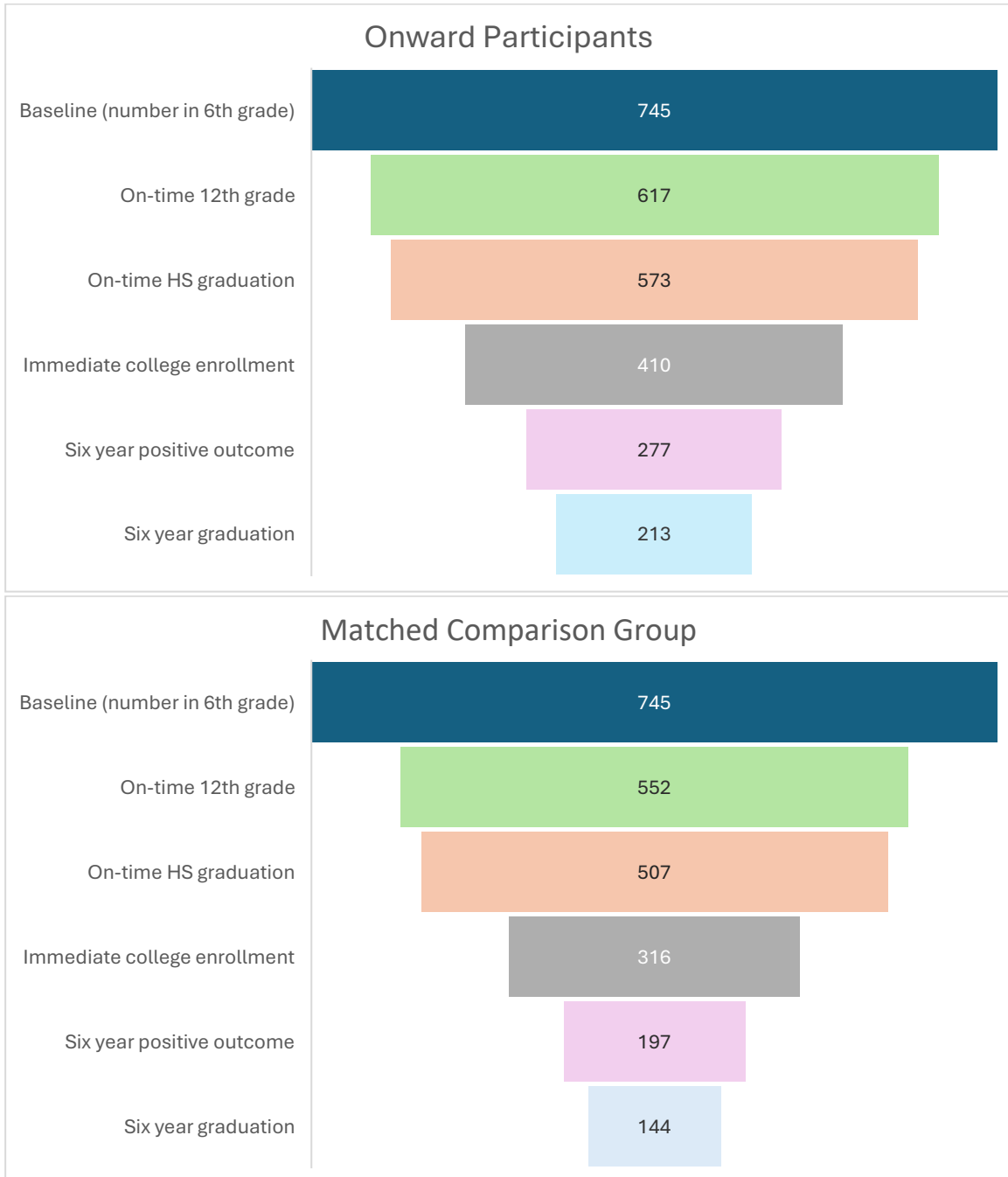


Chart 4:
Pathway from Sixth Grade to Six-Year College Graduation/Positive Outcome: Number of Onward GEAR UP Participants and Matched Comparison Group Students with On-Time 12th Grade Attainment, On-Time High School Graduation, Immediate College Enrollment, and Six-Year Positive Outcome, and Six-Year College Graduation, 2007-08, 2008-09, and 2009-10 Sixth Grade Cohorts Combined



Summary

This paper presents net impact estimates of the Onward GEAR UP program on six-year college completion and positive college outcomes of three combined cohorts of Onward participants who had entered the program as rising sixth graders in SY 2007-08, SY 2008-09, and SY 2009-10. Using college enrollment and completion data from the National Student Clearinghouse, made available to the authors through RILDS a total of 745 Onward participants from these three cohorts and their 745 matched comparison group classmates were tracked over a period of six years after their expected high school graduation to assess the outcomes of six-year college completion (graduation) and six-year positive college outcome, which includes those who completed college and those who did not complete college but were enrolled in the sixth year after their expected high school graduation. The report also presents an overview of the entire longitudinal pathway of the 745 Onward participants and 745 comparison group students from sixth grade to their college graduation/enrollment status six years after their expected high school graduation.

The net impact evaluation found large advantages on key educational outcomes for students who participated in the Onward GEAR UP program (Chart 5 and Table 10).

Outcome 1: On-time twelfth grade attainment:

This outcome measures the percentage of sixth grade Onward GEAR UP participants and their sixth-grade classmates in the matched comparison group who reached twelfth grade on time. With each passing year after their first year in the GEAR UP program, the gap in on-time grade attainment between Onward participants and comparison group students grew steadily in favor of Onward participants. By the time that this cohort of students were expected to be in the twelfth grade, 82.8 percent of Onward participants had reached the twelfth grade compared to 74.1 percent of their comparison group counterparts; yielding a net impact estimate of 8.7 percentage points. This impact was statistically significant at the .01 level. This net impact estimate represents a relative advantage (in favor of Onward participants) of 11.8 percent ($8.7 \div 74.1 = 11.8$). In other words, the Onward GEAR UP program is estimated to raise the likelihood of Onward participants entering twelfth grade on time by 11.8 percent.

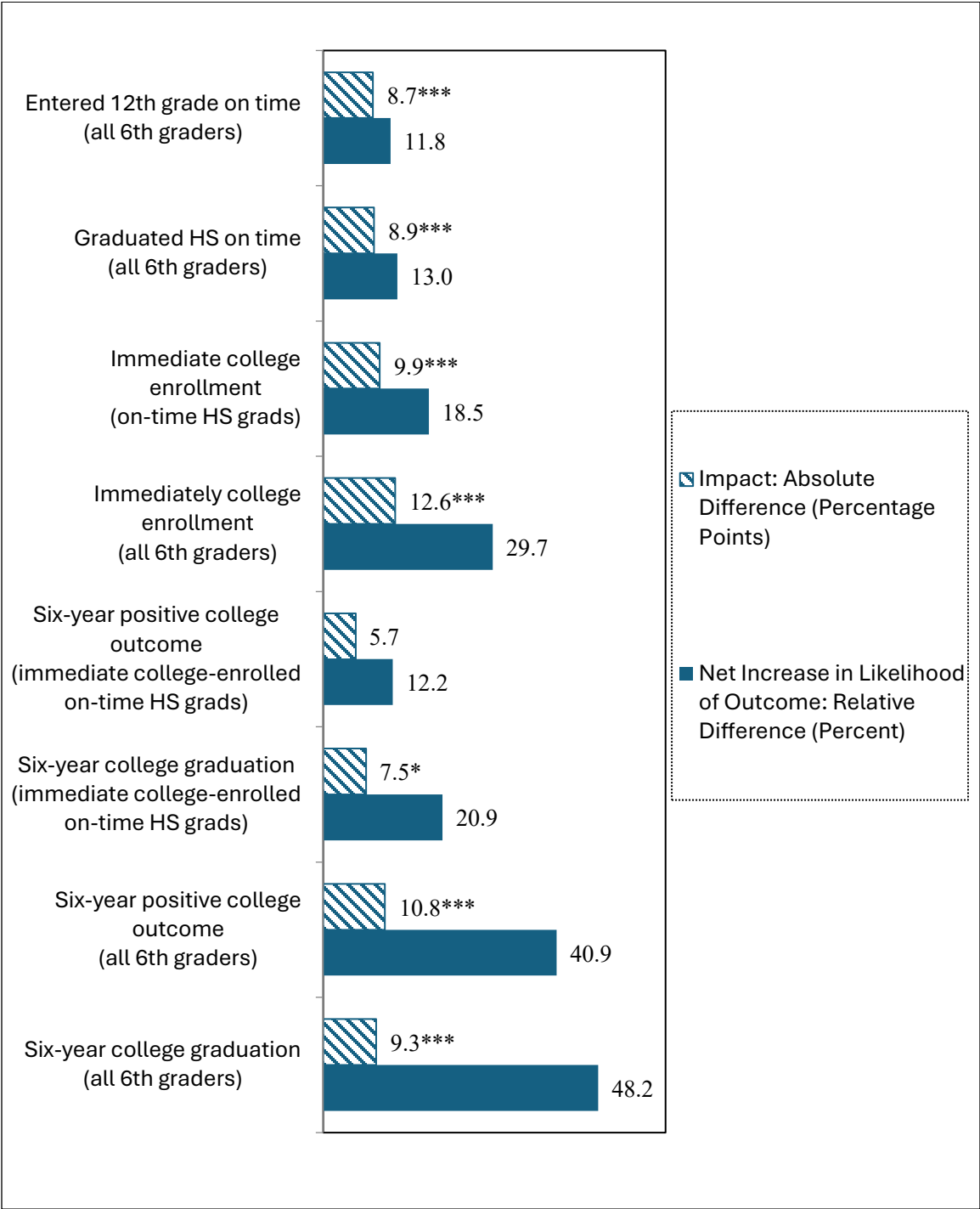
Outcome 2: On-time high school graduation:

This outcome measures the percentage of all participants from the three cohorts and comparison group students who graduated high school on time. By the time of the expected date of on-time high school graduation, 76.9 percent of Onward participants had graduated high school compared to 68.1 percent of students in the comparison group; a difference of 8.9 percentage points (statistically significant at the .01 level) which represents the net impact of the GEAR UP program on on-time high school graduation among Onward participants in these three cohorts. The relative difference of 13.0 percent ($8.9 \div 68.1 = 13.0$) represents the net increase in the likelihood of on-time high school graduation of GEAR UP participants attributable to the program. According to these findings, the Onward GEAR UP program is estimated to raise the likelihood of on-time high school graduation among Onward participants by 13.0 percent. Achieving this benchmark is essential to further educational success, failure to finish high school on time sharply increases the risk of not completing high school, not enrolling in college, and not completing college.

Outcome 3: Immediate college enrollment among on-time high school graduates:

This outcome represents the traditional measure of immediate college enrollment rate, that is, the percentage of high school graduates who had enrolled in college immediately upon graduating high school. It is measured in this paper as the percentage of GEAR UP participants and matched comparison group students who had graduated high school on time and had enrolled in college by the fall term following their on-time high school graduation. The net impact of the Onward GEAR UP program on the immediate college enrollment rate of participants was 9.9 percentage points and statistically significant at the .01 level. The immediate college enrollment rate of on-time high school graduates was 63.4 percent among GEAR UP participants compared to 53.5 percent among students in the comparison group. Thus, the Onward GEAR UP program is estimated to raise the likelihood of immediate college enrollment of on-time high school graduated Onward participants by 18.5 percent ($9.9 \div 53.5 = 18.5$). Failure to enroll in college immediately after high school sharply increases the risk of never earning a post-secondary degree, even among those who delay enrollment via a ‘gap year.’

Chart 5:
Estimates of the Impact of the Rhode Island GEAR UP Program on Outcomes of Participants
from 2007-08, 2008-09, and 2009-10 Sixth Grade Cohorts



*** p < .01, ** p < .05, * p < .10

Table 10:
Estimates of the Impact of the Rhode Island GEAR UP Program on Outcomes of Participants
from 2007-08, 2008-09, and 2009-10 Sixth Grade Cohorts

Outcome (Universe of outcome measure in parenthesis)	(A) Onward Participants (Percent)	(B) Matched Comparison Group (Percent)	(C) Impact: Absolute Difference (Percentage Points) (A) – (B)	(D) Net Increase in the Likelihood of the Outcome: Relative Difference (Percent) (C) ÷ (B)
1) Entered 12 th Grade On Time (All Sixth Graders)	82.8	74.1	8.7***	11.8
2) Graduated High School On Time (All Sixth Graders)	76.9	68.1	8.9***	13.0
3) Immediate College Enrollment (On-Time High School Graduates)	63.4	53.5	9.9***	18.5
4) Immediate College Enrollment (All Sixth Graders)	55.0	42.4	12.6***	29.7
5) Six-Year Positive College Outcome (Immediate College-Enrolled On-Time High School Graduates)	52.6	46.9	5.7	12.2
6) Six-Year College Graduation (Immediate College-Enrolled On-Time High School Graduates)	43.3	35.8	7.5*	20.9
7) Six-Year Positive College Outcome (All Sixth Graders)	37.2	26.4	10.8***	40.9
8) Six-Year College Graduation (All Sixth Graders)	28.6	19.3	9.3***	48.2

*** p <.01, ** p<.05, * p<.10

Outcome 4: Cumulative summary measure of immediate college enrollment: immediate college enrollment as a share of all sixth graders:

This outcome measures the cumulative effect of the Onward GEAR UP program on the pathway from sixth grade to college enrollment including on-time grade attainment through twelfth grade, on-time high school graduation, and immediate enrollment in college upon graduating high school on time. It is measured as the percentage of all sixth grade GEAR UP participants and comparison group students that were enrolled in college immediately after their expected on-time high school graduation.

Our analysis found that 55.0 percent of all 745 sixth grade Onward GEAR UP participants had enrolled in college in the fall following their expected high school graduation compared to just 42.4 percent of their 745 matched comparison group classmates. The difference in this summary outcome between Onward participants and comparison group students of 12.6 percentage points (statistically significant at the .01 level) represents the net impact of the Onward GEAR UP program on this summary outcome of participants. In relative terms, this difference of 12.6 percentage points means that the Onward GEAR UP program is estimated to raise the likelihood of enrolling in college among Onward participants by 29.7 percent ($12.6 \div 42.4 = 29.7$).

It is important to note that immediate college enrollment was the final objective of GEAR UP program participation. The federal program was not designed to continue services through the first year of college and beyond. Outcomes 5 and 6 represent six-year completion and positive outcomes of those who enrolled in college after high school and therefore do not necessarily represent the impact of GEAR UP program services on college completion. The impacts of GEAR UP program services provided in middle school and high school with the goal of college enrollment, are more effectively measured in the summary outcomes (7 and 8).

Outcome 5: Six-Year Positive College Outcome Among Immediately College-Enrolled On-time high school graduates:

This outcome measures students' attainment of one of the following two positive college outcomes in six years after on-time high school graduation: i) graduated college by earning a college credential in six years, or ii) did not graduate college but remained enrolled in college after six years. This outcome is measured in two ways and presented as outcome 5 and 6. Outcome 5 is measured as the percentage of immediately college-enrolled, on-time high school graduates who had either earned a college credential in six years or had not earned a credential but were still enrolled in college after six years. Outcome six is a cumulative outcome and is measured as the percentage of all sixth graders who had either earned a college credential in six years or had not earned a credential but were still enrolled in college after six years.

Although the six-year positive college outcome rate of Onward participants was 7.5 percentage points higher than that of their comparison group classmates, the difference was not statistically significant.

Outcome 6: Six-year college graduation among immediately college-enrolled on-time high school graduates:

This outcome measures college graduation in six years after initial enrollment. Like the positive college outcome, this outcome is measured in two ways and presented as outcomes 7 and 8. Outcome 7 is measured as the percentage of immediately college-enrolled, on-time high school graduates who had graduated with a college credential within six years after initial college enrollment. Outcome eight is a cumulative outcome and is measured as the percentage of all sixth graders who had graduated with a college credential within six years after their expected on-time high school graduation.

Among immediately college-enrolled on-time high school graduates, the six-year college graduation rate was 43.3 percent among Onward GEAR UP participants and 35.8 percent among their 745 matched comparison group counterparts. The difference of 7.5 percentage points (marginally significant at the .10 level) represents the net impact of the Onward GEAR UP program on this outcome of participants. In relative

terms, this difference of 7.5 percentage points means that the Onward GEAR UP program is estimated to raise the likelihood of six-years college graduation by 20.9 percent ($7.5 \div 35.9 = 20.9$).

Outcome 7: Cumulative summary measure of six-year positive college outcome (among all sixth graders):

As noted above, this outcome measures the cumulative effect of the Onward GEAR UP program on the pathway from sixth grade to attaining a positive college outcome six years after their expected on-time high school graduation. It is measured as the percentage of all sixth graders who had either earned a college credential in six years or had not earned a credential but were still enrolled in college after six years after their expected on-time high school graduation.

Our analysis found that 37.2 percent of all 745 sixth grade Onward GEAR UP participants had attained one of the two positive college outcomes in six years compared to 26.4 percent of their 745 matched comparison group classmates. The difference in this summary outcome between Onward participants and comparison group students of 10.8 percentage points (statistically significant at the .01 level) represents the net impact of the Onward GEAR UP program on this summary outcome of participants. In relative terms, this difference of 10.8 percentage points means that the Onward GEAR UP program is estimated to raise the likelihood of a positive college outcome in six years after their expected on-time high school graduation by 40.9 percent ($10.8 \div 26.4 = 40.9$).

Outcome 8: Cumulative summary measure of six-year college graduation (among all sixth graders):

As noted above, this outcome measures the cumulative effect of the Onward GEAR UP program on the pathway from sixth grade to graduating college with a college credential in six years after their expected on-time high school graduation. It is measured as the percentage of all sixth graders who had graduated college with a college credential in six years after their expected on-time high school graduation.

Our analysis found that 28.6 percent of all 745 sixth grade Onward GEAR UP participants graduated college with a college credential in six years compared to 19.3 percent of their 745 matched comparison group classmates. The difference in this summary outcome between Onward participants and comparison group students of 9.3 percentage points (statistically significant at the .01 level) represents the net impact of the Onward GEAR UP program on this summary outcome of participants. In relative terms, this difference of 9.3 percentage points means that the Onward GEAR UP program is estimated to raise the likelihood of college graduation in six years after their expected on-time high school graduation by 48.2 percent ($9.3 \div 19.3 = 48.2$).

The advantage of Onward GEAR UP participants over the comparison group in each step along the pathway from sixth grade to college completion, including on-time grade attainment, on-time high school graduation, immediate college enrollment after high school graduation, and college graduation in six years after their expected on-time high school graduation resulted in a sizable cumulative impact (9.3 percentage points or 48.2 percent) on six-year college graduation among the three cohorts combined

Through interventions that begin in middle school and continue through high school, the GEAR UP program is designed to increase college enrollment of low-income students.⁸ The Onward GEAR UP program has created large and statistically significant gains for this cohort of participants from middle school to college. GEAR UP participants progressed through middle and high school with a much lower likelihood of faltering along the way. They were substantially more likely to earn their high school diploma on time, enroll in college immediately after graduating high school, and graduate college six years after graduating high school. The cumulative impact of the Onward GEAR UP program on Onward participants who entered the program as rising sixth graders back in SY 2007-08, SY 2008-09, and SY 2009-10, was to increase their likelihood of graduating college in six years by 48.0 percent, representing a sizable

⁸ In the most recent round of GEAR UP funding, state providers of GEAR UP services are allowed to include support for postsecondary retention and completion in their funding proposals. The most recent round of Onward GEAR UP funding provides such support, and Onward We Learn has instituted a postsecondary support effort for participants.

positive impact of the program on all key outcomes of participants along the educational pathway from sixth grade to six-years after initial college enrollment.