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## ABSTRACT

This study investigated the impact of behavioral and affective factors on 688 African American high school students' academic performance, examining the relationship between school engagement, educational expectations, self-esteem, and school achievement; noting differences between males and females; and discussing whether behavioral and affective factors made a difference on school performance above and beyond such background factors as grade, socioeconomic status, and cognitive function. Information came from the National Longitudinal Study of Adolescent Health (ADD Health). Indexes were developed for school performance, school engagement, self-esteem, and future education expectations. The dependent variable was academic achievement in four subjects. Overall, behavioral components of school engagement predicted school achievement better than the affective component. Students who actively participated and paid attention did well academically. Future educational expectations significantly impacted school performance. Self-esteem did not influence achievement, though it was linked to behavioral components of school engagement and future education expectations. Girls did better than boys academically, participated in school-related activities at a higher rate, and attended school more regularly. Boys had higher self-esteem. (Contains 38 references.) (SM)

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Running head: African American Adolescents

**Examining School Engagement of African American Adolescents**

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### **Examining School Engagement of African American Adolescents**

Research about African American adolescents' school achievement has failed to address variation within the African American community by conducting race-comparative studies in which African Americans as a group are compared to Whites as a group, or by conducting studies only with low-income African American students (Asemen, 1989; Hill, 1997). Comparative studies, mostly using national survey data, contrast racial groups across a variety of school outcomes with the assumptions that there is equal educational opportunity and a shared ecological context between these racial groups. Even when socioeconomic status (SES) was controlled in these comparisons, there still remained a difference in achievement (McCoy, 1999; Tatum, 1987). While national surveys tell us how African American students are performing in school compared to their White peers, we know little about the diversity of academic experiences among African American students.

Yet, when research focuses on African American students, it usually generalizes the experiences of low-income students to the whole ethnic group by depicting the typical African American student as educationally at-risk. (Graham, 1992). This "bias in sampling" contributes to the negative depiction of African American students overall, by failing to recognize many within group factors, such as gender, SES and neighborhood differences (Graham, 1992; Hill, 1997). Research on African American students, nevertheless, has successfully illustrated the impact of contextual factors such as SES, family structure, parental involvement and school/classroom related factors on school achievement. Research on individual factors, however, has largely focused on student's cognitive functioning such as IQ, cognitive skills, and values and beliefs about education. In order to better understand school achievement among African American adolescents, we must examine not only contextual factors or cognitive functioning, but also the behaviors and emotions

that differentiate students who are more successful in school from those who are less so (Finn, 1993).

Thus, the present study examines how various individual-psychological factors contribute to the school achievement of African American adolescent girls and boys. More specifically, this study explored the impact of school engagement, future educational expectations, and self-esteem on school achievement by accounting for the effects of family background, grade level and cognitive functioning of students. Furthermore, we analyzed gender differences in various aspects of schooling experience and developed two models in order to better understand whether there are differences in the ways African American girls and boys experience schooling.

School engagement:

Steele (1992) argued that African Americans underachieve even when they have ample resources and are well prepared in terms of knowledge and skills. “Something else has to be involved” stated Steele, “[T]hat something else could be of just modest importance--a barrier that simply adds its effect to that of other disadvantages--or it could be pivotal, such that were it corrected, other disadvantages would lose their effect” (p.70). According to Steele, the missing part is the process of engaging with school. Several recent investigations (e.g., Fine, 1991; Finn, 1989; Finn & Rock, 1997; Voekl, 1997) provide support for Steele's argument that school engagement as described by behavioral and affective identification with school, significantly contributes to academic achievement.

Finn (1989) proposed a model of student engagement with two central dimensions, participation and identification. Participation, the behavioral dimension of school engagement, refers to attending class on time, participating in class, initiating discussions with teachers, out-of-class activities and responding to teacher-initiated directions and questions. The other dimension,

identification, refers to affective aspects of school engagement, such as the student's feelings of belonging in the school setting and identifying with others in school. It is important for students to both behaviorally engage with and value school and to feel a sense of belonging in school. Finn's research on school engagement (Finn, 1993; Finn & Rock, 1997) found that those students who were more engaged in school were more likely to perform well even though they were considered “at-risk” for school failure by way of their SES and racial background.

Michelle Fine's (1991) research on adolescents who dropped out of school also found support for the significance of identification with school. Her qualitative study showed that one of the primary reasons for dropping out was that the adolescents simply did not emotionally engage with school. Likewise, Voelkl's (1996) research, illustrated the relevance of affective school engagement, that is, students “sense of belonging” in school is directly related to their academic success. Failure to identify with school had much to do with feeling that no one in school cared for them; in effect, students in Voelkl's study (1996) did not feel that they belonged or that others in the school were concerned for their well-being. Voelkl (1996) study also found a significant gender difference that African American girls have stronger identification with school than their African American male and White counterparts.

### Future Education Expectations

Generally, adolescents are concerned about their future occupations and education. Recent research provides evidence for the association between future educational expectations and current academic performance (Israelashvili, 1997; Nurmi, 1989, 1991; Voekl, 1993). In Graham's (1994) review of literature, she found that African American students as a group have high educational expectations. Walker's (1987) study on students' perceptions of future opportunities also found that African American students who had more positive perceptions of future opportunities were more

likely to have high educational and occupational aspirations. The fact that student's educational aspirations increased when students perceived more future opportunities suggests that school engagement will increase as their perceptions of future opportunities increases.

Although African American students espouse positive attitudes about their educational expectations in the abstract, it has been found that they are less likely than their White peers to believe that performing well in school will provide them with future opportunities such as attending college (Mickelson, 1990). Mickelson (1990) called this phenomenon the "achievement-attitude paradox," and showed that while many African American students value education highly, they often do not perceive education as offering them concrete help in achieving future goals. This suggests that school achievement may be connected to pessimism about future educational opportunities. Like the gender difference found in the school engagement literature, research shows that girls on average are more likely to aspire to pursue a four-year college education, where males tend to aspire to pursue a 2-year degree (Walker & Sutherland, 1993).

In the present study, we use "educational expectations" as a measure of a student's perceptions about their future opportunities. By looking at the link between African American adolescents' school expectations and school achievement, we hope to provide more insight into how school performance and future goals are related for this particular group.

### Self-esteem

Self-esteem refers to the value one places on one's own attributes and it is generally considered one of the most significant developmental accomplishments of adolescence (Coopersmith, 1967; Harter, 1999). It is viewed as a way of monitoring healthy identity formation, in general, because it is believed that adolescents with high self-esteem function effectively in a variety of situations including the school context. Although global and domain-specific self-esteem

have been shown to influence a variety of developmental outcomes, there is a debate about the importance of global self-esteem to adolescents' academic performance. Some studies indicate that academically competent students have greater self-esteem than students who do not perform as well academically (Holly, 1987; Hirsch, & Rapkin, 1987; Keltikangas-Jaervinen, 1992; Walz, & Bleuer, 1992), while others show that no meaningful relationship exists between global self-esteem and academic performance (Gaskin-Butler, & Tucker, 1995; Mboya, 1989). Thus, our study will examine the possible relationship self-esteem may have with school performance among this population.

In light of existing research, the present study will investigate the impact of behavioral, and affective factors on the academic performance of African American adolescents. More specifically, this study asks the following questions: (1) what is the relationship between school engagement, educational expectations, self-esteem, and school achievement? (2) Is there a significant difference among male and female African American adolescents' schooling experiences? and (3) Do behavioral and affective factors, such as school engagement, educational expectations, and self-esteem make any significant impact on school performance above and beyond students' background factors such as grade, SES, and cognitive functioning?

### **Method**

This study examined the public use data set of the National Longitudinal Study of Adolescent Health data (ADD Health). ADD Health is a national longitudinal study of adolescent health with a sample of 80 high schools and 52 middle schools from the U.S. (Bearman, Jones, & Udry, 1997). The participants were representative of the U.S. student population with respect to region of country, urbanicity, school type, race, and school size. The ADD Health study also includes various special oversamples including the "high education Black" sample that represents

high SES African Americans in the US. Three questionnaires were used for data collection: an in-home questionnaire, an in-school questionnaire, and a parent questionnaire. For the present analysis, we used Wave 1 data from the in-home questionnaire and the parent questionnaire. Detailed information regarding the methodology for the ADD Health data set is provided elsewhere (see Bearman, et al., 1997).

### **Participants**

For the present study, we examined 688 self-identified African American adolescents from the public use data set who were in high school (grades 9 to 12) at the time of the interview and who completed the in-home questionnaire. Although there were 88 students from the black high SES oversample in this group, participants represent the U.S. student population, not the high SES African Americans. Of the 687, 322 were male and 365 were females. The age ranged from 13 to 19, with a mean of 15.82 (SD=1.32). In-home interviews were conducted between April and December 1995. All respondents were given the same interview, which took from one to two hours to complete depending on the respondent's age and experiences. The majority of interviews were conducted in the respondents' homes.

### **Measures**

Using the items available in the ADD Health Data set, we developed indexes for school performance, school engagement, self-esteem, and future education expectations. The dependent variable for this study is adolescent's school achievement as reported by students in four subject areas: English, History, Science, and Math. The range for grade scores was 1 – 4 with 1 representing "A" and 4 representing "D or lower". The items were reversed so that higher scores indicate higher academic performance. The mean of subject grades was reported as a score of

school achievement. Brief descriptions of all index items are presented in Table 1 and further details are provided below.

### School Engagement

The school engagement index consisted of 13 items that measured both affective (Voelkl, 1996) (e.g., feel a part of your school, teachers treat students fairly) and behavioral components (Finn, 1993) (e.g., received out of school suspension, have trouble paying attention). In his study, Finn (1993) combined items that measured whether a student has been suspended or disciplined and whether a student participates in class into one index. We saw these two behaviors as distinct and therefore anticipated that a third component addressing how often a student was “in school” might also emerge. To confirm these 3 components, we employed a principal component analysis of index items using a Varimax rotation with Kaiser normalization. Three distinct components did emerge from the analysis of index items accounting for 48 % of the variance across all 13 items. Table 2 presents the components and their respective factor loadings.

The first component, school identification represents student’s sense of belonging to their school. This sub-scale has 6 items with a Cronbach's alpha reliability coefficient of .73. The second component, school participation, captures students’ behavioral school engagement at school and in the classroom. This scale has 4 items and a reliability coefficient of .62. The final component, time in school, addresses how often a student is in school and whether he or she has received out-of school suspension or expulsion. A Cronbach's alpha reliability coefficient of .46 was calculated for 3 items in this sub-scale. The items in “time in school” scale were transformed to standardized-z scores because of the Likert scale differences across the items. The items in all 3 subscales were coded appropriately so that the higher scores indicate higher school engagement. The sub-scale score was calculated by taking the mean of the item scores.

### Future Educational Expectations

Drawing from the literature on educational expectations (e.g., Mickelson, 1992; Voekl, 1993; Walker & Sutherland, 1993) the items for the future educational expectations index measured both educational aspirations and expectations about attending college. It is normative in the United States for students to say they want to attend college. However, they may not think that it is likely to happen for them for a range of reasons including economic limitations and racial barriers. Hence, this index is composed of two items that asked how much a student wanted to attend college, and how likely it was that they would attend college. Students could respond from 1 to 5 with 1 as “low,” 3 as “medium” and 5 as “high.” The scale score was calculated by taking the mean of the item scores. This index has an alpha of .78.

### Global self-esteem.

A shortened version of Rosenberg’s (1965) self-esteem scale was used in this study. The items have good face validity, and acceptable reliability (both internal consistency and test-retest). Validity (convergent and discriminant) information exists for the Rosenberg Self-Esteem Scale (see Blascovich & Tomaka, 1991). It is a unidimensional scale, meaning that individuals may be ranked along a single continuum from very low to very high. For this study, a 5 point Likert scale format was used where 1 represents “strongly agree”, and 5 represents “strongly disagree”. The items were appropriately re-coded so that a higher score indicates a higher level of self-esteem. The scale score was calculated by taking the mean of the item scores. The internal consistency Cronbach's alpha for the sample of this study is .80.

### Background variables

There were 3 background variables used in this study: grade level, parental education, and student’s cognitive functioning. By accounting for possible grade, family background and

intellectual functioning differences, we want to directly test the effects of behavioral and emotional factors on school achievement among African American girls and boys.

Grades: Students' grades was chosen as a control variable to adjust for possible cohort differences.

It is measured by students self report as it was reported in their in-home interviews. There were four grades included in the study: 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade.

Parental education: In order to account for family background differences, residential mother's educational background was used as a proxy for family SES following the tradition in education research (McLoyd, 1997; White, 1982).

Cognitive functioning: Finally, because prior research on school achievement illustrates that student's intellectual functioning is an important indicator of their academic performance (McLoyd, 1997), an abbreviated version of the Peabody Picture Vocabulary Test, called the AddHealth Picture Vocabulary Test (ADPVT) was used to account for student's cognitive functioning. Raw scores were age standardized with a mean of 100 and a standard deviation of 15 for the general sample (see Bearmen et al., 1977). For the current sample, the ADPVT scores ranged from 41 to 130 with a mean of 95.36 and a standard deviation of 13.14.

## **Results**

Means and standard deviations for males and females separately are presented in Table 3. To address our first research question, examining the relations between school engagement, educational expectations, self-esteem, and school achievement, the correlations matrix is presented in table 4. As the table shows, there is a significant and a positive association between school achievement and all of the other study variables except global self-esteem. There is a positive and significant relationship between the components of school engagement and school achievement. Student's self esteem was not significantly associated with their school achievement, but it was

found to be positively and significantly associated with both school identification and school participation as well as future educational associations.

Next, using multiple t-test, we examined whether gender differences existed for each study variable. Given the multiple comparisons made, the Bonferonni technique was used (.05/9) resulting in an alpha level of .006. The results are presented along with the mean scores in Table 3. It seems that girls in our study tend to have higher school participation, spend more time in school, and have higher degrees of future educational expectations than boys did. The only variable in which boys seemed to score significantly higher was the self-esteem index.

Lastly, a set of hierarchical regression analyses were conducted in which school achievement was the criterion variable regressed on the study variables. In each analysis, the background variables, mother's education, grade, and cognitive functioning as measured by ADPVT, were entered in the first step of the regression procedure, and the school engagement, future educational expectations, and self esteem variables were entered in the second step. The Adjusted R-square statistic was used to examine increments in variance in school achievement as predicted by the study variables. Given the varying school experiences of males and females, two separate hierarchical regression models were generated for girls and boys. Table 5 presents the results of these analyses. For African American girls in our study, the study variables uniquely explained 15 % of the variance in school achievement scores after accounting for the effects of mother's education, grade, and cognitive functioning which explained another 12 % of variance in school achievement. School participation ( $\beta=.23$ ) and future educational expectations ( $\beta=.20$ ) emerged as two significant predictors of school achievement, while school identification, time in school, and self esteem did not significantly contributed to the school achievement of African American girls in this sample.

For African American boys in our study, the study variables uniquely explained 13 % of the variance in school achievement scores after controlling for the effect of mother's education, grade, and cognitive functioning which uniquely explained another 11 % of variance in school achievement. School participation ( $\beta=.24$ ), time in school ( $\beta=.11$ ), and future educational expectations ( $\beta=.15$ ) emerged as significant predictors of school achievement, while school identification and self esteem seem to not significantly contribute to the school achievement of African American boys.

### **Discussion**

This study explored several behavioral and affective factors that may affect the school experiences of African American adolescents. The results reveal several important findings. First, when examined as a multidimensional construct, behavioral components of school engagement seem to predict school achievement better than the affective component of school engagement. In other words, student who actively participate in school by getting along with teachers and students as well as by paying attention to school tend to do well academically. Surprisingly, contrary to what was expected, student's affective identification with school, that is whether they emotionally identify with school, did not seem to contribute to school achievement in a significant way.

Second, student's future educational expectations made a significant impact on the school performances of the participants. That is, those students who expect to continue their education beyond high school tend to do better in high school than those who indicated lower levels of future educational expectations. Self-esteem, however, did not appear to influence school achievement. Our findings, however, suggest that the impact of self-esteem lies in domains related to behavioral components of school engagement and future education expectations.

Finally, we found several significant gender differences. Girls, compared to boys in this study, tend to do better in school academically, participate in school related activities at higher rates, and attend school more regularly. African American boys, on the other hand, reported higher degrees of self-esteem than their female counterparts. This suggests that even though boys feel good about themselves overall, this does not necessarily translate into school success. Furthermore, the findings suggest that boys' reported underachievement can be partially explained by the impact of time spent in school, which was a significant predictor of school achievement only for boys, not for girls.

The results of this study should be interpreted with care because of the limitations of the present study. For example, this study used cross-sectional data by developing correlational analysis. Therefore, it is not possible to determine either the causality nor the directionality of the relationships noted in this study. On a similar note, as a secondary analysis of the data available in the AddHealth data set, this study is limited by the items available for the construction of various indexes. For example, self-esteem was measured as a global construct in this study, but there may be a difference between this unidimensional construct of self-esteem and a multidimensional construct of self-concept which is proposed by Harter as better measure for self-esteem among adolescents (see Harter, 1999). In addition, our future education expectations index focused only on college, and not on any other possible educational outcomes (e.g., community college, vocational school). These limitations notwithstanding, the items available for the school engagement index are unique in that we were able to construct an index that measures both the behavioral and affective dimensions of school engagement. This is rarely done; most studies focus on either the behavioral (Finn & Rock, 1997), or the affective (Voelkl, 1996).

As the findings of this study show, the academic performance of African American adolescents can not be explained as simply a matter of whether they identify with school, or

whether they feel good about themselves. African American students need to receive guidance about their educational futures that is grounded in the sociocultural, economic, and historical reality of their lives, and that provides them with concrete strategies that support their school participation and help them to attain their dreams and aspirations despite the barriers (see Cater & Cook, 1992; Helms & Cook, 1999 for further details).

The significant gender difference found in this study indicate a rather sad fact that African American boys are emotionally and behaviorally having harder time in school than their female counterparts. African American males have been called "an endangered species" (Gibbs, 1989) The findings show that African American boys in our study spend more of their time out of school not just because of their low attendance, but partly because of the higher numbers of disciplinary punishments targeted against them, including school suspensions and expulsions. It is suggested that African American adolescents receive disproportionate school suspensions and expulsions because of their cultural self-expression (Taylor & Foster, 1986). In recent years, the so-called zero-tolerance policies, have made school suspensions the preferred method for dealing with certain forms of student misconduct. Prior surveys show that African American boys are particularly at risk for school suspension and expulsions: Using U.S. Office of Civil Rights data from 1992, Gregory (1996) found that African American males were 16 times as likely to be subjected to corporal punishment in public schools as White females. In short, it is important to recognize that sending students out of school for disciplinary purposes may indeed hurt their academic performance and contribute to their further disengagement from school.

There seems to be a role for teachers and counselors in responding to some of the issues raised here. More specifically, school personnel, particularly counselors, may present students with a realistic assessment of their future possibilities without underestimating an individual student's resources and abilities. This is not an easy task to accomplish. If such guidance were offered

ineffectively a student might come away with a sense that there is no point in trying to attain his or her goals as there are too many barriers in the way. In order for realistic assessments to be useful for students, counselors and teachers must provide strategies for students to use when facing existing barriers. For example, for African American adolescents, racism and discrimination are likely to be barriers. These students require coping skills as well as options for successfully negotiating racist or discriminatory situations. As another example, many low-income African American adolescents may have few models for college or career success. School personnel and counselors can recruit mentors who not only make oral presentations to students, but who also provide students with concrete strategies for college or career success. On a similar note, given the gender differences found in this study, there needs to be a specific focus on the needs of African American males, who face unique barriers in school achievement.

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Table 1: Index Items for School Achievement, School Engagement, Future Educational Expectations, and Self-Esteem.

<b>Scale</b>	<b>Items</b>
<b>School achievement</b>	Mathematics Science English History
<b>School engagement:</b> School identification	Feel close to people at school Feel a part of your school Students at your school were prejudiced Teachers treat students fairly Happy at your school Feel safe in your school
<b>School engagement:</b> School participation	Trouble getting along with teachers Trouble paying attention Trouble getting homework done Trouble with other students
<b>School engagement:</b> Time in school	How often skipped school Ever received out-of-school suspension Ever been expelled from school
<b>Future educational expectations</b>	Likely will attend college Will graduate from college
<b>Self-esteem</b>	Feel socially accepted Have a lot to be proud of Like self as are Do everything just right Feel loved and wanted

Table 2: Results of Principal Component Analysis for School Engagement Index

	Component		
	1	2	3
Feel close to people at your school	.755		
Feel a part of your school	.800		
Students at your school were prejudiced	.322		
Happy to be at your school	.734		
Teachers at your school treat students fairly	.464		
Feel safe in your school	.613		
Trouble getting along with teachers		.625	
Trouble paying attention		.787	
Trouble getting homework done		.658	
Trouble with other students		.484	
How often skipped school			.686
Received out-of-school suspension			.494
Expelled from school			.697

Table 3: Descriptive Statistics for the Study Variables

	Females		Males	
	M	SD	M	SD
<b>Background variables</b>				
Mother's education	5.65	2.60	5.68	2.45
Grade	10.45	1.12	10.43	1.09
ADPVT	95.06	13.72	95.71	12.45
<b>School engagement</b>				
School identification	3.47	.76	3.55	.67
School participation	2.83*	.69	2.68	.70
Time in school	.12**	.65	-.14	.78
FEE	4.39*	.94	4.17	.98
Self-esteem	4.07	.66	4.23**	.57

**NOTES:**

\*p&lt;.006

\*\*p&lt;.001

FEE = Future Educational expectations

ADPVT = AddHealth Picture Vocabulary Test

Table 4: Intercorrelation Among Study Variables.

Variables	1	2	3	4	5	6	7	8	9
School achievement	1								
Mother's education	.12*	1							
Grade	.17*	NS	1						
ADPVT	.29**	.24**	.10*	1					
School identification	.12*	NS	NS	NS	1				
School participation	.34*	NS	NS	NS	.35**	1			
Time in school	.30**	.12*	.08*	.17**	.12**	.31**	1		
FEE	.33**	.142	NS	.22**	.18*	.22**	.29**	1	
Self-esteem	NS	NS	NS	NS	.26**	.16**	NS	.14**	1

**NOTES:**

\*p&lt;.005

\*\*p&lt;.01

FEE = Future Educational Expectations

ADPVT = AddHealth Picture Vocabulary Test

Table 5. Summary of Hierarchical Regression Analyses Predicting School Achievement for African American Girls and Boys.

Step	Variables	GIRLS			BOYS		
		Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	Beta	Adjusted R <sup>2</sup>	Δ R <sup>2</sup>	Beta
1		.11	.12***		.10	.11***	
	Mother's education			.02			.03
	Grade			.12*			.17**
2	ADPVT			.29***			.24***
		.25	.15***		.22	.13***	
	Mother's education			.06			.01
	Grade			.10*			.14**
	ADPVT			.21***			.22***
	School identification			.03			-.01
	School participation			.23***			.24***
	Time in school			.08			.11*
FEE			.20***			.15**	
	Self-esteem			.03			.05

NOTES:

\*p<.05

\*\*p<.01

\*\*\*p<.001

FEE = Future educational expectations

ADPVT = AddHealth Picture Vocabulary Test



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