

THE CHALLENGE OF ON-TIME ARRIVAL: THE SEVEN-YEAR FLIGHT PATHS OF BALTIMORE'S SIXTH GRADERS OF 1999-2000



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EXECUTIVE SUMMARY

THIS REPORT EXPLORES the pathways followed by students who were sixth graders in the Baltimore City Public School System (BCPSS) in 1999-00. By following this cohort of sixth-grade students over the next seven years, through their expected (on-time) graduation year (2005-06), we learn much about patterns of promotion and retention, mobility within BCPSS, transfer out of BCPSS and graduation rates. In particular:

- A total of 8,560 students were enrolled in sixth grade in BCPSS in 1999-00. Most of these (85.4%) qualified for free or reduced-price lunch, and more than one in five (21.2%) had special education status. About one in twelve (8.4%) was repeating sixth grade in 1999-00. Five percent were new to BCPSS in that year. On average, this cohort scored at the 19th percentile in reading and the 22nd percentile in mathematics in sixth grade. Nearly three in four attended a large middle school.
- This cohort began elementary school before the implementation of districtwide curricular reforms in 1998. The creation of more K-8 schools occurred after these students began the middle grades, and they entered high school before the opportunity to attend smaller, innovation high schools existed for more than a small percentage. This cohort study, therefore, establishes a baseline of student outcomes before the effects of district reforms over the past decade could be expected.
- There was a steady decline year-by-year in the percentage of students enrolled for at least part of the year within BCPSS, with this decline accelerating during the later high school years. At the beginning of 2005-06, just 55.9 percent were still enrolled in the district.
- By the end of 2005-06, more than half of the cohort (54.4%) had left the district. About one in five (19.4%) was a documented transfer to another district or private school; most of the rest had either dropout codes or missing data in the withdrawal code. One in three (33.6%) had graduated from the district, and the rest were still in school.
- Though three-quarters of those still enrolled in the district were on-track in ninth grade (2002-03), nearly one in five was not promoted the following year. The average ninth-grade attendance rate of students who were retained in ninth grade after 2002-03 was significantly lower than that of those who were promoted after ninth grade, and this rate appeared to be the culmination of a declining pattern of attendance over the previous three years.
- High rates of mobility during the middle grades were associated with lower rates of on-time graduation. Students who attended the same school for sixth grade and the two years following were much more likely to graduate on time (52.2%) than were those students who were still enrolled in BCPSS in 2001-02, but had changed schools at least once (27.2% on-time graduation rate).

- Chronic absenteeism was the norm for this cohort. A third of the sixth graders in 1999-00 missed at least one-ninth of their days on roll (20 days of a full school year). This percentage increased over time through 2003-04, when 56.4 percent of students were chronically absent. The rate declined somewhat the two subsequent years, undoubtedly because many of these chronically absent students were no longer enrolled in BCPSS.

Chronic absenteeism and student academic struggles in the middle grades are particularly crucial issues to address, given their association with the failure to arrive at on-time graduation. At the same time, another important finding of this report is that many BCPSS students who do manage to successfully graduate on time have also manifested chronic absenteeism and academic struggles (low test scores) that will almost certainly have an influence on their performance in post-secondary education and the workplace. Missed opportunities to learn, as well as more general patterns of absenteeism, have weakened the core foundation of student preparation for the world beyond high school. Increasing student engagement with learning opportunities at the secondary school level remains the foremost challenge for the Baltimore City Public School System in the coming years.



INTRODUCTION

SIXTH GRADE IS a particularly traumatic gateway into adolescence for most American children, as Lisa Papademetriou (2005) reminds us in *Sixth-Grade Glommers, Norks, and Me*. In Baltimore, as throughout the rest of the country, most sixth graders in the last decades of the 20th Century experienced a transition to a new “middle” school after elementary school, though some remained in K-8 schools and then made a transition to high school. This report explores the pathways followed by students who were sixth graders in the Baltimore City Public School System (BCPSS) in 1999-00. Together with a companion study of those students who were first graders in 1999-00, it provides a window into the experience of students across virtually the entire span of schools within BCPSS as the new millennium began. By following this 1999-00 cohort of sixth-grade students over the next seven years, through their expected (on-time) graduation year (2005-06), we learn much about patterns of promotion and retention, mobility within BCPSS, transfer out of BCPSS and graduation rates.

Most of the sixth-grade cohort of 1999-00 would have started kindergarten in the fall of 1993. At that time BCPSS was in the midst of expanding site-based management (SBM), a policy promoted by Mayor Kurt Schmoke’s administration at the urging of the business community and Baltimoreans United in Leadership Development (BUILD), and expanded to all schools by Superintendent Walter Amprey in 1994-95 (Orr, 1999). Though an evaluation report by MGT of America (1995) concluded that the policy did not significantly increase principals’ authority, elementary school leaders apparently did select their own curriculum, resulting in the use of a wide variety of reading curricula throughout the city (Mac Iver & Kemper, 2002). After the city-state partnership legislation of 1997 (Orr, 1999; Cibulka, 2003),¹ reform implementation would lead to a district-wide elementary and middle grades reading and mathematics curriculum with associated professional development for teachers. Students in this sixth-grade cohort would have experienced a common district-supported curriculum for the first time in 1998-99 (when most were fifth-graders). Unlike the first-grade cohort of 1999-00, mobile students in the sixth-grade cohort probably experienced a variety of approaches to reading, many of which may have lacked the strengths of the curriculum implemented systemwide for grades K-2 under the later reforms. This cohort did not have as much opportunity to attend K-8 schools as did later cohorts. And the high school experience for this cohort also differed from those of later cohorts. The on-time ninth-grade year for the 1999-00 cohort of sixth graders, 2002-03, occurred at the very beginning of the process of creating smaller, new high schools within BCPSS (see Mac Iver & Dayton,

1 Maryland State Senate Bill (SB) 795, the city-state partnership legislation of 1997, linked additional state funding for the Baltimore City Schools to the establishment of a new management structure for the system that would include greater accountability mechanisms for improved student achievement. A major component of the reform was the development of a “Master Plan” to guide systemic reforms. The legislation also mandated an evaluation of the first several years of the reform implementation and outcomes, which was conducted by the Westat Corporation of Rockville, Maryland.

2008a). In addition to the opening of Digital Harbor High school, only one zoned high school (Northern) was divided into new schools in 2002-03. Except for the selective National Academy Foundation school (which opened as a separate school in 2002-03), innovation high schools did not begin implementation until 2003-04. So this cohort was not able to experience the full benefits of the BCPSS high school reforms.

We begin this report by describing the demographic and academic characteristics of this cohort of sixth-graders. We then summarize the various pathways they took over the next seven years and their outcomes in that seventh year, 2005-06 (their expected on-time graduation year). We turn then to some more in-depth analyses of the ninth-grade transition, as well as mobility and attendance factors that were associated with eventual student outcomes.



A DESCRIPTIVE LOOK AT THE SIXTH-GRADE COHORT

TABLE 1 SUMMARIZES some basic demographic and descriptive traits of this cohort, which included 8,560 sixth-grade students in fall 1999. Just under half (47.3 percent) of the cohort was female. Of these students, 85.7 percent were African American, 12.9 percent were White, and less than 1 percent was from Asian, Hispanic, and “other” racial/ethnic groups. In addition, less than 1 percent of these students had a Limited English Proficient (LEP) designation. The large majority (85.4 percent) qualified for free or reduced-price lunch, and more than one in five (21.2 percent) had special education status (specifically, an IEP) sometime during the seven years we analyzed.²

Table 1 also shows that 8.4 percent of the 8,560 youth were repeating sixth grade in 1999-00. The cohort certainly contained more overage students due to prior retentions at earlier grade levels. Five percent were new to BCPSS in that year.

Members of this sixth-grade cohort, whose early primary school years occurred before the curricular and instructional reforms that followed the 1997 city-state partnership, were performing below grade level on standardized achievement measures. The cohort’s average score on a standardized reading assessment (CTBSS/Terra Nova) – administered in 1999-00 and measured as normal curve equivalents (NCE) – was 31.8 (roughly the 19th percentile). On a standardized mathematics assessment, the cohort’s average NCE was 33.9 (roughly the 22nd percentile). These average test scores indicate the degree of difficulty faced by the district’s schools in equipping students for success in high school courses and eventual graduation.³

We also examined the amount of yearly between-school mobility. The mean number of schools attended per year for the cohort was 1.15. This summary statistic reflects only part of the mobility experienced by cohort members. This figure (1.15) is the average number of schools attended. Indeed, the most common experience was one school per year, but many students attended two schools per year, and a handful attended as many as five BCPSS schools within a year. Furthermore, when we are trying to reflect intra-

**TABLE 1. PATHWAYS SIXTH GRADE
COHORT CHARACTERISTICS**

N	8560
Demographic	
% Female	47.3%
% Asian	0.5%
% Black	85.7%
% Hispanic	0.4%
% White	12.9%
% Other	0.4%
Special Programs	
% LEP	0.5%
% Special Education	21.2%
% Free lunch	85.4%
Mobility	
Mean schools per year	1.15
Performance	
% Repeaters in 99-00	8.4%
% new to system in 99-00	5.0%
Mean 99-00 Reading NCE	31.80
Mean 99-00 Math NCE	33.93

*Statistics reported
were prepared
especially for this
study and may not
agree with other
published statistics.*

- In contrast to the first grade cohort, in which a considerable proportion of students who eventually had special education status were referred in the second, third or later years of our analyses, 88 percent of those designated special education over the seven years of this cohort were so designated in 1999-00, the sixth-grade year.
- These scores might even overestimate student achievement. Test scores were missing for more than one in four students in sixth grade. Students with missing test scores had a significantly lower average attendance rate than test-takers, indicating less exposure to learning opportunities and weaker educational engagement. In future work we will examine the test score trajectories for students over time.

district mobility in our analyses, it is useful to tally the total number of BCPSS schools attended across three or seven years. For purposes of the following analyses, a student's sixth-grade school was coded as the last school attended in 1999-00.

How were these sixth-graders distributed across different types of schools in the district? The majority (72.4 percent) attended one of 22 large middle schools (with grades 6 to 8). The average number of sixth-graders at such a middle school was 282. Another 15.2 percent attended one of 17 K-8 schools, where the average sixth-grade class had 77 students. A small group of students (4.7 percent) attended 10 K-6 schools in 1999-00. While some of these schools would eventually be converted to K-8 schools, none of them had added seventh grade in 2000-01, and so members of our cohort had a necessary school transition that year if they were on the normal trajectory.

We treated separately a couple of schools with special characteristics. One school (Roland Park) is classified by the district as K-8, but its sixth-grade class in this cohort (325, or 3.8 percent of all sixth-graders in the cohort) was larger than the average sixth grade class in the middle schools, and its students had average fifth-grade test scores above the 50th percentile (more than 20 points higher than the average for other school types). Less than 1 percent (40 students) attended an early prototype of later charter-type schools (Stadium School, with grades 4-8).⁴ The rest of the students (3.4 percent) attended one of the special schools (special education, alternative, or some educational institution outside the district⁵).

DIVERSE PATHWAYS AND TRAJECTORIES OVER SEVEN YEARS

OUR PRIMARY RESEARCH goal was to follow this 1999-00 cohort of sixth-grade students over the next seven years, through their expected (on-time) graduation year (2005-06). In these analyses we learn much about patterns of promotion and retention, mobility within BCPSS, transfer out of BCPSS and graduation rates. These patterns are intricately linked to patterns of attendance and achievement.

Figure 1 presents a detailed description of how the students in the sixth-grade cohort progressed year-by-year through the grade levels within BCPSS, including how many students left the district (and returned) each year.⁶ As shown more simply in the

4 See Mac Iver & Dayton, 2008b for a more detailed description of the evolution of “experiments in autonomy” within BCPSS.

5 A total of 110 students had an undefined school number (824), which indicates placement in a service domain, e.g., hospitalization or physical/mental disability.

6 The upper-left corner of Figure 1 depicts all 8,560 sixth-grade cohort members being in sixth grade during 1999-00. The figure is most easily read row by row, with the shaded boxes showing how many cohort members were in a given grade within BCPSS in any year. The two columns on the right side of the figure show movement of cohort members in or out of the district each year as well as a running total of how many of the 8,560 youth were outside the district for any given year.

FIGURE 1. A SEVEN-YEAR TRACING OF THE SIXTH-GRADE COHORT'S GRADE PROGRESSIONS, WITHDRAWAL, AND RE-ENTRY

Total students in BCPSS system in each school year								Students leaving or re-entering system	Running total of students gone from BCPSS
1999–2000	8560 6TH Graders								
2000–2001 N=7870	1 5TH Grader	520 6TH Graders	7276 7TH Graders	55 8TH Graders	17 9TH Graders	0 10TH Graders	1 11TH Graders	0 12TH Graders	690
2001–2002 N=7340		90 6TH Graders	943 7TH Graders	6197 8TH Graders	100 9TH Graders	9 10TH Graders	1 11TH Graders	0 12TH Graders	1220
2002–2003 N=6855		39 6TH Graders	380 7TH Graders	1099 8TH Graders	5251 9TH Graders	78 10TH Graders	8 11TH Graders	0 12TH Graders	1705
2003–2004 N=6395		14 6TH Graders	136 7TH Graders	259 8TH Graders	2159 9TH Graders	3742 10TH Graders	73 11TH Graders	12 12TH Graders	2165
2004–2005 N=5839		1 6TH Graders	29 7TH Graders	71 8TH Graders	1258 9TH Graders	1203 10TH Graders	3166 11TH Graders	111 12TH Graders	2721
2005–2006 N=4785		0 6TH Graders	2 7TH Graders	23 8TH Graders	424 9TH Graders	582 10TH Graders	534 11TH Graders	3220 12TH Graders	3775

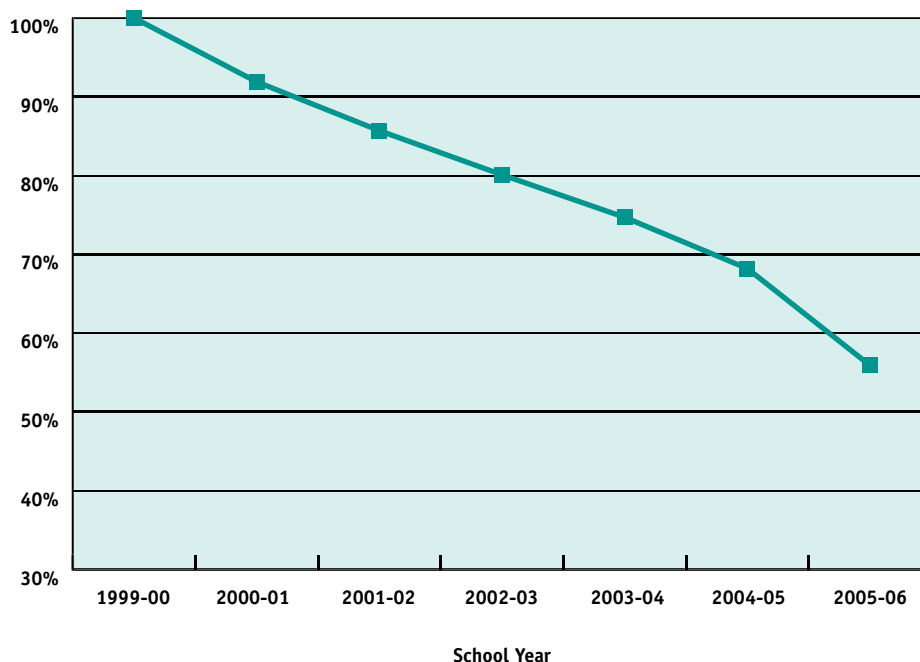
Statistics reported were prepared especially for this study and may not agree with other published statistics.

following chart, there was a steady decline each year in the percentage of students enrolled for at least part of the year within BCPSS:

- 100 percent for 1999-00,
- 91.9 percent for 2000-01,
- 85.7 percent for 2001-02,
- 80.1 percent for 2002-03,
- 74.7 percent for 2003-04,
- 68.2 percent for 2004-05, and
- 55.9 percent for 2005-06.

This longitudinal pattern of exiting or remaining within BCPSS is plotted in Figure 2. On average an additional 6.6 percent of the cohort left the district annually in Years 2 through 4 of our study. Between Years 5 and 7, an additional 8.1 percent was gone annually on average. The most pronounced drop in one year was between fall 2004 and fall 2005, when the percent of the cohort remaining in the district dropped from 68.2 percent to 55.9 percent – a decrease of 12.3 percentage points. Thus, we see an

FIGURE 2. PERCENTAGE OF ORIGINAL COHORT ENROLLED IN BCPSS, BY SCHOOL YEAR (N=8560)



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accelerating pace of exit for the sixth-grade cohort, shown most acutely during the later high school years.

The diverse pathways and student trajectories illustrated in Figure 1 were associated with a variety of student outcomes. We begin by summarizing the outcomes for these students at the end of their expected graduation year (2005-06). In subsequent sections, we begin to look closely at the association between student trajectories, attendance and achievement patterns, and ultimate student outcomes after seven years.

Table 2 presents outcomes as of the end of the 2005-06 school year for the sixth-grade cohort as a whole, and also for several important subgroups: (a) those without special education designation during the seven years of analysis who were not repeating sixth grade in 1999-00, (b) those with special education designation sometime during the seven years of analysis, and (c) those who were repeating sixth grade in 1999-00 (and would *not* have special education designation).

Overall, one-third (33.6 percent) of this cohort graduated from a BCPSS school by June 2006 (including a few early graduates). Another 12 percent were still in school within BCPSS, with 3.7 percent on track (in twelfth grade) and 8.3 percent in a lower grade. Thus 3,904 of the original 8,560 cohort members (45.6 percent) had received diplomas or persisted with their enrollment in the district at the end of our seventh year of analysis. A total of 54.4 percent of the cohort had left the district: 19.4 percent were documented transfers to another district or private school, and most of the rest

TABLE 2. OUTCOMES FOR SIXTH GRADE COHORT, BY GROUP

	ALL STUDENTS		NON-SPECIAL EDUCATION, NOT REPEATING 6TH GRADE		ALL SPECIAL EDUCATION		NON-SPECIAL EDUCATION, REPEATED 6TH GRADE	
	N	%	N	%	N	%	N	%
	8560	100	6196	100	1816	100	548	100
Students Graduated	2878	33.62	2483	40.07	351	19.33	44	8.03
On time	2801	32.72	2437	39.33	335	18.45	29	5.29
Early	77	0.90	46	0.74	16	0.88	15	2.74
Still in school	1026	11.98	645	10.41	362	19.93	19	3.47
On track	319	3.73	178	2.87	135	7.43	6	1.09
Behind	707	8.26	467	7.54	227	12.50	13	2.37
Withdrawal (most recent)	4656	54.39	3068	49.52	1103	60.74	485	88.50
Transfer out of BCPSS	1658	19.37	1198	19.34	351	19.33	109	19.89
Transfer to evening school	111	1.30	93	1.50	16	0.88	2	0.36
State institution	204	2.38	103	1.66	76	4.19	25	4.56
Death	16	0.19	9	0.15	7	0.39	0	0.00
Dropout	1525	17.81	863	13.93	511	28.14	151	27.55
Whereabouts Unknown (dropout code)	691	8.07	507	8.18	113	6.22	71	12.96
Unknown (Missing withdrawal code)	451	5.27	295	4.76	29	1.60	127	23.18

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had either dropout codes or were missing data regarding the reason for withdrawal. A few students (1.3 percent) were coded as transferring to “evening school” (placement in a non-BCPSS alternative school aimed at preparing students for the GED) and 2.4 percent had “state institution” codes (generally a placement in the justice system where GED programs were available). Sixteen students had died.

Comparing Table 2’s second, third, and fourth columns yields some stark comparisons. On-time graduation rates were significantly lower for students with special education status (19.3 percent graduated) and for students who were repeating sixth grade in 1999-00 (8 percent graduated) than for students without those characteristics (40.1 percent graduated).

On-time graduation was largely associated with on-time progression from grade to grade (sixth through twelfth) over the seven years (though there were some exceptions, discussed in more detail below). The following chart summarizes (from Figure 2) how many students from the sixth-grade cohort were in – or ahead of – the expected (on-time) grade for each successive school year. Percentages are calculated based on the number of students remaining within the district (which explains the upswing in 2005-06).

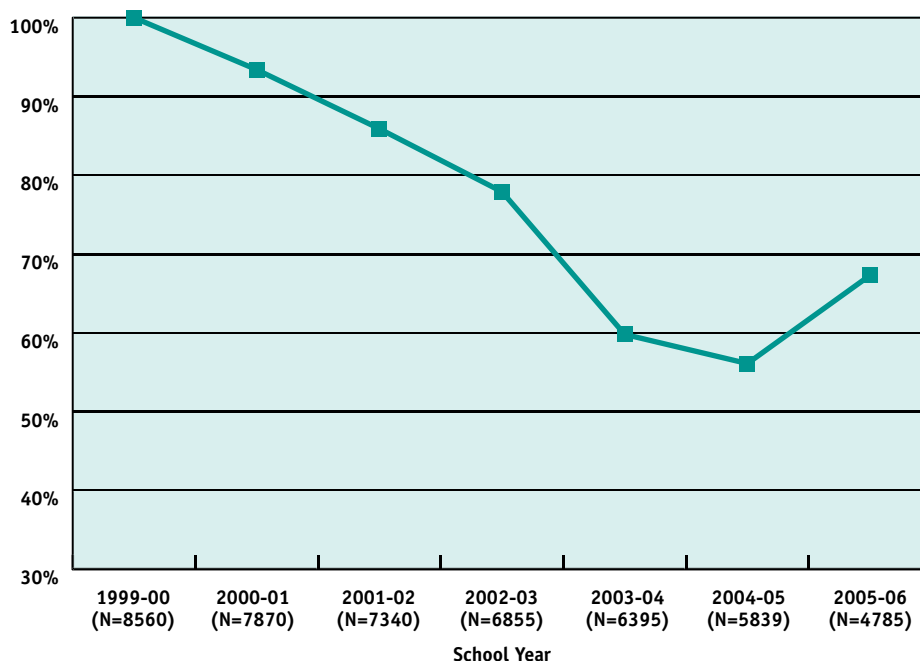
- 100 percent for 1999-00,
- 93.4 percent for 2000-01,⁷
- 85.9 percent for 2001-02,
- 77.9 percent for 2002-03,
- 59.8 percent for 2003-04,
- 56.1 percent for 2004-05, and
- 67.3 percent for 2005-06

These percentages are plotted in Figure 3. The most dramatic dip is seen between fall 2002 and fall 2003, when many students failed to get promoted to tenth grade, and thus, repeated ninth grade. We address this issue of ninth-grade promotion rates in another section below. Figure 3's uptick in percentage for 2005-06 occurs primarily because some students who had been behind expected grade the previous year dropped out or otherwise left the system by 2005-06, thus leaving a greater (proportionate) representation of on-time cohort members.

While our outcome categories summarize students' locations at the end of the 2005-06 school year, we define several "trajectories" that join final statuses with some information about the paths that led to these outcomes. On-time graduation was primarily

7 For example, for 2000-01, we can see from Figure 1 that 7,349 ($7,276 + 55 + 17 + 1$) of the 7,870 cohort members who remained in the district were in seventh grade or higher (93.4 percent of those remaining).

FIGURE 3. PERCENT OF ORIGINAL COHORT IN EXPECTED GRADE LEVEL OR HIGHER, BY SCHOOL YEAR



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associated with a “normal trajectory” of steady grade progression (from sixth through twelfth over the seven-year period), but we identified two other trajectory patterns that were also associated with on-time graduation: a “caught up” trajectory (primarily either a recovery from repeating ninth grade or a return to BCPSS after a withdrawal) and an “advanced trajectory” (primarily early graduation, often for overage students who were repeating sixth grade in 1999-00). Table 3 summarizes demographic and academic characteristics of students in these three groups as well as those in the “persisting but behind grade level” trajectory and two withdrawal categories (transfers/evening school/death and dropout/institutionalization/unknown).

It is noteworthy that females are overrepresented – when compared with their presence in the cohort as a whole – within the normal, advanced, and (to a slightly smaller degree) the “caught up” trajectories (and underrepresented within the other three trajectories). The distribution of dropout withdrawals indicates a slight overrepresentation of Whites and a slight underrepresentation of African American students. On the other hand, White students are notably overrepresented and African Americans underrepresented within the transfer category. Transfer students also appear to have a below-average poverty (free lunch) rate. Average sixth-grade scores for students in the transfer category are between those of students in the normal trajectory and those in the dropout trajectory.

TABLE 3. TRAJECTORIES FOR THE SIXTH-GRADE COHORT, BY GROUP CHARACTERISTICS

	TOTAL	“NORMAL”	“CAUGHT UP”	ADVANCED	PERSISTING BEHIND	WITHDRAWAL – TRANSFER OR DEATH	WITHDRAWAL – DROPOUT, JAIL, OR UNKNOWN
N	8560	2347	433	98	1026	1785	2871
Demographic							
% Female	47.3%	60.5%	55.0%	60.2%	41.6%	43.0%	39.7%
% Asian	0.5%	0.6%	0.0%	0.0%	0.2%	1.0%	0.3%
% Black	85.7%	91.5%	94.5%	89.9%	94.9%	71.4%	85.2%
% Hispanic	0.4%	0.2%	0.7%	0.0%	0.5%	0.8%	0.3%
% White	12.9%	7.4%	4.8%	9.2%	4.2%	25.8%	13.8%
% Other	0.4%	0.2%	0.0%	1.0%	0.2%	1.0%	0.3%
Special Programs							
% Special Education	21.2%	10.4%	19.9%	21.4%	35.3%	21.0%	25.4%
% Free lunch	85.4%	86.9%	90.1%	92.9%	96.7%	78.2%	83.6%
Mobility							
Mean schools per year	1.15	1.05	1.10	1.17	1.16	1.16	1.22
Performance							
% Repeaters in 99-00	8.4%	0.8%	2.8%	29.6%	3.7%	8.0%	16.6%
% new to system in 99-00	5.0%	2.6%	3.0%	5.1%	2.4%	8.9%	5.6%
Mean 99-00 Reading NCE	31.81	39.11	28.15	27.76	24.08	31.92	27.33
Mean 99-00 Math NCE	33.93	41.11	30.79	31.21	25.93	33.67	29.61

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THE IMPACT OF RUNNING BEHIND SCHEDULE BEFORE NINTH GRADE

AS TABLE 2 pointed out, the prospects for those students who were repeating sixth grade in 1999-00 were particularly bleak. Just 8 percent of these students had graduated seven years later, and only 3.5 percent were still in school. Most had dropped out (though there were some documented transfers out of the district).

Of the 6,855 students remaining in the district in 2002-03, 1,518 (22.1%) had been retained somewhere along the way and were not yet in ninth grade. Only a quarter of these students were still in school at the end of 2005-06 (23.5%) or had graduated (1.1%). About one in five had a documented transfer, but it is unlikely that many of these had caught up and graduated on time. The most common outcome for those running behind schedule was dropping out.

THE DIFFICULT TRANSITION TO NINTH GRADE AND BEYOND

THE TRANSITION TO high school (ninth grade) is one of the most difficult events for any adolescent, and this is particularly the case in urban high schools (Mizelle & Irvin, 2000). Our analysis of the sixth-grade cohort of 1999-00 echoes the findings of others about the large numbers of students who do not successfully complete ninth grade on time and then struggle to arrive at high school graduation (Allensworth & Easton, 2007; Bridgeland, DiIulio, & Morison, 2006; Fine, 1991; Finn, 1989; Jordan, 2001; Lan & Lanthier, 2003; Lee & Burkham, 1992, 2003; Neild & Balfanz, 2006a, 2006b; Roderick & Camburn, 1999).

Excluding those not enrolled in the district in 2002-03, three-quarters of the remaining cohort (77.9%) were on-track in ninth grade or beyond.⁸ But just 59.8 percent of students remaining in the district the following year were on-track (tenth grade and beyond). The 1,161 youth who repeated ninth grade during 2003-04 are fully 22.1 percent of the 5,251 cohort members who were ninth-graders in 2002-03. Compared to previous years for this cohort, this is a very high rate of retention. Given the extensive research from various urban school districts documenting the relationship between failing ninth grade and eventually dropping out, it becomes important to understand what experiences, behaviors, or academic performance levels differentiate the 1,161 youth who repeated ninth grade during 2003-04 from the 3,566 who advanced to tenth grade.

As expected, the average ninth-grade attendance rate of students who were retained after 2002-03 (69.5%) was significantly lower than that of those who were promoted after

8 This includes 86 students who were on an advanced trajectory, in tenth or eleventh grade. A total of 19.9 percent of the original cohort was not enrolled in BCPSS in 2002-03. Nearly half of these (47 percent) had a 2005-06 outcome of "transferred outside district." Some eventually returned and either graduated on time (3.6 percent) or were still in school in (2.5 percent). The rest had 2005-06 outcomes of non-transfer withdrawals (primarily dropout codes). See Appendix A for a more detailed discussion of the various paths by which cohort students arrived in ninth grade in 2002-03 and the various paths taken afterward.

ninth grade (90.7% attendance). This difference in attendance appears to be the culmination of a pattern over the previous three years, in which a difference of four percentage points in average attendance between the groups in sixth grade (92.5% vs. 88.0%) grew steadily over time. Though these retained ninth-graders were on-track by grade level in ninth grade, they had scored significantly lower in both reading and math in fifth and sixth grades than those who were eventually promoted from ninth grade. Their increasing disengagement from school during sixth through ninth grades may have been related to their lower baseline achievement levels and the inability of their schools to intervene early and address their disengagement and learning difficulties effectively.

Some cohort members who arrived at ninth grade on time, but were retained there, actually did recover and graduate on time. But this occurred for less than one in six. Another one in six remained in school (behind grade level), 14 percent transferred out of BCPSS, but the rest left without graduating. By contrast, 70 percent of those students who made it to tenth grade on time went on to graduate on time. This illustrates the supreme importance of addressing the roots of ninth-grade failure and assuring that students successfully complete ninth grade.

HIGH RATES OF MOBILITY, DECREASED RATES OF ON-TIME GRADUATION

WE TURN NEXT to examine rates of mobility among schools and how mobility is related to eventual student outcomes. The most stable pattern of school attendance possible for this sixth-grade cohort would be attendance at one school for grades 6, 7 and 8, and a transition to one high school for grades 9 to 12. Except for the 405 students who attended a K-6 school in 1999-00, but had to transition to another middle school because their schools did not add seventh grade the following year, this was a possible pattern. Just more than half (52.1 percent; 58.5 percent of those who remained in BCPSS for those 3 years) of these cohort members attended the same school for grade 6 and the two years afterwards (generally to grade 8). Just fewer than one in four students (22.6 percent) had the most stable possible enrollment pattern (one school for grades 6-8 and the same school for the next four years).

While even one transfer can be disruptive to a student's engagement and academic progress, a few of these students transferred as many as eight times during just three years of school. Our analyses indicated that students who attended the same school for sixth grade and the two years following were much more likely to graduate on time (47.9%) than were those students who were still enrolled in BCPSS in 2001-02 but had changed schools at least once (24.3% on-time graduation rate).⁹ Because mobility has been shown in other studies to be associated with a family's poverty level (e.g., Kerbow, 1996), it is unclear to what extent mobility has an independent impact on student outcomes. While the descriptive nature of this study precludes an answer to this question, more advanced methodological techniques could shed light on both the causes and effects of attending multiple schools in the middle grades. It is indeed possible that moving out of an especially troubled school could remedy student performance. But overall, mobility in the middle grades appears to be associated with difficulties in achieving on-time graduation.

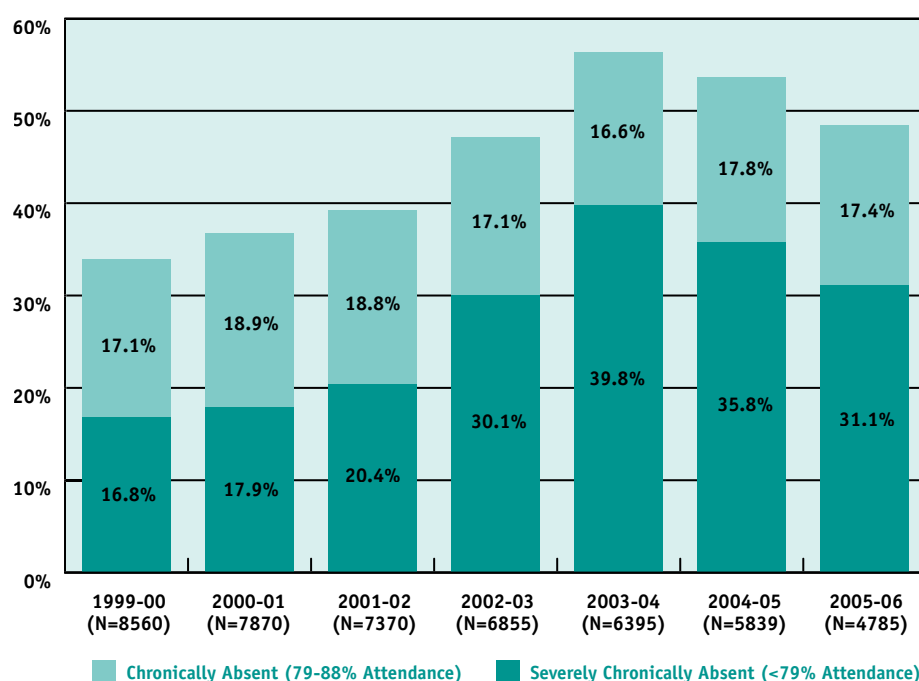
⁹ These analyses exclude students who attended a K-6 school in sixth grade.

WHEN CHRONIC ABSENTEEISM IS THE NORM

WE TURN NOW to chronic absenteeism and its relationship to student outcomes. Attendance is a fundamental measure of students' educational engagement and a most basic level of exposure to learning opportunities. We have defined chronic absenteeism or truancy as a student missing at least one-ninth of his or her days on roll (meaning, we calculated attendance as days present divided by the days a student was actually on a BCPSS roll). Over a school year, this would equate to missing at least one month out of nine, or twenty school days out of 180 (the level of absenteeism reported in the Maryland State Department of Education school reports). Beyond defining chronic absenteeism as missing at least one-ninth of days on roll, we identify a more severe level when a student misses at least two-ninths of his or her days on roll (a figure corresponding more closely to the recent BCPSS definition of habitual truancy, missing more than 20 percent of school days).¹⁰ Figure 4 shows the percent of students from the sixth-grade cohort who displayed chronic absenteeism at either the one-ninth level or two-ninths level in each of the seven years of our analysis. For each bar in the figure, only students who were enrolled in BCPSS for the

10 See "Suspensions and Expulsions Update," given before the Baltimore City Council Education Committee, retrieved January 16, 2008 from http://www.bcps.k12.md.us/News/PDF/CEO_Testimony/112707Suspension.pdf

FIGURE 4. PERCENTAGE OF SIXTH GRADE COHORT CHRONICALLY ABSENT, BY SCHOOL YEAR



Statistics reported were prepared especially for this study and may not agree with other published statistics.

particular school year are included in calculations. (Additional caveats and data detail are provided in Appendix B.)

We see that 33.9 percent of cohort members missed at least one-ninth of their days on roll during sixth grade (1999-00). Specifically, 17.1 percent missed at least one-ninth but less than two-ninths. Another 16.8 percent missed at least two-ninths of their days on roll.

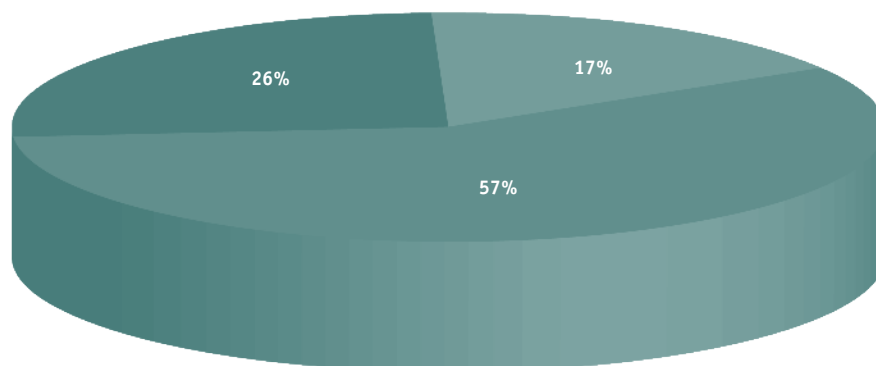
For each of the next four years, absenteeism became more pronounced for the members of the cohort remaining within BCPSS. In 2000-01, 36.8 percent were chronically absent at either the one-ninth or two-ninths level. In 2001-02, the number was 39.2 percent. For 2002-03, it was 47.2. For 2003-04, 56.4 percent were chronically absent. The percentages dropped only slightly for 2004-05 and 2005-06. The slight drop is probably because some of the most academically disengaged cohort members had dropped out by those years, and thus, were no longer on BCPSS rolls.

More sobering than the rate of chronic absenteeism for any single academic year is the percent of cohort members chronically absent during at least one year (of our seven). Figure 5 illustrates this situation. Only 26 percent of cohort members were never chronically absent at the one-ninth or two-ninths levels. Fully 57 percent had at least one academic year when they missed at least two-ninths of their days on roll. The remaining 17 percent had at least one year when they missed one-ninth of their days on roll. Again we find evidence that chronic absenteeism is normative within the district, particularly among middle and high school students.

To bring this reality home, missing two-ninths of an academic year could mean skipping all of October and April. It could mean taking Fridays off for an entire school year (plus a few Mondays). It represents severe disengagement from school and virtually precludes serious, sustained exposure to teaching and learning activities.

How does chronic absenteeism relate to outcomes at the end of seven years? Figure 6 shows outcomes as of 2005-06 for the sixth-grade cohort by levels of absenteeism,

FIGURE 5. DISTRIBUTION OF STUDENTS EVER CHRONICALLY ABSENT 1999-00 THROUGH 2005-06 (N=8560)



- Chronically Absent (79-88% Attendance)
- Severely Chronically Absent (<79% Attendance)
- Never Chronically Absent

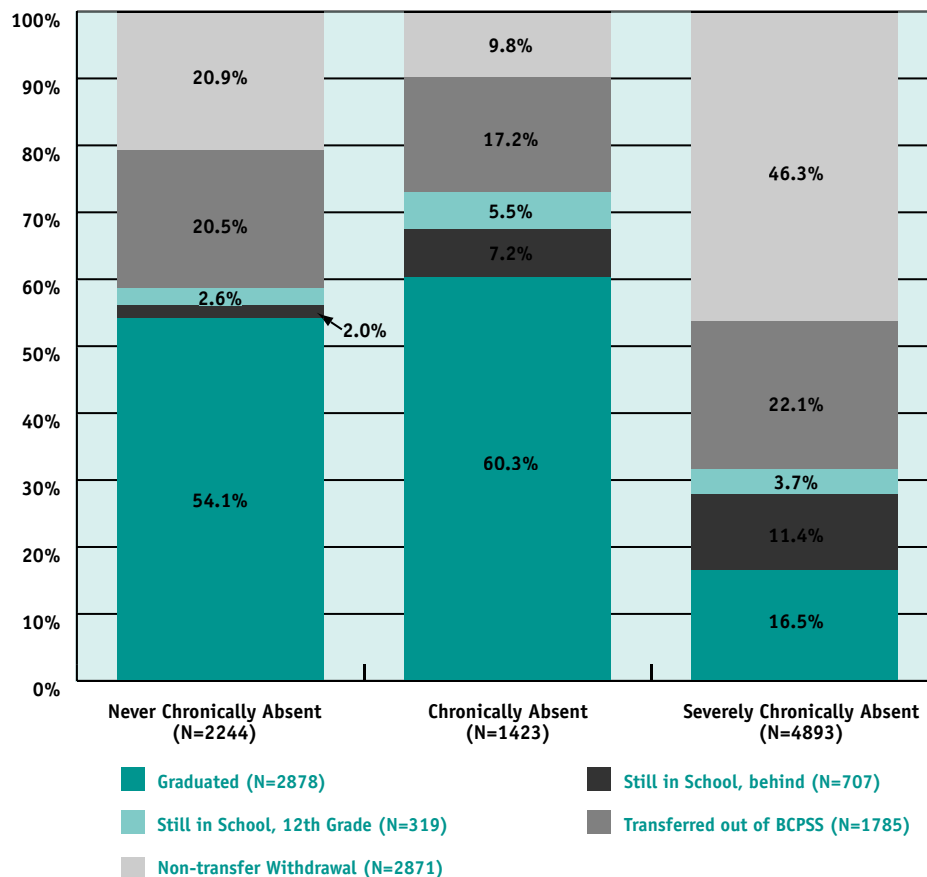
Statistics reported were prepared especially for this study and may not agree with other published statistics.

illustrating a clear relationship between extreme truancy and school persistence or completion. Those who were absent for two-ninths of some academic year had by far the lowest likelihood of graduating from BCPSS by 2005-06. They had by far the highest likelihood of exiting via non-transfer withdrawal. Among the 4,893 youth who were absent at the two-ninths level – the majority of the cohort – only 16.5 percent graduated from BCPSS by 2005-06. Another 11.4 percent and 3.7 percent, respectively, were still enrolled either behind-in-grade or in the expected grade. Fully 46.3 percent had exited via non-transfer withdrawals while 22.1 percent had exited via transfer (or death).¹¹

For the 2,244 members of the sixth-grade cohort who were never absent at the one-ninth or two-ninths levels, we see that 54.1 percent graduated by 2005-06. Small numbers (2.0 percent and 2.6 percent, respectively) were still in school and

11 We remind the reader that we have grouped (conceptually) withdrawal due to transfer, evening school, or death as they are forms of exit from BCPSS that have clearly identified destinations and would generally not be considered dropout events.

FIGURE 6. 2005-06 OUTCOMES BY LEVEL OF CHRONIC ABSENTEEISM



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behind-in-grade, and still in school in the expected twelfth grade (but without graduating) as of 2005-06. Roughly equal numbers (20.5 percent and 20.9 percent, respectively) had withdrawn via transfer, evening school, or death, *or* via dropout, institutionalization, or for unknown reasons.

Surprisingly, the 1,423 cohort members who had ever been chronically absent at the one-ninth level were somewhat more likely than the “never chronically absent” youth to have graduated from BCPSS or to be still enrolled in 2005-06. These students absent at the one-ninth level were also less likely than the “never chronically absent” youth to have withdrawn either via transfer or other means. In addition, the fact that 16.5 percent of those who had been absent at the two-ninths level did graduate, and another 3.7 percent were in the expected twelfth grade (though without graduating) in 2005-06, shows that chronic absenteeism does not preclude “normal” progress through secondary grades in BCPSS. One wonders whether chronic absenteeism paired with “normal” progress suggests that academically talented students can slide by, maintaining passing grades and promotion, even while skipping large amounts of school or whether this pairing suggests some other phenomena. We would like to investigate this further.

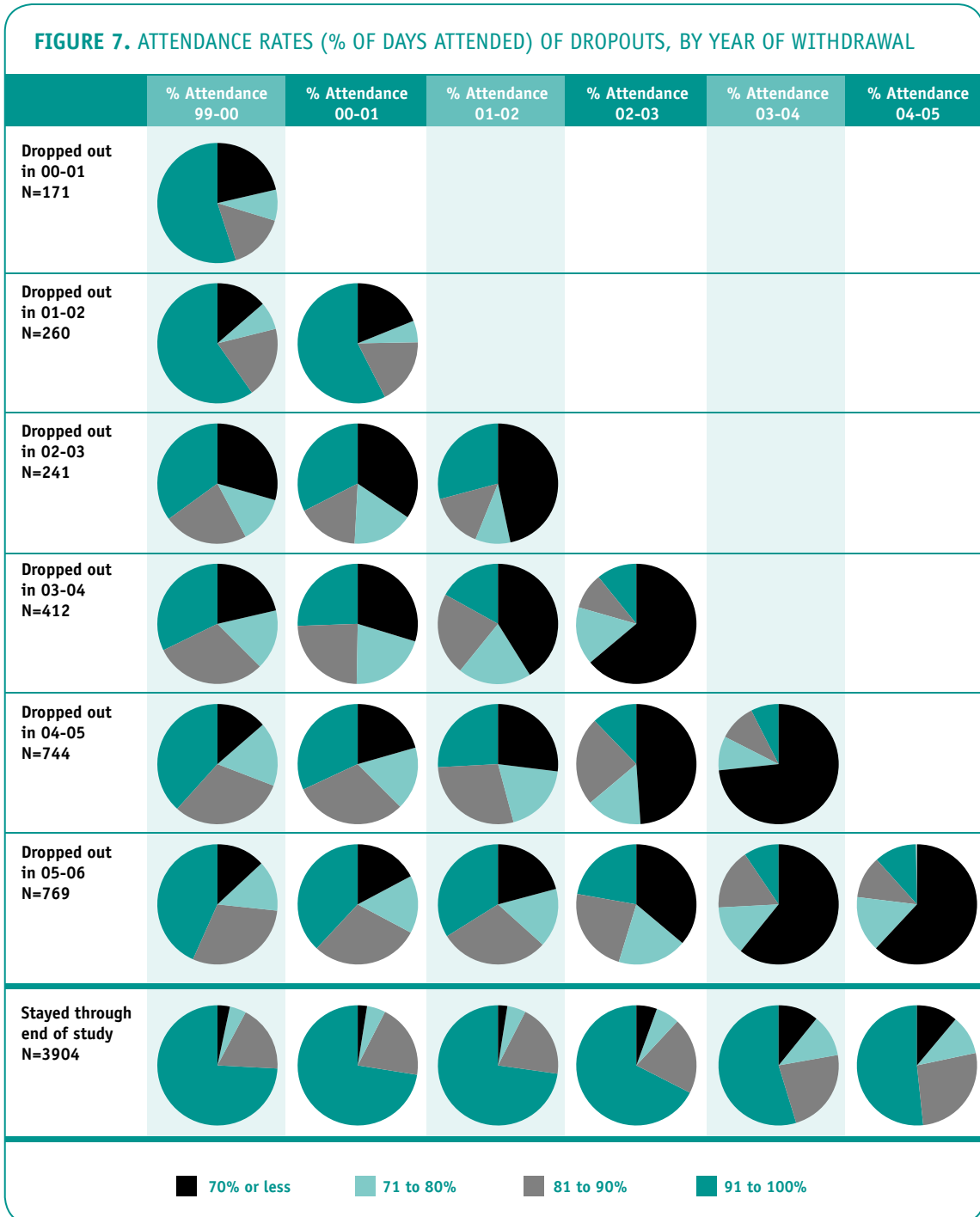
We cannot know, based upon the bare-bones information contained in Figure 6, whether poor attendance has led to an elevated probability of grade failure (i.e., retention) for some members of the sixth-grade cohort, or vice versa. Again, further statistical analysis using more sophisticated techniques is needed to address this question. This is indeed an essential question in determining whether extensive efforts to increase student attendance could have positive ripple effects on other outcomes. It may be the case that chronically absent students are discouraged or stressed by other factors that lead simultaneously to poor attendance as well as low performance leading to retention.

To conclude our consideration of attendance and other outcomes for the sixth-grade cohort, we turn to Figure 7. The pie charts within this figure show attendance patterns for seven important subgroups within the sixth-grade cohort. The first six subgroups are students who exited BCPSS via non-transfer withdrawals. These six subgroups withdrew in 2000-01, 2001-02, 2002-03, 2003-04, 2004-05, or 2005-06, respectively. The seventh subgroup – for comparative purposes – comprises students who stayed enrolled in BCPSS consistently between 1999-00 and 2005-06.

A striking point made by these pie charts is that severe attendance problems preceded withdrawal from BCPSS by several years. For example, in the fifth row of pie charts, one can see that those who would ultimately withdraw in 2004-05 were exhibiting poor attendance patterns as early as 1999-00, and then further eroded in each successive year. We cite this subgroup’s poor attendance in an absolute sense and also relative to the comparison group (those who would stay in BCPSS until 2005-06).

Perhaps these attendance trends – as potential advance indicators of withdrawal – are not especially surprising. One would hope, however, that by pushing such analyses forward we could develop a profile or early-warning signs of school disengagement – traits or behaviors that could be identified several years before a student drops out – and thereby design strong interventions or pro-school responses.

A second notable point highlighted by these pie charts is that – by the tenth grade or so – absence rates are unacceptably high for students who persist within BCPSS just as they are for those who eventually drop out of school. This is seen in the last row of Figure 7, showing that by 2003-04 and 2004-05, only about half of the students are attending school at least 91 percent of the days on roll.



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DISCUSSION AND CONCLUSIONS

ONE SOBERING FACT stands out in this report: just one in three of the students in sixth grade in 1999-00 in the Baltimore City Public Schools arrived at successful on-time graduation from the district seven years later. It is possible that the almost 20 percent who transferred out of the district during that period also arrived at high school graduation, and that those who remained in school went on to graduate the following year. But the number of students in this cohort who fell off the path to graduation is distressingly high.

This report documents the major role played by chronic absenteeism in this tale of falling off the graduation path. Most students who eventually dropped out of school began this path several years before. Little by little, they just stopped going to school. Many of these students probably struggled significantly with the increasing academic demands, if their fifth- and sixth-grade test scores are an accurate representation of their achievement levels. On average, students who eventually dropped out were scoring at the 11th percentile in fifth-grade reading and math, compared to the 25th percentile for those who eventually graduated.

The implementation of curriculum and instruction reforms at the elementary level since 1998 within BCPSS has yielded gains in reading and mathematics achievement (Butler, 2003; Stringfield & Yakimowski, 2005), and the average achievement of subsequent sixth-grade cohorts should be significantly higher than those of the 1999-00 cohort. BCPSS students are theoretically better equipped than they were in 1999-00 for the academic challenges of middle and high school, with more than 60 percent of students scoring proficient or above on the fifth-grade state assessments (MSAs) in reading and mathematics in 2007. These levels of proficiency continue to drop off in the middle grades, however, and particularly dramatically in mathematics (just 24 percent of BCPSS eighth-graders proficient in mathematics in 2007) (MSDE, 2008).

Chronic absenteeism and student academic struggles in the middle grades are particularly crucial issues to address, given their association with the failure to arrive at on-time high school graduation. At the same time, another important finding of this report is that many BCPSS students who do manage to successfully graduate on time have also manifested chronic absenteeism and academic struggles (low test scores) that will almost certainly influence their performance in post-secondary education and the workplace. Missed opportunities to learn, as well as more general patterns of absenteeism, have weakened the foundation of student preparation for the world beyond high school. Increasing student engagement with learning opportunities in secondary school remains the foremost challenge for the Baltimore City Public School System in the coming years.

APPENDIX A

FOR THE MOST part, students on the “main diagonal” of Figure 1 follow a steady on-time grade progression from sixth to twelfth grade, but this is not necessarily the case of all students in each cell along that main diagonal. Figure A shows the six distinct paths that brought 5,251 cohort members into ninth grade in BCPSS for 2002-03. It also shows the four paths these youth took from ninth grade at the end of (or, in some cases, during) that year.

FIGURE A. A SEVEN-YEAR TRACING WITH DETAILED EXAMINATION OF A KEY TRANSITION POINT

Total students in BCPSS system in each school year		Students leaving or re-entering system	Running total of students gone from BCPSS
1999–2000	8560 6TH Graders		
2000–2001 N=7870	1 5TH Grader 520 6TH Graders 7276 7TH Graders 55 8TH Graders 17 9TH Graders 0 10TH Graders 1 11TH Graders 0 12TH Graders	819 leave 129 return	690
2001–2002 N=7340	90 6TH Graders 943 7TH Graders 6197 8TH Graders 100 9TH Graders 9 10TH Graders 1 11TH Graders 0 12TH Graders	780 leave 250 return	1220
2002–2003 N=6855	39 6TH Graders 380 7TH Graders 1099 8TH Graders 5251 9TH Graders 78 10TH Graders 8 11TH Graders 0 12TH Graders	818 leave 333 return	1705
2003–2004 N=6395	14 6TH Graders 136 7TH Graders 259 8TH Graders 2159 9TH Graders 3742 10TH Graders 73 11TH Graders 12 12TH Graders	807 leave 347 return	2165
2004–2005 N=5839	1 6TH Graders 29 7TH Graders 71 8TH Graders 1258 9TH Graders 1203 10TH Graders 3166 11TH Graders 111 12TH Graders	963 leave (2 grads) 407 return	2721
2005–2006 N=4785	0 6TH Graders 2 7TH Graders 23 8TH Graders 424 9TH Graders 582 10TH Graders 534 11TH Graders 3220 12TH Graders	1420 leave (75 grads) 366 return	3775

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For members of our cohort, we see that:

- Of the 5,251 who were BCPSS ninth-graders in 2002-03, seven were recorded as entering from sixth-grade status in BCPSS in the previous year;
- 52 entered from seventh grade;
- 4,975 entered from eighth grade – an on-time pair of statuses;
- 37 were recorded as entering from ninth-grade status;
- 1 was recorded as entering from tenth-grade status; and
- 179 entered a BCPSS ninth-grade classroom for 2002-03 after having some time (weeks, months, or even years) outside of BCPSS.

Meanwhile:

- Of the 5,251 who were ninth-graders in 2002-03, fully 1,161 repeated ninth grade during 2003-04;
- Another 3,566 moved ahead to tenth grade for 2003-04;
- 28 moved to eleventh grade for 2003-04; and
- 496 left BCPSS during their ninth-grade year in 2002-03 or, at least, before the beginning of the next school year.

APPENDIX B

1. Concerning differences in number of cases between the Pathways figures and truancy analyses:

- Sample sizes in the chronic absenteeism-by-year analysis differ slightly from those represented in the Pathways figures showing grade progressions and number of students in the district in a given year. This is because some students leaving the district in a year actually departed during July, August or the early days of September before the beginning of the formal school year. Thus, these students do not have valid attendance data and are not represented in the attendance analysis for that specific year. The following totals represent the actual number of students who have data concerning days on roll and days absent:

	<i>Original sample size (as shown in Figure 1)</i>	<i>Actual n-size used in Chronic Absenteeism Calculations:</i>
99-00	8560	8560
00-01	7870	7530
01-02	7340	7098
02-03	6855	6751
03-04	6395	6299
04-05	5839	5543
05-06	4785	4624

- We found that although assigned an administrative record by the district, a small number of students actually had zero days on roll during any given year. Thus, in calculations of attendance rates, such students would be considered entirely absent. One might assume that these students were not truly wards of the district in that year; accordingly, we recalculated absenteeism rates *excluding* such students. The substantive results were nearly identical. The following are details regarding differences in analytic sample sizes:

	<i>All students</i>	<i>Excluding zero-days students</i>
99-00	8560	8481
00-01	7530	7522
01-02	7098	7090
02-03	6751	6684
03-04	6299	6257
04-05	5543	5500
05-06	4624	4574

2. Cases of institutionalization:

- In the sixth-grade cohort, there are 110 students in 1999-00 who attended a 'service school' or institution, designated with code '824.' Of these 110 students, 3 returned in 2000-01 to a regular school designation, seven more returned to a regular designation between school years 2001-02 and 2003-04, while 99 never returned or were persistently designated as being 'Gone from BCPSS.'

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