
Academic Motivation and Achievement Among Urban Adolescents

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Although researchers report that motivational variables, such as interest and self-efficacy, positively relate to forms of achievement (e.g., standardized test scores, grades, number of problems solved correctly), other studies indicate that motivation's contribution to achievement is not consistent. Fewer studies, however, have examined these connections within African American samples. This 2-year, cross-sectional investigation of eighth- and ninth-grade students specifically focused on motivation and GPA in a large, urban, predominantly African American, school district in the Midwest. Regression analyses of self-report levels of three motivational variables (i.e., self-efficacy beliefs, goal orientations, and domain interest) revealed that significant gender differences existed in goal orientation and achievement scores in both grades. Furthermore, self-efficacy and learning goals contributed to domain interests but the predictive value of these three motivational variables on achievement differed at each grade level.

Keywords: *interest; goal orientations; self-efficacy; academic transitions; urban adolescents*

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The time of adolescence can be fraught with peril, particularly during the transition from middle school to high school. Moreover, the transitional adjustments of urban minority adolescents can be even more troublesome (Seidman, Aber, Allen, & French, 1996) because of already stressful home and neighborhood environments (Gillock & Reyes, 1996; Reyes, Gillock, Kobus, & Sanchez, 2000; Seidman, Allen, Aber, Mitchell, & Feinman, 1994). Upon entering high school, students often encounter a larger, more heterogeneous student body, whole-class instruction, higher levels of competition (Bryk & Thum, 1989), and rigid academic ability tracking (Seidman & French, 1997). In addition, there can be a loss of social status for ninth-grade students who are now the youngest in the school (Eccles et al., 1993). These transitions also can be accompanied by increased stress levels, decreased self-esteem (Alvidrez & Weinstein, 1993), academic underachievement, and social maladjustment (Reed, McMillan, & McBee, 1995). Furthermore, the size and bureaucracy of urban public schools (Seidman et al., 1994) may further exacerbate these transitional characteristics.

If urban students are to successfully maneuver through the increasing challenges and academic rigors of high school, their motivation to learn must be supported throughout the transition. Motivation can be defined as a "temporal sequence that is started, sustained, directed, and finally terminated," which examines "why people think and behave as they do" (Graham & Weiner, 1996, p. 63). Although motivational factors "are at the heart of contemporary concerns about the status of African Americans in general and their academic achievements in particular" (Graham, 1994, p. 55), researchers know very little about how motivational variables relate to achievement in classrooms where African American students predominate. Several explanations postulated by sociologists, however, do address the underperformance of African American students relative to their Caucasian counterparts, and their conclusions include factors unique to this ethnic group (Steinberg, Dornbusch, & Brown, 1992).

The intergenerational legacy of slavery and discrimination, for example, may force African Americans to develop an oppositional identity, which rejects the values of the dominant culture (Fordham & Ogbu, 1988). When African American students reject the effortful pursuit of academic excellence as "acting White," this practice results in failure and estrangement from opportunities for mainstream success (Ogbu, 1988). In addition, negative stereotypes about their group of origin can be threatening to African American students and diminish their motivational beliefs (Aronson, Quinn, & Spencer, 1998). For example, images in the electronic and print media can stereotypically represent African Americans as being deficient in

verbal and intellectual abilities compared with other ethnic groups. If students' awareness of this stereotype is coupled with a deliberate affiliation toward this disparaged group, a stereotype threat can be initiated, which produces a specific psychological anxiety that inhibits the efficacy and cognitive performance of African American students (Aronson & Good, 2002; Steele & Aronson, 1995).

This was clearly demonstrated in a series of experiments that examined negatively stereotyped intellectual abilities of African American students at Stanford University (Steele, Spencer, & Aronson, 2002). White and Black students were invited, one at a time, to enter a laboratory where they were administered a brief section of the Graduate Record Examination. Students in the treatment condition were informed that the test was a measure of intellectual prowess, whereas those in the control section were merely instructed to complete the examination to the best of their ability. The researchers hypothesized that for Black students in the treatment condition, the risk of confirming negative stereotypes about intellectual ability relative to other racial groups would heighten anxiety and impede performance. This was indeed the case: Black and White students in the control condition performed similarly on the examination, whereas White students outperformed Black students by a full standard deviation among those for whom the stereotype was made salient.

As such, any model attempting to account for the academic achievement of African American students must attend to multiple influences and factors (Graham, 1994). Thus, this research project is directed toward understanding how three sources of motivation may relate to the academic achievement of predominantly African American urban students during their transition to high school. More specifically, the motivational variables selected for their association with achievement include interest (Schiefele, Krapp, & Winteler, 1992), self-efficacy (Bandura, 1997), and achievement goal orientation (Ames, 1992).

Interest

William James (1958) remarked that a century ago, no other topic had received more pedagogical attention than interest. Conceptualized by Dewey (1899) as the formation of a relationship between a person and an object, some describe interest as being deep-seated and originating in the individual (e.g., Renninger, 2000; Schiefele, 1991). Others term interest to be a temporary response relative to the attractiveness of a situation or object (e.g., Hidi & Baird, 1988). Regardless of the source of origination, however,

interest is described as energizing the underlying needs or desires of the learner (Alexander, Murphy, Woods, Duhon, & Parker, 1997) in a way that can positively influence the cognitive (Schiefele, 1996), affective (Sansone & Smith, 2000), and volitional (Dewey, 1899) components of individual learners.

Interests are further categorized according to the degree of content specificity being considered. More precisely, topic interests focus on a single area, and domain interests relate to "a range of activities, text passages dealing with the field, or body of knowledge in general" (Tobias, 1994, p. 47). When interest is conceptualized as a domain-specific motivational variable, educators use this information to investigate why students are motivated to learn specific subject matter over others when all the activities appear to have the same value and provide similar challenges (Alexander & Murphy, 1998). However, interest's potential for energizing learning appears to be limited when students possess lower levels of knowledge (Alexander, Kulikowich, & Schulze, 1994). Thus apparently positive findings that poor Black elementary students have higher science interest levels than their affluent White neighbors may not be cause for rejoicing because the White children possessed more knowledge of science (Wenner, 2003).

This interest and knowledge partnership is also exemplified by decades of research into the juncture of interest and achievement (e.g., grades). One meta-analysis of these studies (Schiefele et al., 1992) revealed correlations ranging from .17 in literature to .35 in science among students from all grade levels, but the authors were unable to test for developmental differences because the distribution of studies across grade levels was unbalanced. More recently, empirical studies into this connection have continued in Europe, Australia, Africa, Canada, and the United States, indicating that academic interest is a cross-cultural phenomenon. However, the overwhelming majority of the work is done among Caucasian students, so we know considerably less about the academic interests of urban Black students and how they specifically relate to achievement.

In addition, distinct gender differences appear to exist. Women, for example, can display a greater interest in music (Marjoribanks & Mboya, 2004), human biology, and social/moral issues, whereas men may exhibit preferences for scientific research and environmental preservation (Gardner & Tamir, 1989). However, the same meta-analysis cited earlier (Schiefele et al., 1992) indicated that the academic performance of female students was "less associated with their interests" than their male counterparts (p. 202). Of these studies, few have noted gender differences being related to academic transitions.

Self-Efficacy Beliefs

Social cognitive theory (Bandura, 1977, 1997) suggests that self-efficacy beliefs powerfully influence the choices people make, the amount of effort they expend, and their level of persistence. Defining self-efficacy as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (Bandura, 1986, p. 391), individuals with high self-efficacy beliefs view difficult tasks as challenges, remain committed to their goals, and increase their efforts when faced with failure. As such, their perseverance typically results in performance accomplishments. In contrast, individuals who have low self-efficacy beliefs do not embrace difficult tasks because they are seen as personal threats. When confronted with difficult tasks, individuals with low self-efficacy focus on their weaknesses, obstacles, or negative outcomes and easily give up. Because failure profoundly affects efficacy beliefs (Bandura, 1993), efficacy beliefs are correlated with academic choices, changes, and achievement. Consequently, efficacy beliefs can powerfully determine and predict the level of success that individuals will attain (Pajares, 1996).

Schunk (1989) reported on the predictive utility of self-efficacy beliefs in regard to academic performance, noting that significant and positive correlations ($r_s = .33$ to $.42$) were found between self-efficacy beliefs and the number of arithmetic problems that students completed during a lesson. Such correlations ($r_s = .27$ to $.84$) were also found between self-efficacy and the proportion of problems solved correctly. Similarly, researchers discovered a strong correlation between self-efficacy beliefs and skill in reading and writing tasks among college students (Shell, Murphy, & Bruning, 1989).

Gender differences in student academic self-efficacy beliefs have been reported, particularly in the domains of mathematics and writing. Pajares and Miller (1994) indicated that male undergraduates in their study expressed higher mathematical self-efficacy than did female undergraduates, whose poorer performance in math problems was “largely due to lower judgments of their capability” (p. 200). During elementary years, girls and boys exhibited no differences in their mathematics self-efficacy, but by middle school, boys displayed higher efficacy than did girls (Wigfield, Eccles, & Pintrich, 1996). Furthermore, fifth-grade girls reported having higher writing self-efficacy than did their male counterparts, but neither girls nor boys differed in writing performance (Pajares & Valiante, 1997). By ninth grade, girls and boys still possessed similar writing performance levels, but boys expressed higher self-efficacy for writing (Pajares & Johnson, 1996). These gender results appear to indicate that efficacious beliefs can change over time.

As such, Eccles et al. (1993) found that declines in academic performance after a transition to middle school were a reliable predictor of lower self-concept, intrinsic motivation, and confidence in intellectual abilities. These researchers proposed that such declines resulted from a developmental mismatch between the early adolescents and their classroom environment, resulting in negative motivational outcomes especially for struggling students. In one study of poor African American elementary students, GPA significantly declined during the transition to middle school, but students “who felt more academically efficacious in sixth grade” had higher grades than did their peers (Gutman & Midgley, 2000, p. 237). A gap, however, exists in the literature regarding the efficacy beliefs of minority youth following their transition to high school.

Goal Orientations

A goal orientation framework incorporates learning contexts, personal academic goal orientations, learning behaviors, and academic achievement (Anderman & Maehr, 1994; Eccles & Midgley, 1989). Specifically, research has found that students’ contextual goal structures were determinants of their achievement goal orientations, which in turn influenced their learning behaviors and academic achievement. Therefore, achievement goal orientations seem to be a predictive factor for adolescents’ academic performance across changes in learning environments, such as during the school transitions (Eccles & Midgley, 1989).

Achievement goal orientations have reflected students’ reasons for engaging in academic tasks (Ames, 1992; Dweck & Leggett, 1988). Within the goal orientation literature, at least three conceptually distinct types of achievement goal orientations have been identified (Pintrich & Schunk, 2002): learning, performance, and work-avoidant. Learning goal orientations pertain to an individual’s willingness to master the skills necessary for academic tasks or to increase knowledge and understanding with effort (Pintrich, 2000). When students with a learning goal orientation “encounter difficulties, they are likely to seek help or if necessary to persist with their own self-regulated learning efforts, buoyed by the belief that these efforts are worthwhile and the confidence that they will pay off eventually” (Brophy, 2004, p. 90). Performance goal orientations, on the other hand, represent social comparisons, such as a desire to gain favorable judgments from others while avoiding negative judgments of one’s competence (Dweck, 1986). When comparing the two goal orientations, learning goal orientations were considered to link to “a motivational pattern . . . likely to maintain achievement behavior,” whereas performance goal orientations

tended to develop “a failure-avoiding pattern of motivation” (Ames, 1992, p. 262). Generally, however, their contribution to achievement has yielded inconsistent research results (Brophy, 2004; Pintrich & Schunk, 2002).

More recently, Elliot and Harackiewicz (1996) further distinguished performance goals by separating them into two types: performance-approach and performance-avoidance goals. They determined that performance-approach goal orientations represented a desire to seek favorable judgments of competence, which is positively associated with academic achievement. In contrast, performance-avoidant goals represented a desire to avoid unfavorable judgments of competence and were negatively correlated with academic achievement. The third category of goal orientations, work-avoidant, focused on a student’s desire to finish assigned works with a minimum amount of effort (Meece, Blumenfeld, & Hoyle, 1988); this orientation is consistently reported as being detrimental to achievement behaviors.

Researchers also have suggested that achievement goal orientations could change during school transitions. In a cross-sectional study across grade levels with predominantly White, middle-class adolescents, students were more oriented toward performance goals and less oriented toward learning goals in middle school than in elementary school (Midgley, Anderman, & Hicks, 1995). However, little is known about how the complete range of students’ achievement goal orientations and achievement behaviors may change during the transition to high school (Anderman, Austin, & Johnson, 2001; Newman, Myers, Newman, Lohan, & Smith, 2000), and current research has not frequently examined the predictive value of these goal orientations in urban African American students.

Several studies, however, have examined gender differences in achievement goal orientations with mixed results. Some research (e.g., Meece & Miller, 2001; Middleton & Midgley, 1997) reported that adolescent gender differences existed only in work-avoidant goals (i.e., boys endorsing them more strongly than did girls). Contrary to these findings, other studies have noted significant gender differences in academic achievement goal orientations, suggesting that male adolescents were more oriented to performance goal orientations and less oriented to learning goal orientation than were female adolescents (e.g., Anderman & Midgley, 1997; Pajares, Britner, & Valiante, 2000). In sum, these inconsistent results indicate that additional research is necessary.

Integrative Impact

How do these three motivational variables (i.e., interest, self-efficacy, and goal orientation) collectively interact and affect achievement? With

regard to self-efficacy and goal orientation, judgments of competence or self-efficacy in middle school students “figure into motivation differentially depending on what goal (orientation) dominates” (Anderman & Maehr, 1994, p. 298). Studies examining the juncture of goal orientation and interest in middle school and college students found that positive relationships existed when interest (task or subject) was paired with learning or mastery goals (Gehlbach, 2006; Van Yperen, 2003) and the relationship was especially strong for adolescent girls. When goals were joined with achievement, however, the results appeared to developmentally differ: in middle school students, “increases in mastery goal orientation related to higher levels of content knowledge and better grades” (Gehlbach, 2006, p. 366), whereas college students consistently linked performance goals with grades (Harackiewicz, Durik, & Barron, 2005).

Lent, Brown, and Hackett (1994) formulated a theory of career interest development that featured self-efficacy, interest, and goals. They envisioned the linear process as originating with self-efficacy, progressing to interests, and then affecting goals. An additional direct link from self-efficacy to goals represented their belief that self-efficacy has both a direct and an indirect effect on goals. After testing this theory among engineering students in contrasting Black and White university samples, Lent et al. (2005) found that Black students reported stronger self-efficacy, technical interests (e.g., reading books about engineering issues), and educational goals (e.g., becoming an engineering major). However, further research on the model indicated that only mathematics efficacy and interest were found to affect grade performance (Lent, Lopez, & Bieschke, 1993).

Some conclude that goals precede interest (Krapp, 1999), and others identify goals as an outcome of interest (Lent et al., 1994). Consequently, these variations have led to conclusions that the relationship may be reciprocal rather than unidirectional (Hidi & Harackiewicz, 2000). In addition, the relationship between goals and interest may be moderated by socioeconomic status. One study among high school students in South Africa found a connection between mastery goals and interest only in middle class participants, whereas interest and performance goals were more strongly aligned in their lower class counterparts (Marjoribanks & Mboya, 2004). As such, these limited findings provide us with an inadequate road map for distinguishing how goal orientation, interest, and self-efficacy might affect the achievement of urban eighth- and ninth-grade students.

Although we readily acknowledge that a number of variables are likely mediating cognitive, affective, or motivational processes involved in learning,

we constructed a motivational model that conceptualized achievement goal orientations, gender, and self-efficacy as contributing to domain interests, which in turn affected academic achievement. Specifically, our research questions included the following inquiries: (a) To what extent do gender, achievement goal orientations, and self-efficacy predict domain interests in urban adolescents who are predominately African American? and (b) Within the same urban setting, to what extent do gender, achievement goal orientations, self-efficacy, and domain interests predict achievement?

Methods

Participants

One site of this research project was a high school in a large urban district in the midwestern United States. Because students in the school have been performing below state proficiency levels in all subjects and grades ("Phi Delta," 2002), the entire system was categorized as being in a state of "academic emergency." This resulted in the curriculum of required courses (i.e., mathematics, English, social studies, and science) becoming more explicitly aligned with state proficiency exams, and teachers were expected to strictly adhere to the content of curriculum documents provided by central administration. The sample of eighth-grade students ($n = 255$) was drawn from three middle schools, which were feeder institutions for the single high school from which the ninth-grade sample ($n = 159$) was selected.

The eighth-grade students consisted of 123 boys (48%) and 132 girls (52%). The ethnic breakdown was 87% African American or African American mix, 10% Caucasian, and 3% other (i.e., Hispanic, Native American, and Asian). Approximately 61% of the students received free or reduced lunches. For the ninth-grade sample, there were 83 boys (53%) and 75 girls (47%). Ethnically, students were 72% African American or African American mix, 22% Caucasian, and 6% Other. Almost 56% of the ninth-grade students received free or reduced lunches.

Measures

Interest and self-efficacy. Students self-reported interest and efficacious belief levels in six subject domains: history, mathematics, science, reading, computer science, and art. The interest portion of the measure was

composed of two items in which students identified their levels of interest and importance for each domain. Although not equivalent, researchers do consider value to be one valence of interest (Renninger, 2000). The self-efficacy portion consisted of three questions for each domain (e.g., ability to perform well in a math course, think through a math problem, and solve a math problem). Students selected from a 10-point modified Likert-type response scale ranging from 0 (*strongly disagree*) to 9 (*strongly agree*) and recorded their responses on a Scantron sheet. After the grade reports were gathered, we chose to compile composite interest and self-efficacy scores only for the four core domains (mathematics, science, reading, and history) required by the entire student population. The interest/self-efficacy scale had a Cronbach's alpha of .92.

Goal orientations. Achievement goal orientations were measured using 18 items related to learning, performance-approach, and performance-avoidance goals adapted from the Patterns of Adaptive Learning Survey (PALS; Midgley et al., 1998). An additional fourth achievement goal orientation (i.e., work-avoidant) was assessed using a six-item scale adapted from previous work by Meece and colleagues (Meece et al., 1988). Specifically, some sample items are as follows: "I want to do as little school work as possible; I would feel successful in school if I did better than most of the other students." The original scales for the four goals were assessed using 5-point Likert-type scales. In this study, however, a 10-point Likert-type scale was employed to make scales of measurement consistent among all variables. On the basis of factor analysis with varimax rotation, a three-factor structure was identified for both the eighth and ninth goal items. An examination of items loaded on the factors revealed that in eighth and ninth grades, the goal items were divided into three primary goals: learning, performance, and work-avoidant goals (Cronbach's alpha reliability for these factors ranged from .77 to .86). For the subsequent analysis of this study, composite mean scores were calculated for each of these three achievement goal orientations.

Additional data about gender and ethnicity were gathered using a demographic measure that was part of the test package. Academic records, including final grade reports and participation in school lunch programs, were collected from the schools at the end of each school year (both eighth and ninth grades). Grades for core subjects (reading/literature, history/social study, math, and science) were used as indices of academic achievement. They were coded using a 4-point scale and then averaged to calculate a composite GPA.

Procedures

Members of a trained research team administered a test packet that was part of a longitudinal study on resilience. The eighth-grade participants were tested in May during regular class periods. In the following school year, ninth-grade students were tested either in December or February, depending on which semester they participated in a required core class—Exploration of Literature and Composition. In that way, every freshman student had the same opportunity to participate in the study and to become part of a larger longitudinal research project designed to focus on the transition from middle to high school.

Results and Discussion

Descriptive Statistics and Correlational Analyses

Tables 1 and 2 present the means, standard deviations, and correlations for eighth- and ninth-grade students. Mean student scores in both grades for the five motivational variables (three goal orientations, self-efficacy, and interest) were moderate in both grades, ranging in eighth grade from 4.348 for work avoidance to 5.875 for academic domain interests and in ninth grade from 4.340 for work avoidance to 5.921 for self-efficacy. Because no significant differences were detected between the eighth- and ninth-grade levels of any motivational variable, and we found no significant differences in interest or efficacy scores across the four core domains, we collapsed domain ratings into one composite score for interest as well as for self-efficacy. However, the mean GPA (2.130 for eighth grade) significantly decreased in ninth grade (1.427), as demonstrated by the independent *t* test, $t(412) = 6.968, p < .001$. This drastic drop in achievement is reminiscent of already-cited research among poor Black students where GPA significantly declined after the transition to middle school (Gutman & Midgley, 2000) and also corresponds to the literature's contention that academic underachievement can accompany the transition to high school (Reed et al., 1995).

To assess the overall relationships among the variables in the study, we examined the zero-order intercorrelations for eighth- and ninth-grade students. All of the correlation values are interpreted as the Pearson correlation coefficients, although the correlations between gender, a dichotomous variable, and the remaining continuous variables were computed by the point biserial correlation formula. By assigning two different numerical values to each category (1 for male, 2 for female) of the dichotomous variable,

Table 1
Bivariate Correlations, Means, and Standard Deviations for Gender, Motivational Variables, Domain Interests,
and Academic Achievements for the Eighth Graders ($n = 255$)

	1	2	3	4	5	6	7	<i>M</i>	<i>SD</i>
1. Gender	—							—	—
2. Learning goal orientation	.179**	—						5.727	1.856
3. Performance goal orientation	-.116	.137*	—					4.663	1.824
4. Work-avoidance goal orientation	-.168**	-.313**	.407**	—				4.348	2.344
5. Self-efficacy	-.024	.588**	.166**	-.088	—			5.774	1.950
6. Domain interests	.043	.633**	.153*	-.121	.872**	—		5.875	1.951
7. GPA	.192**	.239**	-.061	-.169**	.204**	.166**	—	2.130	0.823

* $p \leq .05$. ** $p \leq .01$.

Table 2
Bivariate Correlations, Means, and Standard Deviations for Gender, Motivational Variables, Domain Interests, and Academic Achievements for the Ninth Graders ($n = 159$)

	1	2	3	4	5	6	7	<i>M</i>	<i>SD</i>
1. Gender	—							—	—
2. Learning goal orientation	-.072	—						5.627	1.924
3. Performance goal orientation	-.302**	.283**	—					4.663	1.883
4. Work-avoidance goal orientation	-.243**	-.112	.538**	—				4.340	1.916
5. Self-efficacy	-.101	.618**	.277**	.025	—			5.921	1.814
6. Domain interests	-.069	.670**	.309*	-.016	.889**	—		5.896	1.884
7. GPA	.060	.154	-.095	-.217**	.135	.026	—	1.472	1.091

* $p \leq .05$. ** $p \leq .01$.

the values of the point biserial correlation coefficients are numerically equivalent to those that are obtained by the Pearson correlation formula (Gravetter & Wallnau, 2000).

Results (Tables 1 and 2) suggested that motivational patterns both correspond to and differ from previously published studies. Domain interests of these adolescents in both eighth and ninth grades significantly and moderately related to their learning goals ($r = .633, .618$), strongly correlated with self-efficacy ($r = .872, .889$), but were less intensely connected to performance goals ($r = .153, .309$). In addition, performance goals associated with learning goals at a low level ($r = .137, .283$) but were more powerfully connected with work-avoidant goals ($r = .407, .538$). Moreover, achievement correlated with domain interest ($r = .166$), self-efficacy ($r = .204$), and learning goals ($r = .239$), but only in eighth grade. The relationship between work-avoidant goals and achievement, however, existed in both grades ($r = -.169, -.217$).

These findings contrast with studies in college students where performance goals correlated only to grades (Harackiewicz et al., 2005), but support other empirical work with middle school students that associated learning goals and interest (Gehlbach, 2006). Furthermore, the connection between performance goals and interest is corroborated by the South African high school study among lower class students. Nonetheless, the high correlation between interest and self-efficacy indicates that when these predominantly Black urban students believe they are competent in mastering materials within a domain, they also are likely to be interested in that domain. Moreover, the eighth-grade data does parallel research findings that support the ongoing relationship between self-efficacy and achievement (Pajares, 1996) as well as between domain interest and achievement (Schiefele et al., 1992).

Gender differences did exist in eighth-grade learning and work-avoidance goal orientations ($r = .179, -.168$, respectively) and academic achievement ($r = .192$). Using gender as an independent variable and motivational variables as dependent variables, a multivariate analysis of variance (MANOVA) showed a significant main effect, Wilks's $\lambda = .897$, $F(6, 248) = 4.764$, $p < .001$. Female eighth-grade students tended to hold stronger learning or mastery-oriented goals and obtained higher GPA scores, whereas boys expressed stronger preferences for work-avoidant goals. Gender differences continued to be present in ninth-grade boys' work-avoidant ($r = -.243$) and performance ($r = -.302$) goal orientations (i.e., significant main effect, Wilks's $\lambda = .892$), $F(6, 152) = 3.055$, $p < .01$. These results conflict with prior research reports noting insignificant gender differences in learning goals among middle school students (Middleton & Midgley, 1997) and

Table 3
Regression of Domain Interests on Gender; Learning, Performance, and Work-Avoidance Goal Orientations; and Academic Self-Efficacy

	Domain Interests	
	8th Graders	9th Graders
Gender	$\beta = .03$	$\beta = .03$
Learning goal orientation	$\beta = .18^{**}$	$\beta = .17^{**}$
Performance goal orientation	$\beta = .01$	$\beta = .09$
Work-avoidance goal orientation	$\beta = .01$	$\beta = -.06$
Self-efficacy	$\beta = .77^{**}$	$\beta = .77^{**}$
Total	$R^2 = .78^{**}$	$R^2 = .82^{**}$
	(Adj. $R^2 = .78$)	(Adj. $R^2 = .81$)

** $p \leq .01$.

yet support the tendency of male adolescents to endorse work-avoidant goals more strongly than their female counterparts (Meece & Miller, 2001).

Contributors to Domain Interest and Achievement

To answer the first research question, which examined the contribution of gender, self-efficacy, and goal orientation to domain interest, a regression analysis was employed. The five predictor variables (i.e., gender, learning, performance, work-avoidant goal orientations, and self-efficacy) were entered into the equation simultaneously. This approach allowed us to identify the unique contribution of each predictor to the designated outcome variable (Cohen, Cohen, West, & Aiken, 2003). Those results appear in Table 3 for eighth- and ninth-grade students. The predictors of the dependent variable, domain interests, accounted for 78% of the overall variance among eighth-grade students, and of those predictors, the learning goal orientation ($\beta = .18$) and academic self-efficacy ($\beta = .77$) were significant. Similarly, 81% of the variance of ninth-grader’s domain interests was explained by the same variables: learning goal orientation ($\beta = .17$) and academic self-efficacy ($\beta = .77$).

The second research question, which focused on the predictive power of gender, goal orientations, self-efficacy, and domain interest on academic achievement, was addressed with a hierarchical regression analysis. An advantage of hierarchical regression analyses over simultaneous regression analysis is that this approach allowed us to examine the unique contribution

Table 4
Regression of Academic Achievement on Gender; Learning, Performance, and Work-Avoidance Goal Orientations; Academic Self-Efficacy; and Domain Interests

	Academic Achievement	
	8th Graders	9th Graders
Step 1		
Gender	$\beta = .16^*$	$\beta = .02$
Learning goal orientation	$\beta = .11$	$\beta = .09$
Performance goal orientation	$\beta = -.05$	$\beta = -.04$
Work-avoidance goal orientation	$\beta = -.08$	$\beta = -.18$
Self-efficacy	$\beta = .15$	$\beta = .10$
Total	$R^2 = .10^{**}$	$R^2 = .07^*$
	(Adj. $R^2 = .08$)	(Adj. $R^2 = .04$)
Step 2		
Gender	$\beta = .16^*$	$\beta = .04$
Learning goal orientation	$\beta = .14$	$\beta = .19$
Performance goal orientation	$\beta = -.05$	$\beta = .01$
Work-avoidance goal orientation	$\beta = -.07$	$\beta = -.22^*$
Self-efficacy	$\beta = .28^*$	$\beta = .56^{**}$
Domain interests	$\beta = -.17$	$\beta = -.60^{**}$
Total	$R^2 = .11^{**}$	$R^2 = .14^{**}$
	(Adj. $R^2 = .09$)	(Adj. $R^2 = .10$)
	$\Delta R^2 = .01$	$\Delta R^2 = .07^{**}$

* $p \leq .05$. ** $p \leq .01$.

of predictors to an outcome variable after controlling the overlaps among the five predictors established in the first regression equation (Cohen et al., 2003). These results are presented in Table 4.

In step 1, the five predictors were entered in the equation: gender, learning, performance, work-avoidant goal orientations, and self-efficacy. Of these five predictors, gender ($\beta = .16$) significantly contributed to academic achievement, indicating that eighth-grade female students tended to have higher GPA than did their male counterparts. In step 2, domain interests were entered into the equation to control the contribution of gender on academic achievement. Gender remained a significant predictor ($\beta = .16$), academic self-efficacy became a significant predictor ($\beta = .28$), and domain interests did not significantly contribute to academic achievement. More specifically, eighth-grade students with higher academic self-efficacy

beliefs were likely to receive higher GPA than those who were less efficacious. Overall, this model explained 9% of the variance of academic achievement for eighth-grade students.

Not surprisingly, the ninth-grade data portrayed a different picture. In step 1, none of the five predictors were significant. Step 2 of the hierarchical regression analysis showed that the overall ninth-grade model accounted for 10% of the variance of academic achievement, and of this 10% variance, 4% was explained by the work-avoidant goal orientation ($\beta = -.22$) and academic self-efficacy ($\beta = .56$), whereas domain interests accounted for the remaining 6%. A notable finding, as shown in Table 4, is that both domain interests and work-avoidant goals negatively contributed to academic achievement ($\beta = -.60$). These results were likely skewed by the dramatic decrease in ninth-grade GPA because domain interest levels remained comparable in both grades (5.88 and 5.90, respectively). Nonetheless, it appears that ninth-grade students were more likely to endorse work-avoidant goals, resulting in lower GPA scores, but those who believed they were academically efficacious had higher GPA (Gutman & Midgley, 2000).

To summarize, the data revealed the following findings about this primarily poor, urban, African American, adolescent sample. First, students expressed moderate levels of all three motivational variables (i.e., self-efficacy, domain interest, and personal goal orientations) in both grades, but grades were significantly lower in high school. Second, levels of efficacy and learning goals strongly predicted domain interest in both grades. Third, self-efficacy consistently contributed to achievement at either grade level. Fourth, although interest's contribution to achievement could have been masked by self-efficacy and goal orientation in middle school, interest emerged as a significant (albeit negative) contributor to achievement in high school. Fifth, the negative effect of work-avoidant goals on achievement became prominent in high school. Sixth, gender's affect on motivation and achievement varied between grades.

These results confirm both Krapp (1999) and Lent et al.'s (1994) assumptions regarding the significant effect of goals and self-efficacy on interest. However, they do not support related findings by Lent and associates (1993) that both self-efficacy and interest positively affect grades. In addition, the overall contribution of motivational variables and gender represented only a small percentage of variance in achievement, confirming that achievement is a complex phenomenon composed of many factors that were not included in our model. Nonetheless, if motivation starts, sustains, and directs a sequence (Graham & Weiner, 1996), then its contribution to the learning process can be neither undervalued nor overestimated.

Conclusions and Implications

Several provocative conclusions and implications emerge from these findings. First, if learning goals and self-efficacy significantly contribute to students' domain interests, then interest's power (Alexander et al., 1997) depends on positive beliefs about ability (Bandura, 1986), a willingness to master skills necessary for academic tasks, and an effortful investment into increasing levels of knowledge and understanding (Pintrich, 2000). As such, we could conclude that when student learning goals and self-efficacy are encouraged to grow, domain interests will likewise increase and empower achievement across a variety of subjects and domains.

Unfortunately, however, domain interest's consistent relationship with achievement across many cultures was lower in these eighth-grade students than the averages previously reported (Schiefele et al., 1992) and was insignificant in ninth grade. Furthermore, interest did not empower achievement at either grade level. Why did this occur? Although the literature has noted that declines in achievement can differentially affect motivation after developmental milestones (e.g., transition from elementary to middle school), self-efficacy's effect increased (from low to moderate) but interest's effect was not positive. Simply acknowledging that most interest and efficacy research has been conducted among Caucasian students, however, does not warrant our concluding that these disparate outcomes represent a cultural anomaly. Instead, we believe it may be more appropriate to suggest that their interest was simply more responsive to contextual factors. Until we know how interest develops, this suggestion remains provocatively unresolved.

We do acknowledge, however, that students within a system characterized as being in an academic emergency may not have opportunities for their existing domain interests to be utilized during instruction. The vocational interests of 71 students from both eighth and ninth grades who participated in the entire 2-year study remained surprisingly consistent and stable longitudinally, yet few students believed their teachers could identify their individual or vocational interests (Long, 2003). Thus a student's desire to pursue pediatric nursing, for example, would not necessarily empower domain interest or learning in science and math.

Furthermore, if domain interest is unaccompanied by correspondingly high levels of knowledge (Alexander et al., 1994), then even students who are able to identify their levels of domain interest as being moderately strong are likely unable to capitalize on interest's potential power to support their learning. Essentially, interest's energizing ability is fueled by knowledge acquisition, which was low in eighth grade ($M = 2.130$) and plummeted in

ninth grade ($M = 1.427$). Because new knowledge must be constructed from existing knowledge (Bransford, Brown, & Cocking, 1999), even students who possess the will, desire, and value for learning require substance with which to build cognitive schema and understanding. Thus, these levels of GPA indicate that students' construction of knowledge is being severely hampered by other factors not examined in this empirical project.

Second, because self-efficacy levels consistently contributed to domain interest as well as achievement at each grade level, we need to reexamine this outcome in light of previous findings in the literature. Typically, self-beliefs among Caucasian students decline following a developmental school transition (Eccles et al., 1993), but this did not occur in our urban, minority sample. Conceptually regarded as being sensitive to experiences of failure, their levels of efficacious beliefs were moderately strong and surprisingly robust, but their skill and effort did not match the outcome (Bandura, 1986). This can occur in settings where social bias and inferior resources impair academic achievement and "self-efficacy may exceed actual performance," indicating that rather than not knowing what to do, students "are unable to do what they know" (Pajares, 1996, p. 568).

Such a scenario is reminiscent of the sociological premises referenced in the introduction of this article (i.e., oppositional identity, stereotype threat). As such, African American students who adopt oppositional identities to combat the negative impact of actual and perceived discrimination within their school setting may feel confident in their ability to successfully execute a given academic task or be interested in an academic domain and still simultaneously express a deliberate disdain for academic behaviors associated with successful outcomes. Steinberg (1991) examined beliefs about the rewards of success among African American high school students and concluded that it was extremely difficult for Black high school students to join a peer group that encouraged academic excellence. Thus the paramount importance of the peer group for African American students relative to other ethnic groups has led researchers to conclude that Black high school students who desire to excel academically may be faced with isolation or be cut off from the social networks that exist among their high school peers (Witherspoon, Speight, & Thomas, 1997).

Third, neither learning goals (a contributor to domain interest) nor performance goals significantly factored into achievement at any grade level. Again, this contrasts with research in predominantly non-Black samples at comparable ninth-grade developmental levels (e.g., Gehlbach, 2006). However, these students' work-avoidant goals did emerge as negatively influential on ninth-grade GPA. When faced with the challenges associated

with high school (e.g., larger, more heterogeneous student body; rigid academic ability tracking), achievement was actually affected by students' apparent desire to finish assigned works with a minimum amount of effort (Meece et al., 1988) rather than seeking help or persisting (Brophy, 2004). Even more important, although the literature and our eighth-grade findings support the notion that boys tended to hold work-avoidant goal orientations (Meece & Miller, 2001), these gender differences disappeared in high school. Within the present research design, it is impossible to determine if the more prominent adoption of work-avoidant goals actually encouraged the decline in GPA or resulted from the decline. We can only state that avoidant goals emerged as a significant factor among both ninth-grade boys and girls, sadly contrasting with the eighth-grade girls' strength in higher grades and stronger learning goals.

Although this finding could indicate the emergence of a cross-gender developmental trend, the literature neither corroborates nor negates this conclusion. Thus, this pattern may be unique to African American students, especially if their environment inadvertently encourages early acquisition of avoidance goals for strategic purposes. This possibility became evident to us when the first author was a reading tutor in one of the urban middle schools featured in this study. After a new female tutee was able to rather easily read the designated passage, the student was asked why she needed extra help. She responded by stating that their currently assigned novel was "very boring." Therefore, she and a large group of her girlfriends complained and requested a replacement. When their pleas were denied because the book was mandated by the system's language arts curriculum, they formulated a plan to finish the dull book more quickly. Their scheme consisted of pretending they could decipher only one-syllable words when it was their turn to read aloud. Their halting responses so frustrated the teacher that she took over reading the book, which was covered much more rapidly. As they moved to another text, the girls concluded that their strategy had been very successful. Unfortunately, their skills in constructing and implementing the work-avoidant goal later resulted in the group receiving lower reading grades and remediation (indicative of the negative relationship between avoidance and GPA).

On one level, these middle school students' proficiency in formulating strategies that utilized work-avoidant goals could appear to be the result of a developmental mismatch with their required text. However, there may be cultural reasons why African Americans may be particularly vulnerable to this goal orientation. More specifically, students of color attend more readily to curriculum presented in a humanized narrative form (Banks, 1988).

In addition, Bennett (1990) reported that African American students tend to evidence a learning style that stresses a visual/global rather than a verbal/analytical approach as well as a preference for reasoning by inference rather than formal logic. Furthermore, Hale (2003) argued that culturally appropriate pedagogy must consider three interacting spheres of influence: classroom instruction, cultural enrichment, and instructional accountability. Boykin (1983) also found that Black students evidenced a preference for energetic involvement in several activities simultaneously rather than routine, step-by-step learning. Although these findings are well-known among ethnicity researchers, they are less apparent to educators and are rarely afforded pedagogical consideration, particularly in urban high schools where whole-class instruction and higher levels of competition (Bryk & Thum, 1989) sharply conflict with cultural differences in learning styles and communication preferences.

In discussing how African American students may best reconcile the absence of these culturally relevant teaching practices, Ogbu (2003) recommends “accommodation without assimilation,” or the adoption of attitudes and behaviors that lend themselves to academic success in school setting while still embracing cultural norms that are acceptable in less formal settings. This alternative is preferred to other assimilationist behaviors that can significantly correlate with psychological distress (i.e., emulation of Whites, disguising true academic attitudes and behaviors, and the deliberate isolation from other African Americans). To reverse the apparent tendency for African American students to assume work-avoidant goal orientations, perhaps high school students need opportunities to value both the culture of the school and their African American community, stressing the value of one without undermining loyalty to the other.

In sum, our findings indicate that students’ motivational beliefs and dispositions, similar to self-efficacy, domain interest, and achievement goal orientations, develop “partly as a consequence of the educational environments they experience” (National Research Council, 2004, p. 33). Thus, factors that hinder the relationship between motivation and achievement can consist of poor resources, dilapidated facilities or equipment, ineffective teachers (Pajares, 1996), or other indigenous factors often associated with academic transitions (i.e., increased stress levels, decreased self-esteem, and loss of social status). Qualitative methods (e.g., student interviews about motivation that capture their own words, close examinations of the climate of testing and its effect on motivation) as well as survey measures should be used in the future to distinguish why minority students’ existing levels of motivation fail to produce acceptable achievement levels.

Furthermore, although the generalizability of these findings is limited to urban schools where there is an academic emergency that directly and indirectly affects all participants within the ecological educational system, our results suggest the need to further investigate such locales where a mandatory curriculum in all core courses is being implemented.

A decade ago, Graham (1994) concluded that "Black subjects maintain undaunted optimism and positive self-regard even in the face of achievement failure" (p. 103), and our findings echo the same refrain today. Because these students possessed moderate levels of all three motivational variables, they cannot be technically classified as unmotivated. However, the purchasing power of their motivational resources seems reflective of an impoverished academic state. Some of our outcomes parallel developmental patterns discovered by other researchers after an academic transition (e.g., declines in achievement and shifts from learning goals), but other results (e.g., decline in the effectiveness of interest; both boys and girls utilizing work-avoidant goals) distinctively differ and seem more connected with cultural and contextual factors. Thus, we support suggestions by the National Research Council (2004) for fostering motivation in urban high schools. Their environmental recommendations included redesigning courses and instructional methods to increase engagement and learning, providing resources, assessing understanding and skills, creating smaller learning communities, coordinating communication within the community, and eliminating tracking. It is very likely that such improvements will not only support the growth of motivation but also contribute to its potency and effectiveness in empowering achievement.

References

- Alexander, P. A., Kulikowich, J. M., & Schulze, S. K. (1994). How subject-matter knowledge affects recall and interest. *American Educational Research Journal*, 3, 313-337.
- Alexander, P. A., & Murphy, P. K. (1998). Profiling the differences in students' knowledge, interest, and strategic processing. *Journal of Educational Psychology*, 90, 435-447.
- Alexander, P. A., Murphy, P. K., Woods, B. S., Duhon, K. E., & Parker, D. (1997). College instruction and concomitant changes in students' knowledge, interest, and strategy use: A study of domain learning. *Contemporary Educational Psychology*, 22, 125-146.
- Alvidrez, J., & Weinstein, R. S. (1993). The nature of "schooling" in school transitions: A critical re-examination. *Prevention in Human Services*, 10, 7-26.
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84, 261-271.
- Anderman, E. M., Austin, C. C., & Johnson, D. M. (2001). The development of goal orientation. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 197-220). San Diego, CA: Academic Press.

- Anderman, E. M., & Maehr, M. L. (1994). Motivation and schooling in the middle grades. *Review of Educational Research, 64*, 287-309.
- Anderman, E. M., & Midgley, C. (1997). Changes in achievement goal orientations, perceived academic competence, and grades across the transition to middle-level schools. *Contemporary Educational Psychology, 22*, 269-298.
- Aronson, J., & Good, C. (2002). Development and consequences of stereotype vulnerability in adolescents. In F. Pajares & T. Urdan (Eds.), *Academic motivation of adolescents* (pp. 178-198). Greenwich, CT: Information Age.
- Aronson, J., Quinn, D., & Spencer, S. (1998). Stereotype threat and the academic underperformance of minorities and women. In J. Swim & C. Stangor (Eds.), *Prejudice: The target's perspective* (pp. 83-103). San Diego, CA: Academic Press.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215.
- Bandura, A. (1986). *Social foundation of thought and action: A social cognitive theory*. Upper Saddle River, NJ: Prentice Hall.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*, 117-148.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Banks, J. (1988). Multicultural education: Development, dimensions and challenges. *Phi Delta Kappan, 75*, 22-28.
- Bennett, C. (1990). *Comprehensive multicultural education: Theory and practice* (2nd ed.). Boston: Allyn & Bacon.
- Boykin, A. W. (1983). The academic performance of Afro-American children. In J. Spence (Ed.), *Achievement and achievement motives* (pp. 324-371). San Francisco: Freeman.
- Bransford, J., Brown, A., & Cocking, R. (Eds.). (1999). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.
- Brophy, J. (2004). *Motivating students to learn* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Bryk, A., & Thum, Y. (1989). The effects of high school organization on dropping out: An exploratory investigation. *American Educational Research Journal, 26*, 353-383.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral science* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.
- Dewey, J. (1899). *Interest as related to will*. Chicago: University of Chicago.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41*, 1040-1048.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychologist Review, 95*, 256-273.
- Eccles, J., & Midgley, C. (1989). Stage/environment fit: Developmentally appropriate classrooms for early adolescents. In R. Ames & C. Ames (Eds.), *Research on motivation in education* (Vol. 3, pp. 139-181). New York: Academic Press.
- Eccles, J., Midgley, C., Wigfield, A., Buchanan, C., Reuman, D., Flanagan, C., et al. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist, 48*, 90-101.
- Elliot, A. J., & Harackiewicz, J. M. (1996). Approach and avoidance goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology, 70*, 461-475.
- Fordham, S., & Ogbu, J. (1988). Black students' school success: Coping with the "burden of 'acting white.'" *Urban Review, 18*, 178-204.
- Gardner, P. L., & Tamir, P. (1989). Interest in biology: A multidimensional construct. *Journal of Research in Science Teaching, 26*, 409-423.

- Gehlbach, H. (2006). How changes in students' goal orientations relate to outcomes in social studies. *The Journal of Educational Research, 99*, 358-370.
- Gillock, K., & Reyes, O. (1996). High school transition-related changes in urban minority students' academic performance and perceptions of self and school environment. *Journal of Community Psychology, 24*, 245-261.
- Graham, S. (1994). Motivation in African Americans. *Review of Educational Research, 64*, 55-117.
- Graham, S., & Weiner, B. (1996). Theories and principles of motivation. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 63-84). New York: Macmillan.
- Gravetter, F. J., & Wallnau, L. B. (2000). *Statistics for the behavioral sciences* (5th ed.). Belmont, CA: Wadsworth/Thomson Learning.
- Gutman, L. M., & Midgley, C. (2000). The role of protective factors in supporting the academic achievement of poor African American students during the middle school transition. *Journal of Youth and Adolescence, 29*, 223-248.
- Hale, J. (2003). *Learning while Black: Creating educational excellence for African American children*. Baltimore, MD: Johns Hopkins University Press.
- Harackiewicz, J. M., Durik, A. M., & Barron, K. E. (2005). Multiple goals, optimal motivation, and the development of interest. In J. P. Forgas, K. D. Williams, & S. M. Laham (Eds.), *Social motivation: Conscious and unconscious processes* (pp. 21-39). Cambridge, UK: Cambridge University Press.
- Hidi, S., & Baird, W. (1988). Strategies for increasing text-based interest and students' recall of expository texts. *Reading Research Quarterly, 23*, 465-483.
- Hidi, S., & Harackiewicz, J. M. (2000). Motivating the academically unmotivated: A critical issue for the 21st century. *Review of Educational Research, 70*, 151-179.
- James, W. (1958). *Talks to teachers*. New York: Norton.
- Krapp, A. (1999). Interest, motivation and learning: An educational-psychological perspective. *European Journal of Psychology of Education, 14*(1), 23-40.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45*, 79-122.
- Lent, R. W., Brown, S. D., Sheu, H., Schmidt, J., Brenner, B. R., Gloster, C. S., et al. (2005). Social cognitive predictors of academic interests and goals in engineering: Utility for women and students at historically Black universities. *Journal of Counseling Psychology, 52*, 84-92.
- Lent, R. W., Lopez, F. G., & Bieschke, K. J. (1993). Predicting mathematics-related choice and success behaviors: Test of an expanded social cognitive model. *Journal of Vocational Behavior, 42*, 223-236.
- Long, J. F. (2003). *Connecting with the content: How teacher interest affects student interest in a core course*. Unpublished doctoral dissertation, The Ohio State University, Columbus.
- Marjoribanks, K., & Mboya, M. (2004). Learning environments, goal orientations, and interest in music. *Journal of Research in Music Education, 52*, 155-166.
- Meece, J. L., Blumenfeld, P. C., & Hoyle, R. (1988). Students' goal orientations and cognitive engagement in classroom activities. *Journal of Educational Psychology, 80*, 514-523.
- Meece, J. L., & Miller, S. D. (2001). A longitudinal analysis of elementary school students' achievement goals in literacy activities. *Contemporary Educational Psychology, 26*, 458-480.
- Middleton, M. J., & Midgley, C. (1997). Avoiding the demonstration of lack of ability: An unexplored aspect of goal theory. *Journal of Educational Psychology, 89*, 710-718.

- Midgley, C., Anderman, E., & Hicks, L. (1995). Differences between elementary and middle school teachers and students. *Journal of Early Adolescence, 15*, 90-113.
- Midgley, C., Kaplan, A., Middleton, M., Maehr, M. L., Urdan, T., Anderman, L. H., et al. (1998). The development and validation of scales assessing students' achievement goal orientations. *Contemporary Educational Psychology, 23*, 113-131.
- National Research Council. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: National Academies Press.
- Newman, B. M., Myers, M. C., Newman, P. R., Lohan, B. J., & Smith, V. L. (2000). The transition to high school for academically promising, urban, low-income African American youth. *Adolescence, 35*, 45-66.
- Ogbu, J. U. (1988). Cultural diversity and human development. In D.T. Slaughter (Ed.), *Black children and poverty, a developmental perspective* (pp. 11-28). San Francisco: Jossey-Bass.
- Ogbu, J. (2003). *Black American students in an affluent suburb. A study of academic disengagement*. Mahwah, NJ: Lawrence Erlbaum.
- Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research, 66*, 533-578.
- Pajares, F., Britner, S. L., & Valiante, G. (2000). Relation between achievement goals and self-beliefs of middle school students in writing and science. *Contemporary Educational Psychology, 25*, 406-422.
- Pajares, F., & Johnson, M. J. (1996). Self-efficacy beliefs and the writing performance of entering high school students. *Psychology in the Schools, 33*, 163-175.
- Pajares, F., & Miller, M. D. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: A path analysis. *Journal of Educational Psychology, 86*, 193-203.
- Pajares, F., & Valiante, G. (1997). Influence of self-efficacy on elementary students' writing. *The Journal of Educational Research, 90*, 353-360.
- Phi Delta Kappa curriculum management audit of Columbus Public Schools. (2002, December 2). *The Columbus Dispatch*. Retrieved December 2, 2002, from <http://www.dispatch.com/news/audit/standard4-1.html>.
- Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology, 92*, 544-555.
- Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education: Theory, research, and application* (2nd ed.). Upper Saddle River, NJ: Merrill-Prentice Hall.
- Reed, D., McMillan, J., & McBee, R. (1995). Defying the odds: Middle schoolers in high-risk circumstances who succeed. *Middle School Journal, 27*, 3-10.
- Renninger, K. A. (2000). Individual interest and its implications for understanding intrinsic motivation. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 373-404). San Diego, CA: Academic Press.
- Reyes, O., Gillock, K., Kobus, K., & Sanchez, B. (2000). A longitudinal examination of the transition into senior high school for adolescents from urban, low-income status, and predominantly minority backgrounds. *American Journal of Community Psychology, 28*, 519-544.
- Sansone, C., & Smith, J. L. (2000). Interest and self-regulation: The relation between having to and wanting to. In C. Sansone & J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (pp. 341-372). San Diego, CA: Academic Press.

- Schiefele, U. (1991). Interest, learning, and motivation. *Educational Psychologist, 26*, 299-323.
- Schiefele, U. (1996). Topic interest, text representation, and quality of experience. *Contemporary Educational Psychology, 2*, 3-18.
- Schiefele, U., Krapp, A., & Winteler, A. (1992). Interest as a predictor of academic achievement: A meta-analysis of research. In K. A. Renninger, S. Hidi, & A. Krapp (Eds.), *The role of interest in learning and development* (pp. 183-212). Hillsdale, NJ: Lawrence Erlbaum.
- Schunk, D. H. (1989). Self-efficacy and achievement behaviors. *Educational Psychology Review, 1*, 173-207.
- Seidman, E., Aber, J. L., Allen, L., & French, S. E. (1996). The impact of the transition to high school on the self-system and perceived social context of poor urban youth. *American Journal of Community Psychology, 24*, 489-516.
- Seidman, E., Allen, L., Aber, J. L., Mitchell, C., & Feinman, J. (1994). The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development, 65*, 507-522.
- Seidman, E., & French, S. E. (1997). Normative school transitions among urban adolescents: When, where, and how to intervene. In H. J. Walberg, O. Reyes, & R. P. Weissberg (Eds.), *Children and youth: Interdisciplinary perspectives* (pp. 166-189). Thousand Oaks, CA: Sage.
- Shell, D. F., Murphy, C. C., & Bruning, R. H. (1989). Self-efficacy and outcome expectancy mechanisms in reading and writing achievement. *Journal of Educational Psychology, 81*, 91-100.
- Steele, C., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology, 69*, 797-811.
- Steele, C., Spencer, S., & Aronson, J. (2002). Contending with group image: The psychology of stereotype and social identity threat. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 34, pp. 379-440). New York: Academic Press.
- Steinberg, L. (1991). Ethnic differences in adolescent achievement: An ecological perspective. *American Psychologist, 46*, 723-729.
- Steinberg, L., Dornbusch, S., & Brown, B. (1992). Ethnic differences in adolescent achievement: An ecological perspective. *American Psychologist, 47*, 723-729.
- Tobias, S. (1994). Interest, prior knowledge, and learning. *Review of Educational Research, 64*, 37-54.
- Van Yperen, N. (2003). Task interest and actual performance: The moderating effects of assigned and adopted purpose goals. *Journal of Personality and Social Psychology, 85*, 1006-1015.
- Wenner, G. (2003). Comparing poor, minority elementary students' interest and background in science with that of their White, affluent peers. *Urban Education, 38*, 153-172.
- Wigfield, A., Eccles, J. S., & Pintrich, P. R. (1996). Development between the ages of 11 and 25. In D. Berliner & R. Calfee (Eds.), *Handbook of educational psychology* (pp. 148-185). New York: Macmillan.
- Witherspoon, K., Speight, S., & Thomas, A. (1997). Racial identity attitudes, school achievement, and academic self-efficacy among African American high school students. *Journal of Black Psychology, 23*, 344-357.

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