

Is Extracurricular Participation Associated With Beneficial Outcomes? Concurrent and Longitudinal Relations

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The authors examined the relations between participation in a range of high school extracurricular contexts and developmental outcomes in adolescence and young adulthood among an economically diverse sample of African American and European American youths. In general, when some prior self-selection factors were controlled, 11th graders' participation in school clubs and organized sports was associated with concurrent indicators of academic and psychological adjustment and with drug and alcohol use. In addition, participation in 11th grade school clubs and prosocial activities was associated with educational status and civic engagement at 1 year after high school. A few of the concurrent and longitudinal relations between activity participation and development were moderated by race and gender. Finally, breadth of participation, or number of activity contexts, was associated with positive academic, psychological, and behavioral outcomes.

Keywords: extracurricular participation, adolescence, sports, youth development, risk behavior

There is a growing interest in the developmental consequences of extracurricular participation, spurred in part by (a) high levels of alienation and boredom reported by youths in school, (b) developmental increases in underachievement and school disengagement, and (c) evidence of increases in the amount of time youths spend unsupervised by adults (Carnegie Corporation, 1992; Eccles & Gootman, 2002). Both scholars and youth policy advocates argue that participation in high-quality extracurricular activities, such as sports and school clubs, is a productive use of adolescents' leisure time and can provide distinct opportunities for growth and development (Eccles & Gootman, 2002; Holland & Andre, 1987; Larson, 2000).

There is a growing body of research in leisure studies, sociology, sports psychology, and adolescent development demonstrating the beneficial effects of participation in extracurricular activities. Activity participation has been positively linked to academic outcomes, including grades, test scores, school engagement, and educational aspirations (Cooper, Valentine, Nye, & Lindsay, 1999;

Eccles & Barber, 1999; Marsh & Kleitman, 2002). Other research has documented a relation between extracurricular involvement and psychological outcomes, such as higher self-esteem and lower rates of depression (Barber, Eccles, & Stone, 2001; Eccles & Barber, 1999; Mahoney, Schweder, & Stattin, 2002). High school activity participation also predicts a higher likelihood of college attendance, more favorable mental health, and increased civic engagement (Barber et al., 2001; Mahoney, Cairns, & Farmer, 2003; Youniss & Yates, 1997). Finally, extracurricular involvement is associated with lower dropout rates and is linked to reduced problem behavior in areas such as delinquency and substance use (Mahoney & Cairns, 1997; McNeal, 1995; Youniss, Yates, & Su, 1997). The benefits of activity participation in reducing problem behavior are particularly strong for high-risk youths (Mahoney, 2000; Mahoney & Cairns, 1997).

Some studies have noted possible negative consequences of some types of extracurricular participation. For example, Eccles and Barber (1999) found that athletic involvement predicted higher alcohol use. Others have focused on the promotion of undesirable social norms in some activities (Eder & Parker, 1987; Hansen, Larson, & Dworkin, 2003), particularly in less structured leisure settings, where there is a greater likelihood that adolescents will be recruited into a risky peer group (Dishion, McCord, & Poulin, 1999; Mahoney & Stattin, 2000). In fact, participation in unstructured recreational centers is associated with higher levels of problem behaviors among youths (Mahoney, Stattin, & Lord, 2004; Mahoney, Stattin, & Magnusson, 2001). The inappropriate behavior of adults in youth sports also has been discussed (Hansen et al., 2003; Smoll & Smith, 1989). Finally, participation in highly competitive extracurricular activities can increase stress and anxiety (Fredricks et al., 2002; Smoll & Smith, 1996).

Although there is a growing body of evidence of the beneficial effects of structured activity participation, there are some methodological critiques that call into question the strength of this knowledge base. In this article, we address three gaps in this literature.

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One criticism is that few studies have adjusted for the self-selection factors that may explain why some individuals choose to participate in extracurricular activities and others do not. As a consequence of self-selection factors, differences in the outcomes between participants and nonparticipants may reflect preexisting differences between the two groups. Selection factors also are often associated with positive developmental outcomes, and failing to control for these variables overstates the benefits of extracurricular participation. In fact, once self-selection factors are included in analyses, the strength of the relation between extracurricular participation and developmental outcomes is reduced and in some cases is no longer significant (Holland & Andre, 1987; Larson, 2000).

The claim that extracurricular participation promotes positive development is more adequately tested by longitudinal studies that adjust for selection factors and include measures of the dependent variable on multiple occasions (Larson, 2000). An example of research using this rigorous longitudinal design is work by Eccles and her colleagues (e.g., Barber et al., 2001; Eccles & Barber, 1999). They found that participation in structured youth activities in the 10th grade predicted educational outcomes, psychological adjustment, and substance abuse in the 12th grade and during young adulthood. Another example of this research is work by Marsh (1992; Marsh & Kleitman, 2002). Using longitudinal data from the High School and Beyond Study (Marsh, 1992) and the National Educational Longitudinal Study (Marsh & Kleitman, 2002), Marsh documented statistically significant relations between participation in extracurricular school activities and 12th grade and postsecondary outcomes (e.g., grades, courses, homework, educational and occupational aspirations, self-esteem, and college enrollment) after controlling for several self-selection factors. In these analyses, the effect sizes were small and less than 1%.

Another criticism is that much of the research has focused on White, suburban, middle-class youths. There is a critical need for studies of the association between extracurricular participation and youth development for minority adolescents living in a variety of ecological contexts (Lisella & Serwatka, 1996; Pederson & Seidman, 2005). Surprisingly little research has been done to examine how ethnicity, socioeconomic status, and gender may moderate the relation between activity participation and development (Mahoney, Larson, Eccles, & Lord, 2005). One example is work by Marsh (1992; Marsh & Kleitman, 2002), who tested for interactions of extracurricular participation and a variety of student characteristics (i.e., ethnicity, socioeconomic status, gender, school size, expectations, and academic achievement) in a nationally representative sample. Marsh found that the effects were generally consistent across variable levels. The most consistent interaction effects were for socioeconomic status: Youths from low-income families benefited more from extracurricular participation than youths from high-income families. Another example is work by Eccles and her colleagues (see Barber et al., 2001; Barber, Stone, Hunt, & Eccles, 2005; Eccles & Barber, 1999), who found few differences in the relations between extracurricular participation and development by gender.

Finally, until recently, many studies either have assessed activity participation with dichotomous measures (i.e., *yes* or *no*) or have aggregated all extracurricular activities together into a single indicator. Recently, some researchers have taken a more nuanced

view of activity participation and have looked at differences in the relations by type of activity (e.g., Eccles & Barber, 1999; Fredricks & Eccles, 2006; Hansen et al., 2003). However, few studies have examined the effects of participating in a range of activities simultaneously. Participating in a variety of structured activity contexts provides youths with opportunities to develop a range of competencies and interests and gives them exposure to different experiences and people. A few scholars have examined the effects of participating in multiple activities by using person-analytic techniques to identify patterns of involvement in structured and unstructured activities. In four such studies, a diverse profile of participation was associated with the most beneficial outcomes for both children and adolescents (Bartko & Eccles, 2003; Mahoney, Lord, & Carryl, 2005; Morris & Kalil, 2006; Shanahan & Flaherty, 2001). Fredricks and Eccles (2006) assessed the relation between the breadth of activity participation and development with traditional variable-centered analyses. They found that participation in a range of activity contexts predicted more favorable academic adjustment, heightened psychosocial competencies, and a more favorable peer context.

Our study addresses these three gaps in the literature by examining the relation between participation in three separate activity contexts at 11th grade and indicators of adjustment concurrently and 2 years later among an economically diverse sample of African American and European American adolescents. First, to adjust for self-selection into activities, we included measures of the dependent variable on multiple occasions and controlled for some variables that influence high school activity participation. Our study is one of the few in the literature to use this methodologically rigorous longitudinal design (e.g., Eccles & Barber, 1999; Marsh & Kleitman, 2002). In addition, to our knowledge, our study is the first to include a control for children's motivation. This is an important self-selection factor to include because highly motivated youths are more likely both to be doing well in school and to decide to engage in extracurricular activities. On the basis of the few studies that have used this more rigorous design, we expected that extracurricular participation would predict favorable adolescent adjustment but that the concurrent relations would be stronger than the longitudinal relations and that the effect sizes would be small.

Second, our study contributes to the literature by testing for interactive effects by race, gender, and socioeconomic status in a community-based sample with several unique characteristics. One unique feature is that there is a broad range of socioeconomic status levels in both the African American and the European American families. As a consequence, race and income are less confounded than in much of the prior literature, which either has focused on low-income African American youths or has used nationally representative samples. Another unique feature of this sample is that adolescents attend schools where middle-class African American youths are the majority. As previous research has shown (Eccles & Barber, 1999; Marsh, 1992; Marsh & Kleitman, 2002), we expected to document more similarities than differences by race and gender. In addition, as others have shown (Marsh, 1992; Marsh & Kleitman, 2002), we expected that the benefits of extracurricular participation would be greatest for low-income youths.

Finally, our study contributes to the literature by examining the consequences of participating in a range of extracurricular activities at the same time. We explored these consequences in two

ways. First, we tested whether the effects of extracurricular participation would hold after we adjusted for participation in the two other activity contexts. To our knowledge, this is the only study in the literature to use this more conservative test of the relation between activity participation and development. This analysis strategy also provides yet one more control of the possible selection effect of general achievement motivation. Second, we created a measure of the total number of activity contexts and tested the relation between this indicator of the breadth of participation and adolescent development, adjusting for some self-selection factors. On the basis of the few studies that have explored this question, we expected that involvement in a range of extracurricular contexts would predict favorable development.

Method

Participants

This study uses data from the Maryland Adolescent Development in Context Study (MADICS), a community-based longitudinal study of adolescents and their families in multiple contexts (the principal investigators are Jacquelynne S. Eccles and Arnold Sameroff). This is one of the largest and most comprehensive studies of normative development among African American adolescents. Participants were originally part of the Study of Adolescents in Multiple Contexts (SAMC; see Cook, Herman, Phillips, & Setterson, 2002, for more description of the SAMC). Respondents were drawn from a county that consists of several ecological settings, including low-income communities; high-risk urban neighborhoods; middle-class suburban neighborhoods; and rural, farm-based communities.

The sample was 51% female and 49% male; it was 67% African American and 33% European American. The mean pretax family income of participants in 1993 was between \$55,000 and \$59,000 (ranging from less than \$5,000 to more than \$100,000); the European American families reported significantly higher pretax incomes ($M = \$60,000$ – $\$64,000$) than the African American families ($M = \$55,000$ – $\$59,000$). In addition, the European American parents reported significantly higher educational levels ($M = 15.13$ years) than the African American parents ($M = 14.20$ years). There also was a significant race difference in marital status: Eighty-one percent of European American youths and 58% of African American youths lived in a maritally intact family.

Procedure

Participants were recruited via a note from the school to the adolescents' parents. Seventeen hundred of the 5,000 families in the larger study (SAMC) agreed to be contacted about MADICS. From this group, we randomly selected 1,500 families from the 23 schools in the county in a proportion matching the varying sizes of the schools. The first wave of data was collected in 1991, when the participants were in the 7th grade ($n = 1,480$). These adolescents were followed for five waves of data collection, into their early 20s. In this report, we use data from the third, fourth, and fifth waves of data collection. Wave 3 was collected in 1993, during the summer and fall following the adolescents' 8th grade school year ($n = 1,060$). The fourth wave of data collection occurred in 1997, during the 11th grade school year ($n = 1,075$). The fifth wave was collected in 1999, 1 year after participants completed high school ($n = 912$). Sample sizes varied on analyses because of missing data on youth and parent indicators within and across waves. Wave 3 (8th grade) and Wave 4 (11th grade) were collected in the home via face-to-face interviews and self-administered questionnaires with the youths and the primary caregiver. Same-race interviewers were used in approximately 85% of the families. At Wave 5 (1 year after high school), all youths filled out a mailed survey. Information was not collected from the primary caregiver at this time point.

Sample attrition is a major concern with multiple-wave-panel designs. In a previous report, missing data and attrition analyses were conducted to determine whether youths with missing data were systematically different than youths from the original sample on a range of constructs (Eccles & Sameroff, 2000). In general, these analyses revealed that the data appeared to be missing at random within waves. In addition, attrition analyses revealed that African American and high-risk youths dropped out of the study at higher rates than European American and low-risk youths; there were no differences between the two groups on any other constructs tested.

Measures

The surveys and interviews included a range of constructs, with items about activity participation, academic and psychological adjustment, risk behavior, and civic engagement. Means and standard deviations of all measures used in the analyses are presented in Table 1.

Extracurricular participation. When they were in 11th grade, we asked our participants to report on their involvement in a range of extracurricular contexts over the past year, including school clubs, organized sports, and prosocial activities. Our measure of participation in school clubs was one yes–no item (i.e., “Did you take part in any school activity besides athletics such as clubs or student government over the past 12 months?”). Organized sport involvement was assessed with two yes–no questions (i.e., “Were you a member of any athletic or sports team at school?” and “Were you involved in any organized summer or after school sports or recreational program over the past 12 months?”). Finally, we asked youths about whether they were involved in any volunteer service activities or civil rights activities over the past 12 months. These two items were combined into a single yes–no measure about participation in prosocial activities.

Table 1
Descriptive Statistics

Variable and grade	<i>M</i>	<i>SD</i>
School club—11th	0.56	0.50
Team sports—11th	0.58	0.49
Prosocial activities—11th	0.58	0.50
Grades—8th	3.11	0.63
Grades—11th	2.90	0.73
Educational expectations—8th	2.51	1.15
Educational expectations—11th	2.75	1.06
Educational status—PH	3.30	0.98
Depression—8th	1.31	0.35
Depression—11th	1.29	0.32
Depression—PH	1.29	0.39
Self-esteem—8th	3.88	0.90
Self-esteem—11th	3.83	0.90
Self-esteem—PH	3.65	1.00
Internalizing behavior—8th	5.64	6.17
Internalizing behavior—11th	5.37	6.27
Externalizing behavior—8th	7.09	7.07
Externalizing behavior—11th	6.28	7.28
Alcohol use—8th	0.31	0.46
Alcohol use—11th	1.82	1.33
Alcohol use—PH	2.64	1.65
Marijuana use—8th	0.06	0.24
Marijuana use—11th	1.76	1.51
Marijuana use—PH	2.04	1.70
Political activity involvement—PH	1.23	1.59
Social/charitable involvement—PH	1.69	0.95
Parent education—8th	14.60	2.71
Achievement motivation—8th	3.63	0.85

Note. PH = post high school.

Academic adjustment. We assessed academic adjustment with three indicators: grades, educational expectations, and tertiary educational status. When they were in 8th and 11th grade, we asked adolescents to report on the number of As, Bs, Cs, Ds, and Fs they had received in their first semester on their report cards. We calculated their grade point average (GPA) by multiplying the number of As by 4, Bs by 3, Cs by 2, Ds by 1, and Fs by 0 and dividing by the total number of grades. At both time points, we also asked participants about how far they thought they would go in school. This item was recoded into four categories (1 = *graduate from high school or less*, 4 = *professional degree*). At 1 year after high school, participants indicated their educational status, or the number of years of schooling they had completed. This item was recoded into four categories (1 = *did not graduate from high school*, 4 = *some college*).

Psychological adjustment. To assess psychological adjustment, we asked participants a series of questions about their perceived psychological health at each time point. Depressive symptoms were assessed with a reduced version of the Children's Depression Inventory (Kovacs, 1992), a widely used measure of child and adolescent depression. This scale has excellent psychometric properties (when administered in 8th grade and 11th grade, $\alpha = .87$, 14 items; when administered 1 year after high school, $\alpha = .82$, 6 items). All items were rated on a 3-point scale (1 = *no symptoms* and 3 = *high depressive symptoms*). Sample items are "I am worthless" (reverse coded; 1 = *all of the time*, 3 = *only once in a while*) and "I feel like crying" (reverse coded; 1 = *every night*, 3 = *never*). Adolescents' self-esteem was assessed with a scale adapted from Harter's (1985) Global Self-Worth Scale. Sample items are "How often do you wish you were different than you are?" (reverse coded) and "How often are you pretty sure of yourself?" (1 = *almost never*, 5 = *almost always*). This scale also has very good internal consistency (alphas range from .73 to .77; 3 items).

When the youths were in 8th and 11th grade, parents filled out the Child Behavior Checklist, a standardized and widely used measure of overall psychological health (Achenbach, 1991). Parents rated their adolescents' functioning over the past 6 months using a 3-point scale from 1 = *not true* to 3 = *very true*. The Internalizing and Externalizing subscale scores were created from the computerized scoring program provided by the scale's author. Sample Internalizing items are "is fearful and anxious" and "feels worthless/inferior." Sample Externalizing items are "is mean to others" and "destroys his or her things." Higher scores signify higher levels of internalizing and externalizing behavior.

Alcohol and drug use. At the three time points, we asked our participants about their involvement in a range of risky behaviors, including drinking, getting drunk, and smoking marijuana. At 11th grade and 1 year after high school, we asked adolescents to indicate the frequency of each behavior in the past 6 months (1 = *never*, 6 = *more than 20 times*). When they were in 8th grade, we asked participants how many drinks they had consumed in the past month and how many times they had smoked marijuana in the past 30 days. Because of the low number of adolescents who reported consuming more than one drink or smoking marijuana in 8th grade, we recoded these variables into two yes-no questions (i.e., alcohol-no alcohol use and marijuana-no marijuana use).

Civic engagement. We included two indicators of civic engagement in our analyses: political activity participation and involvement in charitable and social issues. At 1 year after high school, we asked our participants about the frequency of their involvement in 10 political activities and 6 social services and charitable causes over the past 2 years (0 = *never*, 5 = *10 or more times*). Sample items in the Political Activity Scale were "running for a position in student government" and "going to a protest march or demonstration." We used a count of the number of political activities in our analyses because the scale version of these items was highly skewed. The Social and Charitable Involvement Scale includes

items about participation in a range of civic causes, such as "serving as a member of an organizing committee or a board for a school club or organization" and "giving money to charity." This scale has adequate internal consistency ($\alpha = .67$, six items).

Controls and moderators. We entered gender and race as predictive factors and parents' educational attainment, parents' perceptions of children's achievement-related motivation, and the prior level of the outcome variable as covariates in our analyses. All covariates were assessed at 8th grade prior to participation in the activity settings. We included these covariates to account for some factors that influence selection into activities. Parents' educational attainment was indicated by the highest level of education of either parent in the home. Years of education was coded on a continuous scale that ranged from 5 to 26 years, with a mean of 14.6 years. The Children's Motivation Scale included items about parents' perceptions of how frequently their child exerted effort, demonstrated initiative, and sought challenges. These items typify high general motivation and need for achievement as well as general motivation for engagement (e.g., Weiner, 1986), which is likely to influence both participation in extracurricular activities and college attendance. Thus, they provide a control for motivational processes likely to underlie both of these outcomes. Sample items are "keeps trying to figure out his or her schoolwork even when it is hard" and "loves an intellectual challenge." All items were rated on a 5-point scale (1 = *almost never*, 5 = *almost always*). This scale has strong internal consistency ($\alpha = .90$, five items).

Analytic Strategy

We conducted five sets of analyses. First, we calculated the participation rates in school clubs, sports, and prosocial activities and the percentage of youths who were involved in more than one activity context. We then examined gender and race differences in the patterns of involvement.

Second, we used analysis of covariance (ANCOVA) to examine the concurrent relation between participation in each activity context at 11th grade and our indicators of adolescent adjustment, controlling for some self-selection characteristics. In all models, gender and race were included as predictive factors. We also entered parents' educational attainment and a general measure of parents' ratings of children's achievement-related motivation at 8th grade as controls for self-selection, because these constructs have emerged in other studies as predictors of high school extracurricular participation as well as adolescent and young adult adjustment. We chose parent education as a measure of socioeconomic status, rather than income or occupational status, because it is not subject to nonresponse biases and short-term fluctuations (Entwisle & Astone, 1994). We included a general measure of achievement-related motivation because prior research has shown that adolescents choose extracurricular activities that they consider intrinsically motivating and challenging (Fredricks et al., 2002). Highly motivated youths are more likely both to be doing well in school and to decide to engage in extracurricular activities. Thus, it is not clear whether doing the activity has a positive impact on these outcomes independent of the fact that high achievement motivation leads to both types of outcomes. Including an indicator of basic achievement motivation helps to control for such an alternative explanation. In addition, we entered the 8th grade level of each outcome variable to further adjust for those characteristics at previous waves that might influence selection into activities. Including the prior levels of the outcome variable makes our tests of the effect of extracurricular participation on adjustment very conservative.

To test whether the links between activity participation and adjustment were moderated by race, gender, and socioeconomic status, in each model we included three two-way interaction terms: Activity \times Race, Activity \times Gender, and Activity \times Income (high, low). Because the Activity \times Income interaction was insignificant in the majority of models, we reran all

models without this interaction term.¹ In addition, in all models we included a three-way interaction term, Activity \times Race \times Gender, because of the intersectionality of race and gender (i.e., gender is likely to operate differently in African American and European American youths). In all but one model, the three-way interaction term was insignificant.² Therefore, we dropped the three-way interaction from subsequent analyses. In addition, for significant interactions, we present the means by gender and race in the text.

Third, we used a similar analytic strategy (i.e., ANCOVA) to examine the longitudinal relations between 11th grade extracurricular participation and indicators of young adult adjustment 2 years later, controlling for our self-selection factors. In all models, gender and race were included as predictive factors. In most models, parents' educational attainment, parents' perceptions of children's achievement-related motivation, and the 8th grade level of each outcome variable were included as covariates to control for those characteristics that influence selection into activities at the 11th grade. In the ANCOVA for educational status, educational expectations at the 8th grade were included as a covariate. We were unable to include the 8th grade measure of civic engagement because these questions were not included in surveys at this time point. To test whether the relations were moderated by race, gender, and socioeconomic status, in all models we included three two-way interaction terms: Activity \times Race, Activity \times Gender, and Activity \times Income. In addition, to test for the intersectionality of race and gender, we included a three-way Activity \times Race \times Gender interaction. Because the Activity \times Income interaction and the three-way interaction were insignificant in the majority of the models, we reran all analyses without these interaction terms.

Fourth, we reran all of the ANCOVA models at 11th grade and 1 year after high school and included the two other activity contexts as covariates. The purpose of these analyses was to examine whether the effects associated with activity participation held after we adjusted for involvement in the other activity contexts. In all models, we included Activity \times Race and Activity \times Gender interaction terms. Finally, we used hierarchical regression analyses to test the relation between the breadth of participation, or number of activity contexts (school clubs, sports, and prosocial activities), and our indicators of adolescent and young adult adjustment, controlling for some self-selection factors.

Results

Participation Rates

In this community-based sample, more than half of the participants reported being involved in school clubs (56%), organized sports (55%), and prosocial activities (58%). We created a measure of the breadth of participation across the three activity contexts. Of the total sample, 14.6% reported participating in none of the activities ($n = 152$), 27.7% participated in one of the three activities ($n = 289$), 32.9% participated in two of the three activities ($n = 343$), and 24.8% participated in all three extracurricular contexts in the 11th grade ($n = 258$).

European American girls, $\chi^2(1, N = 331) = 24.97, p < .001$, and African American girls, $\chi^2(1, N = 647) = 30.77, p < .001$, had higher rates of participation in school clubs than expected. In addition, African American girls had higher rates of involvement in prosocial activities and African American boys had lower rates of involvement than expected by chance, $\chi^2(1, N = 645) = 18.42, p < .001$. There were no gender differences in involvement in prosocial activities among European American youths. In contrast, European American boys, $\chi^2(1, N = 330) = 8.45, p < .01$, and African American boys, $\chi^2(1, N = 645) = 11.72, p < .01$, had higher than expected rates of participation in organized sports,

while girls in both demographic groups had lower than expected rates of sport involvement.

ANCOVAS—11th Grade

Covariates. The ANCOVA results for the models predicting 11th grade outcomes from 11th grade activity participation are illustrated in Tables 2, 3, and 4. First, we summarize the general effects associated with the covariates. In the majority of analyses, the outcome variable measured at 8th grade was the strongest predictor of our indicators of adolescent adjustment. This finding highlights the stability in adolescent development from 8th to 11th grade. As a consequence of taking into account prior levels, there was less variance in each outcome to be explained by extracurricular participation. The one exception was the models predicting marijuana use from activity participation. The lower stability of marijuana use is likely a function of both differences in the measurement of this item at the two time points and developmental changes in drug use over the adolescent years. Parents' ratings of children's achievement-related motivation were significantly associated with academic adjustment, depression, externalizing behavior, alcohol use, and marijuana use in the majority of the models. In addition, parents' educational attainment was a positive predictor of school grades and educational expectations. We present the overall means by activity in Table 5.

School clubs. Participation in school clubs was associated with both our indicators of academic adjustment at 11th grade. After we controlled for family demographic characteristics, children's achievement-related motivation, and academic performance at the 8th grade, adolescents who participated in school clubs had higher 11th grade GPAs, $F(8, 674) = 12.75, p < .001, \eta^2 = .019$, and educational expectations, $F(8, 704) = 12.72, p < .001, \eta^2 = .018$, than those respondents who were not involved (see Table 5).

The relation between involvement in school clubs and our indicators of psychological adjustment was mixed. Involvement in school clubs predicted a decrease in externalizing behavior, $F(8, 647) = 4.28, p < .05, \eta^2 = .007$. In contrast, involvement in school clubs was not a significant predictor of either self-esteem or depression. Race moderated the relation between participation in school clubs and internalizing behavior, $F(8, 667) = 10.14, p < .01, \eta^2 = .017$. For African American youths, participation predicted lower levels of internalizing behavior (adjusted means = 4.31 for participants and 5.77 for nonparticipants). For European American youths, the difference in internalizing behavior between participants and nonparticipants was not significant (adjusted means = 6.70 for participants and 5.40 for nonparticipants).

Finally, gender moderated the relation between participation in school clubs and alcohol, $F(8, 625) = 4.34, p < .05, \eta^2 = .007$, and marijuana use, $F(8, 625) = 5.72, p < .05, \eta^2 = .009$. For

¹ We took a median split on the income measure (high–low). We included income as a factor and included an interaction term for activity participation by income category in all analyses reported in this article. In all but one model, the interaction term was insignificant. Sport \times Income was significant in the model predicting alcohol use at 11th grade. These findings are available on request from Jennifer A. Fredricks.

² The three-way Prosocial Activities \times Gender \times Race interaction was significant in the model predicting alcohol use at 11th grade. These findings are available on request from Jennifer A. Fredricks.

Table 2
Analysis of Covariance Results for Participation in High School Clubs and Developmental Outcomes at 11th Grade

Variable and grade	Grades		Educational expectations		Depression		Self-esteem		Internalizing behavior		Externalizing behavior		Alcohol use		Marijuana use	
	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2
School club—11th	12.75***	.019	12.72***	.018	1.24	.002	2.27	.003	0.05	.000	4.28*	.007	8.80**	.014	6.03*	.010
Race	1.21	.002	3.37	.005	5.88*	.008	0.11	.000	6.28*	.010	1.93	.003	26.59***	.041	12.08**	.019
Gender	9.69**	.014	8.36**	.012	0.40	.001	1.77	.002	10.14**	.015	0.73	.001	2.94	.005	5.45*	.009
Prior level outcome—8th	49.31***	.069	97.19***	.121	120.06***	.140	171.08***	.183	365.95***	.361	302.78***	.319	29.37***	.045	5.66*	.009
Parent education—8th	7.14**	.011	32.02***	.044	0.90	.001	1.30	.002	0.19	.000	1.00	.002	0.28	.000	0.05	.000
Child motivation—8th	23.57***	.034	31.01***	.042	4.14*	.006	0.02	.000	1.31	.002	11.45**	.017	4.33*	.007	10.49**	.017
Club × Race	0.48	.001	0.80	.001	2.30	.003	2.29	.003	11.40**	.017	2.08	.003	2.79	.004	0.75	.001
Club × Gender	1.26	.002	1.00	.001	0.27	.000	2.08	.003	0.00	.000	0.40	.001	4.34*	.007	5.72*	.009

* $p < .05$. ** $p < 0.01$. *** $p < .001$.

Table 3
Analysis of Covariance Results for Participation in High School Sports and Developmental Outcomes at 11th Grade

Variable and grade	Grades		Educational expectations		Depression		Self-esteem		Internalizing behavior		Externalizing behavior		Alcohol use		Marijuana use	
	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2
Sport—11th	5.46*	.008	16.13***	.022	10.03**	.013	8.41**	.011	12.97***	.020	24.36***	.036	4.45*	.007	10.92**	.017
Race	1.43	.002	3.33	.005	10.50**	.014	0.08	.000	11.72**	.018	3.30	.005	24.62***	.038	11.94**	.019
Gender	17.91***	.026	22.86***	.032	0.23	.000	1.74	.002	5.96*	.009	0.64	.001	6.46**	.011	10.84**	.017
Prior level outcome—8th	52.09***	.073	106.07***	.131	115.31***	.136	168.21***	.181	346.53***	.350	315.20***	.329	28.77***	.044	5.83*	.009
Parent education—8th	8.98**	.013	35.33***	.048	2.50	.003	2.98	.004	0.02	.000	1.50	.002	0.41	.001	0.00	.000
Child motivation—8th	23.74***	.035	31.30***	.043	3.54	.005	0.02	.000	2.16	.003	12.84***	.020	4.00*	.006	9.40**	.015
Sport × Race	0.37	.001	0.29	.000	1.93	.003	0.04	.000	0.09	.000	0.01	.000	3.23	.005	6.10*	.010
Sport × Gender	0.11	.000	1.46	.002	0.70	.001	0.06	.000	0.25	.000	10.34**	.016	3.60	.006	4.44*	.006

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

Table 4
Analysis of Covariance Results for Participation in High School Prosocial Activities and Developmental Outcomes at 11th Grade

Variable and grade	Grades		Educational expectations		Depression		Self-esteem		Internalizing behavior		Externalizing behavior		Alcohol use		Marijuana use	
	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2
Prosocial—11th	0.38	.001	6.09*	.009	2.07	.003	0.00	.000	0.01	.000	3.69	.006	1.26	.002	0.02	.000
Race	2.36	.004	1.96	.003	8.64**	.012	0.01	.000	9.26**	.014	2.36	.004	21.27***	.033	9.83***	.016
Gender	13.90***	.021	12.53***	.018	0.74	.001	3.56	.005	9.13***	.014	0.53	.001	5.76*	.009	8.94**	.014
Prior level outcome—8th	51.14***	.072	107.64***	.134	119.44***	.141	167.38***	.181	349.72***	.353	294.23***	.315	28.95***	.045	6.39*	.010
Parent education—8th	9.21**	.014	31.68***	.043	0.74	.001	1.86	.002	0.02	.000	1.07	.002	0.42	.001	0.14	.000
Child motivation—8th	24.18***	.035	35.14***	.048	4.71*	.006	0.04	.000	2.59	.004	14.49***	.022	5.77*	.009	11.77**	.019
Prosocial \times Race	0.48	.001	0.19	.000	0.02	.000	0.00	.000	0.02	.000	0.93	.001	0.25	.000	0.16	.000
Prosocial \times Gender	0.00	.000	0.60	.001	0.01	.000	0.00	.000	0.00	.000	0.15	.000	2.89	.005	2.60	.004

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

boys, participation in school clubs predicted lower alcohol (adjusted means = 1.72 for participants and 2.27 for nonparticipants) and marijuana use (adjusted means = 1.59 for participants and 2.18 for nonparticipants). For girls, there were no significant differences between participants and nonparticipants in alcohol (adjusted means = 1.87 for participants and 1.75 for nonparticipants) or marijuana use (adjusted means = 1.59 for participants and 1.63 for nonparticipants). In fact, male participants, female participants, and female nonparticipants had similar mean levels of alcohol and marijuana use.

Sports. After controlling for family demographic variables, children’s achievement-related motivation, and prior levels of the dependent variable measured at 8th grade, we documented several significant links between sport participation and our indicators of adolescent adjustment at 11th grade. For example, participation in sports predicted higher 11th grade GPAs, $F(8, 663) = 5.46, p < .05, \eta^2 = .008$, and higher educational expectations, $F(8, 703) = 16.13, p < .001, \eta^2 = .022$. In addition, sport participation predicted psychological adjustment after we adjusted for the other variables in the model. At the 11th grade, athletes reported lower levels of depression, $F(8, 733) = 10.03, p < .01, \eta^2 = .013$, and internalizing behavior, $F(8, 644) = 12.97, p < .001, \eta^2 = .020$, and higher levels of self-esteem, $F(8, 762) = 8.41, p < .01, \eta^2 = .011$, than did nonathletes (see Table 5). Gender moderated the relation between sport participation and externalizing behavior, $F(8, 644) = 10.34, p < .01, \eta^2 = .016$. For boys, sport participation predicted lower externalizing behavior (adjusted means = 4.96 for participants and 8.54 for nonparticipants). For girls, the difference in externalizing behavior between participants and nonparticipants was not significant (adjusted means = 6.00 for participants and 6.81 for nonparticipants).

After we controlled for some self-selection factors, adolescents in sports, $F(8, 622) = 4.45, p < .05, \eta^2 = .007$, reported lower alcohol use than those individuals who were not involved in athletics (see Table 5). The Gender \times Sport interaction, $F(8, 622) = 4.44, p < .05, \eta^2 = .010$, and the Race \times Sport interaction, $F(8, 622) = 6.10, p < .05, \eta^2 = .007$, were significant in the model predicting marijuana use. For boys, sport participation predicted lower marijuana use at 11th grade (adjusted means = 2.30 for participants and 1.66 for nonparticipants). For girls, there was no difference between participants and nonparticipants in reports of marijuana use (adjusted means = 1.68 for participants and 1.52 for nonparticipants). Similarly, for European American youths, participation predicted lower marijuana use at 11th grade (adjusted means = 2.34 for participants and 1.65 for nonparticipants). For African American youths, participation was not related to marijuana use (adjusted means = 1.68 for participants and 1.52 for nonparticipants).

Prosocial activities. In contrast, we documented few significant links between participation in prosocial activities and our indicators of adolescent adjustment at 11th grade, after controlling for family demographic variables, children’s achievement-related motivation, and the prior level of the dependent variable measured at 8th grade. Participants in prosocial activities reported higher educational expectations than nonparticipants, $F(8, 698) = 6.09, p < .05, \eta^2 = .009$. For all other outcomes, the main effects and interactions for prosocial activities were insignificant.

Table 5
Adjusted Means for Participants and Nonparticipants in Each Activity Context at 11th Grade

Variable	School club		Sport		Prosocial	
	Yes	No	Yes	No	Yes	No
Grades	3.00 ^a	2.80 ^a	2.96 ^a	2.84 ^a	2.92	2.89
Educational expectations	3.20 ^a	3.00 ^a	3.20 ^a	3.00 ^a	3.15 ^a	3.07 ^a
Depression	1.30	1.27	1.26 ^a	1.33 ^a	1.31	1.27
Self-esteem	3.83	3.92	3.93 ^a	3.74 ^a	3.85	3.85
Internalizing behavior	5.60	5.50	5.03 ^a	6.44 ^a	5.63	5.67
Externalizing behavior	5.82 ^a	6.83 ^a	5.48 ^a	7.67 ^a	5.99	6.82
Alcohol use	1.74 ^a	2.07 ^a	1.81 ^a	2.04 ^a	1.83	1.96
Drug use	1.59 ^a	1.90 ^a	1.59 ^a	2.00 ^a	1.73	1.75

Note. All means are adjusted for covariates in the model (parents' educational attainment, parents' ratings of children's motivation, and 8th grade level of the dependent variable).

^a Significant mean differences.

ANCOVAs—1 Year After High School

Covariates. The ANCOVA results for the models predicting adjustment at 1 year after high school from 11th grade activity participation are presented in Tables 6, 7, and 8. First, we summarize general effects associated with the covariates in our model. The 8th grade measure of the dependent variable was the strongest predictor of our indicators of young adult adjustment. In addition, parents' ratings of children's achievement-related motivation were significantly associated with educational status, self-esteem, alcohol use, marijuana use, political activity involvement, and social-charitable involvement. Finally, parents' educational attainment was a significant predictor of educational status and our two indicators of civic engagement.

School clubs. The School Clubs × Gender interaction was significant in the model predicting educational status, $F(8, 488) = 7.22, p < .01, \eta^2 = .015$. Participation in high school clubs predicted number of years of schooling for both boys and girls. The difference between participants and nonparticipants was much larger for girls (adjusted means = 3.50 for participants and 2.82 for nonparticipants) than for boys (adjusted means = 3.55 for participants and 3.32 for nonparticipants). To test whether the association between activity participation and school completion was mediated by high school grades, we reran the ANCOVA

model and included 11th grade GPA as an additional covariate. After we adjusted for high school grades, participation in school clubs predicted the number of years of schooling completed.

In addition, participation in school clubs predicted political activity involvement, $F(7, 498) = 8.72, p < .01, \eta^2 = .017$, and social and charitable involvement, $F(7, 499) = 11.48, p < .01, \eta^2 = .022$, at 1 year after high school. In contrast, after we accounted for our self-selection characteristics (family demographics, children's achievement motivation, and mental health scores following 8th grade), there were no significant links between participation in school clubs at 11th grade and either self-esteem or depression at 1 year after high school. Moreover, participation in school clubs at 11th grade was not related to alcohol and marijuana use 2 years later.

Sports. After we controlled for family demographics, achievement-related motivation, and educational expectations at the end of 8th grade, adolescents in sports at 11th grade, $F(8, 485) = 12.76, p < .001, \eta^2 = .026$, had completed more schooling at 1 year after high school than those respondents not involved in high school sports (see Table 9). To test whether the association between sport participation and school completion was mediated by high school grades, we included 11th grade GPA as an additional covariate in our ANCOVA model. Participation in

Table 6
Analysis of Covariance Results for Participation in High School Clubs and Developmental Outcomes at 1 Year After High School

Variable and grade	Educational status ^a		Depression		Self-esteem		Alcohol use		Marijuana use		Political involvement		Social/charitable involvement	
	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2
School club—11th	26.41***	.051	0.44	.001	1.62	.003	0.48	.001	2.31	.005	8.72**	.017	11.48**	.022
Race	1.36	.003	0.81	.002	4.36*	.008	35.56***	.078	0.12	.000	0.88	.002	1.21	.002
Gender	10.74**	.022	5.58*	.011	0.16	.000	1.73	.004	0.64	.002	1.09	.002	0.49	.001
Prior level outcome—8th	16.09*** ^a	.032	56.81***	.103	69.92***	.114	17.73***	.041	9.38**	.022				
Parent education—8th	8.20**	.017	1.79	.004	0.13	.000	1.03	.002	2.89	.007	10.79**	.021	9.34**	.018
Child motivation—8th	24.56***	.048	1.67	.003	6.20*	.011	5.47*	.013	8.02**	.019	5.32*	.011	17.18***	.033
Club × Race	0.53	.001	1.92	.004	0.29	.001	0.01	.000	0.62	.001	0.43	.001	0.17	.000
Club × Gender	7.22*	.015	0.22	.000	1.46	.003	0.23	.001	0.09	.000	0.07	.000	1.51	.003

^a Educational expectations at 8th grade are included as a covariate.

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

Table 7

Analysis of Covariance Results for Participation in High School Sports and Developmental Outcomes at 1 Year After High School

Variable and grade	Educational status ^a		Depression		Self-esteem		Alcohol use		Marijuana use		Political involvement		Social/charitable involvement	
	<i>F</i>	η^2	<i>F</i>	η^2	<i>F</i>	η^2	<i>F</i>	η^2	<i>F</i>	η^2	<i>F</i>	η^2	<i>F</i>	η^2
Sport—11th	12.76***	.026	2.26	.005	0.15	.000	0.37	.001	1.09	.003	0.81	.002	0.39	.001
Race	2.84	.006	0.47	.001	4.92*	.009	36.57***	.081	0.09	.000	0.36	.001	2.30	.005
Gender	1.00	.002	3.73	.008	0.61	.001	2.38	.006	1.58	.004	0.09	.000	0.06	.000
Prior level outcome—8th	19.13*** ^a	.038	55.31***	.101	67.96***	.112	16.65***	.038	9.49**	.022				
Parent education—8th	9.32**	.019	1.04	.002	0.00	.000	0.50	.001	2.56	.006	15.24***	.030	13.20***	.026
Child motivation—8th	27.23***	.053	1.17	.002	4.91*	.009	6.16*	.015	10.18**	.024	8.56**	.017	22.30***	.043
Sport × Race	0.75	.002	1.45	.003	0.07	.000	2.44	.006	0.06	.000	4.19*	.008	0.68	.001
Sport × Gender	0.29	.001	0.01	.000	0.03	.000	9.91**	.023	0.11	.000	3.27	.007	1.43	.003

^a Educational expectations at 8th grade were included as a covariate.

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

sports at 11th grade predicted the number of years of schooling completed after we adjusted for high school grades. In contrast, there was no relation between 11th grade sport participation and depression, self-esteem, marijuana use, or involvement in charitable causes 2 years later after we adjusted for some self-selection factors.

Gender moderated the relation between 11th grade sport participation and alcohol use at 1 year after high school, $F(8, 416) = 9.91, p < .01, \eta^2 = .023$. For girls, participation in high school sports predicted higher alcohol use 2 years later (adjusted means = 3.03 for participants and 2.43 for nonparticipants). For boys, the difference in alcohol use between participants and nonparticipants was not significant (adjusted means = 2.78 for participants and 3.18 for nonparticipants). Finally, the Race × Sport interaction was significant in the model predicting political activity involvement, $F(7, 495) = 4.19, p < .05, \eta^2 = .008$. For African American youths, high school sports predicted political activity involvement 2 years later (adjusted means = 1.52 for participants and 1.10 for nonparticipants). For European American adolescents, there was no difference in political activity involvement between participants and nonparticipants (adjusted means = 1.30 for participants and 1.14 for nonparticipants).

Prosocial activities. Participation in prosocial activities at 11th grade predicted educational status, $F(8, 484) = 4.05, p < .05, \eta^2 = .008$. Similar to the analyses we conducted with school clubs and sports, we reran the ANCOVA model with 11th grade GPA as a covariate. After we adjusted for high school grades, prosocial activity participation was no longer predictive of the number of years of schooling completed. In addition, participation in prosocial activities predicted political activity involvement, $F(7, 494) = 12.12, p < .01, \eta^2 = .024$, and charitable and social involvement, $F(7, 495) = 4.50, p < .05, \eta^2 = .009$, at 1 year after high school. In contrast, after we adjusted for family demographics, children's achievement-related motivation, and the level of the dependent variable at the end of 8th grade, there was no relation between participation in prosocial activities in 11th grade and self-esteem, depression, alcohol use, or marijuana use 2 years later.

Participation in Multiple Activities

In the previous analyses, we tested the relation between activity participation and development separately for school clubs, sports,

and prosocial activities. This analysis strategy does not account for the reality that many youths are involved in multiple activities. Therefore, we reran each of the ANCOVA models and included the two other activity contexts as covariates. In general, the results of the ANCOVA models for sports and high school clubs were comparable when we included the two other activity contexts as covariates. The one exception to this finding was that participation in school clubs did not predict externalizing behavior at 11th grade after we adjusted for involvement in the two other activity contexts. In contrast, three of the findings for prosocial activities were no longer significant when we included the two other activity contexts as covariates. Participation in prosocial activities was not related to (a) educational expectations at the 11th grade, (b) educational status at 1 year after high school, and (c) charitable and social involvement at 1 year after high school after we adjusted for involvement in high school clubs and sports.

In the next set of analyses, we examined indicators of adolescent and young adult adjustment, controlling for some self-selection factors. In the first step, we entered the self-selection factors (e.g., race, gender, parents' ratings of children's achievement-related motivation, parent education, and the prior level of the dependent variable).³ In the second step, we entered breadth of participation. In the final step, we entered the four interaction terms: Breadth × Gender, Breadth × Race, Breadth × Income, and Breadth × Gender × Race. The interaction for Breadth × Income and the three-way interaction were not significant in any of the models and were dropped from subsequent analyses.

The interactions by race and gender were insignificant in the majority of models, suggesting that the relation between breadth of participation and development was similar for these groups. The exceptions to this finding were the models for (a) alcohol use at 11th grade, (b) marijuana use at 11th grade, and (c) alcohol use at 1 year after high school. For all other models, we reran the regressions without the two interaction terms (Breadth × Race and

³ In the model predicting educational status from breadth of participation, educational expectations at 8th grade were included as a covariate. The 8th grade measure of civic engagement was not included in the analyses for political activity participation and social and charitable involvement because these items were not included in surveys at this time point.

Table 8
Analysis of Covariance Results for Participation in High School Prosocial Activities and Developmental Outcomes at 1 Year After High School

Variable and grade	Educational status ^a		Depression		Self-esteem		Alcohol use		Marijuana use		Political involvement		Social/charitable involvement	
	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2	F	η^2
Prosocial—11th	4.05*	.008	0.14	.000	0.00	.000	0.08	.000	1.64	.004	12.12**	.024	4.50*	.009
Race	7.02**	.014	0.34	.001	4.15*	.008	34.55***	.077	0.12	.000	0.12	.000	2.83	.006
Gender	3.80	.008	5.29*	.011	0.56	.001	1.67	.004	0.91	.002	0.03	.000	0.13	.000
Prior level outcome—8th	19.30*** ^a	.038	55.44***	.102	70.50***	.116	18.19***	.042	9.34**	.022				
Parent education—8th	9.59**	.019	1.70	.003	0.00	.000	1.30	.003	2.50	.006	12.55***	.025	11.82**	.023
Child motivation—8th	28.59***	.056	1.76	.004	5.25*	.010	5.50*	.013	10.50**	.024	6.36*	.013	20.79***	.040
Prosocial × Race	3.87	.008	0.04	.000	0.41	.001	0.19	.000	0.00	.000	0.04	.000	0.05	.000
Prosocial × Gender	0.16	.000	0.04	.000	0.93	.002	0.98	.002	0.14	.000	2.81	.006	0.45	.001

^a Educational expectations at 8th grade were included as a covariate.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Breadth × Gender). The standardized regression coefficients for breadth of participation are presented in Table 10. We also have included the model fit and squared multiple correlation for Step 1 and Step 2 to illustrate the amount of additional variance that was accounted for by the breadth variable beyond that accounted for by the self-selection factors. For the three models with significant interaction terms, we presented the standardized regression coefficients for breadth of participation, Breadth × Race, Breadth × Gender, and the model fit and squared multiple correlation for the three steps (see Table 11). In general, the relation between the covariates and our indicators of adjustment at 11th grade and 1 year after high school were similar in the regression analyses and ANCOVA models. Because of space considerations, we do not present the data for the covariates in the regression models.

Breadth of participation at 11th grade was positively associated with our concurrent indicators of academic and psychological adjustment. The number of activities predicted higher grades ($\beta = .12, p < .01$) and educational expectations ($\beta = .19, p < .001$) at 11th grade. After we adjusted for our self-selection factors, breadth of participation accounted for an additional 1% of the variance in

grades and an additional 3% of the variance in educational expectations. In addition, breadth of participation predicted lower internalizing ($\beta = -.08, p < .01$) and externalizing behavior ($\beta = -.15, p < .001$) at 11th grade.

Breadth of participation at 11th grade was also predictive of several indicators of adjustment at 1 year after high school. For example, the number of activity contexts predicted number of years of schooling ($\beta = .26, p < .001$). After we adjusted for some self-selection factors, breadth of participation accounted for an additional 6% of variance in educational status. To test whether the association between breadth of participation and educational status was mediated by high school grades, we reran the hierarchical linear models and included 11th grade GPA as an additional covariate. In these models, breadth of participation predicted number of years of schooling completed after we adjusted for high school grades.

Breadth of activity participation at 11th grade predicted lower marijuana use at 1 year after high school ($\beta = -.11, p < .05$). In addition, breadth of participation at 11th grade predicted higher political activity involvement ($\beta = .19, p < .001$) and charitable

Table 9
Adjusted Means for Participants and Nonparticipants in Each Activity Context at 1 Year After High School

Variable	School club		Sport		Prosocial	
	Yes	No	Yes	No	Yes	No
Educational status ^a	3.52 ^b	3.07 ^b	3.51 ^b	3.20 ^b	3.44 ^b	3.27 ^b
Depression ^c	1.26	1.28	1.25	1.30	1.27	1.26
Self-esteem ^c	3.65	3.76	3.69	3.66	3.69	3.69
Alcohol use ^c	2.86	2.75	2.91	2.81	2.83	2.78
Marijuana use ^c	1.89	2.16	1.94	2.12	1.94	2.16
Political involvement ^d	1.42 ^b	0.96 ^b	1.34	1.20	1.46 ^b	0.94 ^b
Social/charitable involvement ^d	1.85 ^b	1.54 ^b	1.78	1.72	1.82 ^b	1.63 ^b

^a All means are adjusted for covariates in the model (parents' educational attainment, children's motivation, and educational expectations at 8th grade).

^b Significant mean differences.

^c All means are adjusted for covariates in the model (parents' educational attainment, children's motivation and the 8th grade level of the dependent variable).

^d All means are adjusted for covariates in the model (parent education and children's motivation).

and social involvement ($\beta = .15, p < .01$) at 1 year after high school. This construct explained an additional 1% to 2% of the variance in our indicators of civic engagement. After we controlled for some self-selection factors, there was no relation between breadth of participation and depression and self-esteem at either time point.

Gender moderated the relation between breadth of participation and (a) alcohol use at 11th grade, (b) marijuana use at 11th grade, and (c) alcohol use at 1 year after high school. To determine the direction of the interaction, we graphed the regression lines for boys and girls by the number of activity contexts. All three interactions followed a similar pattern. For illustrative purposes, we graphed the interaction of breadth of participation by gender and marijuana use at 11th grade (see Figure 1). For both boys and girls, the number of activity contexts was associated with a de-

Table 10
Standardized Regression Coefficients for Breadth of Participation Model Fit and R^2 for Adolescent and Young Adult Outcomes

Outcomes	Step 1	Step 2
	11th grade	
Grades		.12**
<i>F</i> change	45.51***	11.88**
<i>R</i> ²	.26	.01
Educational expectations		.19***
<i>F</i> change	44.26***	31.46***
<i>R</i> ²	.24	.03
Depression		-.02
<i>F</i> change	31.76***	0.20
<i>R</i> ²	.18	.00
Self-esteem		.04
<i>F</i> change	39.32***	1.39
<i>R</i> ²	.21	.00
Internalizing behavior		-.08**
<i>F</i> change	88.59***	6.78**
<i>R</i> ²	.41	.01
Externalizing behavior		-.15***
<i>F</i> change	84.95***	23.65***
<i>R</i> ²	.40	.02
	1 year after high school	
Educational status		.26***
<i>F</i> change	20.32***	37.39***
<i>R</i> ²	.17	.06
Depression		-.03
<i>F</i> change	15.69***	0.44
<i>R</i> ²	.14	.00
Self-esteem		-.02
<i>F</i> change	20.56***	0.28
<i>R</i> ²	.16	.00
Marijuana use		-.11*
<i>F</i> change	5.89***	4.82*
<i>R</i> ²	.07	.01
Political involvement		.19***
<i>F</i> change	6.42***	17.85***
<i>R</i> ²	.05	.03
Charitable involvement		.15**
<i>F</i> change	11.04***	12.07**
<i>R</i> ²	.08	.02

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

Table 11
Standardized Regression Coefficients, Model Fits, and R^2 for Adolescent and Young Adult Outcomes Predicted by Breadth of Participation

Variable of statistic	Alcohol use 11th grade	Marijuana use 11th grade	Alcohol use 1 year after high school
Breadth	-.12	-.10	.21*
Breadth × Race	.26*	.25	-.18
Breadth × Gender	-.33**	-.36**	-.33*
Step 1			
Model fit	15.87***	8.96***	17.91***
<i>R</i> ²	.11	.07	.18
Step 2			
Model fit	7.42**	6.65*	1.44
<i>R</i> ²	.01	.01	.00
Step 3			
Model fit	6.93**	7.02**	3.44*
<i>R</i> ²	.02	.02	.01

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

crease in marijuana use; this effect was stronger for boys than for girls.⁴ In addition, the Breadth × Race interaction was significant in the model predicting alcohol use at 11th grade. Figure 2 presents the regression lines for alcohol use for African American and European American youths by the number of activity contexts.⁵ For European American youths, breadth of participation was associated with a decrease in alcohol use; the reverse was true for African American youths.

Discussion

In this investigation we have assessed the link between participation in organized activities during 11th grade and developmental outcomes concurrently and 2 years later, controlling for the prior level of the dependent variable and some important self-selection factors. Given that few studies have used this more stringent test of the effects of extracurricular participation, Larson (2000) argued that the potential developmental benefits of extracurricular activities likely have been overestimated by the prior literature. The results of our study support this claim. After accounting for prior level of functioning, children's achievement-related motivation, and demographic characteristics, we found that high school extracurricular participation predicted several indicators of academic, psychological, and behavioral adjustment. However, the effect sizes were small and the relations weaker than in previous research that used a less rigorous methodological design.

Several major findings emerge from this study: (a) Participation in both high school clubs and sports predicted academic adjustment at 11th grade, (b) high school sport involvement predicted psychological adjustment at 11th grade, (c) participation in both

⁴ This graph represents European American youths who had average levels of marijuana use at 8th grade and had parents of average education and average ratings of achievement-related motivation.

⁵ This graph represents girls who had average levels of alcohol use at 8th grade and had parents of average education and average ratings of achievement-related motivation.

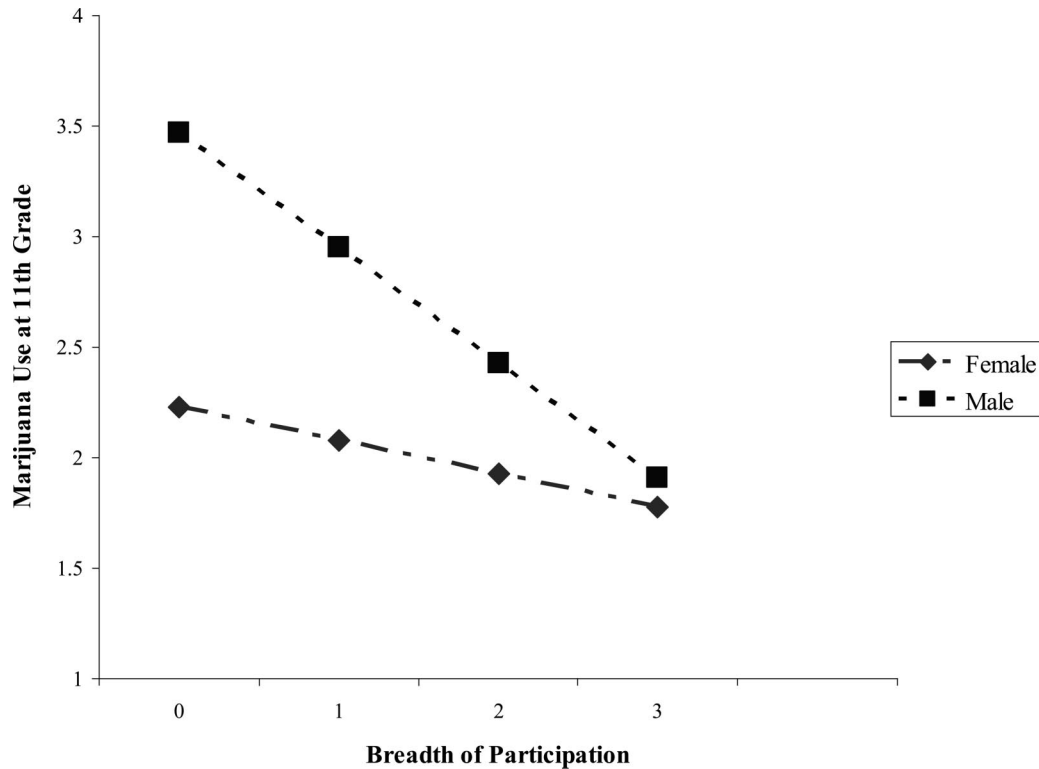


Figure 1. Breadth of Participation \times Gender and Marijuana Use interaction at 11th grade.

high school sports and school clubs predicted educational status 2 years later, (d) involvement in both high school clubs and prosocial activities predicted civic engagement 2 years later, and (e) breadth of activity participation was associated with indicators of adolescent and young adult adjustment. Moreover, the strength of the relation between activity participation and development differed by type of activity, outcome, and time point. Differences in the pattern of findings in sports, school clubs, and prosocial activities likely reflect differences in the level of public recognition, the level of social integration, peer cultures, and the skills and values learned through participation across these three activity contexts. In addition, by and large, participation in extracurricular activities was beneficial for all groups of adolescents. The most important exceptions to this conclusion are that (a) involvement in sports predicted lower externalizing behavior for boys only, (b) involvement in school clubs predicted lower internalizing behavior for African American youths only, and (c) participation in both school clubs and sports predicted lower alcohol and marijuana use for boys only.

Concurrent and Longitudinal Relations

One criticism is that much of the literature has been based on cross-sectional studies that fail to adjust for characteristics that may differentiate participants from nonparticipants (Eccles, Barber, Stone, & Hunt, 2003; Larson, 2000). In this study, we have attempted to adjust for self-selection into activities by including measures of the dependent variable on multiple occasions and adjusting for some important demographic and motivational vari-

ables. One of the most common concerns raised about nonexperimental studies of the relation between activity participation and achievement outcomes is that there is likely to be a general motivational construct underlying both of these behaviors, so the relations between participation and outcomes are spurious. To our knowledge, our study is the first in the extracurricular literature to include a control for children's achievement-related motivation, allowing us to at least statistically control for this potentially powerful, unmeasured third variable.

Consistent with previous research (see Cooper et al., 1999; Eccles & Barber, 1999; Marsh, 1992), participation in school clubs and sports predicted higher grades and educational expectations. The higher grade and educational attainment of activity participants as compared with nonparticipants may be a result of a greater commitment to school and a greater likelihood of associating with peers who value academics (Barber et al., 2001; Eccles et al., 2003; Finn, 1989). Athletes also looked psychologically healthier at 11th grade, even after we controlled for their mental health 3 years earlier. In contrast, there were fewer associations between participation in high school clubs and prosocial activities, on the one hand, and our indicators of psychological adjustment, on the other. Athletics is a highly valued skill-related context in which youths can receive positive feedback and feel a sense of mastery (Maton, 1990). The more favorable mental health of athletes also likely reflects the greater public recognition and prestige given to athletes in many high schools (Eder & Parker, 1987); this visibility tends to be less true of participants in school clubs and organizations.

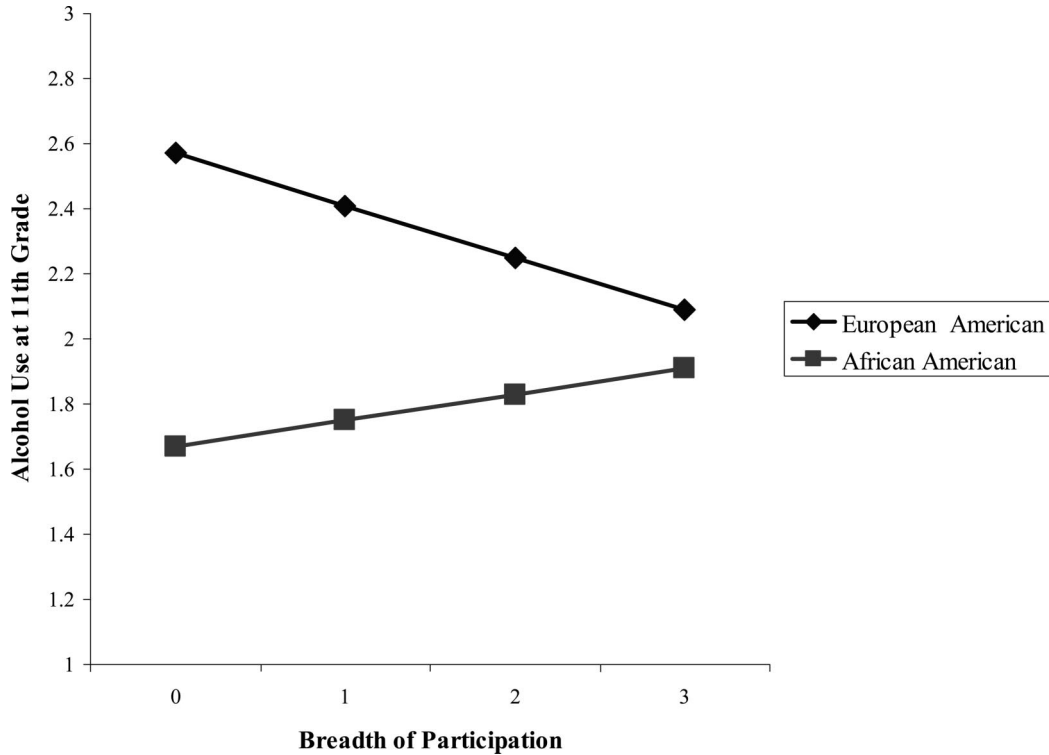


Figure 2. Breadth of Participation \times Race and Alcohol Use interaction at 11th grade.

In contrast to previous research (Eccles & Barber, 1999), we found that athletes had lower drug and alcohol use than non-athletes. The difference in findings may reflect demographic and historical differences between the two samples. Eccles and Barber collected data on high school activity participation and problem behavior from a predominately White, working class sample in Michigan during the late 1980s. Our results are based on data from an economically diverse sample of African American and European American youths in Maryland during the late 1990s. The differences in findings also may reflect differences in the peer cultures across the two samples. Barber et al. (2005; Eccles & Barber, 1999) found that athletes had more peers who drank alcohol than did nonathletes. One possibility is that the alcohol use is less central to the peer culture for African American athletes than for White athletes. In fact, in our sample, African American youths reported drinking less than European American youths. In future work, we plan to explore whether peer characteristics are a mediator of activity participation and alcohol use.

Although there were fewer significant longitudinal relations, participation in each of the three extracurricular contexts predicted higher educational status. Mahoney et al. (2003) argued that high school extracurricular participation affords youths the opportunity to build interpersonal competence and formulate educational plans for the future, skills that are critical to adult educational attainment. Others have argued that extracurricular activities represent a likely path to school attachment and belonging as well as social capital (Eccles et al., 2003; Finn, 1989). Extracurricular participation can facilitate youths' con-

nections to school by linking them to supportive peers and adults and by contributing to their identity as valued members of the school community (Eccles & Barber, 1999; Eccles et al., 2003).

Consistent with previous research on civic engagement (e.g., Youniss, McLellan, Su, & Yates, 1999; Youniss, McLellan, & Yates, 1997), participation in school clubs and prosocial activities at 11th grade predicted higher involvement in political and social causes in young adulthood. Although there were few significant links between prosocial activities and development at 11th grade, with an inclusion of a wider range of outcome variables than in much of the prior literature, we found that involvement in this activity context predicted some long-term benefits. Youniss and Yates (1997; Youniss, McLellan, & Yates, 1997) have theorized that structured activity participation, especially in service activities, exposes students to norms and values of organized collective action and creates network ties that integrate teens into normative society. Participation in some high school clubs and prosocial activities also introduces youths to political ideas that they might not have been exposed to and offers them the opportunity to learn interpersonal and leadership skills that are likely to inspire continued involvement in civic causes in young adulthood (Glanville, 1999; Hanks & Eckland, 1978). Because we were unable to control for prior civic engagement levels, it is not entirely possible to rule out the hypothesis that the link between high school activity participation and political and civic involvement 2 years later reflects selection factors.

Differences by Race, Gender, and Socioeconomic Status

An underlying assumption guiding much of the extracurricular literature is that participation in a structured activity setting is equally beneficial for all youths. Because few studies have tested for interactive effects, we know surprisingly little about whether the relations between activity participation and development are similar by race, gender, and socioeconomic status (Mahoney, Larson, & Eccles, 2005). In contrast to other studies showing that the benefits of extracurricular participation are greatest for low-income youths (Marsh, 1992; Marsh & Kleitman, 2002), we failed to document income effects. This finding may be a function of the unique characteristics of MADICS. In our sample, income was normally distributed in the African American and European American families. As a result, there were fewer low-income youths than in previous studies that have documented an Activity \times Income interaction. As a consequence, we may not have the power in this sample to detect an interactive effect by income.

Consistent with previous research (see Eccles & Barber, 1999; Marsh, 1992; Marsh & Kleitman, 2002), our analyses show that most of the effects of extracurricular participation were generalizable across race and gender. However, we did document some interesting interactions that merit further inquiry. For example, athletic participation predicted lower externalizing behavior for boys only. Sports provide a vehicle through which youths can channel their aggression in activities that have rules and norms to guide behaviors. This is likely to be particularly important for boys, as they are more likely to display externalizing behavior than girls. In addition, athletics keeps youths in a structured activity setting. As a consequence, they have less time to be involved with problematic peers. This structure also may be more important for boys than for girls. Future research should test this hypothesis.

Another intriguing finding is the School Clubs \times Race and Internalizing Behavior interaction; participation was related to lower internalizing behavior for African American youths only. This finding may reflect the fact that youths in this sample were in predominately African American schools. As members of the majority group, African American adolescents are more likely to have opportunities to take leadership roles in their activity setting; this may be particularly beneficial to psychological development. Other possible explanations for the psychological benefits of participation in school clubs for African American youths include the opportunity to form relationships with supportive adults, the increased sense of belonging, and the chance to participate in an activity that supports autonomy and a sense of mattering (Eccles & Gootman, 2002).

It is interesting that participation in school clubs and sports was related to alcohol and drug use for boys only. One possible explanation for this finding is that it is more beneficial for boys than for girls to be in a structured activity setting where they have less exposure to problematic peers. The gender effect also may reflect differences in the peer group culture in male and female extracurricular contexts (Barber et al., 2005). In the future, researchers should test these hypotheses to better understand the potential of activity participation to reduce problem behavior among boys.

Participation in Multiple Activities

Scholars have highlighted the need to expand our conceptualizations of activity participation beyond yes–no measures of involvement and acknowledge the reality that youths are often involved in multiple activities at the same time (see Weiss, Little, & Bouffard, 2005, for more description). Our study contributes to this literature by examining the developmental effects of participating in a range of extracurricular contexts simultaneously. The breadth of activity participation was positively associated with indicators of adjustment both concurrently and over time. This finding mirrors studies using both person-centered analyses (Bartko & Eccles, 2003; Mahoney, Lord, & Carryl, 2005; Morris & Kalil, 2006) and variable-centered analytic techniques (Fredricks & Eccles, 2006), which have shown that participation in a combination of structured activities is associated with the most beneficial outcomes for children and adolescents.

Breadth of involvement may be advantageous because it provides youths with more opportunities to experience the features of the activity setting that promote successful development. Another possibility is that different types of extracurricular contexts can be conceptualized as learning environments with distinct socialization experiences (Larson & Varma, 1999). Sports, school clubs, and prosocial activities provide different opportunities to develop physical, intellectual, social, and emotional competencies and to form supportive relationships with a variety of adults and peers (Hansen et al., 2003). Finally, participating in a range of extracurricular contexts may be beneficial because it may help a youth to compensate for negative experiences in one particular activity.

Methodological Considerations and Future Directions

A natural question arising from our analyses is whether we can attribute these associations to extracurricular involvement or whether individual and contextual factors explain the beneficial outcomes of activity participation. One explanation is that these associations merely reflect characteristics of students likely to get involved in school clubs, sports, and prosocial activities. We attempted to address this possibility by controlling for children's achievement-related motivation and family demographic factors because these variables emerged as predictors of activity participation in previous work. In addition, we controlled for the individual's position on the outcome measure prior to the point at which we assessed participation. These controls increased the possibility that the associations resulted from something about activity involvement.

Although we have adjusted for some factors that may explain differences between participants and nonparticipants, our study is still subject to selection biases. It is not possible to rule out that our findings are due to some self-selection characteristics that were not controlled for in our analyses. For example, we do not have any information on contextual factors, such as the extracurricular opportunities available at the school or the expectations of school-related and nonschool-related adults, which are likely to impact on activity participation. A difficult question to answer is whether the correct self-selection factors have been included in our model. One way economists and political scientists have addressed this question is to use instrumental variable techniques to control for selection effects (Foster & McLanahan, 1996). Using this meth-

odological technique to adjust for those characteristics that predict activity involvement in future research could expand our knowledge of the effects of extracurricular participation in important ways.

Moreover, we did not have information on the length, intensity, type of activity, and quality of this involvement, factors that moderate the relation between activity participation and development (see Holland & Andre, 1987; Mahoney, Larson, & Eccles, 2005). In addition, we did not collect any information on what was happening inside these three activity contexts. In fact, few studies outside of the sport psychology literature have measured characteristics of the activity setting (Eccles, 2005). As a consequence, we can only speculate on aspects of the setting that may help to explain the developmental benefits of participation. To answer the question of who benefits most from involvement in high-quality extracurricular programs and why, we need to develop more sophisticated measures of participation and contextual factors. Another important area of future inquiry is randomized studies that manipulate participation and features of the activity setting to see what are the critical aspects of extracurricular activities. This is a major goal of the William T. Grant Foundation, which is funding several studies that take a microlevel look at setting characteristics.

Another methodological question concerns the ordering of the relations among activity participation and development. Development is a fluid, bidirectional, and complex process. In our analyses, we assume that activity participation is associated with changes in academic, psychological, and behavioral adjustment. However, an alternative explanation is that academic and psychological functioning predicts activity participation. Although we have attempted to control for some of these effects by including the prior level of the dependent variable in our models, it is not possible to entirely rule out this explanation with our analytic design. Similarly, most likely, these aspects of functioning influence each other in a reciprocal fashion over time (Elder & Shanahan, 2006). In future research, we plan to use structural equation modeling to explore these bidirectional links.

In sum, our results support recommendations for increasing opportunities for youths to participate in a range of extracurricular activities (e.g., Eccles & Gootman, 2002; Eccles & Templeton, 2002; Larson, 2000). These contexts can be seen as learning environments with distinct "opportunity structures" for developing personal and interpersonal skills (Larson & Varma, 1999). Furthermore, extracurricular activities allow students to demonstrate a wider range of skills and interests than is available in most academic contexts. An important area of future inquiry is work that compares the relative effects of curricular and extracurricular contexts. One example of this work is research by Larson and his colleagues (e.g., Larson, 2000; Larson & Kleiber, 1993). They used experience sampling techniques to compare adolescents' experiential states in curricular and extracurricular contexts and found that youths in school reported low intrinsic motivation, difficulty concentrating, and high rates of boredom, whereas youths in structured voluntary activities had high intrinsic motivation and reported that concentration was easier and that they experienced high challenge. Unfortunately, sports and school clubs are often viewed as less important than the academic curriculum and are some of the first items to be cut during fiscal constraints. Educators should reevaluate these assumptions because of the

potential developmental benefits of participation in extracurricular activities for many high school adolescents.

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