

# Relationship Between Psychosocial Factors and Academic Achievement Among African American Students

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**ABSTRACT** The authors of this cross-sectional study used surveys based on the noncognitive model of W. E. Sedlacek and C. G. Brooks (1976) to determine psychosocial factors associated with African American students' high school achievement. Psychosocial variables explored included community service, academic motivation, social support, and students' methods of handling unfair treatment. Results showed that after gender and absenteeism were controlled for, only the method of handling unfair treatment was positively associated with grade point average (GPA),  $p < .05$ . Those findings suggest that students who talk to others about being treated unfairly instead of keeping it to themselves are more likely to have higher GPAs; the findings also have important implications for individuals involved in the counseling and education of high school students. Sedlacek and Brooks's model provides an effective guide for predicting academic achievement and for developing programs to improve academic achievement among students of color. Further research is needed into psychosocial factors and their effects on academic achievement.

**Key words:** academic achievement, African American, psychosocial factors

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**O**n January 8, 2002, President George W. Bush signed into law the *No Child Left Behind Act*, which is a bipartisan initiative for education reform that "changes the federal government's role in kindergarten-through-grade-12 education by asking America's schools to describe their success in terms of what each student accomplishes" (U.S. Department of Education, 2002, p. 1). That act was developed in response to gaps in academic achievement that have been noted along the lines of race, ethnicity, and income. For example, Black and Hispanic students have had lower average mathematics scale scores than White students at 9, 13, and 17 years of age for the past 3 decades (National Center for Education Statistics, 2000). Regarding the writing performance of students in Grades 4, 8, and 12, 31% of Blacks, 28% of Hispanics, and 10% of Whites fell below the basic National Assessment of Educational Progress writing assessment achievement level in 1998 (National

Center for Education Statistics, 1999). In 1997, 59% of Hispanics aged 18–24 completed the requirements for a high school diploma, as did 72% of Black non-Hispanic individuals and 81% of White non-Hispanic individuals (Kaufman, Klein, & Frase, 1999). Because ethnic and racial minorities in this country are disproportionately poor, those statistics inherently involve gaps in income as well.

In the scientific literature, a great deal of attention has been paid to understanding the correlates of academic success among disadvantaged students and ethnic and racial minority students (Anderson & Keith, 1997; Finn & Rock, 1997; Gerardi, 1990; Ogbu, 1990; Polinard, Wrinkle, & Meier, 1995; Reyes & Jason, 1993; Ross, Smith, Slavin, & Madden, 1997). The focus of that research has increasingly been on psychological, social, and environmental factors that might explain the gap in light of research that has failed to verify biological or genetic explanations for those gaps (Gould, 1981; Kamin, 1974). For example, Steele (1997) and Steele and Aronson (1995) have found support for the hypothesis that African American students face the risk of confirming negative societal stereotypes about their group's intellectual competence whenever confronted with intellectual or scholastic tasks, which might in turn lead to their underperformance on standardized tests. Tatum (1997) argued that because academic achievement is inconsistent with cultural stereotypes, Black teenagers at certain stages of identity development might spurn academic success because doing well in school might be perceived by peers as trying to act White.

Wentzel's (1989) study results showed that academic achievement in high school students, as indexed by grade point average (GPA), had a positive relationship to psychosocial factors such as the students' motivation to reach goals and efforts to perform well. Brady, Tucker, Harris, and Tribble's (1992) findings suggested that factors outside

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of the student's skills and behaviors had a significant influence on the grades they earned. Finally, Finn and Rock (1997) concluded (a) that many psychosocial factors, such as positive self-regard and a sense of control in African American and Hispanic students, helped to facilitate their learning and (b) that personal qualities might help to explain a student's academic success, despite adversity.

Unfortunately, adopting a negative view of academic success can have many dire, long-term consequences. Academic success in high school specifically is important because dropping out of high school can alter the individual's life course detrimentally. Those persons who do not graduate from high school are more likely than high school graduates to be unemployed, to earn less money, and to receive public assistance; if female, they are also more likely than high school graduates to have children at younger ages (National Center for Education Statistics, 1998). Therefore, research conducted on factors contributing to academic success among African American students in high school is crucial. In the present study, we sought to understand psychosocial factors that might be associated with academic achievement among African American high school students. Those factors, which are outside of the traditional indicators of academic success, such as grades and standardized test scores, are often referred to as *noncognitive* factors.

### Model

A model that has guided current thinking on this topic is Sedlacek and Brooks's (1976) noncognitive model for academic achievement. On the basis of a review of the literature, Sedlacek and Brooks found that noncognitive variables were more important in predicting minority academic achievement than traditional indicators such as GPAs and standardized test scores. Using those findings, they proposed that there are seven noncognitive variables that are associated with academic achievement for all students but are especially predictive for those students from an ethnic or racial minority background. Those variables were (a) positive self-concept, (b) realistic self-appraisal, (c) understanding of and ability to deal with racism (perseverance), (d) preference for long-term goals over short-term or immediate needs (motivation), (e) availability of a strong social support person, (f) successful leadership experience, and (g) demonstrated community service. Sedlacek and Brooks selected those particular variables because each of them has been studied separately, but there had not been much previous research on the combined effects of those variables.

In 1984, Tracey and Sedlacek tested a scale—known as the Non-Cognitive Questionnaire (NCQ)—that is based on those seven noncognitive variables. Specifically, the researchers wanted to see how much more effective the scale was in predicting academic success in comparison with the previous standard, Scholastic Aptitude Test (SAT) scores. The authors distributed the questionnaires to 1,529 White and Black incoming college freshmen to test the

scale's reliability, construct validity, and predictive validity. They found that the scale had an acceptable level of both reliability and construct validity. More important, they discovered that whereas the NCQ had good predictive validity with both White and Black students, it had high predictive validity for Blacks who continued their enrollment in school. That finding is well worth examining because it implies not only that noncognitive variables might be good predictors of academic success across groups of students but also that the variables might be highly predictive of a student's retention in school. Because Tracey and Sedlacek found that the NCQ could predict student retention when used alone or along with SAT scores, and because SAT scores alone were not found to be predictive of either group's continuation in school, those authors concluded that noncognitive variables would be useful tools to aid in the prediction of academic success. Four of the variables that tend to be the most predictive among Black students are self-assessed academic motivation (corresponding to preference for long-term goals over short-term or immediate needs), perseverance, social support, and demonstrated community service (Tracey & Sedlacek, 1987). Those findings formed the basis for the present study.

In other studies, investigators have also explored psychosocial factors in relation to academic achievement (Lee, 1984; Ting & Robinson, 1998). For example, in a study conducted by Lee, researchers examined psychological and social factors that might have an influence on how well rural Black students perform academically. After academically and socially successful students were identified by teachers in participating junior and senior high schools, the students were interviewed to determine what their feelings were concerning family, school, friends, and themselves. A questionnaire was developed from the interviews and was distributed to a random sample of students. Results showed that students who had strong support from family and friends as well as positive attitudes toward school and their social network tended to have higher standardized test scores, which are generally accepted as measures of academic achievement or success in school.

Ting and Robinson (1998) explored both psychosocial and cognitive factors that predicted academic success for Caucasian and African American students. The researchers used GPAs as a measure of academic achievement and compared them with psychosocial factors that were based on Sedlacek's work. Results showed that many different psychosocial factors (such as those dealing with stress and self-discipline) might be correlated positively with GPA and that those factors were also good predictors of academic achievement.

In the present study, we used Sedlacek and Brooks's (1976) model to examine factors that might be associated with the academic achievement of African American high school students enrolled in a health sciences academy. Our purpose in the present study was to examine what factors might be associated with academic achievement among a

group of high school students in a health sciences academy that was designed so that students would be better prepared for entry into the health professions. Specifically, in this study, we examined psychosocial variables (community service, academic motivation, social support, and the students' methods of handling unfair treatment) as they related to academic achievement, measured in this context by GPA. Those variables were selected on the basis of previous research in which support has been found for the exploration of multiple psychosocial factors (Lee, 1984; Sedlacek & Brooks, 1976; Ting & Robinson, 1998; Tracey & Sedlacek, 1984).

We developed several hypotheses: (a) Students with more community service involvement will have higher GPAs, (b) students with greater academic motivation will have higher GPAs, (c) students who perceive themselves as having greater social support will have higher GPAs, and (d) students who deal with racism (persevere) by talking to others when treated unfairly rather than keeping it to themselves will have higher GPAs.

## Method

### Participants

Eighty-four African American public high school students participated in this study. Their ages ranged from 15 to 18 years ( $M = 16.23$ ,  $SD = 0.91$ ). Students were chosen from a newly begun health science academy that consisted of 10th-, 11th-, and 12th-grade students. The gender distribution of the students was skewed; approximately 22.6% ( $n = 19$ ) of the respondents were male, and 76.5% ( $n = 65$ ) of the respondents were female.

### Materials

A questionnaire with two components was used in this study. In the first component, demographic questions (e.g., gender and age), the students were asked their name and address, what science courses they had taken, and their career interests. The second component consisted of questions measuring variables taken from Sedlacek and Brooks (1976): community service, academic motivation, social support, and response to unfair treatment. Many of the questions on the original NCQ were not applicable to high school students. For example, one of the items asked the student to respond to the statement "If course tutoring is made available on campus at no cost, I would attend regularly." Moreover, the NCQ is not as comprehensive as we would have liked, because it consists of 23 items, with only about 9 questions concerning the four constructs to be measured (community service, academic motivation, social support, and student's method of handling unfair treatment). Finally, time constraints prevented us from using many of the open-ended questions, and we were required to use more closed-ended items. Therefore, Sedlacek and Brooks's actual NCQ was not used; instead, we used items

that measure the same concepts. The second component of the questionnaire was divided into four sections.

*Altruism Test (Kool, Sen, Mayton, Diessner, & Granby, 1992).* With this test, we assessed the extent to which the student gravitated toward community service by using 21 items measuring attitudes toward helping others. Items were scored on a 5-point Likert-type scale, ranging from *strongly agree* to *strongly disagree*. Respondents were asked the degree to which they agreed with each statement presented. An example of an item is "I feel happy when I see others succeed." The possible range of scores was from 21 to 105, and the actual range of scores was from 39 to 99 ( $M = 77.45$ ,  $SD = 10.4$ ). For this scale, as well as for academic motivation and social support scales, higher scores indicated more of that construct. Reliability for this measure was found to be good at  $\alpha = .76$ .

*Classroom goal-orientation items (Duda & Nicholls, 1992).* This scale consisted of 21 questions that measured academic motivation by determining the student's classroom goal orientation. Each question began with the statement "I feel really successful when . . ." followed by a phrase that described a situation that might cause a student to feel academic success. An example of such an item is "I feel really successful when . . . I can do better than my friends." Response options were based on a 5-point Likert-type scale, ranging from *strongly agree* to *strongly disagree*. The possible range of scores was from 21 to 105, and the actual range of scores was from 66 to 98 ( $M = 82.30$ ,  $SD = 7.73$ ). Reliability was shown to be good for this measure at  $\alpha = .77$ .

*Student Social Support Scale (Malecki & Elliott, 1999).* With this scale, we measured social support by asking about the support that the student received from various people in his or her life. The original scale consisted of 60 items, four subscales with 15 items each. The subscales for this measure were Parental Support, Teacher's (or Teachers') Support, Classmate Support, and Close Friend Support. To shorten the measure for the present study, we took the 5 items with the highest factor loadings from three subscales, including Parental Support, Teacher Support, and Close Friend Support, for a total of 15 items. An example of a question from the social support section is "My parents support me in everything I do." Items were scaled on a 5-point Likert-type scale, with responses ranging from *strongly agree* to *strongly disagree*. The possible range of scores was from 15 to 75, and the actual range was from 19 to 75 ( $M = 61.57$ ,  $SD = 10.39$ ). Reliability was shown to be high for this measure at  $\alpha = .87$ .

*Unfair Treatment Index (Kreiger, 1990).* In this section, we measured how an individual copes with unfair treatment. One item was adapted from an interview item regarding response to unfair treatment and experience of racial or gender discrimination; thus, no validity information was available. The question asked was "If you feel you've been treated unfairly, do you usually . . . ?" Responses to the question included "Talk to other people about it" or "Keep

it to yourself." The possible and actual range was from 1 to 2, and the response frequencies were as follows: 66 individuals answered that they talk to other people about it, and 14 said that they keep it to themselves.

### Design and Procedure

A cross-sectional design was used in the present study. We gave consent forms to students 1 week before questionnaires were to be administered to allow ample time to get parental permission. Teachers requested that students be prepared to bring the forms to school on the day of testing. To facilitate the large number of students surveyed, we divided the group into three sections. Each section received the same instructions and used the same procedure. Students returned the signed consent forms before being handed the two questionnaires. They were instructed to read each question carefully and were advised that they could answer questions at their own pace but that each question would be read aloud to the group. We then read the questions aloud to allow for any questions or clarifications. After both surveys were completed, the students were thanked for their participation and the forms were collected. During the second phase of data collection, first semester grades were obtained from the school's secretary for use as the dependent variable.

### Results

GPA data were provided for only 75 of the original 84 students who completed the questionnaires because some students left the program early. Therefore, the analysis that follows was based on those 75 students. Of the 75 respondents, 77.3% were female ( $n = 58$ ); the mean age of the total student sample was 16.27 years (see Table 1).

**Table 1.—Demographic Characteristics of Health and Human Sciences Academy Students ( $N = 75$ )**

Characteristic	<i>n</i>	%
Gender		
Female	58	77.3
Male	17	22.7
Race		
African American	73	97.3
Native American	1	1.3
Other	1	1.3
Grade in school		
10	23	30.7
11	30	40.0
12	22	29.3
Age		
15	17	22.7
16	28	37.3
17	23	30.7
18	7	9.3

### Preliminary Analyses

In preliminary analyses, we explored demographic differences within the sample population. We first performed *t* tests to examine any differences between genders in relation to community service, social support, and academic motivation. All *p* values were greater than .05, indicating no gender differences in any of those constructs. We also performed correlations to explore any differences among grades or age groups in relation to the psychosocial factors. Again, no significant differences were found. To explore gender, age, and grade differences in how the students coped with being treated unfairly, we ran chi-square tests. No significant differences were found among any of those groups.

### Multiple Regression Analysis

We analyzed data by entering variables into a regression model. Before we entered the data into the model, we ascertained that the assumptions of multiple linear regression were met, including checking for multicollinearity, normality, and homoscedasticity. We used correlational analyses to explore multicollinearity, and values ranged from  $-.364$  to  $.233$  (see Table 2). We performed collinearity diagnostics to ensure that variables did not share variance. Tolerance scores ranged from  $.761$  to  $.949$ , and all the variance inflation factor (VIF) scores were around 1. According to the standards discussed by Kleinbaum, Kipper, Muller, and Nizam (1998), collinearity issues arise when the VIF score is greater than 10 or the tolerance is greater than 1.00, or both, so there were no problems with collinearity.

The four variables of community service, academic motivation, social support, and method of dealing with unfair treatment were first entered into a regression model with the total GPA of the student as the dependent variable. We did that without controlling for any demographic variables. Results showed that none of the variables grouped together in the model were significant.

The demographic variables gender and age, grade in school, number of days the student was absent from school, and number of days tardy were entered into a regression model with the total GPA as the dependent variable. We

**Table 2.—Correlations for Psychosocial Measures Among African American High School Students ( $N = 75$ )**

Scale	1	2	3	4
1. Community service	—	.218	.034	-.272*
2. Social support		—	.233*	-.364**
3. Academic motivation			—	-.286
4. Unfair treatment				—

Note. Dealing with unfair treatment was coded 1 = *try to talk to others about it*; 2 = *keep it to yourself*. Higher scores mean more community service, social support, and academic motivation.

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

**Table 3.—Grade Point Average Regressed on Unfair Treatment, Community Service, Academic Motivation, and Social Support**

Independent variable	Grade point average		
	$\beta$	<i>t</i>	<i>p</i>
Unfair treatment	-.236*	-2.063	.043*
Community service	.039	.364	.717
Academic motivation	-.033	-.312	.756
Social support	.109	.983	.329

Note. Gender and days absent were entered into the equation as controls.  $R^2 = .361$  for model;  $F = 6.01$  ( $p < .001$ ). Dealing with unfair treatment was coded 1 = *try to talk to others about it*; 2 = *keep it to yourself*. Higher scores mean more community service, social support, and academic motivation. \* $p < .05$ .

examined those variables to determine whether any of them would need to be controlled for in the final regression model. We determined that gender was significantly related to GPA,  $F(1, 73) = 14.53$ ,  $p < .001$ . Number of days a student was absent was also found to be associated with GPA,  $F(1, 73) = 9.96$ ,  $p < .05$ . Each of the measures was then entered separately into the regression model, along with the two demographic variables. Community service was found to be positively associated with GPA,  $t(3) = 2.46$ ,  $p < .05$ . Social support was close to significant in its model,  $t(3) = 1.98$ ,  $p > .05$ . The unfair treatment item was found to be negatively associated,  $t(3) = -2.74$ ,  $p < .05$ . Finally, academic motivation was found not to be significantly associated with GPA.

Community service, social support, unfair treatment, and academic motivation were then entered together into a regression model. With gender and days absent entered as controls, results showed that of the psychosocial factors, only the method of dealing with the unfair treatment item was significant,  $t(6) = -2.06$ ,  $p < .05$  (see Table 3).

## Discussion

Results of the full regression model showed that, after controlling for gender and number of absences, only the method of coping with unfair treatment was associated with GPA. Specific findings, followed by general conclusions and recommendations, are discussed in the following paragraphs.

We had hypothesized that community service would be positively associated with GPA. Community service was found to have a significant, positive relationship with GPA in the single regression model but was not significant in the full regression model. Thus, the hypothesis was not supported. A possible reason for that finding is that community service might have shared variance with one of the other variables, such as dealing with unfair treatment. Because those variables possibly measure some of the same attitudes or behaviors, after one excludes those common elements, an association that might have been found might have been obscured. Those two variables showed a significant, nega-

tive association. There is a possibility that the shared variance caused community service to become nonsignificant when entered into the model with the other psychosocial variables. Authors such as Nisker (1997) and Poussaint (1999) have suggested that a community service component would give a more complete picture of an applicant's potential success in the health science profession. We recommend that in future studies, investigators should explore more closely the relationship between community service and academic achievement as well as with other psychosocial variables in order to better understand that finding.

Our second hypothesis was that students with higher academic motivation would have higher GPAs. Academic motivation was not found to be significant in either the single model regression or within the full model; thus, that hypothesis was not supported. One possible reason for that finding is that the criteria for inclusion in the health sciences program include the requirements that the students show an interest in the sciences and also have reasonably high GPAs. Because academic motivation was needed for inclusion into the program, that characteristic might have been normative for the group, resulting in a ceiling effect. An interaction of social and academic goals as well as the student's motivation toward those goals has been shown to affect academic achievement (Covington, 2000; Hoschl & Kozeny, 1997). In future studies, investigators should explore the relationship of academic motivation to GPA in groups of students who are less interested in the health sciences as well as discover new ways of measuring academic motivation with those students who show an early interest in that subject.

Social support was also found to be nonsignificant in both regression models. That finding does not appear to be consistent with studies (e.g., Ainslie, Shafer, & Reynolds, 1996; Taylor, Casten, & Flickinger, 1993) whose results suggest that social support plays an important role in the adolescent's functioning. Like our findings for the community service variable, a possible explanation for that result is shared variance, which also deals with unfair treatment. Those variables were the most strongly correlated among all the psychosocial factors. Although there were no collinearity problems found, the social support and dealing with unfair treatment variables might have measured enough of the same construct to cause social support to become nonsignificant. The relationship suggests that students who talked to others about problems also had significant social support. Although the hypothesis was not supported, that result implies that in future studies, researchers might consider studying the exact nature of the relationship of those two variables.

Findings indicated that there was a strong negative association between the way the student copes with unfair treatment and GPA. That association suggests that the student who talks with others about being treated unfairly is more likely to have a higher GPA. That finding is also consistent with many other studies in which communication with others

has been found to possibly be associated with the promotion of positive behaviors, such as greater condom use (Miller, Levin, Whitaker, & Xu, 1998), and protective against negative behaviors, such as suicide attempts (Borowsky, Resnick, Ireland, & Blum, 1999). Students who talk to others about their problems are also more likely to seek help in their schoolwork; however, because causality cannot be determined, that relationship should be explored further.

### Limitations

There were limitations to the study that deserve consideration. One limitation was that we used a cross-sectional design. Although that design was helpful in uncovering any associations, it provided no way to determine causality. A suggestion for a future study would be to conduct a longitudinal study by following a group of students over several years to determine how much influence psychosocial factors have on their academic achievement. Such a design might also help in determining if the importance of those psychosocial factors changes as the person changes developmentally. Another possible limitation was the relatively low number of students who participated in this study. Some grade reports were unavailable because the students had dropped out of the program; those students were excluded from the study. Although sample size was not a major limitation, future studies might include a larger sample and more power so that a better understanding of the generalizability of the present results to the general population could be obtained.

### General Conclusions and Recommendations

There are several important implications of these findings. The issue of unfair treatment might be one possible area for examination in future research. In light of the present findings, future researchers should explore the mechanisms that drive the relationship between coping with unfair treatment and academic achievement. In those studies, investigators might consider examining coping with unfair treatment and its association with other academic indicators, such as standardized test scores. Another possibility might be to explore the effects of psychosocial factors in a different population. Because the present sample population was a select group of African American students who were already interested in the health sciences, it would be beneficial for researchers to replicate this study in other populations to test the generalizability of our findings. Possible future populations could include individuals from other ethnic or racial minority backgrounds, students who are disinterested in the health sciences, or younger students. Moreover, because the participants in this study were from a recently developed health science academy, findings might differ significantly as the program evolves. To assess the impact of the academy, future researchers might consider conducting a study comparing the individuals who participated in this study and a

cohort in future years. Another consideration is the exploration of other psychosocial variables in relation to GPA. In Sedlacek and Brooks's study (1976), seven noncognitive variables were thought to be predictive of academic success in African American students. It is possible that a different combination of psychosocial factors could create a more predictive regression model. We recommend that in future studies, psychosocial factors be further explored so that their effectiveness in predicting academic success within this population can be ascertained.

Sedlacek's model provides an effective guide for examining psychosocial factors and their relationship to academic achievement. Further research into this area could assist in the creation of other methods of predicting academic achievement and aid in the development of programs to improve academic achievement among students of color.

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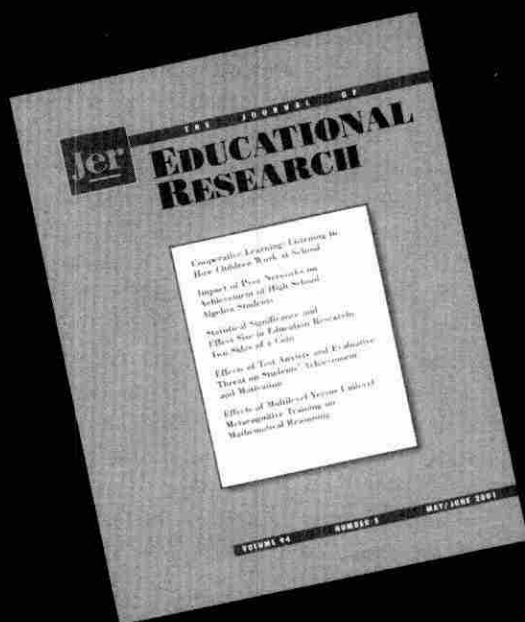
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