The Secondary School Pipeline: Longitudinal Indicators of Resilience and Resistance in Urban Schools Under Reform

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Students in the secondary education pipeline, the 6-year period between 7th and 12th grades, deal with external and internal conditions that facilitate or hinder progress to graduation and beyond—these conditions offer resilience or resistance and influence student movement through public schools. This study follows an urban middle school cohort from 7th grade through the senior year of high school. Key events, structures, and relationships supported the development of resilience and resistance during this time and revealed multiple paths to graduation. Examining this longitudinal data set helps to identify and understand urban student issues that, in some cases, were present from the beginning of the secondary experience. This work also helps us draw inferences about the complex context of urban high school communities that promote and inhibit student success. Data in this study indicate that students started on a trajectory toward dropping out long before 12th grade. Students made choices and exhibited characteristics in 7th, 8th, and 9th grade that played out as they exited the educational pipeline prior to graduation. The study documents that negative student choices can be overcome through strong interventions that deal with attendance, discipline referrals, teacher expectations, and multiple options for “catching up” when a student lags in the credit requirement for graduation.

In a March, 2010 press conference call, United States Secretary of Education Arne Duncan framed many of the issues found in urban high schools as civil rights issues (Duncan, 2010). Understanding questions of who is succeeding in urban secondary schools and what structures are both supporting and inhibiting this success are essential. Answers to these questions help districts determine strategies to mitigate the conditions and life situations in which many urban high school students find themselves. Students in the secondary education

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pipeline, the 6-year period between 7th and 12th grades, often find themselves dealing with external and internal conditions that can either facilitate or hinder progress to graduation and beyond—these conditions offer either resilience or resistance and influence the ebb and flow of students through our public schools. Students sometimes survive and thrive dependent on or despite the conditions in which they find themselves. The concept of “resilience” is used to describe the ability of young people to withstand the many obstacles and conditions that get in the way of their progress and development (Luthar, Cicchet & Becker, 2000).

Resistance in secondary schools can be seen as both the conditions and structures that inhibit student progress and in student attitudes and actions in response to their lived experiences. Resistance in the scientific world describes those aspects of a circuit that slow down or inhibit the flow of electricity. Ohm’s law states that the current through a conductor between two points is directly proportional to the potential difference or voltage across the two points, and inversely proportional to the resistance between them. Resistors in the area of educational attainment include life environments that can significantly obstruct one’s path to academic success (Downey, 2008).

Research has identified the ongoing and complex struggles that exist for public school urban youth, whether stemming from school life or the larger school community. All appear to affect educational attainment levels and confront those involved in educational reform efforts with multiple challenges. This study follows a cohort of urban middle school students through their secondary education, from 7th grade to their senior year in high school. Key events, structures and relationships supported the development of resilience and resistance for them during this time and revealed multiple paths to graduation. The examination of this longitudinal data set helps us identify and understand urban student issues that, in some cases, were present from the very beginning of the secondary experience. This work also helps us draw inferences about the complex context of urban high school communities that both promote and inhibit student success.

Our study will address two key questions to explore this phenomenon. First, how are traditional (students who progress from 7th grade through graduation without complication) and non-traditional graduates (students who fail to graduate “on time”) characterized by personal, academic, and non-academic (behavior and attendance) factors? Second, what elements of resilience and resistance help explain these differences? As we look at the ways this cohort of students navigated the secondary school pipeline from 7th grade on, we have a unique opportunity to examine the resilience and resistance of these 7th graders and question how they serve as predictors of their movement through the educational pipeline.

Review of Literature
Research has identified the ongoing and complex struggles that exist for young people, especially public school urban youth. This review addresses the critical impact of transitional periods (e.g., the move from junior high/middle school to high school), follows with a description of the external factors often found in urban communities that affect these levels, and closes with a discussion of in-school indicators. Some factors are endemic to such communities, including widespread poverty, low socioeconomic status and large percentages of parents with low levels of education. Others are related directly to school life, such as behavior, retention, limited extracurricular activity participation, low educational expectations, and lack of student aspirations.

Factors that contribute to eventual success have also been grouped under the construct of “resilience” (Luthar et al., 2000; Oswald, Johnson, & Howard, 2003). Resilience has included teachers’ beliefs about the student, students’ problem solving skills communication skills, (Oswald et al., 2003), and external variables such as family, community support, and academic support structures (Plunkett, Henry, Houlberg, Sands, & Abarca-Mortensen, 2008).
Resilience contributes to the presence of self-esteem and self-efficacy, both essential conditions for eventual completion of secondary school. It is not, however, dependent on a lack of challenges in a student's life or the presence of strong support from parents (Lessard, Fortin, Marcotte, Potvin, & Royer, 2009).

**Resistance through Transition**

It appears that students resist transitions in and of themselves, such that the first year of high school has often been the focal point of inquiry into student movement through the secondary school educational pipeline. Much of the focus on urban student achievement has highlighted the critical period for student dropouts—the freshman year. Patterson, Beltyukova, Berman, and Francis (2007) document the barriers that the 9th grade presents and the importance that this particular year has in movement through high school. Others have found the 9th grade year to be predictive, reporting “dropout status was clearly linked to demographics and school-based freshman-year predictors” (Ripple & Luthar, 2000, p. 289). Ripple and Luthar (2000) described student progress through the entire high school educational pipeline and concluded that the uniqueness of the freshmen year is merely the symptom of earlier issues. Further, this study claims that “clearly, children at the highest risk for dropout have been on the dropout trajectory since their entry into high school and likely long before” (p. 292). Others (Dumont & Provost, 1999; Lessard et al., 2009) have questioned resiliency focusing on students who did not drop out. Findings centered on the significant benefits of social support, even when parental support was lacking, as well as the presence of positive self-esteem and personal problem-solving skills.

**Factors Endemic to Urban Communities**

**Socioeconomic status.** A review of the literature by Ripple and Luthar (2000) leads to the identification of strong connections and correlations between low socioeconomic status (SES) and low academic performance and dropout rate. In citing Mcloyd (1998), they found data that they believed helped explain the “clustering of negative academic outcomes among low-income, inner-city adolescents” (p. 277) where there was a large negative correlation between economic conditions and the expectation of dropping out.

**Level of parent educational attainment.** In their 1989 work, Hossler and Stage (1992) found sufficient evidence to suggest that the “level of parental education has a strong positive influence upon predisposition toward postsecondary education, more than either SES or student ability” (p. 431). It was clear from their continued research that “two background characteristics, parents’ combined educational level and gender” served as significant predictors of student educational attainment (p. 440). The level of parental education was positively related to student expectation levels, higher high school GPA, greater participation in extracurricular activities, and future educational and career attainment plans held by the student. Communities with traditionally low rates of high school graduation and matriculation into postsecondary educational programs face the added weight of history based on these data.

**Factors in School Life**

**Behavior.** It is generally accepted that there is a positive relationship between good behavior and academic achievement. While it is not clear whether it is poor student performance in the classroom or grading that builds student expectations, it is clear that “serious and non-serious offenses are negatively associated with gains in achievement between eighth and twelfth grades in all four subject areas tested” (Barton, Coley, & Wenglinsky, 1998, p. 16). After looking at student achievement test results in math, social studies, language arts, and science, even small, non-serious offenses mattered.

**Retention.** The practice of keeping a student in the same grade for more than one year has been frequently debated. Ripple and Luthar (2000) in their research review found that one
clear marker of risk for negative academic outcomes is the age of the student in relation to others in their grade. Finally, they also cite Grissom and Shepard (1989) in identifying that dropouts have typically been retained at least once.

**Involvement in extracurricular activities.** In using the NELS project, one of the major longitudinal studies that followed 8th graders through high school graduation, Gerber (1996) used data to generate findings for the effect on student achievement of both in school and out of school extracurricular involvement. She found there was a clear positive correlation between involvement and academic achievement. In addition, extracurricular activity involvement was found to generate an increased sense of belonging in the school. Finally, in-school extracurricular activity participation “was more strongly associated with achievement than was participation in activities outside of school” (p. 48). For communities with limited involvement and opportunities, this research raises concerns. In related research, Mahoney and Cairns (1997) found that “engagement in school extracurricular activities is linked to decreasing rates of early school dropout in both boys and girls” (p. 248).

**Impacts of teachers on students.** Teachers and the other adults students encounter in schools have a strong impact on student success. Teachers who provide support for students increase the academic outcomes of those students (Plunkett et al., 2008). Drapeau, Saint-Jacques, Lepine, Begin, and Bernard (2007) discussed the impact a strong relationship with a trusting adult had on positive academic outcomes; however, some studies have found that counselors and teachers have “very little influence on the predisposition stage of most high school students” (Hossler & Stage, 1992, p. 433). More recent studies (Benz, Lindstrom, & Yovanoff, 2000) found that one-on-one attention from teachers and consistent support from a specific adult had a positive effect on high school completion rates. Sheppard (2006) found that in specific content areas such as mathematics, successful students believe their success is due to the good teachers they have encountered. To summarize, research has shown that teachers’ beliefs about the student, student hopes for the future, and students’ beliefs about their eventual success indeed influence students’ eventual success and trajectory (Oswald et al. 2003).

**Student aspirations.** Older studies cited by Hossler and Stage (1992) indicate that student aspirations also affect student experiences of secondary school. Their review of earlier studies indicated that many students (over 80%) followed through on their plans to enroll in some form of postsecondary educational institution (p. 433). In their study (Hossler & Stage, 1992), they found many influences on student dispositions and aspirations including involvement in extracurricular activities. Ultimately, their theoretical model looked at socioeconomic variables, demographic characteristics, parental/peer expectations, academic ability, and high school experiences in order to create an explanation for the student’s predisposition to go to a form of postsecondary institution.

Given this review, entering the complexity of an urban high school in order to support, facilitate, and push efforts at transformation seems likely full of no-win situations. While the detrimental consequences of dropping out are well documented to include unemployment, lower quality occupations, and disrupted family life (Murray & Naranjo, 2008), Levin (2009) reminds us that the monetary value of the public benefits of reducing the number of high school dropouts exceeds the cost of those programs validated to have an impact. Those concerned about students in urban institutions are forced to make policy and implementation decisions but, given the challenge to determine how students are navigating this pipeline, researchers need to look deeper at the complexities of resistance and resilience at work inside and outside the walls.

**The Study**

Longitudinal research at the school level can serve as a reciprocal effort that changes the discourse of school restructuring and sets the stage for far-reaching and firmly grounded school
change. As part of a ten-year effort facilitated through federal GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) funds from the U.S. Department of Education, data that sheds light on the context and struggles to raise performance, increase graduation, and move students through the educational pipeline to postsecondary education were systematically collected.

GEAR UP grants are awarded to a variety of educational institutions, including colleges/universities that collaborate with secondary schools whose populations have relatively high levels of poverty (as indicated by numbers of students on free/reduced lunches) and historically low rates of high school graduation and subsequent postsecondary attendance. GEAR UP programs around the nation have devised widely differing strategies for addressing the goals of improving high school graduation rates and encouraging successful participation in some sort of post-secondary education—2-year college, 4-year college, trade school, or other.

The River High School educational reform effort and program is part of a multi-site consortium whose actions share similar approaches as well as common evaluation measures of their effectiveness. One of the keys to success at this consortium’s sites has been close collaboration among university faculty, building administrators, teachers’ union representatives, the teachers themselves, and the school district’s administration. At River High, GEAR UP has focused on:

1) Teachers and administrators, informed by their own research and supported by university colleagues, restructuring the school in order to better meet the needs of students and others;

2) Teachers, again informed by their own research and supported by university colleagues, developing their pedagogy and curriculum to increase student engagement and enhance student learning; and

3) Students, supported by their teachers, school administrators and by university faculty and graduate students, becoming involved in activities that their teachers recognize—and research shows—as likely to contribute to their success in high school and college, and documenting these activities in “benchmark” portfolios as a means of making the efforts explicit to both themselves, their families, and those in the community.

To meet these goals, key aspects of the reform effort included clustering or teaming, professional development related to methodology, a summer academy for students, tutoring programs, increased use of technology, and small group activities focused on the research-based benchmarks.

Context: East River City at the Start of the Reform Effort
River City is a large metropolitan area with a population of about 350,000 in the Northwest corner of a Midwestern state. It faces the challenges of many aging, de-industrializing sites. Further, the economic conditions in the census tracts on the east side of the city (the target community of the GEAR UP Learning Center) at the time of the start of our work were far worse than for the city at large. For example, the median age of the housing stock was over 60 years, a figure suggesting that many residents occupy homes in need of significant repair. Additionally, nearly 40% of the eastside population lived in rental properties, a high percentage for this region and community.

The 1998–99 Annual Report of the River Public Schools indicated that, on the state standardized tests at the 4th grade, less than one half of the students passed any one of the required proficiency tests (i.e., math, reading, writing, social studies, or science), and only 13% passed all five. Similarly, only 14% passed all five of the state standardized tests at the 8th grade level. For 9th graders, 36% passed all five of the state mandated tests needed for graduation from high school.

Socioeconomic and academic indicators for Ravine Middle School and River High School in 2001 fell at the lower end of the overall district pattern (Table 1). Specifically, 75% percent of the students at both Ravine Middle and River High were on free/reduced lunch at the time
when the project began. In addition, only 6%–8% of 8th graders took either algebra or an advanced science class. The dropout rates in the feeder pattern stood at 47%. Finally, only 29% of the River High School graduates went on to some form of post-secondary education, where less than half of these students completed a degree. Thus, only about 6% of the entering 9th graders at River High School ultimately completed a post-secondary education.

Table 1: Statistical Figures for the River City Feeder Pattern in 2001

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Ravine/River</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th grade student enrollment (2001)</td>
<td>407</td>
</tr>
<tr>
<td>% of students eligible for free and reduced lunch</td>
<td>75</td>
</tr>
<tr>
<td>Minority student population percentage</td>
<td>27</td>
</tr>
<tr>
<td>Average daily attendance rate (%)</td>
<td>88</td>
</tr>
<tr>
<td>Number of students suspended or expelled</td>
<td>282</td>
</tr>
<tr>
<td>% of students who dropout from 9th to 12th Grade</td>
<td>47</td>
</tr>
<tr>
<td>% of students passing 6/7/8th Grade Proficiency test</td>
<td>8</td>
</tr>
<tr>
<td>% of students passing high school Proficiency test in Math</td>
<td>43</td>
</tr>
<tr>
<td>% of students passing high school Proficiency test in Science</td>
<td>47</td>
</tr>
<tr>
<td>% of students passing high school Proficiency test in Reading</td>
<td>68</td>
</tr>
<tr>
<td>% of students passing high school Proficiency test in Writing</td>
<td>75</td>
</tr>
<tr>
<td>% of students passing all high school Proficiency tests</td>
<td>26</td>
</tr>
<tr>
<td>Number of students taking advanced science courses in 8th grade</td>
<td>25/400</td>
</tr>
<tr>
<td>Number of students taking algebra in the 8th grade</td>
<td>30/400</td>
</tr>
<tr>
<td>Percentage of students who graduate that go on to a 4-year college</td>
<td>11</td>
</tr>
</tbody>
</table>

Theoretical Frame for Reform

Given these data and research-based realities, we mapped a strategy to proceed and confront the challenges described above. Within the reform project itself, we have worked within Kahne and Westheimer's (2000) idea of a "pedagogy of collective action" to create "professional development communities" (Clark, Moss, Goering, Herter, Lamar, Leonard, Robbins, Russell, Templin, & Wascha, 1996; Darling-Hammond & Sykes, 1999; Pomson, 2007; Wilburg & Brown, 2007). Such groups of engaged educators work over time to improve their pedagogy and context.

Descriptive research shows that teachers are inundated with directives from those in authority and must always choose "whether to support or resist this or that directive" (Ayers, Klonsky, & Lyon, 2000, p. 3). We believe that, through fostering a democratic process, we can work to build what Wood (1992) described as "classrooms of conviction and commitment" (p. 153). Finally, the work we are involved in has been aimed at understanding teachers as transformative intellectuals - "by arguing that schooling represents both a struggle to define meaning and a struggle over power relations" - and then working with the teachers to construct educational reform efforts (Giroux, 1988, p. 127).

Weinstein, Madison and Kuklinski (1995) remind educational reformers that organizational change theory (Beer & Walton, 1987) and the work to create long-term change through educational reforms that persist in their effects (Berman & McLaughlin, 1978; McLaughlin, 1990) "highlight the critical role of involved participants (teachers and administrators) as re-shapers of innovation in the context of specific local conditions and as key players in their ultimate institutionalization" (p. 125).
Learning organizations are engaged in training and self-evaluation. They are interdependent and always headed towards points of conflict. Perhaps, though, the notion of interdependence holds out the greatest promise as we conceptualize democratic school reform efforts. The school is embedded within the community and the community within the school.

We are pushed to recognize the need for schools to serve various needs, but instead we focus on only how schools differ in their attempts at standardization. Communities are different and have different needs. These competing themes of similarity and difference also serve to define the manners in which schools, universities, and non-governmental organizations may come to contribute to unique examples of democratic school reform. Each institution has different needs, different areas of expertise, and different interests. Weinstein, Madison and Kuklnski (1995) found that collaborative meetings and structures within schools undergoing reform could, over time, change perceived obstacles into “opportunities.”

Through the analysis of longitudinal data in the case of River High school, a clear sense of the issues and contextualizations that face these urban educators emerges. Ultimately, it remains to be seen whether or not “teachers confront(ed) obstacles within themselves, their colleagues, and within school organization and policy, where their analysis and their actions could make a difference for students” (p. 153). Following one cohort of students in an urban high school undergoing reform provides us one glimpse of both the challenges and possibilities.

Methods
According to Yin (1989), a “case study” may be technically defined as “an empirical inquiry that: investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (p. 23). The case or “unit of analysis” may be an individual, several people, a specific program, or multiple programs (Creswell, 2005; Yin, 1989). Specific to this research, the case study design is an intrinsic single case study with embedded units. Our case study is considered intrinsic because the case itself is of particular interest to us, and our intent is to describe and understand this case better through this research.

The intrinsic single case is the cohort of students who began 7th grade at Ravine Middle School in the 2001–02 school year and should have graduated from River High School at the end of the 2006–07 school year. These students were the first cohort to experience the GEAR UP reform for their entire secondary school experience. As urban students are often highly transient (Dumont & Provost, 1999; Lessard, Fortin, Marcotte, Potvin, & Royer, 2009), we deemed it important to characterize our case by those who actually remained in the schools of interest for at least half of their junior high and high school education, which would be three out of six years for a traditional student; thus, an additional defining criterion for case membership was remaining in the “educational pipeline” from the feeder junior high school to the high school for a minimum of three years.

The nature of the sample and the data measures used provide a focus on only one group of students as they move through the educational pipeline. While we acknowledge that excluding students who were also in these schools at the same time for fewer than three years and/or joined our cohort after the 7th grade year may cause us to lose additional insights to the phenomenon, limiting the case based on these criteria allows us needed focus. We plan to address deviant cases in a future investigation. In light of the authors’ decision to focus the case in this way, care must be taken in applying the findings to populations not included—specifically transient students (Ripple & Luthar, 2000).

Within the single case of the cohort, there are three embedded sub-units. Each sub-unit is differentiated by the “path” the students took through their secondary education within the designated 6-year period. Subgroup 1 will be referred to as the “on-time graduation” (or “OTG”) group. The OTG group entered the 7th grade in the 2001–02 school year and
graduated from high school on a traditional timeline at the end of the 2006–07 school year. Subgroup 2 took a different path over the 6 years of our study and will be referred to as the “alternate timeline” (or “AT”) group. This group also began 7th grade in the 2001–02 school year and remained enrolled in the high school throughout the 2006–07 school year but did not graduate when the OTG students graduated. Subgroup 3 traveled yet a different path, where they remained enrolled in these schools for a minimum of 3 years, left River High School at some point before the end of the 2006–07 school year, and did not return. We will refer to this group as the “early exit” (or “EE”) group. The EE descriptor refers to students who may have “dropped-out” or transferred to another location outside the district. They may or may not ultimately have graduated from other high schools.

Cohort Population
There were 346 students in the larger case who met the criteria of starting 7th grade in the 2001–02 school year and remaining in the specific “educational pipeline” for a minimum of 3 years. There was a perfect 50% split within this group between females (n=173) and males (n=173). Ethnicity was unequally distributed with a majority being White (66.8%, n=231), followed by Black (16.5%, n=57), Hispanic (16.2%, n=56), and Other (0.6%, n=2). A majority of students were eligible for free/reduced lunch and considered to be of low socioeconomic status (66.8%, n=231). Overall, students were largely identified as not being in special education classes (85.5%, n=296). A detailed demographic profile for each subgroup will be provided at the beginning of the Findings section below.

Data Sources
We draw upon multiple data sources that are primarily quantitative in nature. We used multiple data sources to ensure that the phenomenon is explored through a variety of different lenses, allowing for “multiple facets of the phenomenon to be revealed” (Baxter & Jack, 2008, p. 544). Such diversity of data offers us a richer understanding of students in these schools and how they negotiated their secondary education. The data we collected were demographic, school, and survey data.

Demographic and school data. Demographic, attendance, behavior, and GPA data were provided to the researchers by the school district’s data center for each student in the larger single case for the full 6 years of the study (2001–02 through 2006–07 school years). Demographic data included individual student gender, ethnicity, special education status, and socioeconomic status (eligible for free/reduced lunch). Attendance data included total number of days enrolled, excused absences, unexcused absences, and tardiness for each year. Behavior data consisted of total number of infractions, including in-school suspensions, out-of-school suspensions, and expulsions per year. Quarterly grades for all subjects taken were used to compute overall end-of-year GPAs for each student.

Surveys. Since these schools were involved in a federally funded school reform effort, students were surveyed yearly as a means of program evaluation. Student surveys were administered in the classroom every year in late October or early November. The student survey consisted of two parts: 1) College Survey and 2) Classroom Environment Survey. The College Survey included 14 items. We will focus on those items that indicated student knowledge of different college options (4-year institution, 2-year institution and vocational programs), ability to afford college, involvement in extra-curricular activities, parent/guardian education attainment, and personal education plans. The Classroom Environment Survey contained 47 items on a traditional 1–5 point Likert scale. This survey was divided into sections about teaching methods used in the classrooms, physical and emotional safety, teacher expectations, and student confidence related to school. We will discuss those items that focused on student ability to understand in the classroom, student perceptions of connectedness with teachers in the classroom environment, and student perceptions of teacher expectations for success inside and outside the classroom.
Although survey data were collected every year of the study, the wording of many of the items changed from year to year, which led to the possibility of multiple semantic interpretations. This made it difficult to directly compare results over time for many items, as student interpretations may have differed depending on item wording. For example, on a previous year’s survey, students were asked “What is the highest level of education you would like to earn?” On this year’s survey, the question was revised to “What is the highest level of education you think you will earn?” There is likely a difference for some students between the highest level of education they would “like to earn” or “think they will earn.” Thus, longitudinal comparison of survey results was not possible so a “snapshot” of results for specific items about the educational beliefs and attitudes of each subgroup is provided instead. The 9th grade survey results were selected as the focus in this study for two main reasons. First, previous research (Patterson et al., 2007; Ripple & Luthar, 2000) has identified the uniqueness of the 9th grade year in the lives of students. It is more common, however, for high school students to have more stable attitudes, and 9th grade educational expectations have been shown to be related to completing high school (Ripple & Luthar, 2000). Second, the freshman class is typically the largest in size in an urban high school because student numbers decline rapidly from 9th to 12th grade with student drop-outs and transfers. Of the 346 ninth grade students in the larger single case, 69.1% (n=239) completed the surveys in the 9th grade. More OTG students completed the 9th grade survey (85.1%, n=114) compared with students in the AT (68.8%, n=33) and EE (56.1%, n=92) subgroups.

Data Analysis
While case studies are often referred to as a form of ethnographic research (Creswell, 2005), qualitative, quantitative, or mixed methods data collection and analysis approaches may be implemented (Yin, 1989). Quantitative data obtained from the school district and individual students will be descriptively analyzed over time through an interpretivist lens (Gall, Gall, & Borg, 2005). As there are multiple subgroups in our intrinsic single case with embedded units, our analysis will begin with a detailed thick-description of students in the OTG subgroup since these students followed a “traditional path” to graduation. Using OTG as a baseline for student attendance, behavior, academics, and attitudes toward school, the characteristics of the AT subgroup will then be compared with those of OTG. Finally, the attributes of the EE subgroup will be compared with those of both OTG and EE.

Findings
How are traditional and non-traditional graduates characterized by personal, academic, and non-academic factors? What elements of resilience and resistance help explain these differences? In this section, we describe and compare the characteristics of the three student subgroups that, taken together, comprise the entire cohort population. Sub-group demographics will be presented first, followed by analysis of school and survey data for the OTG, AT, and EE sub-units respectively.

Sub-group Demographics
There were 136 students in the OTG subgroup. Although the OTG demographic characteristics largely mirrored those of the larger case, the OTG subgroup contained a slightly higher percentage of White versus Black students and had a somewhat smaller percentage of students who qualified for free/reduced lunches (Fig. 1a). In addition, the OTG group had a much lower percentage of special education students (8.8%, n=12) than in the larger case. Closer examination of OTG as a function of gender by ethnicity reveals that there were more White females in the group than White males. A similar difference was identified between Black females and Black males. However, the percentage of Hispanic males was substantially greater than Hispanic females. Comparison of gender by ethnicity for students who qualified for free/reduced lunches reveals a similar result, where slightly more White and Black females qualified and a substantially larger number of Hispanic males qualified.
The AT subgroup (Fig. 1b) contained 42 students. There were substantial demographic differences between the AT and OTG groups. Relative to OTG, the AT group was less White and more Black. A higher percentage of AT students qualified for free/reduced lunch (76.2%, n=32) and a much larger percentage of AT students received special education (26.2%, n=11). Closer examination of AT as a function of gender by ethnicity reveals that there were more White males in the group than White females. However, there was a much larger proportion of Black females than Black males. The percentage of Hispanic females was also greater than the proportion of Hispanic males. Comparison of gender by ethnicity for students who qualified for free/reduced lunches reveals that, within AT, equal percentages of White males
and females were eligible. The same was true for Hispanic males and females. However, a much larger proportion of Black females qualified for free/reduced lunch than black males.

There were 168 students in EE (Fig. 1c), which makes it the largest of the 3 subgroups. The demographic differences between the EE and OTG subgroups were small, where EE had a slightly higher percentage of males and was somewhat less White and more Black. On the other hand, EE had a substantially larger percentage of students who received special education services (16.1%, n=27). This percentage value, however, was less than that for AT. Closer examination of EE as a function of gender by ethnicity reveals that each ethnic group was represented by a slightly higher percentage of males than females. Comparison of gender by ethnicity for students who qualified for free/reduced lunches indicates that, within EE, a larger percentage of White males qualified than females. The opposite was true for Hispanic males and females. On the other hand, equal proportions of Black males and females qualified for free/reduced lunches.

**OTG: On-time Graduation in 2007 Sub-group**

**School data.** While every student in the OTG subgroup graduated in 2007, not every student followed the traditional annual advancement from one grade level to the next. It is River Public Schools (RPS) policy that, unless exceptional circumstances are present, all students are promoted to the next grade level until students reach the 9th grade. Thus, all but two OTG students were at the 9th grade level in 2002-03 (traditional 9th grade). Once in the 9th grade, however, student advancement to the next grade level is based entirely on the successful completion of a threshold number of academic credits. As a consequence, once a population reaches the 9th grade, the number of students who fail to advance to the next grade level at the end of an academic year typically increases.

Table 2 shows that approximately 85% (n=116) of OTG students were promoted from the 9th grade in 2003-04 to the 10th grade in 2004-05 (traditional 10th grade), while 10% (n=14) repeated the 9th grade. Credit recovery was accomplished by taking an overload in an affected subject area (e.g., taking freshman and sophomore English concurrently) during the academic year and/or retaking the necessary class(es) during a GEAR UP sponsored summer school. These strategies allowed OTG students who fell behind by one grade level to advance to the traditional grade level.

The benefit of the credit recovery efforts may be gleaned from the 2005-06 (traditional 11th grade) data. The percentage of OTG students in 11th grade was nearly 92% (n=125), versus 85% (n=116) in 10th grade in 2004-05. This increase in the percentage of students at the traditional grade level was accompanied by a nearly identical decrease in the number of students

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<th>2004-05</th>
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<td>91.9</td>
<td>0</td>
</tr>
<tr>
<td>12th grade</td>
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<td>0</td>
<td>1.5</td>
<td>98.5</td>
</tr>
<tr>
<td>Graduated</td>
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<td>0</td>
<td>0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

*Note: Values above in bold are the percentages of students who were at the traditional grade level for the given school year.*
who lagged behind the traditional grade level by one year. By the time the OTG students reached the traditional 12th grade in 2006, every student was either in the 12th grade or had already graduated. All students in the 12th grade then graduated in June 2007.

End of year GPAs (4-point scale) for students in the OTG group (Fig. 2a) increased steadily during the study period from a minimum of 2.01 (C) in 2002 to a maximum of 2.66 (B-minus) in 2007. This high level of attainment was accompanied by annual attendance rates that were consistently between 92–95% throughout the study period (Fig. 2b). These GPA and attendance

Figure 2a: Grade Point Average over Time by Subgroup

Figure 2b: Average Attendance Rate over Time by Subgroup

Figure 2c: Average Disciplinary Infractions per 100 Students over Time by Subgroup
levels were substantially higher than those observed among high school students in large urban settings (Hossler & Stage, 1992). Consistent with these positive achievement results, the annual average number of disciplinary infractions per student in the OTG subgroup was only 0.5 during the 2001–02 school year and remained less than 1.0 through the study (Fig. 2c).

**Survey data.** Students were asked during their 9th grade year to indicate whether, during the past year, they had been involved in extracurricular activities. Results indicate that, of the 114 (85.1%) OTG subgroup students who responded to the survey, 65% (n=74) were involved in some type of extracurricular activity. Approximately 52% (n=59) participated in an athletic activity while 27% (n=31) engaged in an academic activity. Only 1% (n=1) took part in a social activity. The sum of these values is greater than 65% because 13 OTG students took part in more than one type of extracurricular activity during the year.

When students in the OTG subgroup were asked in their 9th grade year how much education they wanted to achieve, 72% (n=82) indicated that they wanted to receive a four-year college degree. Students also indicated that they wished to 1) complete their education at a vocational school or with some college training (11%, n=13), 2) finish with a high school diploma (3%, n=3), or 3) leave high school before graduation (8%, n=9). This is a compelling result, given that only a small percentage of parents and guardians in this group completed a college education. Survey results revealed that, among OTG students, 28% of mothers/female guardians (n=32) had completed a college degree, while only 12% of fathers/male guardians (n=14) had graduated from college.

Students were asked about their perceptions regarding classroom abilities and interactions with teachers to provide a snapshot of attitudes during the 9th grade year. Results for the OTG group (Table 3) indicate that large majorities understood what was being taught in the classroom as well as teacher expectations most of the time. Interestingly, while most students felt that teachers helped students when they didn’t understand, a much smaller percentage believed that their teachers provided frequent feedback. Identical majorities of students felt that their teachers had high expectations of them and that teachers expected them to graduate from high school. However, while a majority of OTG students agreed that teachers thought

| Table 3: Responses by Students in the OTG Subgroup to Selected Items from the “Classroom Environment Survey” Completed During the 2003–04 School Year |
|-------------------------------------------------|-------|----------|----------|
| I understand what is being taught in class most of the time | 75    | 10       | 15       |
| I understand my teacher’s expectations of me most of the time | 80    | 4        | 16       |
| My teachers help students when they do not understand | 77    | 7        | 16       |
| My teachers give me feedback often | 53    | 15       | 32       |
| My teachers have high expectations of me | 62    | 8        | 30       |
| My teachers think I will graduate from high school | 63    | 6        | 31       |
| My teachers think I will succeed in college | 47    | 6        | 47       |
| My teachers think I will succeed in life | 59    | 8        | 33       |
| My teachers connect in school with what I will need to know about life outside school | 52    | 21       | 27       |
| My teachers treat all students respectfully | 40    | 37       | 23       |
| I feel comfortable asking for help when I have a personal problem | 29    | 49       | 22       |
they would succeed in life, a substantially smaller percentage agreed that their teachers believed they would graduate from college. At the same time, a small majority felt that their teachers connected what was learned in school with what they needed to know about life outside of school. Thus, it appears that there was a disconnect among the students regarding teacher perceptions of succeeding in life and getting a college degree. On a more personal level, only 40% of the OTG students (n=46) felt that their teachers treated them respectfully. Similarly, less than half of the students felt comfortable asking their teachers for help with personal problems. Thus, while substantial student majorities in the OTG group believed that their teachers were academically accessible in the classroom and had high academic expectations, many felt that they were not treated respectfully and were not comfortable approaching teachers with personal issues.

**AT: Alternate Timeline - Remained in School Did Not Graduate in 2007 Sub-Group**

**School data.** Despite a large attainment gap between OTG and AT students, none of the AT students dropped out of school during the period of the study. An analysis of academic indicator data reveals that AT students lagged behind their OTG peers. Although the vast majority in both groups was promoted from junior high school to the 9th grade, substantial disparities became apparent in high school (Table 4). In particular, AT students were much less likely than their OTG counterparts to be promoted to the next grade level. Approximately 35% of AT students (n=15) were promoted from the 9th grade in 2003–04 to the 10th grade in 2004–05 (traditional 10th grade). This compares with OTG, where 85% of students (n=116) were promoted to the 10th grade in 2004–05. On the other hand, nearly 62% of AT students (n=26) remained in the 9th grade in 2004–05, while only 10% of OTG students (n=14) did not advance to the 10th grade during this time. Many AT students who did not advance to the next grade level failed too many classes to achieve grade level promotion through credit recovery options.

The 2005–06 (traditional 11th grade) data show that the percentage of AT students in 11th grade was 45% (n=19). This increase in students at traditional grade level was accompanied by a decrease in the number who lagged the traditional grade level by one year. However, 17% of the AT students (n=7) remained in 9th grade during 2005–06 and, thus, fell two years behind traditional grade level. This grade level stratification among AT students increased further in 2006–07 (traditional 12th grade), when 38% (n=16) advanced to 12th grade, 40% (n=17) were in the 11th grade, 17% (n=7) were in the 10th grade, and 5% (n=2) remained in the 9th grade.

### Table 4: Percentage of Students in the OTG and AT Subgroups at the 9th-12th Grade Levels During the 2003–04 through 2006–07 School Years

<table>
<thead>
<tr>
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</thead>
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<td>AT</td>
<td>OTG</td>
<td>AT</td>
</tr>
<tr>
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</tr>
<tr>
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<td>85.7</td>
<td>10.3</td>
<td>61.9</td>
</tr>
<tr>
<td>10th grade</td>
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<td>0.0</td>
<td>85.3</td>
<td>35.7</td>
</tr>
<tr>
<td>11th grade</td>
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<tr>
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<td>Graduated</td>
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<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Note: For each cell, the value on the left is for the OTG subgroup while that on the right is for the AT subgroup. The bold values are the percentages of OTG students and AT students who were at the traditional grade level for the given school year.
Thus, during the final year of the study, 62% of AT students (n=26) were at least one year behind the traditional 12th grade level. At the same time, as noted above, every student in OTG was either in the 12th grade or had already graduated from River.

Annual student grade point averages for AT were lower than those for OTG throughout the study (Fig. 2a). While the OTG GPA gradually increased from 2.01 (C) in 2001–02 to 2.66 (B-) in 2007, the AT GPA hovered around 1.5 (C-/D+) during the entire study period. The lower AT GPA was accompanied by relatively low attendance rates for the subgroup (Fig. 2b). Although the AT attendance rate in 2001–02 (traditional 7th grade) was almost 91%, rates dropped throughout the study period to a low of 76% in 2006–07 (traditional 12th grade). This compares with OTG rates that were consistently between 92–95%. Consistent with poorer GPA and attendance data, the average annual rate of disciplinary infractions for AT students (Fig. 2c) was higher than that for OTG until the final year of the study. The AT infraction rate in 2001–02 was 1.9. This value gradually increased to 2.2 in 2005–06 before decreasing sharply in 2006–07. This compares with OTG infraction rates, which were less than 1.0 throughout the study.

In spite of the extremely large attainment gap between OTG and AT, none of the AT students dropped out of school during the study period. Thus, we continued to track the progress of these 42 students after graduation and found that 67% (n=28) earned their high school diploma between June 2007–January 2010. The remaining students who were identified either withdrew from school (n=7) or stopped attending after reaching their 18th birthday (n=5).

Survey data. The proportion of AT students involved in extracurricular activities during the 9th grade year was much smaller than that of their OTG peers. Survey responses from 2003–04 reveal that, of the 33 (68.8%) AT students who responded to the survey, 45% (n=15) participated in an activity. This is substantially less than the OTG subgroup, where the participation rate was 65% (n=74). For the AT subgroup, approximately 28% (n=9) took part in an athletic activity while 13% (n=4) engaged in an academic activity. These rates were much lower than those for the OTG subgroup, where 52% (n=59) participated in an athletic activity and 27% (n=31) engaged in an academic activity. On the other hand, AT participation in social activities (6%, n=2), while small, was greater than that for the OTG subgroup (1%, n=1). Note that the sum of AT participation levels in the 3 activity types is only slightly greater than the total rate (45%, n=15). This is because only one AT student participated in two or more extracurricular activity categories during the previous year.

The results of this comparison clearly show that AT students performed at a lower level than their OTG counterparts in every academic indicator considered in this study (Figures 2a-c; Table 4). Relative to the OTG students, the AT subgroup lagged in promotion to the next grade, GPA, attendance, and extracurricular activity participation.

Surveys about higher education reveal that, in spite of their poorer academic performance, students in the AT subgroup had a strong desire to pursue postsecondary education following graduation from River. When AT students in 9th grade were asked how much education they expected to achieve, 56% (n=18) stated that they wanted to receive a four-year college degree. Much smaller percentages indicated a wish to complete their education at a vocational school or with some college training (13%, n=4), finish with a high school diploma (19%, n=6), or leave high school before graduation (12%, n=3). The total percentage of AT students who signified a desire to pursue postsecondary education (69%, n=23) was less than that of their OTG counterparts (83%, n=27). However, the AT response was impressive, given the large percentage of students in this subgroup who received special education and the small percentage with parents and guardians who completed a college education. Survey results indicate that, among AT students, 25% of mothers/female guardians (n=8) completed a college degree while only 12% of fathers/male guardians (n=3) graduated from college.
Results of the 9th grade survey regarding perceptions about classroom abilities and interactions with teachers revealed some important differences between the students in the OTG and AT subgroups (Table 5). Although similar percentages of students in both subgroups indicated that they understood what was being taught in class most of the time, a substantially smaller proportion of the AT students felt that they understood their teacher’s expectations. In addition, a much smaller percentage of AT students believed that their teachers helped students when they didn’t understand and that their teachers provided frequent feedback. Smaller proportions of AT students agreed that their teachers 1) had high expectations of them, 2) thought they would graduate from high school or college and 3) thought they would succeed in life. Interestingly, while a smaller percentage of AT students agreed that their teachers treated them respectfully, members of this subgroup were much more likely to agree that their teachers connected what was learned in school with what was needed to know about life outside of school. In addition, AT students were more comfortable asking their teachers for help when they had a personal problem. The stronger emphasis on real-world issues and the increased comfort level with teachers may have resulted from the fact that a much larger percentage of AT students were in special education classes. Special education classes tend to be relatively small, and the teaching is more personalized. This may, as a result, have increased the comfort level that students felt for their teachers. In addition, the special education teachers may have felt that their students would not go to college and, thus, focused greater attention on the tools needed to succeed in the “real” world. If true, then there may have been an important disconnect between teacher and student expectations regarding a college education.

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<th>Agree</th>
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<th>Uncertain</th>
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</thead>
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<td>AT</td>
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<td>My teachers help students when they do not understand</td>
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<td>My teachers think I will succeed in college</td>
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<td>My teachers connect in school with what I will need to know about life outside school</td>
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<tr>
<td>I feel comfortable asking for help when I have a personal problem</td>
<td>29</td>
<td>35</td>
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Table 5: Responses by Students in the OTG and AT Subgroups to Selected Items from the “Classroom Environment Survey” Completed During the 2003–04 School Year

Note: For each cell, the value on the left is for the OTG subgroup while that on the right is for the AT subgroup.
EE: Exited Early from River High School Sub-Group

School data. An analysis of academic indicator data reveals that, like AT, the EE students lagged behind those in OTG (Table 6). Although the vast majority of students in the 3 subgroups were promoted from junior high school to the 9th grade, substantial differences again became apparent in 2004–05 (traditional 10th grade). Students in EE, like their AT counterparts, were much less likely than their OTG peers to be promoted to the next grade level. However, unlike OTG and AT, the failure of EE students to advance to the next grade level was accompanied by the departure of these students from the school. Thus, the percentage of EE students at the traditional grade level after the 2003–04 school year was substantially less than that for both OTG and AT students.

Specifically, 35% of EE students (n=57) left school during the 2003–04 school year (traditional 9th grade), while 20% (n=34) were promoted to the 10th grade in 2004–05. During the 2004–05 school year, 76 of the remaining 105 students in the group left school, while only 7% of the initial 168 students (n=12) advanced to the 11th grade. Every EE student then left school before the end of the study. As a part of this study, we continued to track the EE students after they left River High School with data provided by River Public Schools. The most recent information gave us the status of 164 of the 168 students in the subgroup as of June 2009. Of these students, 11.6% (n=19) either graduated from a different high school in the district or received a GED. On the other hand, 69.5% (n=114) did not graduate. These students either withdrew from school or stopped attending after reaching the age of 18. Many were sent to a charter school for at-risk students with severe disciplinary and attendance problems before leaving school. The remaining 18.9% of the EE students (n=31) left the River Public Schools, and the ultimate outcome of their educations is unknown.

Table 6: Percentage of Students in the OTG, AT and EE Subgroups at the 9th–12th Grade Levels During the 2003–04 through 2006–07 School Years

<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>EE</td>
<td>OTG AT</td>
<td>EE</td>
</tr>
<tr>
<td>8th grade</td>
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<td>4.8</td>
<td>4.8</td>
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<td>9th grade</td>
<td>92.6</td>
<td>35.7</td>
<td>89.9</td>
<td>10.3</td>
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<tr>
<td>10th grade</td>
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<td>1.9</td>
<td>85.3</td>
</tr>
<tr>
<td>11th grade</td>
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<td>0.0</td>
<td>0.7</td>
</tr>
<tr>
<td>12th grade</td>
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<td>0.0</td>
<td>0.0</td>
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</tbody>
</table>

Note: For each cell, the value on the left is for the OTG subgroup, the middle value is for the AT subgroup, and the value on the right is for the EE subgroup. Bold values are the percentages of OTG students who were at the traditional grade level for the given school year.

Annual GPA data (Fig. 2a) reveal that EE student averages were consistently lower than those for OTG (and AT) throughout the study. While OTG GPA gradually increased from 2.01 (C) to 2.66 (B-), EE GPA decreased from a maximum of 1.5 (C-/D+) in 2001–02 to a minimum of 0.9 (D/D-) in 2004–05 and 2005–06. EE attendance rates (Fig. 2b) were also much less than those for OTG (and AT). The highest EE attendance rate (86%) was measured in 2001–02 (traditional 9th grade). Attendance then decreased sharply to around 76% in 2003–04 and remained at this level through 2005–06. In contrast to the low GPA and attendance indicators, the average annual rate of disciplinary infractions for EE students (Fig. 2c) was consistently
higher than that for OTG (and AT). The EE infraction rate in 2001–02 was 2.3. This value rapidly increased to 3.0 in 2003–04 before decreasing sharply to 0.69 in 2005–06. This compares with OTG infraction rates, which were less than 1.0 throughout the study and had a minimum value of 0.39 in 2006–07.

**Survey data.** The low level of academic achievement among EE students extended to the level of participation in extracurricular activities. A substantially lower proportion of EE students were involved in extracurricular activities than their OTG peers during the study period. Responses from the 92 (56.1%) EE students who submitted surveys in 2003–04 reveal that 48% (n=44) participated in an activity. This is substantially less than the OTG subgroup, where the participation rate was 65% (n=74). For the EE subgroup, approximately 35% (n=32) took part in an athletic activity while 16% (n=15) engaged in an academic activity. These category rates were also much lower than those for the OTG subgroup. On the other hand, EE participation in social activities (4%, n=4), while small, was greater than that for the OTG subgroup. As was the case with AT, the sum of EE participation levels in the 3 activity types was only slightly greater than the total rate (48%, n=44). Thus, only a small percentage of EE students who took part in extracurricular activities were engaged in two or more categories (10.2%, n=9).

The surveys about higher education reveal that, in spite of their low level of academic achievement, students in the EE subgroup, like their OTG and AT counterparts, were strongly motivated to pursue postsecondary education following graduation from River. When EE students in 9th grade were asked how much education they expected to achieve, 66% (n=61) indicated that they wanted to receive a four-year college degree. Much smaller percentages stated a wish

**Table 7: Responses by Students in the OTG and AT Subgroups to Selected Items from the “Classroom Environment Survey” Completed during the 2003–04 School Year**

<table>
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<th>Agree</th>
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<td>AT</td>
<td>EE</td>
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<td>I understand what is being taught in class most of the time</td>
<td>75</td>
<td>72</td>
<td>57</td>
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<tr>
<td>I understand my teacher’s expectations of me most of the time</td>
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<td>My teachers help students when they do not understand</td>
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<td>My teachers give me feedback often</td>
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<td>My teachers have high expectations of me</td>
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<td>My teachers think I will graduate from high school</td>
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<td>My teachers connect in school with what I will need to know about life outside school</td>
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<td>My teachers treat all students respectfully</td>
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<td>I feel comfortable asking for help when I have a personal problem</td>
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<td>35</td>
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</table>

Note: For each cell, the value on the left is for the OTG subgroup, the value in the middle is for the AT subgroup, and the value on the right is for the EE subgroup.
The Secondary School Pipeline
to complete their education at a vocational school or with some college training (19%, n=17), finish with a high school diploma (13%, n=12), or leave high school before graduation (2%, n=2). The total percentage of EE students who revealed a desire to pursue postsecondary education (85%, n=78) was surprisingly larger than that for OTG (83%, n=76) and indicates a meaningful disparity between real-time academic progress and future educational goals. The fact that so few in the EE subgroup graduated from high school or received a GED represents an important lost opportunity to work with these students to help them realize their educational aspirations. EE student response was also impressive, given that this subgroup had the smallest percentage of parents and guardians who completed a college education. Survey results indicate that, among EE students, 22% of mothers/female guardians (n=20) completed a college degree while only 9% of fathers/male guardians (n=8) graduated from college.

Results of the 9th grade survey regarding perceptions about classroom abilities and interactions with teachers (Table 7) revealed broad differences between the students in the EE and OTG subgroups. A substantially smaller proportion of the EE students felt that they understood both what was being taught in class most of the time and their teacher’s expectations. A smaller percentage of EE students also believed that their teachers helped students when they didn’t understand and that their teachers provided frequent feedback. Smaller proportions of EE students agreed that their teachers had high expectations of them, that they would graduate from high school or college, or that they would succeed in life. A smaller percentage of EE students felt that their teachers treated them respectfully and were comfortable asking their teachers for help when they had a personal problem. Finally, a smaller proportion of EE students felt that teachers connected what they were learning in school with what they needed to know about life outside of school.

Discussion
The findings of this study portray a complex picture of both traditional and alternative ways in which these urban students navigate the secondary education pipeline and paint a picture of resilience, resourcefulness, and determination among urban youth. If graduation is the ultimate measure of success in this study, and if one considers the fact that graduation is an unattainable goal for many of the nation’s urban youth, we may consider the majority of the students in the study successful, and uniquely so, given their urban context. One hundred percent of the OTG subgroup graduated on time, while 67% of the AT subgroup and 11% of the EE subgroup eventually graduated. Thus, the overall graduation rate was 53%. In this section, we will discuss several salient conclusions drawn from the findings above, including the compelling nature of alternative routes created by students and observations about resilience and resistance. As for what distinguishes traditional and non-traditional graduates, we found that the characteristics of the subgroups are not mutually exclusive. We also found that, indeed, elements of resilience and resistance can help explain this complex landscape.

Alternative Routes
The most compelling observation of the various routes is that alternative paths led to graduation for a large percentage of this cohort. In spite of the array of obstacles, both school-related and endemic to communities, many students were resilient and achieved their goal of graduation. Our data analysis revealed three distinct routes (subgroups), but even within these three subgroups, there were diversions from the cohort path. This single case of urban secondary students was highly transient, both inside and outside the school and district, regardless of subgroup. Nevertheless, they followed many paths to achieve the goal of graduation, routes that are ultimately successful but not counted at present in traditional data collection. For example, even within the OTG subgroup, there were students who took alternative paths along their six-year journey, falling behind and catching up at intervals. Also, a high percentage (68%) of AT students and a low percentage of the EE students (11%) left River High School but eventually graduated, whether in or out of district or state. A large number of students took
an additional semester or year to graduate. Taken together, examination of both traditional and non-traditional routes reveals a higher graduation rate than previously thought.

The ability to compare traditional graduates with the two non-traditional subgroups allowed us to see indicators of student resilience and resistance in high relief. Comparisons showed that demographic differences between subgroups were negligible, while academic and non-academic indicator disparities were often quite large.

**Indicators Endemic to the Community**

**Demographics and the lay of the landscape.** Differences across subgroups in socioeconomic status and race were small. The OTG subgroup had a much lower percentage of special education students than the larger case, while a higher percentage of AT and EE students both qualified for free/reduced lunch and received special education. Since the demographic differences were small, what may be gleaned about the status and condition of race in this high school? Howard (2008) cited the Office of Civil Rights (2000) and talked about African-American males making up only 7% of the nation’s PreK-12 student population and “yet they make up a disproportionate percentage of students who are in special education, alternative schools, and remedial classrooms” (p. 2). This did not appear to be the case in this urban community. Therefore, our findings show the need for further research to question the a priori expectations of differences in gender and race.

**Parental education levels.** Research has shown that the level of parental education is positively related to student expectation levels, a higher high school GPA, greater participation in extracurricular activities, and future educational and career attainment plans (Hossler & Stage, 1992). However, many students in this study were successful in spite of their parents’ low levels of education. Differences in parental attainment levels were small across the 3 subgroups—all were low, averaging approximately 18%. While parental attainment was a likely indicator for the EE subgroup, characterized by falling GPAs and lack of extracurricular involvement, the OTG and AT subgroups progressed in these areas. It is also compelling to note that, in spite of low parental educational attainment, all three subgroups strongly indicated their interest in earning a four-year college degree.

For policy makers and educators looking to increase high school graduation rates, the good news is that low levels of parental attainment need not be an automatic deterrent to student achievement. It appears that ongoing attention to student goal-setting and post-graduation plans may counteract a lack of support and/or experience in the home. One might read this to mean that the interventions put into place at Ravine Middle School and River High School have started to have their impact. If nothing else, it calls into question the research from other locations and researchers (e.g., Stage & Hossler, 1989). These findings are an example of student resilience in the face of challenging factors endemic to their communities.

**School Indicators**

**Academic, disciplinary, and attendance.** The results of these comparisons clearly show that AT and EE subgroup achievement was lower than that for the OTG subgroup in every academic and non-academic indicator considered in this study. AT and EE students lagged far behind OTG students in promotion to the next grade. This finding corroborates the research that identifies being one year older than the modal age for grade as a robust index of risk for dropout (Cairns et al. 1989), as well as the findings of Grissom and Shepard (1989) that dropouts have typically been retained at least once.

Researchers have also correlated academic failure with dropping out, findings also affirmed in this study. The EE subgroup had a much lower GPA at the end of the 2001–02 school year that continued to decrease during the study, while the OTG subgroup GPA progressively improved. The EE subgroup also began the study with a much higher frequency of disciplinary
infractions that then increased dramatically. While the frequency of disciplinary infractions among OTG students also grew over time, the increase was gradual and leveled off in the final two years of high school. This reinforces the finding that disciplinary actions and achievement are linked (Barton, Coley, & Wenglinsky, 1998). Likewise, attendance rates showed large disparities, with OTG rates consistently above 90%, while EE rates decreased dramatically early on in the secondary experience and remained low throughout.

Substantial academic and behavioral differences between OTG and EE subgroups were evident from the beginning of the study. Thus, the indicators used in this study clearly identified EE students as continuously being at substantial academic risk. Traditional academic indicators of GPA, attendance, and disciplinary rates used in this study appear to identify at-risk students at a very early stage, and according to the research of Ripple and Luthar (2000), these predictors can also be correlated to eventual dropout status.

Academic data do paint a positive picture of many students moving past the challenging 9th grade point of resistance. Table 2 shows that, while paths may have differed, all OTG students graduated by the end of the study. In addition 95% of AT students were promoted past the 9th grade. Prior to the collaboration between River High School and the GEAR UP grant program, the only available option for students to recover credit(s) from failed required classes was to take an overload in the affected subject area (e.g., register to take freshman and sophomore English concurrently). However, as a part of the school reform effort at River, summer school classes were offered to assist students who failed one or more core courses (i.e., math, science, English, social studies). At the end of an academic year, students who were less than one credit from being promoted to the next grade level were strongly encouraged to take at least one summer class to achieve grade level promotion. Other students were encouraged to take two math classes in a semester if that would help them acquire the credits needed. Results suggest that many OTG and AT students availed themselves of remediation courses to pass the 9th grade point of resistance and/or stay on track.

**Extracurricular involvement.** Researchers have found a clear, positive correlation between extracurricular involvement and academic achievement, specifically school activities as opposed to non-school activities (Gerber, 1996). Since a substantially lower proportion of EE students were involved in extracurricular activities than their OTG peers, we can surmise that extracurricular activity participation helped create resilience among those students who were ultimately successful, while a lack of participation potentially created resistance among those who were not. In fact, Mahoney and Cairns (1997) linked extracurricular involvement to decreased dropout rates, a linkage that appears to have held true for the OTG and AT subgroups.

**Expectations and future plans.** These findings represent a mixed bag of student resistance and resilience. The 9th grade survey data highlighted the discrepancy between OTG and EE on the question of whether students think teachers believe they will graduate. Eighty-five percent of OTG said yes, but only 52% of the EE cohort agreed with that statement, indicating that students’ perceptions of teacher support may have an impact on achievement. Additionally, 74% of the OTG group believed they understood what was being taught in 9th grade, while only 58% of the EE did. Perceptions of teacher expectations for student success, as well as student levels of understanding in the classroom, may be indicators of success. Large percentages of students in both subgroups neither understood teacher expectations of them nor felt that teachers believed they would succeed in college. It appears that, in spite of these low expectations, the OTG group was able to be resilient and overcome their circumstances, and that perhaps because of these conditions, EE students encountered resistance.

Interestingly, while most students felt that teachers helped students when they didn’t understand, a much smaller percentage believed that their teachers provided feedback often. Identical majorities of students felt that their teachers had high expectations of them and that
teachers expected them to graduate from high school. However, while a majority of OTG students agreed that teachers thought they would succeed in life, a substantially smaller percentage agreed that their teachers believed they would graduate from college. At the same time, a small majority felt that their teachers connected what was learned in school with what they needed to know about life outside of school. Thus, it appears that there existed a disconnect among the students regarding teacher perceptions of succeeding in life and getting a college degree.

Final Thoughts
If it were our goal to promote high school student understanding of Ohm’s Law and the concepts of resistors in circuits, evidence would show that exposure to lessons about those very resistors and the flow of electricity improve their performance (Liégeois, Chasseigne, Papin, & Mullet, 2003). The work of the GEAR UP grant at River High School has been focused on increasing resilience while also teaching students, parents, and educators about resistors in the pipeline—factors that might inhibit student movement toward graduation and, ultimately, postsecondary education. Schools, and the teachers in them, play a critical role in developing at-risk student resilience (Bernard, 1995). And, in their review of the literature around this issue, Oswald et al., (2003) included stable relationships with peers, consideration of realistic future plans, and acceptance of responsibility for themselves and their behavior. Additionally, Downey (2008), in his review of the literature, found that schools and educators can work to strengthen student high school outcomes. When schools focus on teacher and student rapport, classroom climate, strengthened instructional skills, and the development of what he calls “life and literacy skills” (p. 56), then teachers can help students defeat the points of resistance they encounter.

Teacher and school support matters in helping students persist. Plunkett et al. (2008) documented this, and our data about student perceptions of teacher expectations—as well as data about relationships and awareness of supportive adults in their life—point to the fact that students are not dealt a horrible fate if they do not have strong parental/guardian support. They can overcome this lack of support with high expectations and encouragement from teachers and other school staff.

Our work with students in urban high schools matters. How we help our students fight the resistors present in the pipeline and strengthen the development of their resiliency is a crucial question that speaks to our ability to increase equity in education. Levin (2009) stated that “educational equity is a moral imperative for a society in which education is a crucial determinant of life chances” (p. 5). Understanding the context, realities, and possibilities of urban high schools will move us one step closer to understanding the needs and issues found in these environments. Urban communities and the students in them will be better for our having tried.

However, it is clear from our data that students start on a trajectory toward dropping out long before 12th grade. Students are making choices and exhibiting characteristics in 7th, 8th, and 9th grade that play out as they choose to leave the educational pipeline. Many of these choices can be overcome through strong interventions that deal with attendance, discipline referrals, teacher expectations, and multiple options for “catching up” when a student falls behind in the credits they need for graduation. That we can help students move through the pipeline appears from these data to be more than a wish or a hope. Having the sense of agency to act on that possibility, supporting the development of resilient students, and assisting them as they work to overcome points of resistance takes committed, informed, caring adults and policies and structures that work for all.

References

116


