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The Relation of Early Adolescents' College Plans and Both Academic Ability and Task-Value Beliefs to Subsequent College Enrollment

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Although it is likely that plans to attend a 4-year college are made much earlier than the last 2 years of high school, few researchers have assessed the pre-high school factors that influence high school performance and course-enrollment decisions, which in turn, affect college attendance. The data presented in this article were collected as part of the longitudinal Michigan Study of Adolescent Life Transitions. In this article, we used data from 681 adolescents in sixth grade and from their mothers to predict college attendance 2 years after high school graduation. Hierarchical logistic regression revealed the following as significant predictors of full-time college attendance: youth's grade point averages, their plans for college, their resiliency, family income, mother's education level, and mother's educational relating.

Keywords: college enrollment; college plans; competence beliefs; task-value beliefs

Postsecondary education has increasingly shaped the possibilities and the opportunities for achieving success during adulthood. For most youth, being able to attend college, however, requires planning and preparation that begins

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early in life. Despite the fact that signs of dropping out of high school are evident by middle childhood and by early adolescence (Alexander, Entwisle, & Horsey, 1997), studies of college-enrollment predictors have focused on the high school years (Boatwright, Ching, & Parr, 1992). Yet there is good reason to believe that characteristics of both early adolescents and their families influence young people's pathways toward college. For example, Atanda (1999) concluded that the eighth grade is an important period for college planning. In addition, children have already considered various occupational roles and have developed career preferences by early adolescence (Vondracek, Silbereisen, Reitzle, & Wiesner, 1999), which, in turn, should influence their plans to attend college. Finally, early adolescence is a time when many young people begin selecting the courses that will influence their high school curricular track, which, in turn, will influence their options for a college education and for career selection (Eccles, Adler, & Meece, 1984). The major purpose of the present study is to examine the longitudinal predictive power of early adolescent psychological and of familial factors on college attendance. The study is motivated by two major research questions: First, do motivational and familial factors that measured in early adolescence predict future college attendance? Based on prior longitudinal research that shows that social and that personal resources affect college aspirations or college status in older samples (e.g., Hossler & Stage, 1992; Trusty, 1998), we predict that youth's sixth-grade social, personal and psychological resources will predict college status at age 20.

Our second purpose is to test whether there are educational pathways that link the beliefs and the plans of early adolescents to their later decisions regarding college attendance. It seems logical that a series of educational decisions and actions facilitate this link. Two indicators of these decisions and actions are being enrolled in the college-bound math-course sequence at Grade 10 and 12th-grade grade point average (GPA). We predict that these high school educational indicators will be predicted by the sixth-grade college plans and that the high school educational indicators will mediate, to some extent, the link between sixth-grade college plans and college attendance at age 20.

Theoretical and Empirical Background

The Eccles Expectancy-Value Model of Achievement-Related Choices (see Eccles, Wigfield, & Schiefele, 1998) guided our selection of variables for this study. In this model, Eccles linked educational and other achievement-related choices to two broad sets of influences: (a) a set of psychological factors and (b) a set of social factors. The psychological factors include individ-

uals' personal beliefs regarding their own abilities, the likelihood of their own successes, and the subjective task values that they attach to achieving various outcomes. The social factors include the beliefs and the behaviors of significant socializers such as parents, teachers, and peers, as well as such individual characteristics as prior achievement, one's sex, and the social class of one's family. Eccles and her colleagues have shown that this model predicts both individual differences and gender differences in high school educational choices (see Eccles et al., 1998). We focused on several features of this model in this article. First, we investigated whether sixth-grade college plans predict college enrollment 8 years later. Second, we investigated whether sixth-grade college plans are predicted by the psychological and the social constructs specified in the Eccles model as well as by sixth-graders' academic achievement. To meet these two goals, we included the following early adolescent predictors from the Eccles expectancy-value model: gender; sixth-grade academic performance; sixth-grade academic-ability self-concepts and values; sixth-grade college plans; mother's valuing of a college education; and mother's education.

We also investigated the extent to which the association of the sixth-grade variables with college attendance at age 20 is mediated through the association with academic choices and with performance in high school. In the Eccles model, it is assumed that ultimate educational choices reflect a long series of choices along an educational pathway. We assessed this mediation perspective by incorporating two high school indicators of a college-bound educational pathway: participation in a college preparatory sequence of high school courses and high school academic achievement, both of which substantially increase the likelihood of a youth attending college at age 20.

Finally, as a control for selection, we included an indicator of motivational resilience: not giving up when faced with difficulties. Persistence in the face of academic difficulty is a key aspect of academic success (see Eccles et al., 1998). Like the self and the task beliefs stressed in Eccles expectancy-value model, this motivational characteristic is likely to facilitate a child's willingness to take the difficult high school courses needed for entry into college. We included it as control variable to get a better estimate of the unique association of early adolescents' academic-ability self-concepts, academic task values, and college plans on subsequent college attendance.

Supporting Empirical Evidence

Motivational beliefs and plans. Many studies have shown that planning to attend college is a major predictor of actually attending college (Atanda,

1999; Ekstrom, 1985; Horn, 1998). However, few studies have looked at college plans during early adolescence. This is our first goal. But what influences these plans? According to the Eccles model, prior academic achievement, academic-ability self-concepts, and valuing academic tasks are the important influences. Research supports the following predictions: Academic self-perception and subjective task values have a well-documented relation to such achievement behaviors as course plans and actual choice and as performance (Eccles et al., 1983; Eccles, Adler, & Meece, 1984; Updegraff, Eccles, Barber, & O'Brien, 1996; see also Eccles et al., 1998). However, no study has looked at the relation of these self- and task-related perceptions to college plans prior to entry into secondary school. This is our second goal.

Similarly, academic performance should influence both educational plans and actual college enrollment. Several studies have found that students' academic performances are a significant predictor of college planning and of educational aspirations (e.g., Carpenter & Fleishman, 1987; Hause, 1971). Again, however, few studies have looked at the association between late elementary school academic achievement and early adolescents' college plans. Academic performance should also influence students' ability self-perceptions and academic values, as discussed above. Finally, as hypothesized in the Eccles expectancy-value model, studies focused on course-enrollment decisions have found that academic achievement influences course plans and course selection indirectly through its impact on academic-ability self-concepts and on subjective task value (Eccles et al., 1984; Updegraff et al., 1996). Assessing both the direct and the indirect predictive effects of academic performance on college attendance is our third goal.

Finally, we are interested in whether early adolescent college plans, school achievement, and both ability self-concepts and subjective task values influence college attendance indirectly through their relation with high school course taking and achievement. The evidence cited above provides preliminary support for this prediction in that these studies document pieces of this educational trajectory. But no studies have investigated the hypothesis that sixth-graders' college plans are related to actual college attendance through their association with academic achievement choices and with performance during the high school years. This is our fourth goal.

Parents' beliefs. Extensive research has documented the significance of parents' educational values for adolescents' academic achievements and choices (e.g., Carpenter & Fleishman, 1987; Eccles, Adler, & Kaczala, 1982; Hossler & Stage, 1992; Patrikakou, 1997; Steinberg, Mounts, Lamborn & Dornbusch, 1991). The exact mechanisms underlying this relation are still

being investigated and debated (see Eccles, 1994, and Eccles et al., 1998). Most researchers assume that parents' values have both direct and indirect effects on children's educational planning and attainment. Few studies, however, have looked at these relations during early adolescence.

Family resources. Many scholars have found that the family socioeconomic status (SES) is a significant predictor of early college planning and of aspirations as well as of actual college enrollment (e.g., Alexander, D'Amico, Fennessey & McDill, 1978; Farmer, 1985; Smith, 1991; Trusty, 1998). Furthermore, there is some evidence that these kinds of family characteristics influence children's educational and occupational aspirations, in part, through their impact on the values parents attach to their children's school achievements and college attendance (Farmer, 1985; Hossler & Stage, 1992; Sewell & Hauser, 1975; Smith, 1991). Given these associations, we included an indicator of family SES for three reasons: (a) to determine how strongly family SES predicts college plans during the early adolescent period, (b) to determine whether the association of family SES to college attendance is mediated by its association with early beliefs and with plans of the children, and (c) to be able to estimate the association of our psychological predictors with our educational outcomes controlling for family SES.

METHOD

General Procedure

The data come from a longitudinal study, the Michigan Study of Adolescent Life Transitions (MSALT), that began in 1983, when all students were in Grade 6. Their classrooms were housed in public elementary schools, in districts with kindergarten through 6th grade, 7th through 9th grade, and 10th through 12th grade configurations. The participants attended eight predominantly White (90%) middle- and working-class school districts in southeastern Michigan (see Eccles et al., 1989). The Time 1 (1983-1984) data were collected in the fall and the spring of the students' 6th grade (M age = 10.5 years, $SD = 0.75$). Participants completed questionnaires in their classrooms housed in public elementary schools in districts with kindergarten through 6th grade, 7th through 9th grade, and 10th through 12th grade configurations. Mother's surveys were mailed directly to the home. School-record data (grades, test scores, and specific courses taken) for 6th grade (Time 1), 10th grade (Time 2), and 12th grade (Time 3) were collected at the schools. In 1992, Time 4 data were collected from 76% of the original sample through

mailed questionnaires and intensive phone interviews (M age = 20.5 years, $SD = 0.76$). Most of the participants had completed high school in spring of 1990.

Sample

The base data set used in this article included the 681 participants for whom we had received information from all four waves. The sample was predominantly European American, of working-class and of middle-class family background. At Time 4, 64.8% of these participants were full-time college students, 12.8% had never attended college, 12.9% attended college part time, and 9.7% had some college education, but they were not in college. To ease interpretation of the findings, we selected only those 528 participants who were either full-time college students or who had never attended college, thus eliminating from our analyses the 25.5% of the base sample who were part-time students or who had some college but were not enrolled in college at Time 4. This decision allowed us to compare two more homogeneous samples with regard to college attendance. The final sample used in the analyses reported in this article was 54.9% female and 45.1% male.¹

Time 1 Adolescent Measures

Three motivational constructs were assessed: academic self-concept, academic value, and educational plans. These items were developed for and tested in previous studies by Eccles and her colleagues (Eccles et al., 1983; Eccles et al., 1989).

General academic self-concept. The early adolescents were asked to rate their ability self-concepts and their expectations for success for both mathematics and English. Items included, "How good at mathematics (English) are you?" (1 = not at all good and 7 = very good) and, "How well do you think you will do in Mathematics (English) this year?" (1 = not at all well and 7 = very well). The composite scale across mathematics and English had a Cronbach's alpha of .85.

Academic task value. Academic task value was measured with items such as, "For me, being good at mathematics/English is" (1 = not at all important through 7 = very important). This composite scale had a Cronbach's alpha of .73.

Future educational plan. Students were asked, "People do various things right after they finish high school, do you plan to go to a four-year college?" (1 = definitely no, 2 = probably no, 3 = probably yes, and 4 = definitely yes). Thirty-six percent responded definitely yes, 43% responded probably yes, and 16% responded definitely no.

Academic performance and grade. Sixth-grade marks for math and for English were collected from the schools' records and were coded on a scale of 1 to 16 (1 = F; 16 = A+). The mean was 12.49 ($SD = 1.84$), which correspond to a B- or a C+.

Mothers' Time 1 Measures

Mothers responded to 3 questions concerning their child's academic resiliency (e.g., "My child gives up when faced with a difficult problem or situations" [1 = often, 4 = never]). This scale had a Cronbach's alpha of .74. To assess the value mothers attached to their child's college attendance, mothers were asked, "Would you encourage your child to go to college after high school?" (1 = definitely not, 7 = definitely yes). The average value for this indicator was 6.50 ($SD = .90$). Finally, the mothers reported their family's income and their highest level of education. The mean income for these families in 1983 was between \$30,000 and \$40,000.

Time 2 Measure

We used the 10th-grade mathematics course as our indicator of high school curricular track. The school-record data provided information about the specific mathematics courses in which each adolescent was enrolled. We created a dichotomous variable to distinguish those 10th graders who took college-bound or advanced math courses from those who took remedial or standard math. Of 10th graders, 42% were enrolled in college-bound math track.

Time 3 Measure

Twelfth grade GPA, collected from the school-record data, was coded on a scale of 0 to 4 (0 = F; 4 = A); the average was 2.72 ($SD = .77$), which corresponds to C+ to B-.

Time 4 Measure

Two years after graduating from high school, respondents were asked two questions: (a) "Are you in college full time?" and (b) "If not a full time student, are you in college part time?" In addition, at the time of the survey, respondents were asked to indicate their level of education, using a 5-level ordinal measure: 1 = ninth to eleventh grade, 2 = high school graduate, 3 = vocational, 4 = 1 year of college, 5 = 2 years of college. We examined the cross tabulation of the two college status questions (if they are in college full time and their level of education at the time of survey) to identify individuals who had some college education but who were neither a full-time nor a part-time student at the time of data collection. Because it was not clear why some individuals were attending college part time, or why they had dropped out of college, we limited our sample to college students who were attending college full time and to those who had not had any college-education experience. In this sample, 83.5% attended college full time, and 16.5% were not in college at Time 4.²

RESULTS AND DISCUSSION

First, we wanted to determine if there were any differences between our two college-attendance groups on the full battery of predictors. To meet this goal, we ran a multivariate analyses of variance (MANOVA) using college-status-by-gender as the independent variable and found a significant multivariate effect, $F(10, 518) = 33, p < .001$. Univariate analyses revealed significant differences between the groups on all predictors: mother's education, $F(3, 525) = 17.15, p < .001$; family income, $F(3, 525) = 25.53, p < .001$; mother's educational values, $F(3, 525) = 10.31, p < .001$; adolescent's resiliency, $F(3, 525) = 6.42, p < .001$; general academic self-concept, $F(3, 525) = 9.31, p < .001$; academic value, $F(3, 525) = 5.51, p < .001$; plans for college, $F(3, 525) = 35.50, p < .001$; 6th-grade GPA, $F(3, 525) = 34.87, p < .001$; 10th-grade enrollment in college-track math, $F(3, 525) = 17.50, p < .001$; and 12th-grade GPA, $F(3, 525) = 38.64, p < .001$. Table 1 displays the means and the standard deviations of the predictors for the four college-status-by-gender groups. As predicted, the participants who were enrolled as full-time college students at age 20 had lived in families with higher income and with more maternal education when they were in the 6th grade than had those in the noncollege group. They also had higher academic-ability self-concepts, higher resiliency, and more certainty about their plans to attend col-

TABLE 1: Means of Time 1 Predictors by College Status and by Gender

Measure	Noncollege		In College		F Value
	Female	Male	Female	Male	
Grade 6					
Mother's education	3.02 ^a	3.29 ^a	4.11 ^c	4.15 ^c	16.05
Family income	2.90 ^a	3.97 ^a	3.93 ^c	4.10 ^c	23.57
Mother's college value	5.93 ^a	6.60 ^b	6.63 ^c	6.65 ^c	9.49
Youth's resiliency	2.50 ^a	2.13 ^a	2.61 ^c	2.48 ^d	5.63
Youth's academic self-concepts	5.00 ^a	4.75 ^a	5.37 ^c	5.36 ^c	9.37
Youth's academic values	5.70 ^a	5.32 ^a	5.83 ^c	5.63 ^c	4.84
Youth's plans for college	2.86 ^a	2.85 ^a	3.45 ^c	3.45 ^c	15.74
Academic performance	11.40 ^a	10.50 ^a	13.01 ^c	12.61 ^d	35.58
Grade 10					
Enrollment in advanced math course	0.10 ^a	0.12 ^a	0.47 ^c	0.55 ^c	16.74
Grade 12					
Academic performance during high school	2.33 ^a	2.33 ^a	3.21 ^c	3.13 ^c	38.29

NOTE: Bonferroni mean comparisons were used to test all possible pairs. Different letters within a row differ from one another at $p < .01$; Time 1 = 6th grade.

lege in 6th grade, were more likely to be enrolled in college-track mathematics course in 10th grade, and had a higher 12th-grade GPA.

Do sixth-grade motivational beliefs predict college attendance? We used logistic regression to assess our hypotheses regarding both the direct and the indirect association of sixth-grade college plans on college attendance. Table 2A summarizes the logistic regression for the sixth-grade predictors of college status at Time 4. As expected, both family income and mother's education independently and uniquely predicted college attendance, with mother's education being the more powerful of these two predictors. Most importantly for our hypotheses, sixth-grade certainty of college plans predicted to college attendance status even after the family demographics, sixth-grade GPA, and the mother's ratings of her child's academic resiliency were controlled. This finding demonstrates the importance of early college planning and of strong encouragement to attend college even in the late elementary school years.

The importance of early psychological and motivational forces is also evident in the significant predictive power of academic resiliency and of confidence in one's academic abilities. Academic resiliency most likely reflects a combination of temperamental and of general motivational characteristics.

TABLE 2A: Summaries of Hierarchical Logistic Regression Analyses Time 1 Measures Predicting College Status at Time 4

Youth Measure	B	SE	Odds Ratio Exp (B)	r ²
Youth sex ^a	.43†	.25	1.54	.03
Mother's education	.78***	.18	2.17	.30***
Family income ($\Delta R^2 = .28^b$)	.55***	.10	1.74	.35
Mother's college value ($\Delta R^2 = .02$)	.13	.15	1.13	.28***
Resiliency	.42*	.13	1.51	.12**
Youth's academic abilities	.41*	.15	1.50	.29***
Youth's academic values ($\Delta R^2 = .08$)	-.18	.27	0.84	.09*
6th-grade GPA	.36***	.09	1.43	.38
Youth's plans for college ($\Delta R^2 = .05$)	.41**	.15	1.50	.29***
Total $R^2 = .44$				

NOTE: $N = 528$; for sex, 1 = female and 2 = male; Time 1 = 6th grade; Time 4 = post-high school.

a. R^2 is the Nagelkerke estimate of variance explained at each step.

b. All variables are centered around the mean.

c. Correlation of each independent measure with the outcome.

† $p < .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Together these two sets of characteristics may help adolescents to respond positively and effectively to the academic challenges that they are likely to meet in high school and college (Turner, Norman, & Zunz, 1995). The significant predictive power of academic-ability self-concepts is consistent with the large literature documenting the importance of academic self-efficacy for subsequent achievement. Like academic resilience, this self-belief can help buffer the impact of academic challenges.

We find it quite interesting that the youth's sixth-grade academic values did not predict college attendance. Earlier studies done by Eccles and her colleagues had found that academic values were quite good predictors of course choice in high school, much better predictors, in fact, than prior grades and academic-ability self-concepts (see Eccles et al., 1998). In this population, academic value is substantially correlated with academic-ability self-concept ($r = .53$). Perhaps this is too strong a relation for both of these motivational beliefs to emerge as significant, independent predictors in this logistic regression equation. The importance of academic values is clearer in the analyses predicting to sixth-grade college plans.

Is the relation between sixth-grade college plans and college attendance mediated by the link between sixth-grade college plans and educational outcomes in high school? We used hierarchical logistic and ordinary least squares (OLS) regressions to address this question. First, we ran two

similar regression analyses with 10th-grade mathematics-course enrollment and with 12th-grade GPA as the outcome variables. In both cases, 6th-grade college plans predicted the outcome significantly ($B = .28, p \leq .01$, and $B = .10, p \leq .01$ for 10th-grade mathematics-course enrollment and for 12th-grade GPA as the outcome variables, respectively), even when all other Time 1 variables were included in the equation. Furthermore, neither 6th-grade academic-ability self-concepts ($B = .05$) nor 6th-grade academic values ($B = -.02$) predicted these outcomes once 6th-grade college plans and 6th-grade GPA were entered into the equation. Thus, these findings are consistent with our prediction that 6th-grade college plans would affect both high school course-taking decisions and academic performance.

Next, we used hierarchical logistic regression to test our hypothesis that these high school academic outcomes would mediate the association with 6th-grade college plans and with actual college attendance. The results are summarized in Table 2B. Table 2A shows the results for the logistic regression without 10th-grade mathematics course and 12th-grade GPA. As noted above, 6th-grade college plans was significant. As shown in Table 2B, 6th-grade college plans was no longer significant once 10th-grade mathematics-course and 12th-grade GPA were included in the regression equation. It is also of interest that the coefficients for both 6th-grade resilience and 6th-grade academic-ability self-concept also became nonsignificant when the high school outcomes were entered in the equation, suggesting that these constructs may also exert their influence on college attendance via the educational pathway students adopt in secondary school.

What predicts sixth-graders' college plans? Together, all of these results point to the importance of early adolescent college plans. Our last question focuses on what predicts these plans. We used OLS regression to address this question. The results are summarized in Table 3. Mother's college valuing ($\beta = .22, p \leq .001$) and the youth's own academic values ($\beta = .14, p \leq .001$) were the two strongest predictors of the youth's college plans. Sixth-grade GPA ($\beta = .10, p \leq .01$), followed by the family demographic constructs, mother's education ($\beta = .07, p \leq .01$), and family income ($\beta = .06, p \leq .01$), emerged as the next most powerful predictor. Neither academic resiliency nor the youth's academic-ability self-concepts were significant. Thus, although neither of the valuing scales predicted college attendance directly, both predicted youth's college plans. These results suggest that interventions designed to increase sixth graders' certainty about attending college should focus on increasing the value both mothers and young people themselves place on going to college.

TABLE 2B: Summaries of Hierarchical Logistic Regression Analyses for Time 1 Through Time 3 Measures to Predict College Status at Time 4

Youth Measure	B	SE	Odds Ratio	
			Exp (B)	r ²
Youth sex	0.02		1.02	.03
Mother's education	0.78***		2.18	.30***
Family income ($R^2 = .31^a$)	0.57***	.13	1.78	.35***
Mother's college values ($\Delta R^2 = .06$)	0.18	.15	1.20	.28***
Resiliency	0.25	.25	1.29	.12***
Youth's academic abilities	0.24	.25	1.27	.29***
Youth's academic values ($\Delta R^2 = .07$)	-0.10	.22	0.91	.09*
6th-grade GPA	0.61**	.20	1.84	.38***
Youth's plans for college ($\Delta R^2 = .06$)	0.07	.11	1.08	.29***
10th-grade math track ($\Delta R^2 = .04$)	1.43***	.43	4.16	.29***
12th-grade GPA ($\Delta R^2 = .04$)	1.14***	.29	3.14	.42***
Total $R^2 = .53$				

NOTE: $N = 528$; for sex, 1 = female and 2 = male; Time 1 = 6th grade; Time 2 = 10th grade; Time 3 = 12th grade; Time 4 = post-high school.

a. R^2 is the Nagelkerke estimate of variance explained at each step.

b. All variables are centered around the mean.

c. Correlation of each independent measure with the outcome.
† $p < .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

CONCLUSION

The results of this study draw our attention to the significance of early adolescence for post-high school education. College enrollment is the result of a long-term process of complex interactions among academic, personal, social, psychological, and financial considerations. College attendance is becoming an economic necessity, and completing either a 2- or 4-year degree can make a meaningful difference in lifetime earnings and opportunities. Our findings suggest that the early adolescent years are an important time for developing plans and visions for higher education. Our results suggest that it is important to begin to encourage youth and their parents to consider postsecondary education long prior to high school. Changing family income or mothers' educational levels are very difficult. In contrast, improving youth's educational expectations and achievements and encouraging a more favorable parental attitude toward postsecondary education for their children may be more feasible educational policy goals. Furthermore, there are indications that early adolescents, in general, have high educational aspirations, but research suggests that many of them do not choose high school programs consistent with their goals. According to Atanda (1999), eighth-grade course

TABLE 3: Summaries of Hierarchical Regression Analyses

Youth Measure	Predicting Youth's Plans for College at Time 1	
	Standardized β	r ²
Youth sex	.03	.007
Mother's education	.07**	.18***
Family income ($R^2 = .05^a$)	.06**	.14**
Mother's college values ($\Delta R^2 = .07$)	.22***	.28***
Resiliency	-.003	.10*
Academic self-concept of ability	.06†	.22***
Youth's academic values ($\Delta R^2 = .04$)	.14***	.21***
6th-grade GPA ($\Delta R^2 = .005$)	.10**	.18***
Total $R^2 = .16$		

NOTE: $N = 528$; for sex, 1 = female and 2 = male; Time 1 = sixth grade.

a. Correlation of each independent measure with the outcome.

† $p < .10$. * $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

selections are the gatekeeper to college enrollment because eighth grade is the time to select courses that are prerequisite for high school courses that influence college acceptance. Although we agree with the importance of eighth grade, we believe the groundwork for eighth graders' academic decisions and performances is laid at younger ages. Consequently, it is important that parents set high educational goals for their children and discuss course selection and future plans for college with them earlier than eighth grade. Similarly, intervention programs designed to increase the interest of both youth and their parents in college should begin while the children are in elementary and middle school. Such programs should focus on giving students and their parents information that will help them make wise choices related to high school course enrollment, school attendance, and extracurricular activities, all of which have significant long-term effects on subsequent educational options.

This study focused on European American working- and middle-class families. It is critical to find out whether early adolescence is an equally critical period for other ethnic- and social-class groups. College attendance varies markedly across groups, and this differential helps to reproduce the economic inequities across groups. In their study of college graduation, Alexander, Ritorian, Fennessey, and Pallas (1982) found no difference in college completion rates of African Americans and of European Americans who had been in an academic track in high school. In light of this finding, reinforcement of the pre-high school factors that may influence participation in the academic track in high school is warranted.

NOTES

1. Similar to most longitudinal studies, we had a missing-data problem. One major source of the missing data was because of the failure of mothers to return their surveys. A series of *t* tests were computed to assess any bias due to missing 6th-grade mothers' data. The results indicated that the adolescents whose mothers had completed the surveys were disproportionately female ($t = -2.60, p < .01$); had higher GPAs ($t = -5.2, p < .001$). They also had higher academic self-concepts ($t = -2.50, p < .01$) and higher college expectations ($t = -3.60, p < .001$). To minimize biases associated with nonresponse data on the final analyses, we conducted a second set of analyses imputing mothers' nonresponses at Time 1, using multiple regression analyses (Little & Rubin, 1987). Because the findings were the same, we report only the findings for the participants with complete data in this article.

2. We further used logistic regression analyses to examine full-time college participants versus part-time participants. Results indicated that mother's education, youth's plans for college, and GPA were the most significant predictors of full-time college status. Family income and resilience were significant at trend. Similarly, separate analyses between part-time, in-college participants and the noncollege group revealed mother's education and family income as significant predictors of part-time college status.

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