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### **Abstract**

Removal from school through suspension is increasingly being used as a discipline strategy. Students with a history of low achievement are more likely to be issued suspensions. This is of great concern given that low achieving students are already at-risk for long term negative achievement outcomes, such as dropout. Given these concerning trends, it is important to understand the consequences for students, who are recipients of exclusionary school discipline practices. The current study followed students, who were enrolled in a 9th grade program specifically designed for low-achievers within a large high school in the Southeastern United States, over four years (2006-2010) in order to track their academic progress and dropout status. It was anticipated that students, who received more exclusionary school discipline in their early high school career, would have lower achievement at the end of their high school career and would be more likely to drop out of school when compared to students who received less exclusionary school discipline. The study found that exclusionary school discipline received by a student in the 9th grade explained 6% of the variance of the science achievement test scores in later high school, while taking into consideration early achievement, race, and gender. Early discipline was further predictive of lower GPA in the early years of high school, but it was not predictive of other academic outcomes or dropout status later in high school. It was anticipated that students' level of school engagement would modify achievement and dropout outcomes. This was not found to be the case, yet student engagement was a positive predictor of both 9th and 12th grade GPA. In addition, the study found that students' academic performance in the 9th grade (GPA and test scores) set their academic

trajectories for the rest of high school. These findings support prior research. Implications of the findings are discussed.

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### ACKNOWLEDGEMENTS

“Shoot for the moon; even if you miss you will still be among the stars!” My mother has said this to me for as long as I could remember. This has been a long journey and I could have not completed this journey if not for the guidance and love of the following people.

My deepest gratitude belongs to Dr. Anne Gregory, without whom none of this would be possible. She not only generously let me use her data, but she also offered unconditional support throughout this process. As my dissertation chair, she met with me on a weekly basis and ensured I understood the research and the meaning behind the research. My topic examined the possible consequences of discipline on adolescents, and she always reminded me that I was not just looking at numbers but at children and their lives. Dr. Gregory has taught me so much over the years, and I am eternally grateful for her guidance and her friendship.

I would also like to thank my committee members Dr. Susan G. Forman and Dr. Karen L. Haboush for their continuous support of me and my endeavors. Each of them has helped me in their own way to get to this point in my career and I will be forever grateful.

My parents, Barry and Linda Jones, have been such an inspiration to me. They have always encouraged my dreams and told me that I could do and be whatever my heart desired. Because of that encouragement I can be the woman I am today. I am also grateful to my sister, Vanessa Jones who keeps me grounded in all I do.

Most Importantly I thank God and his presence which has been there with me every step of the way. Philippians 4:13 says “I can do all things through Christ who strengthens me.” He has truly given me strength throughout this process and is the Rock

on which I stand. His love for me amazes me everyday so I will continue to live in his image.

As I write this acknowledgement, my mother's words continue to ring in my ears, "Shoot for the moon, even if you miss you will still be among the stars." Therefore, with those words, God, my family and friends behind me, I am "Shooting for the moon" knowing that whatever comes my way I will still be amongst the stars.

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## The Relationship Between Early High School Discipline and Academic Outcomes

### Introduction

Students who fail to graduate from high school are more likely to have higher unemployment rates, lower earning potential, and are at a higher risk of incarceration than individuals with high school diplomas (Ikomi, 2010). Given the importance of a high school diploma, it is essential to identify the range of reasons why some students are at greater risk for not obtaining their diploma than other students. Many studies have shown that factors such as individual and family characteristics are linked to dropout. However, less attention has been paid to the effects of removal from classroom instruction through office discipline referrals and suspension on school outcomes (e.g., academic achievement and graduation).

Both school discipline and dropout rates are not equally distributed amongst racial and ethnic groups. African American and Hispanic students in the United States are more likely to receive suspension (Kantrowitz, 2009; Wallace, Goodkind, Wallace, & Bachman, 2008) and more likely to dropout of high school than European American students (Orfield, Losen, Wald, & Swanson, 2004; Wallace et al., 2008)<sup>1</sup>. Given these concerning trends, it is important to understand whether school discipline rates are related to dropout rates. The consequences for students who receive exclusionary school discipline practices may include negative school outcomes (e.g., low achievement and dropout). For instance, there is initial evidence that suspension is one gateway to eventual dropout (Bowditch, 1993; Lee, Cornell, Gregory, & Fan, 2011; Suh & Suh, 2007). Yet,

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<sup>1</sup> The term African American, Black, European American and White will be used when specific studies have identified participants as such. For the purposes of the current study, the terms "Black" and "White" will be used to identify study participants given this is the way they were identified by the school system.

current research offers limited conclusions about the negative effects of suspension.

Previous studies have examined the likelihood that a suspended student would dropout of school but have generally neglected to take into account a student's already established risk for dropping out (e.g., their prior achievement; Christle, Jolivette, & Nelson, 2007; Krlevich, Slate, Tejeda-Delgado, Kelsey, 2010; Orfield et al., 2004;).

The purpose of the current study is to isolate and examine the effect that school discipline has on the likelihood of school dropout, while holding a student's risk status (e.g., race and achievement level) constant. In addition, this study aims to foster a more in depth understanding of the effects of exclusionary school discipline practices by examining the relationship between school discipline and the long term effects on achievement. Furthermore, the present study addresses that we know little about the gap in research pertaining to what psychological protective factors may buffer negative academic and behavioral trajectories of adolescents. Thus, the study identifies individual protective factors (i.e., school engagement) that may buffer negative academic and behavioral outcomes that are linked to early school discipline.

### **Discipline and Dropout**

Studies that examine the effects of dropping out of high school on the individual and on society as a whole (e.g., Barton, 2005; Center on Education Policy and American Youth Policy Forum, 2001) have shown that students who fail to earn a high school diploma earn considerably less income over their lifetime and have fewer opportunities in today's workforce (Campbell, 2004). Due to their lower lifetime earnings, dropouts will contribute far less in federal, state, and local taxes than they will receive in government benefits and correctional cost (Center for Labor Market Studies, 2003; Wald & Martinez,



2003). Over their life span, this will impose a net financial burden on the rest of society (Barton, 2005; US Department of Labor, 2007).

The National Center for Educational Research found that approximately 3.3 million of 16- through 24-year-olds have not earned a high school diploma or an equivalent (Cataldi, Laird, & KewalRamani, 2009). In addition to these staggering rates, students from historically disadvantaged minority groups (African American, Hispanic) have little more than a 50-50 chance of finishing high school with a diploma (Orfield et al., 2004). The federal report "Left Behind in America: The Nation's Dropout Crisis" documents that one in five Blacks dropout of school (21%), while the dropout rate for Whites was one in eight (12.2%; Kantrowitz, 2009). The racial dropout gap is also accompanied by gender differences in graduation rates. Examining North Carolina's public high school dropout rates, Stearns and Glennie (2002) found that not only are Black students more likely to dropout, male students had the highest dropout rates. In 2003, a national study showed that Black males graduated from high school at a rate 8% lower than Black female students (Orfield et al., 2004). Taken together, the research suggests that both gender and race are possible risk factors associated with dropout. These patterns point to the importance of future studies taking into account race and gender when examining predictors of high school dropout.

Another risk factor for dropout closely examined in the literature is low achievement. Decades of research have shown that low achieving students are more likely to dropout of high school. Recently, research examining predictors related to dropout have been conducted in large urban cities. Allensworth and Easton (2005) examined dropout in Chicago's public schools and identified that low achievement

(measured as a failing grade in one or more courses and low number of credits) in a 9th grade student is predictive of the student not graduating. Specifically, students' 9th grade GPA and number of F's explained 39% of the variance in the likelihood of dropping out, as measured by reduction in log-likelihood (Allensworth et al., 2005). In a similar 9-year longitudinal study, which took place in Baltimore, revealed that low academic achievement in the elementary school years (1st through 4th grades) was found to be predictive of later school dropout rates (Alexander, Entwisle, & Olson, 2001). These studies have identified the importance of understanding early achievement as it relates to dropout.

Taken together, race, gender, and low achievement are three risk factors for dropout. Less understood is the role exclusionary discipline practices play in predicting dropout. A variety of strategies have been employed to exclude disruptive students from the regular education setting. One of the most common methods is suspending a student from school (Christle, Nelson, & Jolivette, 2004). The Office of Civil Rights conducted a survey of elementary and secondary schools that included 97% of the nation's school districts and 99% of its schools and found that there were a total of 3,053,449 student suspensions and 97,177 expulsions in the year 2000 (US Department of Education, 2000). Using data from a national longitudinal study, Carpenter and Ramirez (2007) found that a predictor for high school dropout, which occurred for White, Hispanic, and African American students, was the number of suspensions a student received. This effect held when considering a range of other individual, family, and school factors, such as 10th-grade math test score, grade retention, parental composition, and student gender.

The current study seeks to replicate these findings while controlling for other predictors of dropout (e.g., low achievement).

In addition to the overwhelming number of suspensions issued annually in the United States, there is also a racial disparity in exclusionary discipline practices. Wallace et al. (2008) conducted a national study that revealed African American, Hispanic, and American Indian students were more likely to be sent to the principal's office and two to five times more likely to be suspended and expelled than European American students. Given the statistics for exclusionary discipline factors and trends that point to gender and racial differences, further research is needed to understand how the two phenomena (suspension and dropout) relate to one another.

The racial and gender differences in the application of exclusionary discipline practices are alarming considering evidence that suspension and expulsion are linked to dropout (Stearns & Glennie, 2006). Frequent use of early exclusionary discipline practices may not only have an impact on later discipline experiences, but also have an impact on achievement trajectories. A study examining Positive Behavior Supports (PBS) conducted by Luiselli, Putnam, Handler, and Feinberg (2005) found that when student discipline problems were reduced, academic achievement increased. This suggests that students on negative trajectories tend to stay on them. The present study builds on this research to examine whether school discipline in early high school years (9th and 10th grade) predict lower achievement scores and dropout status in later high school years while taking into account early achievement.

### **Discipline and Achievement**

In an era of school reform characterized by an intense focus on the accountability of academic instruction (e.g., standardized assessments, exit exams) the minimal amount of research at the high school level on the effects of school discipline is at best surprising, considering the consequences of exclusionary school discipline may be academically detrimental (Andrews et al., 1998; Arcia, 2006; Davis & Jordan, 1994; Gregory, Skiba, & Noguera, 2010). For example, one consequence of exclusionary discipline is instructional time loss. While examining the effects of PBS, Scott and Barrett (2004) measured instructional time lost due to office referrals and suspension in an urban elementary school. The researchers found students lose on average 20 minutes of instructional time per office referral and 6 hours a day when suspended (Scott & Barrett, 2004). Due to this instructional time loss, one would predict a decrease in students' academic performance.

Few studies have examined the specific link between early high school discipline and later high school achievement, specifically with at-risk low achieving students. In addition, many of the studies that examine the link between discipline and achievement are conducted on the elementary and middle school levels. For example, a recent study used school records of all middle school students in 6th, 7th, and 8th grades in the State of Texas to determine the extent to which students experiencing disciplinary procedures had lower reading and math scores than students who did not experience the same disciplinary procedures (Kraleovich et al., 2010). This study found statistically significant differences in the state assessments in reading and math between students who received in-school suspension, out-of-school suspension, an alternative education placement, or expulsion as compared to students who did not receive these disciplinary placements

(Kraleovich et al., 2010). Although the researchers found a link between suspension and achievement, students were examined during a single year of their education. The long term effects of suspension were not measured, nor were prior achievement scores taken into account. The low achieving suspended students in their study were potentially going to have lower later achievement whether they received a suspension or not. Research has shown that low achievers tend to remain low achievers throughout high school (Cappella & Weinstein, 2001). Therefore controlling for previous achievement remains important in order to isolate the unique effects of suspension, beyond the possible stability of a student's achievement.

Overall, taking into account variables such as gender, race, and early achievement is important when conducting research on populations that would have a negative course regardless of the amount of negative discipline practices. The current study controls not only for race and gender but also prior achievement.

### **Engagement**

A number of risk factors contribute to low achievement and dropout, so it is essential that we also explore protective factors that can mitigate negative trajectories. Rutter (1985) defined protective factors as any influential factor that modifies, ameliorates, or alters a person's reactions to risks (environmental or individual) that predisposes him or her to negative outcomes. Others have defined protective factors as resources that help individuals to cope with challenges and factors that increase the likelihood of a positive outcome, while reducing the likelihood of a negative outcome (Fergus & Zimmerman, 2005; Spencer et al., 2006).

School engagement is one protective factor for negative academic outcomes that is frequently mentioned in the literature. Fredricks, Blumenfeld, and Paris (2004) offered a conceptualization of school engagement based on three dimensions: behavioral (e.g., compliance, participation in school activities), affective (e.g., socio-emotional interest in school), and cognitive (e.g., learning motivation and uses of self-regulation strategies). More specifically, affective engagement is defined by students' feelings, attitudes, and perceptions toward school. Student's motivation and connectedness to school greatly enhances students overall school achievement (Smith, Rook, & Smith, 2007). Behavioral engagement concerns student conformity to classroom rules and student involvement in classroom work and extracurricular activities.

Brewster and Bowen (2004) studied 633 Latino students and found that increased affective and behavioral aspects of school engagement was associated with a decrease in their risk of school failure across 3 school years. The current study examines affective and behavioral engagement as a protective factor which possibly decreases later academic failure for students who are issued discipline in their early years of high school.

A great deal of research has shown engagement to be a positive predictor of achievement and graduation. In a longitudinal study, South, Haynie, and Bose (2007) found that students who are engaged and attached to school are less likely to dropout during the following year. Janosz, Archambault, Morizot, and Pagani (2008) explored the developmental patterns of school engagement and its relationship to student dropout and found that students with high levels of engagement had rarely dropped out of school. A more recent study by Archambault, Janosz, Morizot, and Pagani (2009) examined adolescents' behavioral, affective, and cognitive engagement in school and found that

students reporting low affective engagement or decrements in behavioral engagement from the beginning of high school were at higher risk of later dropout. The level of affective and behavioral engagement appeared to have a crucial role in increasing or decreasing the risk of school failure, therefore further investigation into these phenomena is warranted.

Some mixed evidence on engagement as a protective factor has also been found. Research conducted by Janosz, Boulerice, Le Blanc, and Tremblay (2000) testing the typology of school dropout with 1,582 Montreal high school students (of which 507 failed to earn a high school diploma by age 22) found results that are in stark contrast to other studies on engagement. Although, the researchers found that 20% of these dropouts were strongly unmotivated and disengaged from school and 40% experienced psychosocial difficulties, the remaining 40% of the dropouts reported high levels of engagement. These findings could suggest that, for some students at high-risk for dropout, engagement is not strong enough in the face of other influences to be adequately protective. Further research is needed to clarify the relationship between engagement and dropout and its protective role for students already on a negative trajectory early in high school.

The question remains whether psychological mechanisms such as behavioral and affective engagement can buffer the effects of exclusionary discipline (and subsequent lost instructional time) on achievement. The current study seeks to understand whether behavioral and affective school engagement buffers the negative effects of school discipline on negative school outcomes (i.e., low achievement and graduation rates). Specifically, this study explored whether students who receive more exclusionary

discipline referrals and are less engaged from school will have more negative school outcomes as compared to students who also have a high number of discipline referrals but are more engaged to school.

### **Summary**

Given the negative concurrent outcomes (e.g., low achievement) of exclusionary school discipline practices (Kraleovich, Slate, Tejeda-Delgado, & Kelsey, 2010), understanding the extent to which the occurrence of these practices early in high school are associated with lower academic achievement and dropout at the end of high school remains an important issue. There may be systematic changes within a school system that could address this problem (e.g., decreasing office referrals and suspensions). Furthermore, the negative correlates of suspensions might not be the same for all students. Thus, this study aims to examine whether student characteristics moderate the link between suspension and dropout or low achievement.

The current study examines whether school discipline in early high school predicts lower achievement scores and dropout in later high school for a low achieving sample of adolescents, taking into account their early achievement, race, and gender. The study further examines whether affective behavioral school engagement lessens the negative effects of early high school discipline on achievement and dropout. In other words, the study addresses the question “Does school engagement modify the link between school discipline (office referrals and suspension) and school outcomes (achievement and graduation rates)?” It is foreseen that students who received more school discipline (office referrals and suspension) in early high school will have lower achievement and be more likely to dropout of school compared to students who received



less school discipline. It is further anticipated that office referred or suspended students who have higher levels of engagement will also have higher achievement and less instances of dropout than those referred or suspended students who are disengaged. These relationships will remain when taking into account students' early achievement, race, and gender.

## **Methods**

### **Participants**

Adolescents in the present study were enrolled in a large public high school of approximately 1,200 students, which was located in the Commonwealth of Virginia. All of the study's participants attended the school's 9th grade transition program specifically designed for students identified as low achievers due to marked underperformance during their 8th grade year. In 8th grade, almost every student in the program had received a grade of D or F in at least two core academic courses. The students in the program were invited to participate in this 4-year longitudinal study, which was initiated in the 2006-2007 school year. Seventy-five percent of the Black students in the 2006-2007 9th grade transition program agreed to participate in the study. By the following school year, five of the Black participants had transferred or been placed in a state run facility (e.g., Department of Juvenile Services). The 2006-2007 sample comprised 36 Black students (61%), 13 White students (22%) and 2 Asian students (3%) ( $N = 51$ ). The sample was 49% female and 51% male.

Additionally, the students' 10th grade teachers were asked to participate in the present study. All but two core-subject (i.e., history, mathematics, English, science) 10th grade teachers participated,  $N = 23$  (response rate of 92%). Eight teachers were male

(39%), 14 teachers were female (61%) and all but 2 teachers identified themselves as White (one identified as Black and the other as Asian American).

### **Procedures**

Researchers presented the purpose of the study to all students in the 9th grade program and interested students returned signed student assent and parental consent forms. Student survey and interview data were collected throughout the 2006–2007 and 2007–2008 school years (9th and 10th grades). However, for the purposes of this study, only teachers' survey data from the spring of the 10th grade year were examined. In addition to survey data, each student's school discipline records, achievement test scores, and GPA were collected from the student's school records at the end of each school year (9th through 12th grades; see Table 1 for timeline of data collection).

Table 1  
*Timetable of measures collected*

Source	2006 9th Grade	2007 9th Grade	2007 10 <sup>th</sup> Grade	2008 10th Grade	2009 11th Grade	2010 12th Grade
		June	December	January	June	June
	0 months	9 months	16 months	17 months	33 months	45 months
<b>Students' Data Collected</b>		Student Academic Records	Student Discipline Records		Student Academic Records	Student Academic Records
				<b>Spring 2008</b>		
<b>Teachers' Data Collected</b>				Behavioral Engagement Survey		

*Notes.* Academic records include: Disciplinary records, grades per class, grade point average, Standards of Learning (SOLs) scores. Not all the participants matriculated to the next grade, therefore for clarity the amount of months from the start of 9th-grade (in addition to school year) are used to assist with keeping track of data collection

## Measures

*Student race and gender.* District records were examined to determine student race. Gender was coded either as 1 (male student) or 0 (female student).

*Student discipline.* School administrators released participants' office discipline referrals, short term suspensions (no more than 10 days), long-term suspensions (longer than 10 days up to the remainder of the school year), and expulsion (removing the student permanently from the public school system) for the first year and a half of the student's high school career (September 2006 until December 2007). For each student, office discipline referrals were summed across his or her teachers and suspension (disposition days) were tallied from September 2006 to December 2007. This resulted in two

measures of exclusionary discipline – a) number of office discipline referrals and b) total days suspended.

*School outcomes.* Achievement test scores (SOL Exam), GPA, and graduation/dropout status were collected from the student's school records at the end of each school year from 2007-2010. GPAs were calculated on a 4-point scale, using each student's full official school record of second-semester course grades, ranging from *A*, *B*, *C*, *D*, to *F*. Four points were assigned to an *A*, three points were assigned to a *B*, and so forth.

Student academic achievement was also assessed using the SOL testing system. This system is the official accreditation of No Child Left Behind testing for the Commonwealth of Virginia. Students take SOL tests (which consist of between 45 and 63 multiple choice questions, depending upon the specific test used) at the end of the course in core subjects taught by their teacher, and each is standardized on a 200-600 point scale. External reviewers found that the SOL testing system's reliability meets standards for good psychometric properties (Hambleton et al., 2000). Each student took an SOL that corresponded to the courses he or she was taking. Specifically, the research team obtained each student's baseline SOL score in the 9th grade and each student's SOL scores at the end of 11th or 12th grade year (depending on when the test was taken) for the subjects reading and science.

At the end of each year, student records were examined for dropout status. A dropout is an individual who: (1) Was enrolled in school at some time during the previous school year and was not enrolled on October 1 of the current school year, or (2) Was not enrolled on October 1 of the previous school year although expected to be in

membership; (3) Has not graduated from high school or completed a state or district-approved educational program; and (4) Does not meet any of the following exclusionary conditions: (i) Transfer to another public school district, private school, or state or district-approved education program (ii) Temporary school-recognized absence due to suspension or illness (iii) Death (Virginia Department of Education, 2010).

*Classroom behavioral engagement.* In the Spring of 2008, 10th grade teachers rated students' classroom behavioral engagement (for survey see Table 2). The measure had a 4-point scale ranging from 1 (*not very characteristic of this student*) to 4 (*very characteristic of this student*), and included 9 items, such as, "This student works hard in my class" (Wellborn, 1991). Appropriate items were reverse scored. The scores across five to seven teachers for each student were combined into item means and then an overall mean. Multiple teacher ratings of each student provided a more reliable measure of the student's engagement level throughout the school day. The scale has been shown to have predictive validity in previous studies examining student engagement using teacher scales, (Furrer & Skinner, 2003; Wellborn, 1991; Skinner, Wellborn, & Connell, 1989). For instance, reports of engagement were associated with achievement and dropout status. The student engagement scales used with this sample had adequate internal consistency ( $\alpha = .98$ ).

Table 2

*Teacher-reported student engagement scale*

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Since the beginning of the school year...

Strongly Agree = 1, Agree = 2, Disagree = 3, Strongly Disagree = 4

1. In my class, this student fights me at every turn
  2. The student does not try very hard
  3. This student only pays attention to subjects that interests him/her
  4. This student works only as hard as necessary to get by
  5. In my class, the student pays attention
  6. This student concentrates on doing his/her work in my class
  7. This student does the best s/he can in my class
- 

*Missing data.* The participants were selected by the following criterion. First, the students' 10th grade teachers must have completed an engagement survey on him or her and secondly, the student must have had a final GPA at the beginning of the 9th and the end of his or her 12th grade year. Forty-one students met this criterion. The 19 students with missing engagement scales or grades were not included in the analysis for engagement and academic outcomes (e.g., GPA). For some analyses, the participants needed to have SOL achievement test scores. Only students with pre and post Reading and Science SOL scores were included in the SOL analyses,  $N = 33$ . This final sample consisted of  $N = 41$ ; Black  $n = 32$  (80%), White  $n = 6$  (11%), Asian  $n = 2$  (6%), Unspecified  $n = 1$  (3%; see Table 3). Chi-square tests were performed and there was no significant difference between the groups.

Table 3  
*Number and Demographic Characteristics of Student Participants*

Variable	Science SOL	Reading SOL	12 Grade GPA	High School Graduation
Total sample size	33	33	33	41
Black (%)	27 (82)	26 (79)	26 (79)	32 (78)
Non Black (%)	6 (18)	7 (21)	7 (21)	9 (22)
Male (%)	13 (39)	13 (39)	12 (36)	20 (49)
Female (%)	20 (61)	20 (61)	21 (64)	21 (51)

*Note* – Composition of the sample varied depending on the dependent variable (e.g., Science and Reading SOL).

### **Data Analysis Plan**

The data analysis plan involved three phases. First, descriptive statistics and correlations among the variables were examined to assess for general trends in the data. Second, multilinear regression analyses were conducted with Post- Science and Reading SOL achievement (scores completed in the later years of high school) and 12th grade GPA as outcomes. Third, logistical regression analysis was conducted with graduation as the outcome. Logistic regression is appropriate when the dependent variable is dichotomous and the independent variable is continuous (Fagan & Pabon, 1990). All analyses included student's ethnicity, gender, and prior achievement in order to test whether number of discipline referrals and number of disposition days were linked with achievement and graduation outcomes above and beyond the contribution of prior achievement and demographic factors.

Two separate multiple linear regression analyses were performed. The demographic factors were entered in the first block (e.g., ethnicity, gender, prior achievement) and in the second block the predictor variables were entered (e.g. disposition days or number of referrals). This was done because the first block variables

have been shown to be strong predictors of achievement outcomes (e.g., National Center for Education Statistics, 2010; The Nation's Report Card, 2005). To examine the possibility of engagement as a protective factor the third and fourth block also included two-way interaction terms (e.g., Engagement, and Engagement X #Disposition Days, or Engagement X Office Discipline Referrals.). After entering each block of variables into the regression analysis, I examined the changes in the amount of variance explained which offers a measure of effect size. Gender and dropout status were coded dichotomously (1=female, 2=male; and 1 = graduated 2 = dropout or transferred). The following variables were treated as continuous: GPA, SOL scores, discipline referrals, disposition days.

## **Results**

### **Descriptive Findings**

The achievement outcomes for the sample were widely distributed (see Table 4). The Science SOL had a sample mean of 390.45 ( $SD = 35.55$ ,  $Min = 331$ ,  $Max = 484$ ), and the Reading SOL had a sample mean of 435.28 ( $SD = 57.14$ ,  $Min = 303$ ,  $Max = 563$ ). The cut off score for passing each SOL exam was a scaled score of 399. Thus, overall the students were slightly below proficient on the science test but proficient on the reading test. In 2010, 84 and 82 percent of the school passed with a score indicating proficiency in science and reading, respectively, with a score greater than 399.

The number of discipline referrals had a mean of 6.32 ( $SD = 6.96$ ,  $Min = 0$ ,  $Max = 27$ ). The number of days of disposition had a mean of 6.29 ( $SD = 7.33$ ,  $Min = 0$ ,  $Max = 32$ ). Ninth grade GPA ranged from a low of 1.02 to a high of 3.12 ( $M = 2.03$ ,  $SD = .54$ ), and 12th grade GPA ranged from a low of 0.86 to a high of 3.57 ( $M = 2.21$ ,  $SD = .71$ ) on



a 4.0 scale. As a group, the students' mean GPA was in the C range. At the end of the students' high school career, 35 of the students graduated (85.4%), and 7 students (14.6%) dropped out. Overall, the achievement data confirms the low-achieving status of the participants.

Table 4  
*Means and Standard Deviations of Discipline and Achievement For Each Dependent Variable*

Grade Point Avg. <i>M(SD)</i> <i>Min</i> <i>Max</i> ( <i>N</i> = 33)	Science SOL <i>M(SD)</i> <i>Min</i> <i>Max</i> ( <i>N</i> = 33)	Reading SOL <i>M(SD)</i> <i>Min</i> <i>Max</i> ( <i>N</i> = 33)	Dropout Variable <i>M(SD)</i> <i>Min</i> <i>Max</i> ( <i>N</i> = 41)
<sup>a</sup> ODR 5.9(7.1) 0	27 5.9(6.4) 0	32 6.3(7.1) 0	27 6.2(7.0) 0 27
Disp. Days 6.0(7.5) 0	32 5.8(7.1) 0	32 6.3(7.5) 0	32 6.2(7.4) 0 32
9th grd GPA 2.0(.54) 1.0	3.12		
12th grd GPA 2.2(.71) .86	3.57		
Science <sup>b</sup> Pre	392(27)	345 464	
Science <sup>c</sup> Post	391(36)	331 484	
Reading Pre		383(42)	320 491
Reading Post		435(57)	303 563
<sup>d</sup> Teacher Eng 2.4(.65) 1.2 4.0	2.3(.59) 1.2 3.8	2.4(.62) 1.2 3.8	2.4(.66) 1.8 4.0

*Notes*

<sup>a</sup> ODR = Office Discipline Referrals

<sup>b</sup> Pre = test taken in the 9th grade year

<sup>c</sup> Post- = Test taken in the 11th or 12th grade year

<sup>d</sup> Teacher Eng = Teacher engagement scales spring 2008

Table 5 shows the intercorrelations between the variables. Positive and negative correlations were in the expected direction. Yet, unexpectedly, number of referrals were not significantly correlated to achievement outcomes in science, reading and 12th grade GPA ( $r$  ranges from  $-.31$  to  $-.29$ ,  $p = ns$ ). Additionally, the number of disposition days was not significantly correlated with achievement outcomes in science, reading and 12th grade GPA ( $r$  ranges from  $-.34$  to  $-.27$ ,  $p = ns$ ). However, significant correlations were

found at the  $p = .05$  level between the number of office discipline referrals ( $r = -.44$ ), and 9th grade Science SOL scores ( $r = -.35$ ). Also, number of disposition days ( $r = -.37$ ) issued in the 9th grade and 9th grade GPA ( $r = -.37$ ) were negatively associated with achievement outcomes that same school year. Lastly, being male was associated with increased office discipline referrals ( $r = .37, p < .05$ )

Table 5  
*Intercorrelation Between Student Demographics, Achievement, Discipline, and Engagement*

	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	—											
2. Ethnicity	.190	—										
3. 9th grade GPA	.029	.064	—									
4. 12th grade GPA	.108	.050	.869**	—								
5. Science SOL – Pre	-.302	-.153	.330*	.293	—							
6. Science SOL – Post	-.119	-.200	.568*	.423*	.706*	—						
7. Reading SOL – Pre	-.099	-.211	.284	.295	.672*	.490*	—					
8. Reading SOL – Post	-.268	.039	.384*	.292	.768*	.581*	.534*	—				
9. Discipline referrals	.365*	.033	-.437**	-.286	-.350*	-.311	-.271	-.292	—			
10. Disposition days	.282	.070	-.367*	-.274	-.259	-.335	-.267	-.265	.853**	—		
11. Teacher engagement	.133	-.084	.462**	.111	.017	.136	.052	.177	-.243	-.200	—	
12. Graduation status	.148	.281	.508**	.357*	.315	.141	-.048	.323	-.503**	-.279	.314*	—

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

*The effects of discipline referrals and disposition days on graduation*

Table 6 presents the effects of gender, ethnicity, prior achievement, disposition days, and office referrals on high school graduation from the logistic regression model. The odds ratio (OR) associated with each predictor and the 95% confidence intervals for

each OR represent the effect of an individual predictor (e.g., disposition days) on the dependent variable (e.g., graduation). Results show that 9th grade GPA had the highest OR (4.14,  $p = .01$ ) when compared to gender, ethnicity, office discipline referrals, and disposition days. The results showed a strong effect of 9th grade GPA on a student's chance of graduating high school. Yet, there was no effect for disposition days or office discipline referrals when gender, ethnicity, and 9th grade GPA were held at a fixed value.

Table 6

*OR for Predictors of Graduation*

N = 42

Variables	OR	95% CI
Gender	0.53	(.128 - 21.500)
Ethnicity	0.51	(.176 - 16.071)
9th Grade GPA	4.14*	(2.307 - 1695.369)
Disposition Days	0.02	(.859 - 1.218)
Office Referrals	-0.109	(.743 - 1.082)

Note. OR = odds ratio, CI = confidence interval

\*  $p < .05$

*Disposition days and student engagement*

Tables 7 and 8 show the results of three multiple linear regression models. The first model shows gender, ethnicity, Pre-Science SOL scores, teacher engagement, and disposition days as predictors of Science SOL scores later in high school. Results show that Pre-Science SOL scores were the greatest predictor of Post-Science SOL scores ( $R^2 \Delta = .50$ ). However, the amount of disposition days approached significance ( $p = .057$ ) as a predictor of lower Post-Science SOL scores. Importantly, a large amount of unique variance in Post-Science SOL scores was explained by disposition days (close to 6% of variance explained).

The second multiple regression model shows gender, ethnicity, Pre-Reading SOL scores, teacher engagement, and disposition days as predictors of Post-Reading SOL scores. Results show that pre-Reading SOL scores were the greatest predictor of Post-Reading SOL scores ( $R^2 \Delta = .35$ ). The amount of disposition days did not predict lower Post-Reading scores.

The third multiple regression model examined gender, ethnicity, 9th grade GPA, and disposition days as predictors of 12th grade GPA. Results show that, again, disposition days in 9th grade were not predictive of 12th grade GPA. However, 9th grade GPA was predictive of 12th grade GPA ( $\beta = .87, p < .001$ ). In all of the models above, the interaction between teacher reported engagement and dispositions day were nonsignificant predictors of the SOL scores and 12th grade GPA. However, teacher reported engagement did predict higher 12th GPA in both models ( $\beta = -.328, p < .001$  and  $\beta = -.327, p < .001$ )

#### *Office discipline referrals and student engagement*

The 4th, 5th, and 6th multiple regression models show gender, ethnicity, either Pre-Science, Pre-Reading, or 9th grade GPA, and office discipline referrals as predictors of Post- Science, Post-Reading and 12th grade GPA, respectively. Office discipline referrals were not predictive of Science SOL ( $\beta = -.212$ ), Reading SOL ( $\beta = -.069$ ), or 12th grade GPA ( $\beta = .056$ ). However, as in the other regression models, Pre-Science, Pre-Reading, and 9th grade GPA were predictive of Post-Science, Post-Reading, and 12th grade GPA, respectively ( $p < .001$  in all cases and R-squared change ranged from 34% to 77%). Teacher perceived engagement and ODRs were nonsignificant predictors of SOL scores. Yet teacher engagement was a significant predictor of 12th grade GPA ( $\beta = -.327$ ,

$p < .001$ ). Unexpectedly, there were nonsignificant interactions between ODRs and teacher engagement on all three outcomes.

Table 7

*Regression Analysis for Variables Predicting Standards of Learning Scores and 12th Grade GPA*

Step	Predictor Variable	F Change	R <sup>2</sup> Change	Beta at each step
<b>SOL Science Test</b>				
Step 1		9.72***	.501***	
	Gender			.051
	Ethnicity			.016
	Pre-Science SOL Score			.723***
Step 2				
	Disposition Days		.057 <sup>+</sup>	-.254 <sup>+</sup>
Step 3				
	Teacher Engagement		.020	.148
Step 4				
	Disp Dys X Tch Eng Int		.001	-.151
<b>SOL Reading Test</b>				
Step 1		5.131**	.347**	
	Gender			-.216
	Ethnicity			.180
	Pre-Reading SOL Score			.551**
Step 2				
	Disposition Days		.008	-.096
Step 3				
	Teacher Engagement		.023	.161
Step 4				
	<sup>a</sup> Disp Dys X <sup>b</sup> Tch Eng Int		.038	.953
<b>12th Grade GPA</b>				
Step 1		37.386***	.773***	
	Gender			.116
	Ethnicity			.048
	9th Grade GPA			.872***
Step 2				
	Disposition Days		.001	.040
Step 3				
	Teacher Engagement		.084***	-.328***
Step 4				
	Disp Dys X Tch Eng Int		.001	.170

\*Standardized beta coefficient

\* p < .05, \*\* p < .01, \*\*\* p < .001, <sup>+</sup> p < .07

Notes

Note<sup>a</sup> – Disp Dys = Disposition Days

Note<sup>b</sup> – Tch Eng Int = Teacher Engagement Interaction

Table 8

*Regression Analysis for Variables Predicting Standards of Learning Scores and 12th  
Grade GPA*

Step	Predictor Variable	F Change	R <sup>2</sup> Change	Beta at each step
<b>SOL Science Test</b>				
Step 1		9.72***	.501***	
	Gender			.051
	Ethnicity			.016
	Pre-Science SOL Score			.723***
Step 2	ODR <sup>a</sup>		.037	-.212
Step 3	Teacher Engagement		.018	.145
Step 4	ODR X Tch Eng int <sup>b</sup>		.001	.153
<b>SOL Reading Test</b>				
Step 1		5.131**	.347**	
	Gender			-.216
	Ethnicity			.180
	Pre-Reading SOL Score			.551**
Step 2	ODR		.004	-.069
Step 3	Teacher Engagement		.024	.169
Step 4	ODR X Tch Eng Int		.018	.699
<b>12th Grade GPA</b>				
Step 1		37.386***	.773***	
	Gender			.116
	Ethnicity			.048
	9th Grade GPA			.872***
Step 2	ODR		.002	.056
Step 3	Teacher Engagement		.084***	-.327***
Step 4	ODR – Tch Eng Int		.000	.107

\*Standardized beta coefficient

\* p < .05, \*\* p < .01, \*\*\* p < .001,

Note<sup>a</sup> – ODR = Office Discipline referrals

Note<sup>b</sup> – Tch Eng Int = Teacher Engagement Interaction



## Discussion

The purpose of the present study was to examine if students who received more exclusionary school discipline in their early high school career, would have lower achievement at the end of their high school career and be more likely to dropout of school when compared to students, who received less exclusionary school discipline. Another purpose was to identify whether the level of school engagement within the group of students receiving exclusionary discipline would modify their achievement and dropout outcomes. There was partial support found for these hypotheses. This study found that the number of disposition days and number of office discipline referrals received by a student in the 9th grade were not predictive of later Reading SOL scores, 12th grade GPA, or dropout status, after controlling for early achievement, race, and gender. Yet, as hypothesized, exclusionary school discipline received in the 9th grade explained almost 6% of the variance in the Science SOL test scores ( $R^2\Delta = .057, p < .07$ ).

Worth mentioning are findings that were not the primary focus of the study. First, 9th grade GPA was a strong predictor of 12th grade GPA. Second, both 9th grade Science and Reading SOL scores were correlated with 12th grade Science and Reading SOL scores. Third, being male was correlated with number of discipline referrals a student received. Fourth, concurrent office referrals and disposition days received by a student were correlated with 9th grade GPA. Lastly, teacher engagement was significantly associated with both 9th and 12th grade GPA. All of these findings corroborate prior research.

*Discipline and achievement*

The current study is unique in its examination of the specific link between early high school discipline and later high school achievement. Yet, unexpectedly, many of the statistical models in this study did not show statistically significant results. For example, neither office discipline referrals nor disposition days predicted many of the achievement outcomes. That said, the number of disposition days explained almost 6% of the variance in Science SOL scores ( $R^2\Delta = .057, p < .07$ ). Considering most of the variance was explained by the control variables (race, gender, and prior achievement;  $R^2\Delta = .50, p < .001$ ), disposition days explaining an additional 6% is noteworthy.

When a student receives a suspension, it results in loss instruction time (Scott & Barrett, 2004). Lost instruction time may have occurred for the current study's participants whereby they missed course content in science due to a suspension. And the lack of adequate instruction time may have influenced their performance on the Science SOL exam. The Science SOL exam's content covers elements that have been taught within a particular school year, whereas the Reading SOL exam includes elements taught within the year along with prior knowledge (Virginia Department of Education, 2010). Therefore, missing instructional time during a science class may be more detrimental than time lost during a reading class. Additional research would need to investigate why the loss of instruction time influenced only Science SOL scores and not Reading SOL scores.

In general, lost instructional time is a special concern for low achieving students, especially those who receive exclusionary discipline. High risk populations can lose on average six hours of instruction time per suspension day and are often suspended multiple times throughout the school year (Osher, Bear, Sprague, & Doyle, 2010). Making up for

this lost instruction time in science may be important in order to deflect the longer term negative outcomes of that missed instruction. For instance, a study with a larger sample of high risk students might have identified that students who did not pass the Science SOL exam would not have met requirements to earn a standard diploma and graduate on time.

#### *Importance of 9th grade achievement*

Research is clear that 9th grade is a "make or break" year (Allensworth & Easton 2005; Allensworth & Easton, 2007; Herlihy, 2007; Neild, Stoner-Eby & Furstenburg, 2001). More students fail 9th grade than any other grade in high school (Herlihy, 2007). Although not the central focus, this study did corroborate previous findings related to the importance of 9th grade achievement for later outcomes. The correlation of the 9th grade achievement to 12th grade achievement was large ( $r = .87, p < .01$ ). A multiple regression model showed that 9th grade achievement explained most of the variance in 12th grade achievement, consequently, factors such as discipline may have had little explanatory power (disposition days:  $R^2 \Delta = .008$  and ODR:  $R^2 \Delta = .002$ ). Additionally, this study found that both Science ( $r = .57, p < .05$ ) and Reading ( $r = .38, p < .05$ ) SOL scores in the 9th grade were highly correlated with 12th grade GPA. Moreover, 9th grade Science ( $R^2 \Delta = .50, p < .001$ ) and Reading ( $R^2 \Delta = .35, p < .001$ ) SOL scores explained a large portion of the variance of later Science and Reading SOL scores, respectively, taken later in high school. Taken together, the findings show that for this low achieving sample, achievement tended to remain constant over time. For example, in the current study 62% of the students who failed the Science SOL test in the 9th grade also failed the Science SOL test at the end of their high school career. Nationally representative samples of high

school students have shown similar trends (e.g., low achievers tend to remain low achievers throughout high school; Cappella & Weinstein, 2001).

*Relationship between gender and discipline*

This study further found that gender played a role in determining who was more likely to receive discipline referrals. Supporting prior research (Mead, 2006; Losen & Skiba, 2010; Skiba, Michael, & Nardo, 2000; Skiba & Rausch, 2006) males were more likely to have discipline referrals than females ( $r = .37, p < .05$ ). According to the federal Department of Education (2012), males, specifically Black males, are three times more likely to be disciplined in school than other students (New York Times, 2012). This may be the result of the misperception of male students as discipline problems and in need of being “managed”; therefore, teachers may unfairly focus on monitoring their behavior (Signorella, Frieze, & Hershey, 1996).

Almost 70% of the males in the current study were Black and therefore some of the reasons for the gender gap may be related to what is called the *discipline gap*. The discipline gap refers to the disproportionate discipline policies and procedures that target certain student groups at rates that supersede this group’s statistical representation in a particular school population (Gregory & Weinstein, 2008; Lewis, Butler, Bonner, & Joubert, 2010). This gap can be explained at least in part by: (a) racial discrepancies in the dispensation of disciplinary measures that result in more severe consequences for Black males; (b) the increase in zero tolerance policies; (c) interpersonal and/or cultural misunderstandings between educators and students; and/or (e) the attitudes of school personnel (Bireda, 2002; Tucker, 1999). This demonstrates that even within the current

study of a high risk population, males are at greater risk than females in terms of receiving discipline.

*Concurrent link between discipline and achievement*

The study found a more consistent relationship between discipline and achievement when measured around the same time as opposed to when measured years later in high school. Specifically, this study found a relationship between discipline and achievement when measured around the same time in high school. Specifically, there was a significant inverse relationship between discipline referrals and 9th grade Science SOL scores ( $r = -.35, p < .05$ ). Additionally higher 9th grade discipline referrals were associated with lower 9th grade GPA ( $r = -.44, p < .01$ ). The current study's findings support other studies' findings (Andrews et al., 1998; Arcia, 2006; Davis & Jordan, 1994; Gregory, Skiba, & Noguera, 2010) that discipline negatively affects a student's *current* achievement.

Perhaps there is an interrelationship between discipline and concurrent achievement more so than later achievement, which would suggest an immediate link between missing class due to exclusionary discipline and poorer achievement. In other words, the effects of discipline may be proximal. The proximal link between discipline and achievement suggests teachers and students would likely benefit from working harder to make up for lost instruction time during the very same semester in which the student received exclusionary discipline. This suggests that a plan should be in place for students who are re-entering the school after having been suspended. The plan could include extra tutoring for missed instruction time, make-up work that must be completed during the disposition day, or even a meeting between the parents and teachers to discuss

how the student can keep up with the academics. Re-entry steps are imperative in order to address the link between discipline and achievement.

*Teacher engagement and achievement*

Engagement is one of many protective factors for academically at-risk students, which has been shown to buffer students from negative academic outcomes (Fergus & Zimmerman, 2005; Spencer et al., 2006). In the current study, teacher perceived student engagement in the spring of the student's 10th grade year was predictive of 12th grade GPA ( $\beta = -.33, p < .001$ ). This means that the more engaged a student was perceived to be in the 10th grade, the higher the student's GPA is in the 12th grade. One possible reason for this phenomena is that affective and behavioral engagement in the 10th grade may be maintained in later grades and ultimately culminate in higher grades from teachers across the years. This may not be surprising given that typically grades include both academic performance and teacher perception of behavior. Another possible reason student engagement is related to later achievement is that highly engaged students tend to do better academically, which may carry over into later grades (Strambler & Weinstein, 2010).

Interestingly, teacher-perceived student engagement was not predictive of SOL scores. One possible reason is that GPA was given by the student's teachers and can be influenced by the teacher's perceptions, whereas, the SOL test has no teacher input. Thus, SOL scores may reflect a "purer" measure of academic performance, while grades combine achievement as well as perceived behavior which is susceptible to teacher bias.

Academic outcomes such as GPA are important for passing classes and accumulating credits toward graduation. Thus increasing engagement in the early grades

remains an important goal for educators. When students are excited about their learning, they are motivated to pay attention in class thus doing better in their academics.

### *Limitations*

Limitations of the study include the small sample size of students. The students were selected by the following criteria: one, the students' 10th grade teachers completed a 10th grade Spring engagement survey, which described student behavior in the classroom; and two the student had a final GPA at the beginning of the 9th and the end of the 12th grade year. Forty-one students met this criterion. A subsample of students with 9th grade and 12th grade Reading and Science SOL scores were included in the SOL sample. It is important to note that the students, who did not have post data on the achievement dependent variables either dropped out of school, transferred to a state run facility, or transferred schools. A closer examination of students not in the achievement analysis sample ( $n = 19$ ) shows they had higher disposition day rates ( $M = 10$ ,  $range = 0-51$  days) when compared to the final sample ( $M = 6$ ,  $range = 0-32$  days). Nonsignificant findings in this study may be the result of losing this high risk population during the sample selection process.

Another limitation of this study is that four predictors were in the final model to predict GPA or SOL scores. Given the small sample size of students and the large number of predictors, the analyses likely lacked statistical power to detect effects. A larger sample would have included students who were at high risk and low risk for suspension and high and low risk for academic failure. Having a larger sample comprised of both risk groups would have increased the variability of the constructs of interest and would have increased the statistical power needed to detect an effect.

This research contributed to the current literature because it is one of the few studies that examined office discipline referrals and its relationship to achievement and dropout. While research examining disposition days and achievement has been previously conducted, office discipline referrals and their relationship to later achievement and dropout have not been examined. Office discipline referrals are widely used by school personnel to evaluate student behavior and are usually the first step in exclusionary discipline practices (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004). Although a student misses less academic class time when receiving an office discipline referral than disposition days (Luiselli, Putnam, Handler, & Feinberg, 2005; Scott & Barrett, 2004), it was important to include office discipline referrals because of the sheer volume of referrals issues in a typical urban school. For instance, one study showed that over 3,000 referrals were issued in a single school year with some students receiving over 30 referrals (Gregory, Nygreen, & Moran, 2006). Given that referrals are an “everyday” experience in schooling for some students, additional research on their impact on the lives of teachers and students is needed.

#### *Future Directions*

The aforementioned limitations set the stage for future research. Future studies should more closely examine the time lost during office discipline referrals and disposition days. The current study added the referrals with disposition days for each student and did not investigate the length of lost instruction time due to the referral or disposition day, relying on prior research that claimed that on average each referral is a loss of 20 minutes of instructional time and each disposition day is a loss of 6 hours (Scott & Barrett, 2004). However, if the information is available, adding up the minutes



of time lost for each student may prove to be rich information. One could see if more time lost rather than number of office referrals predicts academic achievement and dropout. If this is the case, in order for students to keep up with their academic work, teachers can facilitate methods for making up lost instructional time.

Additional studies should track students who are the highest of risk (those who transferred to juvenile detention centers or dropped out) given that the current study could not include them in achievement analyses due to their missing data. Tracking can be done by examining the records of the state run institution for these students or following up with them to administer standardized achievement assessments. It would require cooperation and coordination across educational, psychiatric, and juvenile justice systems.

Protective factors such as engagement remain an important buffer to combat negative academic risk factors. It was found that teacher's perceived student engagement was a predictor of a student's 12th grade GPA, supporting previous literature (Archambault, Janosz, Morizot, & Pagani, 2009; Janosz, Archambault, Morizot, & Pagani, 2008; South, Haynie, & Bose, 2007). Furthermore, the relationship between engagement and discipline is worth exploring. In this study, the more engaged the teacher perceived a student to be the fewer discipline referrals the student received that same school year ( $r = -.24, p > .05$ ). Engagement has the potential to be a strong protective factor for at risk students; therefore, increasing and promoting engagement remains an important task for educators to possibly decrease negative academic outcomes.

Future studies should examine engagement from not only the teacher's point of view but also from the student's point of view. By gathering this information future

researchers can explore the relationship between student-perceived engagement and academic outcomes. Knowing whether students are engaged from their own point of view may provide practical assessment data. If for example, a student who has high office referrals and suspensions is also self-reporting that he or she is not engaged in the schooling process, then interventions can be made immediately to avoid later academic failure. Furthermore, future studies should also examine engagement at different time points within a student's academic career. A student may be engaged in the 9th grade but not the 10th grade. What might this shift mean for his or her academic performance?

*Summary and implications for school psychologists*

High school can be seen as an academic intervention in students' lives to assist them with increasing their academic skills and achievement. However, it appears that this "intervention" is not succeeding in its intended purpose. This study showed that 9th grade achievement predicted achievement later in high school. Lowest achievers tended to remain lowest achievers and the slightly higher achievers remained higher achievers over time, even within this somewhat homogenous low achieving sample. School psychologists should be aware of this trend and support teachers' educational mission through classroom consultation.

Consultation with educators can be used as a tool to teach strategies to engage students. School psychologists might help engage students in the classroom by attending to their students' individual needs, and thereby increase their school connectedness. They can help teachers provide student opportunities to participate in meaningful, valued activities and roles which involve problem solving, decision-making, goal-setting, and helping others (Allen, Pianta, Gregory, Mikami, & Lun, 2011).

A reasonable expectation for any discipline program is to reduce misbehavior over time. Students need structure and some form of discipline if the rules are broken in order to teach students the consequences of their actions. However, exclusionary discipline should not be used excessively as it may foster a punitive school climate where students and teachers are alienated from one another (Gregory & Cornell, 2009). School psychologists are essential when assisting school personnel to create a positive school climate that decreases the use of exclusionary discipline practices. The school psychologist can develop opportunities for teachers to learn classroom management skills that promote student engagement and decrease the effect of classroom misbehavior. For example, school psychologists can assist teachers to reflect on their own practice of classroom discipline in order to avoid the negative results of lost instruction time.

Another way to reduce punitive discipline practices is to work from a prevention stand-point. School psychologists can work with teachers to help them build student support into their curriculum, consult with parents to encourage parental involvement, and work with school administrators to address the consequences of a student's negative behavior that does not include missed instruction time. For example, a teacher may avoid a student cursing at him when the student gets angry if the teacher already has a positive relationship with that student. If a student does curse at the teacher, the parent can be notified and they can administer corrective action. At the administrative level, a positive school climate can be fostered in which respectful language is expected and thus the norm.

### **Conclusion**

The study attempted to offer a new understanding of the consequences of exclusionary discipline practices on achievement and dropout. The study did not find significant results that linked early discipline to later achievement, except in relation to student performance on a standardized science exam. This finding held when accounting for performance in a science exam in the early grades of high school. Moreover, the study found significant results linking discipline and concurrent achievement. The study further found significant gender differences in the rate of discipline referrals (e.g., males were more frequently referred than females). Finally, the study did not support the hypothesis that 10th grade student engagement would buffer the negative effects of discipline on achievement, but it did find that engagement predicted 12<sup>th</sup> grade GPA.

This study is important for 9th grade students who have a history of low achievement early in high school. These students were at greater risk for negative academic outcomes (i.e., Science SOL scores) when exposed to a number of exclusionary discipline practices. Moreover, the study demonstrated the tremendous stability of low achieving students' trajectories across high school. There is a need for targeted interventions aimed at 9th grade at risk populations. These targeted interventions can include academic support through tutoring, increased parental involvement in a student's schooling or preventative measures that reduce the need for exclusionary discipline practices.

Being that achievement is relatively stable over time, identifying effective interventions are imperative. School administrators might consider systematic ways to address negative behavior that does not include missed instruction time, such as lunch or

after school detention. Schools may need to create policies that deter negative student behavior which focus on engaging and motivating students in their early years of school. Regardless of the negative trajectory a student may be on, educators should realize that it is never too late to save a student. A no holds bar approach, starting with decreasing exclusionary discipline practices, may be needed to divert a student from following a path filled with negative outcomes.

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## Appendix A

### Literature review on school dropout, achievement, and protective factors

#### **School Dropout in the United States**

Across the United States about 7,200 students (1.3 million a year) dropout of school each school day (Alliance for Excellent Education, 2010)<sup>2</sup>. Fifty years ago, a statistic this staggering may have gone unnoticed; however the United States has entered an era where a living wage can no longer be earned without a high school diploma. The high school diploma is the minimum requirement for success in the workplace and there is growing recognition that too few students obtain this minimum standard (Neild & Balfanz, 2006). There are many influences that contribute to a student dropping out (e.g., individual and societal characteristics) that continue to be closely examined in the literature. This section examines a handful of key aspects of dropout: prevalence, individual and societal ramifications, and racial disparities. Understanding these key issues can assist with addressing and ameliorating the issue of dropout.

#### **Prevalence of Dropout**

There is no generally-accepted definition of a dropout. Some studies use school enrollment figures; others rely on U.S. census population surveys. Many researchers include GED recipients while others do not. Some keep records of transfer students; many do not. For decades, schools and districts published misleading or inaccurate graduation rates due to a lack of standardization of how dropout is defined (Alliance for Excellent Education, 2010). In fact, there is considerable agreement that school and district dropout counts tend to be underreported on average. Students who dropout of

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<sup>2</sup> References for the appendix are included in the Reference section of the proposal

school are often part of highly mobile populations and their enrollment status may be genuinely difficult to ascertain (Swanson, 2004). Although dropout can be misreported and defined differently from one study to the next, the high prevalence of high school dropout continues to be a problem.

Status dropout rate is defined by the National Center for Education Statistics (NCES, 2010) as the percentage of 16- through 24-year-olds who are not enrolled in school and have not earned a high school credential (e.g., General Education Development (GED) certificate). According to NCES the status dropout rate has declined from 14% in 1980 to 8% in 2008 with the greatest reduction happening between the years 2000 and 2008 (from 11% to 8%). Within the past year, nationally only about 68.8% of students who start high school graduate four years later. Although the overall national dropout rate is of concern, an examination of the variable rates at the state, district, and school levels raise even deeper concerns. From 1990 to 2000, high school completion rates declined in all but seven states; for example, New Jersey graduates 83% of its students a year while Nevada graduates only 41.8% of its students (Lawrence & Roy 2007). According to the United States Department of Education (DOE; 2010) Wisconsin can be considered a national leader in regard to high school graduation rates (graduating 89% of freshmen in four years); however the state also has one of the worst racial disparities in those rates as well. These examples show the need to examine graduation rates carefully with respects to individual student characteristics.

School dropout can occur during many stages along a student's academic path, yet more and more research points to pivotal points in a student's academic career as a gateway to dropout. Progressively, across the United States, the rates of students



dropping out between 9th- and 10th grades have increased over the years (Barton, 2005). Apparently, many students who begin 9th-grade find that their academic skills are insufficient for high school-level work. Up to 40% of 9th-grade students in cities with the highest dropout rates repeat 9th-grade; only 10 to 15% of those repeaters go on to graduate (Balfanz & Legters, 2006).

Despite the decrease in overall dropout rates nationally, school dropout remains an enormous problem in the United States. President Barak Obama claimed in a March, 2010 press conference that the dropout rate is a crisis that the nation cannot afford to accept or ignore. Researchers continue to grapple with understanding the mechanisms that continue to allow this crisis to exist. Understandably, each path a student follows that leads to eventual dropout is unique, yet there are many common characteristics that can positively predict a potential school dropout.

### **Predictors of Dropout**

Predictors that lead to high school dropout can encompass individual characteristics (achievement, race, gender), family characteristics (maternal education, socioeconomic status), and societal characteristics (value placed on education). In a study that aimed to identify the most powerful predictors of school dropout, Janosz, LeBlanc, Boulerice, and Tremblay (2007) found that school, family, behavioral, social, and personality variables all predicted school dropout; however school experience variables (i.e., grade retention, school achievement, school commitment) were the best predictors for potential dropouts (Janosz et al., 2007).

Jimerson, Egeland, Sroufe, and Carlson (2000) utilized data from a 19-year longitudinal study of “at-risk” children in an urban school district to explore multiple

predictors of high school dropouts across development. The results of their study demonstrated that multiple factors (early home environment, quality of early care giving, socioeconomic status, IQ, behavior problems, academic achievement, peer relations, and parent involvement) predict high school dropout at age 19 (Jimerson et al. 2000). Results such as these, point to the phenomena of dropout being a dynamic developmental process that can begin before a student enters elementary school.

In the United States, cities with high rates of poverty have dropout rates that approach 50% (Alexander, Entwisle, & Kabbani, 2001). In the past, low social economic status (SES) was one of the most frequently cited predictors of school dropout (Bradby, Owings, & Quinn, 1992; Gruskin, Campbell, & Paulu, 1987; McMillen & Kaufman, 1997; Weis, Farrar, & Petrie, 1989). However, for students growing up in poverty, working while in high school may be the stronger contributor to high school dropout rather than simply living in poverty. A student living in poverty may work to contribute earnings for family support (Entwisle, Alexander, & Olson, 2000; Johnson & Lino, 2000). However, certain kinds of employment and long hours of work can predict dropout (McNeal, 1997). Ironically, these students' high school jobs may be related to the full-time jobs they will eventually hold; yet the wages will not be enough to sustain them in their own households. That said, it is important to note that the ways in which high school employment links to dropout among disadvantaged students are not well understood (Warren, 2000).

Individual achievement appears to also be related to school dropout. The six million high school students who comprise the lowest 25% of achievement are 20 times more likely to dropout of high school than students in the top-performing 25% (NCES,

2010). For example, high school students whose achievement tests were in the top 25% of their senior class had a dropout rate of 1%. Whereas, 20% of those high school students whose achievement test scores were in the bottom 25% of their senior class dropped out of school (Ibid.).

A more recently emerging predictor of high school dropout is academic success or failure in the 9th-grade. Academic success in 9th-grade is highly predictive of eventual graduation (Allensworth & Easton 2007). 9th graders have the lowest GPA, the most missed classes, the majority of failing grades, and more misbehavior referrals than any other high school grade level (McCallumore & Sparapani, 2010). The 9th-grade also has the highest enrollment rate in high schools, mainly due to the fact that approximately 22% of students repeat 9th-grade classes (NCES, 2010). According to Allensworth et al. (2007), academic failure in 9th-grade is even more predictive of high school dropout than demographic characteristics or prior academic achievement. Many students are not given the extra support they need to make a successful transition to high school and are therefore lost in the 9th-grade.

Every nine seconds in America a student becomes a dropout (Lehr, Johnson, Bremer, & Cosio, 2004). It is evident that many factors contribute to the dropout crisis. In addition to factors that contribute to dropout, dropout status varies by age, ethnicity, and gender as well. The following section will examine racial and gender differences as each relates to dropout.

### **Racial Disparities**

The effects of the graduation crisis in the United States fall disproportionately on the nation's most vulnerable youth and communities. A majority of dropouts are

members of historically disadvantaged minority and other educationally underserved groups. The proportion of students who do not graduate from high school is dramatically higher for the two largest minority groups, Hispanics and African-Americans. African American and Hispanic students are more likely to attend school in large, urban districts and come disproportionately from communities challenged by severe poverty and economic hardship. For the purposes of this review, Black students in relation to graduation rates will be more closely examined.

A recent examination of the U.S. 2000 census data revealed that nationally Blacks' graduation rates are still substantially below the rates for Whites (Heckman & LaFontaine, 2008). There is also no evidence of convergence in minority-majority graduation rates for the past 35 years, (Ibid.). Ensminger and Slusarcick (1992) conducted a 12-year longitudinal study examining the developmental paths toward high school graduation for a cohort of 1,242 Black first graders from an urban community who were at high risk of dropping out of high school. Results indicated that out of the remaining 917 students for whom data was available, 51% (466) of the students failed to graduate in 12 years. Additionally, the results yielded gender differences in the graduation rates between students: 57% of the males and 45% of the females dropped out of school (Ensminger & Slusarcick 1992). It is worth noting that nationally, males graduate from high school at a rate 8% lower than female students (Swanson, 2003).

### **Individual and Societal Effects**

Individual and societal effects of high school dropout can be devastating. Dropouts suffer from reduced earnings and lost opportunities; there are also significant social and economic costs to the rest of the nation. Over the course of his or her lifetime,

a high school dropout earns, on average, about \$260,000 less than a high school graduate (Rouse, 2005). Those who dropout of school early are less likely than later dropouts to receive a GED (Murnane, Willet, & Tyler, 2000). Thus, the social costs for early dropouts are higher than for later dropouts.

Studies have found that persons with little education and low skill levels are more likely to live in poverty and to receive government assistance (Boisjoly, Harris, & Duncan, 1998; Laird, Kienzl, DeBell, & Chapman, 2007; NCES, 2007). Dropouts from the Class of 2010 alone will cost the nation more than \$337 billion in lost wages over the course of their lifetimes (Alliance for Excellence in Education, 2008). High school dropouts are likely to stay on public assistance longer than those with at least a high school degree (Moore, Glei, Driscoll, Zaslow, & Redd, 2002).

The earning power of dropouts has been in almost continuous decline. In 1971, male dropouts earned \$35,087 (in 2002 dollars), but this fell 35% to \$23,903 in 2002. Earnings for female dropouts fell from \$19,888 to \$17,114 (Barton, 2005). According to a report by the Alliance for Excellent Education (2010) if high schools were to raise the graduation rates of Hispanic, African American, and Native American students to the levels of White students by 2020, the potential increase in personal income would add more than \$310 billion to the U.S. economy. Increasing the graduation and college matriculation rates of male students in the United States by just 5% could lead to combined savings and revenue of almost \$8 billion each year by reducing crime-related costs (Alliance for Excellent Education, 2010).

Three-quarters of state prison inmates are dropouts, as are 59% of federal inmates (Harlow, 2003). Tragically, African American men are disproportionately incarcerated.

Of all African American male dropouts in their early 30's, 52% have been imprisoned (Western, Schiraldi, & Zienberg, 2004). According to Pettit and Western (2004) increasing the high school completion rate by 1% for all men ages 20-60 would save the United States \$1.4 billion annually in reduced costs associated with crime.

### **Dropout Summary**

The matter of dropout has never been more important. There are serious consequences for leaving school without a diploma, specifically for Black students and particularly Black male students. After decades of decline in job opportunities in the area of manufacturing, and the rise of lower-paid jobs in service industries, job opportunities have become increasingly scarce for people starting their adulthood without a high school diploma. While there are many predictors and negative outcomes associated with school dropout, a student's achievement is one of the most closely examined and researched areas in literature. Researchers have demonstrated clear links between these two phenomena. Therefore, the following section will examine low achievement as another negative school outcome, which deserves serious attention.

### **Achievement in the United States**

From an ecological perspective, many influences can impact whether a student excels or lags in their achievement. A vast majority of research on academic achievement has focused on a variety of influences: school factors (Esposito, 1999), teaching method (Riasat, Akhter, & Khan, 2010), child factors such as self regulation (Graziano, Reavis, Keane, & Calkins, 2007), parent factors such as parent involvement and support (Gadeyne, Ghesquiere, & Onghena, 2004; Hong & Ho, 2005; McWayne, Hampton, Fantuzzo, Cohen, & Sekino, 2004; Morrison, Rimm-Kauffman, & Pianta, 2003), and

family factors such as socioeconomic status (Crosnoe & Huston, 2007). The following section will review the literature as it pertains to patterns in achievement, influences on achievement, and racial and gender disparities associated with achievement.

### **Federal Monitoring of Student Achievement**

Monitoring and increasing achievement in the United States has been a focus of the federal government since the late 1800's. The federal government's role increased, however, under President Johnson's War on Poverty in the 1960's (Armstrong & Zúñiga, 2006). Congress passed Elementary and Secondary Education Act in 1965, which became the largest single act for K-12 education by the federal government ever instituted in the United States (ibid.). This act has provided billions of dollars to poor public schools and communities around the country. As the government poured money into the school systems it became increasingly important to monitor the effectiveness of the government's interventions. In 1969, the National Assessment of Educational Progress (NAEP), also known as "the Nation's Report Card," was first established (NCES, 2010). NAEP is the only nationally representative, ongoing assessment of academic achievement in the United States. Therefore, statistics from this test are heavily relied upon in this review. NAEP tests students in grades four, eight and 12 (i.e., ages 9, 13, and 17) in reading, mathematics, and science achievement (NCES, 2010).

In 2001, the president of the United States signed the No Child Left Behind Act (NCLB). NCLB's many provisions include annual testing of students in reading and mathematics and starting in 2007, testing in science as well (United States Department of Education, 2010). The NCLB Act of 2001 substantially increased the testing requirements for states and set demanding accountability standards for schools, districts,

and states. Due to its passage, the testing culture of American public education has increased. States have implemented testing to verify their students are meeting standards set for core subjects. The purpose of standardized tests is to compare the abilities and skills of students from different schools and backgrounds. While the federal government continues to measure achievement in the country, social scientists examine factors that influence the achievement of America's students.

Examining achievement in the United States is not a new phenomenon. Tracking achievement has led to federal laws aimed to increase the achievement of students. While tracking is important, even more important are the influences that contribute to the achievement trends in the United States. A closer examination of the influences on achievement is warranted to understand achievement gaps between the United States and other countries, between racial and ethnic groups, and between genders.

### **Influences on Academic Achievement**

A student's academic achievement is influenced by many factors (e.g., family, attentional processes, emotion regulation, quality of teaching). Whereas understanding the many influences on students' academic achievement is important, given the scope of this review a select handful of influences will be closely examined. The following factors: socioeconomic status, parental involvement, school resources (i.e., school spending), and student social skills were chosen for closer examination because of the plethora of literature present on the topics. Furthermore, a particular focus on school discipline practices and its relationship to achievement outcomes will also be examined.



*Family characteristics.* Since the early 1960's social scientists have recognized the important role SES has on a child's academic achievement (Coleman et al.,1966). In the 1990's, research continued to support the notion that there are enduring effects of SES on school achievement even while controlling for a variety of other factors (e.g., race, ethnicity, and family background; Caldas,1993; Rumberger & Willms, 1992). Despite the accumulated evidence on the role of SES on achievement, a handful of studies have shown SES may be less central than once thought. Drawing from the 1990, 1996, and 2000 National Assessment of Educational Progress, Lubienski (2002) found evidence that students of both low and high SES are being left behind in terms of achievement when compared to other industrialized nations (e.g., China, England, Japan, Russian Federation; TIMSS, 2007). Furthermore, a surprising finding from a study conducted by Reynolds, Stewart, MacDonald, Sisco (2006) reviewing data from the National Education Longitudinal Study of 1988 was that there was a non-significant effect of family income on student's achievement. Therefore, there may be factors other than how much a family earns that influences student achievement.

Parental involvement has been shown to influence a student's achievement. Parental involvement in a child's academic career fosters positive attitudes toward school, reduces absenteeism, improves homework habits, and enhances academic achievement (Astora & McLanahan, 1991). Researchers originally believed that parents of higher SES were more involved in their child's education than parents from lower SES (Fehrman, Keith, & Reimers, 1987). However, what researchers have found is that it is the type of parental involvement that matters the most and not just increased involvement.

Sui-Chu and Willms (1996) identified four dimensions of parental involvement (Home Discussion, School Communication, Home Supervision, and School Participation) and assessed the relationship of each dimension with academic achievement. Using a sample of 24,599 participants (eighth-grade students, their parents and teachers) from the National Education Longitudinal Study (1988) the researchers found that the dimension with the most significant impact on a student's achievement was Home Discussion (Sui-Chu & Willms, 1996). Discussing school activities and helping children with their schooling had the strongest relationship to academic achievement (Ibid.). In a more recent study examining student perceived parental involvement and its relationship to academic outcomes, Chen and Gregory (2010) found that students whose parents had higher expectations about grades and attainment had higher GPAs. The results of these two studies suggest that certain types of parental involvement (not just the presence of parental involvement) may be related to a student's achievement.

*Characteristics of the school.* Related to SES, there have been debates regarding whether educational spending influences a student's achievement. In the United States the amount of wealth in a school district shapes the quality of its schools because public schools are primarily funded through local property taxes (Kozol, 1991). The wealthiest districts would spend as much as three times more per-pupil than the most economically disadvantaged districts (Condron & Roscigno, 2003). However, increasingly state courts have recognized this phenomenon and have ruled that funding public schools primarily on local property taxes are unconstitutional (Burke, 1999; Goertz & Edwards, 1999; Slavin, 1999). Noteworthy, is that there is research supporting the idea that the amount of

spending matters in terms of promoting achievement (Elliott, 1998; Greenwald & Hedges, 1996; Wenglinsky, 1998) and, conversely, some research suggests that the amount of spending per student matters very little (Hanushek, 2003; Krueger, 2003). What may prove to be most important is the allocation of the funding (e.g., hiring quality teachers or maintenance of dilapidated school buildings; Condrón & Roscigno, 2003).

While it is difficult to identify precisely one factor that influences a student academic achievement, there is a growing interest in the idea that school discipline practices influence academic achievement. The consequences of exclusionary school discipline (discipline that takes the child away from classroom instruction) can be academically detrimental (Andrews et al., 1998; Arcia, 2006; Davis & Jordan, 1994; Gregory, Skiba, & Noguera, 2010).

Arcia (2006) examined the effects of suspension on academic achievement using data from three-year longitudinal study conducted in a large urban school district. The pre- and Post-suspension reading achievement scores of suspended students were compared to a comparison group with no suspensions. Results of this study show marked associations between suspensions and delays in reading achievement. After three years of tracking, students receiving no suspensions had a mean score of 1,752 on their reading achievement tests while students who were suspended between one and 10 days, 11 and 20 days, and 21 or more days had a reading achievement means of 1,625, 1,560, and 1,488 respectively (Arcia, 2006). Apparently, the more days a student spent suspended from school, the less the student gained in reading achievement over the three years. Suspension, which typically results in missed instructional time, could exacerbate a cycle

of academic failure, because of the loss of instructional time and disengagement from the classroom.

Gregory et al. (2010) synthesized research on racial and ethnic patterns of school discipline and its relationship to achievement and asserts that the discipline and achievement gaps are interrelated. On average a student may miss anywhere from one class period to 10 or more schools days depending on the violation, which results in academic instructional time loss (Gregory et al., 2010). While conducting an evaluation of an alternative discipline program, Andrews, Taylor, Martin, Slate (1998) documented the presence of a positive relationship between attendance and academic success, with the number of student absences having a statistically significant effect on academic success regardless of the student's educational level. Being that instructional time loss is often one of the consequences of disciplinary action, the detrimental effect discipline may have on achievement is not surprising.

### **Race and Gender Disparities**

Despite encouraging statistics that the overall achievement for students is on the rise, there is no denying that, for the majority of African American, Latino and Native American youth in the United States, the educational system is not fulfilling its promise to educate all equally (American Youth Policy Forum, 2001). In fact, when data is disaggregated by race or ethnicity, disparities appear. A closer look at achievement specifically for minority students is warranted. For the purposes of this review considerable attention will be placed on Black students.

Black students trail significantly behind their White and Asian American counterparts in academic achievement, including high school completion (National

Center for Education Statistics, 2010). According to the National Center for Education Statistics (2010), the achievement gap can be defined as one group of students outperforming another group and the difference in the average scores between the two groups is statistically significant (National Assessment of Educational Progress, 2010). The achievement gap begins early in a student's academic career. Assessments of kindergarteners show that African American and Latino children are over-represented in the lowest quartiles of achievement tests (USDOE, 2000). Minority (excluding Asian American) students have scored consistently lower than Whites on all National Assessment of Educational Progress (NAEP) tests for the past 30 years (American Youth Policy Forum, 2001).

The achievement gap between Black and White students has persisted; however for some years it appeared as though Black students were increasing their overall achievement. The NAEP (2010) report showed inspiring gains by Black school children in the 1970s and early 1980s and a reduction in the achievement gap; yet by the late 1980s, that gap had stopped narrowing. Today, throughout the nation's high schools the achievement gap is distressingly wide, with Black 12th grade students performing at the same level as White students in 8th grade (Harbowski, 2004).

The achievement gap between White and minority students has not narrowed in recent years, despite the focus of tracking subgroup's achievement through the NCLB Act. Nationally, between 2004 and 2009, achievement scores for young minority students increased, but so did those of White students, leaving the achievement gap persistently wide. At the state level, all 46 states that were surveyed by NCES in 2007 contained statistically significant achievement gaps starting in the fourth-grade in mathematics and

in reading (NCES, 2010). Although the NCLB Act has been hailed by many groups as a major step toward narrowing this achievement gap for poor and minority populations, its actual implementation has revealed a variety of difficulties (see for example, Archer, 2005; Karp, 2003; Klein, 2006; Lee, 2006). Thernstrom and Thernstrom (2004), co-authors of *No Excuses: Closing the Racial Gap in Learning* highlighted the implications of the achievement gap among American school children and concluded that the federal government's NCLB Act falls far short as a remedy for narrowing the gap.

In addition to racial differences, gender differences in achievement also exist. Data show that males and females in the United States demonstrate a gap in achievement, which can be seen at all ages. The older students become the wider achievement gap becomes. In 2005, the average grade point average (GPA) of a high school male was 2.86, while that of a female student was 3.09 (The Nation's Report Card, 2005). Both of these GPAs had risen since 1990; however the gap between males and females has widened since 1990. Female graduates have higher GPAs than males in every core subject (mathematics, science, English, and social studies; The Nation's Report Card, 2005).

Explanations for racial and gender disparities in the achievement gap vary from cultural values to socio-economic status to the re-segregation of the nation's school systems. While there is no one explanation for the presence of racial and gender gaps in achievement, it is worth noting that one contributor may be the differences between racial and gender groups within school discipline practices. African American children (specifically males) may be at a higher risk for academic failure due to their disproportionate rate of school discipline problems compared to their peers (Sheely &

Bratton, 2010). Skiba and Olsen (2010) found that Black male students have the highest suspension rates followed by White males, Black females, and White females. If instructional time loss is connect to achievement, it appears possible that discipline may have an effect on achievement differences between the genders. Further research is warranted to better understand the relationships between gender and racial differences in achievement and the association with achievement.

### **Summary**

The effects of low academic achievement can be devastating. Compared to high academic achievers, low academic achievers are more likely to be rejected by peers (Lessard et al., 2007), to be suspended (APA Zero Tolerance Report, 2008), and to eventually dropout of school (Battin-Pearson et al., 2000; Lessard et al., 2007). Low academic achievers are also at greater risk of grade retention which has also been linked to eventual dropout (NCES, 2001). Students in the United States are behind students in other countries in math and science scores (NCES, 2010). Furthermore, according to the National Commission on Children (2010) less than half of 17-year-olds have the basic skills necessary for employment or continuing education. Understanding the factors that influence achievement and the effects of low academic achievement in students remains an important issue, especially for students who are at greater risk (e.g., African Americans, and males) of falling below national and international standards.

### **Academic Protective Factors**

Students who succeed despite less than optimal conditions may have protective factors in their lives that compensate for the risks present in their lives (Gutman, Sameroff, & Eccles, 2002). Protective factors are conceptualized in many ways. They can

be any influential factor that modifies, ameliorates, or alters a person's reactions to risks (environmental or individual) that predisposes him or her to negative outcomes (Rutter, 1985). Various researchers have defined protective factors as resources that aid individuals to cope with challenges and factors that increase the likelihood of a positive outcome, while reducing the likelihood of a negative outcome (Fergus & Zimmerman, 2005; Spencer et al., 2006). Garmezy (1993) reviewed literature on resilience and identified three broad sets of variables that operate universally as protective factors: (a) psychological factors (e.g., perceived academic competence), (b) characteristics of the family context (e.g., involved parenting), and (c) the availability of external support systems (e.g., a supportive teacher or an institutional structure such as a caring school environment). For the purposes of this review individual protective factors will be explored with a particular emphasis on the protective factor of engagement.

Protective factors are important for all students, however particularly important to at-risk populations. Protective factors are especially vital in Black adolescents who are at greater risk of academic failures and dropout. Individual factors such as academic self efficacy, self-esteem and problem solving skills have been linked to supporting academic achievement in Black adolescents (Ceballo, McLoyd, & Toyokawa, 2004; Lord, Eccles, & McCarthy, 1994; Townsend & Belgrave, 2000). Family factors, such as parental involvement, parent child relations, and qualities of the home environment, also have been predictors for academic achievement, specifically for African American students (Burchinal, Roberts, & Zeisel, 2008). Additionally school factors such as school climate, relationship with teachers and learning contexts have been related to academic achievement (Ibid.). These factors have also been examined as protective factors for



academically at-risk students and studies show that these dimensions can be powerful buffers (Gregory & Rimm-Kaufman, 2008; Hill, Ramirez, & Dumka, 2003; Kim & Morningstar, 2003; Shearin, 2002).

Engagement is a protective factor frequently mentioned in the literature and is commonly defined as a collection of discrete behaviors directed toward academic effort, such as asking and answering questions, paying attention, and being prepared for class. School engagement can be conceptualized on three dimensions: behavioral, (e.g., compliance, participation in school activities), affective (e.g., socio-emotional interest in school), and cognitive (e.g., learning motivation and uses of self-regulation strategies). Strambler and Weinstein (2010) conducted a study examining psychological disengagement (i.e., valuing academics, devaluing academics, and alternative identification) and teacher-rated behavioral engagement as predictors of achievement in first- through fifth-grades African American and Latino students in an urban elementary school. One finding of this study was that devaluing academics was found to be the only significant predictor of lowered math and language arts achievement. An implication is that psychological engagement (placing value on academics) may bolster positive achievement outcomes for minority students.

The extent a student is engaged in school can buffer the negative effects of risk factors. In a two-year longitudinal study, South, Haynie, and Bose (2007), found that high school students who are engaged and attached to school are less likely to dropout of school during the following year. Janosz, Archambault, Morizot, & Pagani (2008) explored the developmental patterns of school engagement and its relationship to student dropout and found that students with high levels of engagement had a reduced likelihood

of dropout. These findings point to engagement being a possible buffer to dropping out of school.

Protective factors remain an important buffer to combat negative academic risk factors (e.g., low achievement). Engagement is one of many protective factors for academically at-risk students, which has been shown to buffer students from negative academic outcomes, (e.g., high school dropout). Increasing and promoting protective factors remain an important task for educators to possibly decrease negative academic outcomes.

### **Summary**

Low achievement in America's students remains an important issue considering the negative effects that stem from the problem (poor literacy, performing poorly on nationally standardized tests, failure to earn a high school diploma). Specifically, low achievement is linked to eventual high school dropout. Besides achievement, dropping out of high school is associated with a student's race and gender. Protective factors within the individual student and within the student's environment play an important role to shield students from negative outcomes associated with academic and school problems. More and more research has begun focusing on the effect school discipline has on students. Understanding the relationship between exclusionary school discipline, achievement and dropout is imperative considering the rates in which exclusionary school discipline is used in the United States (3,053,449 student suspensions and 97,177 expulsions in the year 2000; US Department of Education, 2000). Furthermore, it remains necessary to identify which protective factors defend against the negative outcomes that result from exclusionary school discipline.

