

# Participation in Extracurricular Activities in the Middle School Years: Are There Developmental Benefits for African American and European American Youth?

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**Abstract** In this study, we examined the associations between organized activity participation during early adolescence and adjustment in a large and economically diverse sample of African American and European American youth. The sample included 1,047 youth (51% female and 49% male and 67% African American and 33% European American). We used analysis of covariance techniques to examine links between participation in 8th grade school clubs, school sports teams, and out of school recreational activities and adjustment at 8th and 11th grade, controlling for a set of self-selection factors measured at 7th grade prior to activity involvement. Organized activity participation was associated with higher than expected grades, school value (i.e. perception of importance of school for the future), self-esteem, resiliency, and prosocial peers, and lower than expected risky behavior, though the pattern of findings differed by activity context, outcome, and time point. In a few of the models, the relation between activity participation and adjustment varied by gender, race, and socioeconomic status.

**Keywords** Extracurricular participation · Middle school · Positive youth development · Sports

## Introduction

Early adolescence encompasses rapid changes associated with pubertal development, establishing autonomy from parents, identity exploration, and social changes around the transition to middle school. There is substantial evidence of declines in motivation, increases in mental health problems, and increases in risky behaviors across the early adolescent years (Eccles et al. 1993; Lerner and Steinberg 2004). African American adolescents and low-income youth face additional challenges during this period (Carnegie Council on Adolescent Development 1995; Gutman et al. 2002). According to ecological theory, the different contexts in youths' lives provide unique opportunities for development and distinct socialization experiences (Bronfenbrenner 1979; Lerner 2002). School and community-based extracurricular activities are one such ecological context that can be structured in a way to support growth and promote development during early adolescence.

## Organized Activities and Early Adolescence

There are several reasons why participation in organized after school activities may be particularly important in the middle school years. First, in early adolescence youth are beginning to make their own decisions about how to spend their after school time, and these choices can have important implications for their future developmental trajectories. Involvement in supervised and organized activities during the after school hours is associated with positive outcomes, while participation in unsupervised and/or unstructured contexts is related to less favorable adjustment (Feldman and Matjasko 2005; Mahoney and Stattin 2000). Second, as middle school youth begin to individuate from parents, they seek emotional support from

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caring non-familial adults. Participating in high quality organized activities affords youth the opportunity to form supportive and caring relationships with adults in the wider community who can provide them with social capital (Eccles and Gootman 2002). Third, establishing relationships with peers and feeling connected take on increasingly importance during this period (Lerner and Steinberg 2004). Extracurricular activities provide a unique context for developing relationships with diverse peers and belonging to a group (Eccles and Gootman 2002; Patrick et al. 1999). Finally, early adolescence is a time when youth begin to engage in identity exploration. Evidence from qualitative studies illustrates the potential benefits of organized activities to facilitate identity development and personal exploration (Dworkin et al. 2003; Fredricks et al. 2002). In sum, because extracurricular activities are structured in a way to support youths' developmental needs during early adolescence we expect to document that organized activity participation in the middle school years will be associated with indicators of positive development.

### Outcomes of Organized Activity Participation

In general, participating in school and community based activities has been associated with positive adjustment, though there is a more extensive literature on the effects of organized activity involvement in high school than in the middle school years. Participation has been positively linked to academic outcomes including higher grades, test scores, school value, school engagement, and educational aspirations (Eccles and Barber 1999; Fredricks and Eccles 2005; Fredricks and Eccles 2006a; Marsh and Kleitman 2002), and psychological outcomes such as higher self-esteem, higher psychological resiliency, and lower rates of depression (Eccles and Barber 1999; Fredricks and Eccles 2006b; Mahoney et al. 2002). Involvement in extracurricular activities is also related to characteristics of the peer group; adolescents who participate in activities during high school have more friends who plan to attend college and are doing better in school than adolescents who do not participate (Barber et al. 2001; Eccles and Barber 1999; Eccles et al. 2003). Finally, some studies have linked involvement to lower dropout rates, lower delinquency, and less frequent substance use (Mahoney and Cairns 1997; Youniss et al. 1997).

One concern with much of the prior literature is that many of the studies are based on cross-sectional data with limited adjustment for self-selection into activities (Holland and Andre 1987; Larson 2000; Marsh and Kleitman 2002). As a consequence, it is difficult to separate causal effects of organized activity participation from preexisting differences between participants and non-participants. For example, adolescents who choose to participate in

extracurricular activities tend to be of higher socioeconomic status, are more likely to be white, and have higher academic adjustment than non-participants (Feldman and Matjasko 2005; Huebner and Mancini 2003; McNeal 1998). Since these selection factors also predict positive adjustment, some scholars have argued that the benefits of organized activity participation may be overstated in much of the extant literature (Fredricks and Eccles 2006a; Holland and Andre 1987; Larson 2000). Studies that have used longitudinal data, adjusted for some self-selection characteristics, and calculated effect sizes have shown that the effects of organized activity participation on academic, psychological, and behavioral adjustment are significant but small (Fredricks and Eccles 2006a; Marsh and Kleitman 2002).

Prior research also indicates that the pattern of associations differs by type of activity and outcome (see Eccles and Barber 1999; Fredricks and Eccles 2006a; Marsh and Kleitman 2002, for examples). In this study, we examine three different types of organized activity contexts: school clubs, school sport teams, and out of school recreation activities, because different organized activities offer distinctive opportunities to develop skills and form relationships with peers and adults (Hansen et al. 2003; Larson et al. 2006). For example, participating in school-based clubs gives youth the opportunity to develop academic and leadership skills and is assumed to enhance school identification (Finn 1989; Larson et al. 2006). In contrast, involvement in sports has been associated with both positive experiences such as opportunities for identity exploration, problem solving, and emotional development (Danish et al. 2003; Hansen et al. 2003), and negative experiences such as heightened risk behavior, stress, and the inappropriate behavior of some adults (Brustad et al. 2001; Eccles and Barber 1999). There are also important differences between organized sports activities in school and out of school, though most studies have grouped these together into a single measure of athletic participation. Typically, school sports teams are more structured, selective, and require greater commitment than out of school recreational activities (Broh 2002). Participating in school extracurricular contexts also has been shown to be more strongly related to academic outcomes than participating in out of school activities (Gerber 1996).

The pattern of associations also may vary by individual characteristics such as race, gender, and socioeconomic status, though surprisingly few studies have examined this question (see Eccles and Barber 1999; Fredricks and Eccles 2006a; Marsh 1992; Marsh and Kleitman 2002, for exceptions). In general, evidence from these studies suggests that across the majority of outcomes the effects of organized activity participation are generalizable by race and gender. One exception is the work by Fredricks and

Eccles (2006a) who found that participation in high school sports predicted lower externalizing behavior and drug use only among boys and higher alcohol use only among girls. In addition, in this same study, participation in school clubs was linked to lower alcohol and marijuana use only among boys. A few studies have documented interactive effects of organized activity participation by socioeconomic status. For example, in two nationally representative datasets, Marsh and his colleagues (Marsh 1992; Marsh and Kleitman 2002) suggested that youth from lower socioeconomic status families benefit more from extracurricular participation than youth from higher SES families. Further research which tests the interactive effects of extracurricular participation by socioeconomic status among youth living in a variety of ecological contexts can help to expand our understanding of who benefits most from organized activity involvement.

### Present Study

In this study, we examine the effects of organized activity participation in early adolescence in an economically diverse sample of African American and European American youth. In previous research, we used this dataset to explore the consequences of participation in *high school* sports, school clubs, and prosocial activities (see Fredricks and Eccles 2006a, for more discussion). We extend this research by using a similar analytic strategy to examine the associations between participation in school clubs, school sport teams, and out of school recreation activities during the *middle school* years and adjustment. Our study contributes to the literature on organized activity participation in several ways. First, we examine the effects of extracurricular participation with minority adolescents during the middle school years, a period when involvement in organized activities is likely to be particularly important. Second, we use longitudinal data and control for the prior level of the dependent variable and some factors related to extracurricular participation. Third, we examine whether the effects of involvement hold after adjusting for participation in other organized contexts. Finally, we test for interactive effects of activity participation by gender, race, and family socioeconomic status.

Based on studies which have used longitudinal data and have adjusted for some self-selection factors (see Darling 2005; Eccles and Barber 1999; Fredricks and Eccles 2006a, b, in press; Marsh and Kleitman 2002, for examples), we expected that organized activity participation during the middle school years would be related to higher academic adjustment, psychological adjustment, social adjustment, and lower risk behavior. We expected that the positive associations between organized activity participation and adjustment would hold after adjusting for participation in

the other two activity contexts, and that the relationships would be stronger at 8th grade than at 11th grade and that the effect sizes would be small. Finally, as previous research has shown (see Eccles and Barber, 1999; Fredricks and Eccles 2006a, b; Marsh and Kleitman, 2002), we expected to document that the effects would largely be generalizable by race and gender, and that the benefits of organized activity participation would be strongest for youth from lower socioeconomic status homes.

### Method

#### Sample

Participants in this study are part of the Maryland Adolescent Development in Context Study (MADICS), one of the largest longitudinal studies of normative developmental of African American youth. These participants were originally part a larger study for the MacArthur Network for Adolescent Development that surveyed all youth attending 23 middle schools in a large county in Maryland (see Cook et al. 2002 for more description). This sample is unique in that there is a broad range of income levels in both the African American and European American families. As a consequence, race and income are less confounded than much of the prior literature which has either focused on low-income African American youth or has used nationally representative samples.

Families of seventh grade students in the larger study were contacted about participating in this smaller study ( $N = 1948$ ). Seventy-six percent ( $N = 1482$ ) of these families agreed to participate. The first wave of data was collected in 1991 when the participants were in the seventh grade. These adolescents were followed for five waves of data collection into their early twenties. In this study, we use data from the 1st, 3rd, and 4th waves of data collection. Wave 1 was collected in the fall of 1991 when the adolescents were entering 7th grade (mean age = 12.27). Wave 3 was collected in 1993 during the summer following the adolescents' 8th grade school year ( $N = 1060$ , mean age = 14.24) and wave 4 was collected in 1997 during the 11th grade school year ( $N = 1075$ , mean age = 16.53). One thousand and forty seven youth participated at both wave 1 and wave 3 and 855 youth participated at all three time points.

The sample is 51% female and 49% male, and 67% African American and 33% European American. Mean family income at the beginning of the study (1991) was between \$45,000 and \$49,999 and ranged from less than \$5,000 to over \$100,000. European American families reported significantly higher pretax incomes (mean = \$50,000–\$54,999) than did African American

families (mean = \$40,000–\$44,999), though there was a wide range of income distribution among both groups. For example, 17% of the sample reported incomes less than \$25,000, 44% of the sample reported incomes between \$25,000 and \$50,000, 24% of the sample reported incomes between \$50,000 and \$70,000, and 15% of the reported incomes over \$70,000. In addition, 6% of the sample lived at or below the United States poverty threshold. The average occupation of the head of household was a semi-professional or skilled worker, but ranged from professionals with advanced degrees to unskilled workers. The average education was some post high school education, but ranged from a post graduate degree to completing fifth grade. Fifty-three percent of the families were characterized as intact families, 14% were step-families, 6% were living with a partner, 20% were divorced, and 7% were never married.

In previous reports, missing data analyses were conducted (Eccles and Sameroff 2000; Fredricks and Eccles 2006a). In general, these analyses revealed that the data were missing at random within waves, but that African American and high-risk youth dropped out of the study at higher rates than European American and low-risk youth. To test whether the higher rates of attrition of African American and high-risk youth leads to biased estimates of the effects of organized activity participation, we created attrition-probability indicators (one for waves 1–3, and one for waves 1–4) based on a range of demographic and substantive variables (e.g., wave 1 academic achievement) that predicted missing data in waves 3 and 4 relative to wave 1 (Berk 1983; Berk and Ray 1982; Sampson and Laub 1993). One of these attrition-probability indicators was used a control variable in each ANCOVA model. For the majority of outcomes, including an attrition-probability indicator yielded few substantive changes to our results. The two exceptions were that participation in school clubs was not a significant predictor of school value at 8th grade and was only marginally related to school grades at 11th grade. These results with the attrition-probability indicators are available by contacting the first author.

## Measures

At each wave, the primary caregiver and the adolescent completed two questionnaires in their homes: a face-to face structured interview and a self-administered questionnaire. Each face-to-face interview took approximately 1 h and each self-administered questionnaire took approximately 30 min to complete. The adolescent and the primary caregiver was each given \$15.00 dollars for their participation. In addition, the primary caretaker was interviewed at wave 1 about basic demographics factors. Our choice of outcomes was informed by the prior research on the

consequences of organized activity participation (see Feldman and Matjasko 2005, for review).

## Organized Activity Participation

Youth were asked three yes/no questions about their participation in school and community-based activities over the past year at each of the three time points (7th grade, 8th grade, and 11th grade). They were asked if they had participated in any school activities such as clubs or student government (except athletic teams), in any athletic or sport teams at the school, and in any organized summer or after school recreational programs.

## Academic Adjustment

We included two measures of academic adjustment: grades and school value. At 7th, 8th, and 11th grades, adolescents were asked to report on the number of A's, B's, C's, D's and F's they had received on their first semester report cards. Grade point average was calculated by multiplying the number of A's by 4, B's by 3, C's by 2, D's by 1, and F's by 0 and dividing by the total number of grades. The school value items assessed whether adolescents perceived school as a pathway to later life (5 items, alphas = .64 to .69). These items have been used in other studies (see Eccles et al. 1997; Roeser and Eccles 1998). Sample item in this scale include "getting a good education is the best way to get ahead in life for the kids in my neighborhood".

## Psychological Adjustment

We included three indicators of psychological adjustment: self-esteem, psychological resiliency, and depression. Adolescents' self-esteem was assessed with a scale adapted from Harter's Global Self-Worth Scale (Harter 1985). Sample items in this scale are "how often do you wish you were different than you are" and "how often are you pretty sure of yourself" (3 items, alpha = .66 to .79). Psychological resiliency was adapted from a scale developed by Furstenberg and his colleagues (Furstenberg et al. 1999). Youth were asked "how often they are very good at:" figuring out problems and planning how to solve them, carrying out the plans you make for solving problems, bouncing back quickly from bad experiences, and learning from your mistakes (alpha = .68 to .74). Finally, depression was assessed with a reduced version of Children's Depressive Inventory (Kovacs 1992), a widely used measure of child and adolescent depression. This scale has excellent psychometric properties [7th grade (6 items, alpha = .82); 8th and 11th grade (14 items, alpha = .87)]. All items were on a 3-point scale with 1 representing no symptoms and 3 representing 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*).

### Prosocial Peers

Youth were asked a series of questions about how many of their friends engaged in prosocial domains, such as doing well in school and attending religious activities. From these items, we created a scale assessing perceptions of positive peers [6 items,  $\alpha = .74$  to  $.81$ ].

### Risky Behavior

At the three time points, youth were asked twenty questions about their frequency of participation in a variety of risk behaviors (1 = *never*, 5 = *once a month*). Because these variables were highly skewed, we coded each behavior as a yes/no measure and averaged these items to create a scale assessing risky behavior. Sample items in this scale include “does risky things for kicks”, “stole from store”, and “damaged public property”. These items were drawn from the National Denver Youth Study (Elliot et al. 1989).

### Covariates

Race and gender were included as predictors and family socioeconomic status, school engagement, and the prior level of the outcome variable were included as covariates in all ANCOVA models. All covariates were assessed at 7th grade prior to participation in the activity context. These variables were included to account for some factors that are related to participation in organized activity contexts. Socioeconomic status was estimated by taking the mean of three continuous standardized variables: total income, occupational status, and educational attainment (see Nam and Powers 1983 for more description). Income was measured by asking parents, “From all sources of income mentioned, tell me your total family income before taxes” (1 = less than \$5,000, 17 = more than \$100,000). In dual earners households, the highest occupational status and educational attainment was used. Occupational status was coded using Nam and Powers (1983) occupational scoring system. The school engagement scale included items that typify emotional engagement (Fredricks et al. 2004), which is related to both participation in organized school activities and indicators of academic adjustment, psychological adjustment, peer characteristics, and risk behavior. Items in this scale are “most of my classes are boring (reverse coded)” and “grades are important to me” (3 items,  $\alpha = .72$ ). This scale has been used in other reports (Roeser and Eccles 1998; Wong et al. 2003). Descriptive statistics on all variables included in analyses

**Table 1** Descriptive statistics

Variable	Mean	SD
<i>Activity participation</i>		
School clubs-8th	0.49	0.50
School sport teams-8th	0.29	0.45
Out of school recreation-8th	0.43	0.49
<i>Outcomes-8th</i>		
Grades-8th	3.11	0.63
School value-8th	4.16	0.73
Self-esteem-8th	3.88	0.90
Psychological resiliency-8th	3.83	0.64
Depression-8th	1.31	0.35
Prosocial peers-8th	3.21	0.66
Risky behavior-8th	0.27	0.18
<i>Outcomes-11th</i>		
Grades-11th	2.90	0.73
School value-11th	3.33	0.44
Self-esteem-11th	3.83	0.89
Psychological resiliency-11th	3.96	0.66
Depression-11th	1.29	0.32
Prosocial peers-11th	3.22	0.75
Risky behavior-11th	0.26	0.19
<i>Covariates</i>		
School engagement-7th	2.63	0.65
Socioeconomic status-7th	0.00	0.83
Grades-7th	3.13	0.58
School value-7th	4.26	0.64
Self-esteem-7th	3.59	0.95
Psychological resiliency-7th	3.60	0.80
Depression-7th	1.86	0.71
Prosocial peers-7th	3.57	0.62
Risky behavior-7th	0.20	0.14

are presented in Table 1; bivariate correlations are presented in Table 2.

## Results

### Participation Rates

In this community-based sample, 48.8% of 8th grade youth reported being involved in school clubs, 29.2% reported participating on an organized school sports team, and 42.5% reported involvement in an out of school recreational activity over the past year. On average, youth were involved in 1.20 activity contexts at the 8th grade. Two-hundred and seventy-two youth (25.8%) were not involved in any of the activity contexts, 390 youth (36.9%) reported participating in one of the three activity contexts, 300 youth (28.4%) reported being involved in two out of the



Table 2 Bivariate correlations

	1	2	3	4	5	6	7	8	9	10	11	12
1. School Clubs-8th	–											
2. Sports Teams-8th	–.02	–										
3. Recreation-8th	.11**	.25***	–									
4. Gender	–.22***	.14***	.15***	–								
5. Race	–.11**	.00	–.07*	.04	–							
6. SES	.16***	.02	.12***	.00	–.22***	–						
7. School eng-7th	.16***	–.04	.00	–.08**	.02	.02	–					
8. Grades-7th	.19***	–.02	.08*	–.19***	.17***	.24***	.16***	–				
9. Grades-8th	.28***	–.02	.08*	–.26***	–.28***	.33***	.20***	.49***	–			
10. Grades-11th	.22***	–.04	.03	–.23***	–.15***	.24***	.14***	.35***	.46***	–		
11. School value-7th	.07*	–.05	.00	–.09***	.08**	.04	.33***	.14***	.16***	.16***	–	
12. School value-8th	.16***	–.13***	–.01	–.18***	.04	.01	.28***	.13***	.21***	.25***	.32***	–
13. School value-11th	.10	–.11**	.03	–.17***	.03	.04	.10***	.13***	.17***	.24***	.21***	.25***
14. Self-esteem-7th	.01	.06	.07*	.14***	.01	.02	.24***	.07*	.10**	.05	.16***	.10**
15. Self-esteem-8th	.01	.05	.07*	.14***	.11**	.02	.15***	.04	.10**	.07	.12***	.11**
16. Self-esteem-11th	–.03	.08*	.12**	.13***	.07*	–.02	.04	–.03	.00	.03	.06*	.04
17. Resiliency-7th	.12	.03	.07	.02	–.05*	.08**	.26***	.20***	.25***	.16***	.23***	.15***
18. Resiliency-8th	.19	.03	.13***	.02	–.05	.10**	.22***	.15***	.27***	.21***	.19***	.22***
19. Resiliency-11th	.13	.11	.11**	.06	.01	.08*	.09**	.11**	.12**	.23***	.14***	.19***
20. Depression-7th	.01	–.06	–.08*	–.07**	.08**	–.05	–.18***	–.08**	–.12***	–.05	–.13***	–.05
21. Depression-8th	–.08*	.03	–.03	–.05	.02	–.07*	–.19***	–.15***	–.21***	–.15***	–.22***	–.28***
22. Depression-11th	–.01	.01	.02	–.08*	–.10**	–.01	–.05	–.06	–.03	–.11**	–.13***	–.08*
23. Prosocial Peers-7th	.21***	–.07*	.03	–.24***	.08**	.02	.28***	.16***	.14***	.11**	.18***	.12***
24. Prosocial Peers-8th	.22***	–.03	.06	–.19***	.02	.09**	.29***	.15***	.18***	.15***	.17***	.30***
25. Prosocial Peers-11th	.29***	–.04	.05	–.29***	.00	.18***	.25***	.26***	.30***	.34***	.16***	.18***
26. Risky Behavior-7th	–.16***	.14***	.09**	.23***	.10**	–.09**	–.35***	–.20***	–.28***	–.19***	–.19***	–.21***
27. Risky Behavior-8th	–.12**	.16***	.09*	.19***	.04	–.08*	–.24***	–.24***	–.29***	–.23***	–.18***	–.29***
28. Risky Behavior-11th	–.04	.10**	.09*	.15***	–.05	–.01	–.18***	.16***	–.15***	–.30***	–.09**	–.22***
13. School value-11th	–											
14. Self-esteem-7th	–.01	–										
15. Self-esteem-8th	–.02	.51***	–									
16. Self-esteem-11th	.05	.38***	.45***	–								
17. Resiliency-7th	.05	.31***	.25***	.16***	–							

Table 2 continued

	13	14	15	16	17	18	19	20	21	22	23	24
18. Resiliency-8th	.12**	.29***	.36***	.23***	.38***	–	–	–	–	–	–	–
19. Resiliency-11th	.11**	.15***	.24***	.37***	.25***	.37***	–	–	–	–	–	–
20. Depression-7th	.05	–.51***	–.31***	–.22***	–.23***	–.18***	–.14***	–	–	–	–	–
21. Depression-8th	–.08*	–.37***	–.55***	–.29***	–.22***	–.32***	–.22***	.36***	–	–	–	–
23. Depression-11th	–.15***	–.28***	–.35***	–.52***	–.12***	–.16***	–.28***	.21***	.42***	–	–	–
23. Prosocial Peers-7th	.08*	.15***	.06	.03	.20***	.13***	.08*	–.10***	–.08*	–.05	–	–
24. Prosocial Peers-8th	.14***	.12***	.10**	.03	.19***	.30***	.19***	–.12***	–.18***	–.06	.33***	–
25. Prosocial Peers-11th	.16***	.03	.02	.03	.18***	.17***	.22***	–.05	–.10**	–.13***	.34***	.43***
26. Risky Behavior-7th	–.15***	–.17***	–.10**	.03	–.19***	–.17***	–.05	.18***	.21***	.03	–.24***	–.25***
27. Risky Behavior-8th	–.17***	–.11***	–.18***	.02	–.09*	–.18***	–.07	.13***	.27***	.08*	–.12***	–.30***
28. Risky Behavior-11th	–.25***	–.06	–.08*	–.13***	–.05	–.13***	–.22***	.04	.15***	.25***	–.13***	–.21***
25. Prosocial Peers-11th	–	–	–	–	–	–	–	–	–	–	–	–
26. Risky Behavior-7th	–.21***	–	–	–	–	–	–	–	–	–	–	–
27. Risky Behavior-8th	–.23***	–	–.53***	–	–	–	–	–	–	–	–	–
28. Risky Behavior-11th	–.34***	–	.33***	.42***	–	–	–	–	–	–	–	–

Notes: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Gender: 1 = male, 0 = female; race 1 = African American, 0 = European American

three activity contexts, and 94 youth (8.9%) reported participating in school clubs, school sports teams, and out of school recreational activities.

### Analysis of Covariance Models

We ran a series of analyses of covariance (ANCOVA) models to examine the relationship between participation in school clubs, school sport teams, and organized out of school recreational activities at 8th grade and indicators of adolescent adjustment at 8th grade and 3 years later at 11th grade, controlling for a set of self-selection characteristics. In all models, gender and race were included as predictors and family socioeconomic status, school engagement, and the outcome variable measured at 7th grade were included as covariates to account for those characteristics that might be related to selection into activities. Since many youth report participating in multiple organized activities, we also controlled for youth's involvement in the two other activity contexts. In addition, in each model we included three interaction terms: Activity  $\times$  Gender, Activity  $\times$  Race, and Activity  $\times$  Socioeconomic Status, to test

whether the relationship between involvement and adjustment were the same across these groups. 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 across the two racial groups). Since this interaction term was insignificant in all but two models (e.g. school sports teams and school value at 11th grade and out of school recreation activities and risk behavior at 11th grade), we reran all models without the three-way interaction term. Table 3 presents the *F*-values and effect sizes by activity type (school clubs, sport teams, and out of school recreation activities) and significant interactive terms (gender, race, and socioeconomic status) for the 8th grade outcomes. The ANCOVA statistics for the lagged models are presented in Table 4. Due to space considerations, we do not present the *F*-values for the other variables in these two tables; these results are available by contacting the first author. We present the overall means for each outcome by activity type for 8th and 11th grade in Table 5.

In both the 8th grade and cross lagged models, the outcome variable measured at 7th grade was the strongest

**Table 3** ANCOVAS results: *F*-values, effect sizes, and significant interactions for developmental outcomes 8th grade

Outcomes	School clubs			School sports teams			Out of school recreation activities		
	<i>F</i> -value	$\eta p^2$	Significant interaction	<i>F</i> -value	$\eta p^2$	Significant interaction	<i>F</i> -value	$\eta p^2$	Significant interaction
Grade point average	13.93***	.016		0.36	.000		1.52	.002	
School value	4.15*	.004		7.93**	.008		0.03	.000	
Self-esteem	0.57	.001		0.25	.000		0.92	.001	
Resiliency	17.23***	.018		0.82	.001	4.51* Race	8.43**	.009	
Depression	3.38	.004		2.24	.002	5.55* SES	0.02	.000	
Prosocial peers	7.49**	.008		0.01	.000	8.67** SES	3.67	.004	5.56* Gender
Risky behavior	0.31	.000		8.96**	.013		1.38	.002	

\*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ ; gender, race, socioeconomic status, school engagement, outcome variable measured at 7th grade, and involvement in two other activity contexts included as covariates in all models

**Table 4** ANCOVAS results: *F*-values, effect sizes, and significant interactions for developmental outcomes at 11th grade

Outcomes	School clubs			School sports team			Out of school recreation activities		
	<i>F</i> -value	$\eta p^2$	Significant interaction	<i>F</i> -value	$\eta p^2$	Significant interaction	<i>F</i> -value	$\eta p^2$	Significant interaction
Grade point average	7.17**	.012	10.35*** Race	0.07	.001		0.00	.000	
School value	2.20	.003	3.92* Gender	5.29*	.007		3.87	.005	
Self-esteem	0.08	.000		1.35	.002		6.17*	.008	
Resiliency	7.55**	.010		6.25*	.008		2.84	.004	
Depression	0.68	.001		0.30	.000		0.34	.000	
Prosocial peers	15.59***	.022		1.04	.001	7.71** SES	3.14	.004	
Risky behavior	0.08	.000		0.41	.001		0.99	.001	

\*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ , gender, race, socioeconomic status, school engagement, outcome variable measured at 7th grade, and involvement in two other activity contexts included as covariates in all models



**Table 5** Adjusted means for participants and non-participants at 8th and 11th grade in each activity context

Outcome	School club		School sport		Out of school recreation	
	Yes	No	Yes	No	Yes	No
<i>8th Grade</i>						
Grades	3.18 <sup>a</sup>	3.03 <sup>a</sup>	3.13	3.10	3.13	3.08
School value	4.19 <sup>a</sup>	4.09 <sup>a</sup>	4.05 <sup>a</sup>	4.19 <sup>a</sup>	4.15	4.14
Self-esteem	3.88	3.84	3.89	3.85	3.89	3.83
Resiliency	3.92 <sup>a</sup>	3.75 <sup>a</sup>	3.81	3.84	3.91 <sup>a</sup>	3.78 <sup>a</sup>
Depression	1.29	1.33	1.33	1.30	1.31	1.31
Prosocial peers	3.25 <sup>a</sup>	3.13 <sup>a</sup>	3.20	3.21	3.27	3.17
Risky behavior	0.26	0.25	0.28 <sup>a</sup>	0.24 <sup>a</sup>	0.26	0.25
<i>11th Grade</i>						
Grades	2.99 <sup>a</sup>	2.83 <sup>a</sup>	2.96	2.91	2.92	2.92
School value	3.36	3.30	3.27 <sup>a</sup>	3.35 <sup>a</sup>	3.36	3.30
Self-esteem	3.83	3.86	3.89	3.81	3.92 <sup>a</sup>	3.77 <sup>a</sup>
Resiliency	4.94 <sup>a</sup>	3.91 <sup>a</sup>	4.06 <sup>a</sup>	3.93 <sup>a</sup>	4.01	3.93
Depression	1.28	1.30	1.31	1.29	1.31	1.29
Prosocial peers	3.31 <sup>a</sup>	3.10 <sup>a</sup>	3.23	3.19	3.25	3.16
Risky behavior	0.26	0.27	0.27	0.26	0.27	0.26

Notes: All means adjust for covariates in the model (8th grade level dependent Variable, school engagement, socioeconomic status, and involvement in other activity contexts)

<sup>a</sup> Significant mean differences

predictor of each indicators of adjustment. Since we controlled for the level of the outcome variable measured 1 year earlier, there was less variance to be explained by organized activity participation. In addition, school engagement was a significant predictor of all of the outcomes at both 8th and 11th grades. Race was a significant predictor of grades and self-esteem at 8th grade and depression, resiliency, and risky behavior at 11th grade. European American youth had a lower than expected decline in grade point average at 8th grade and a higher than expected increase in risky behavior at 11th grade than did African American youth. In addition, African American youth had higher self-esteem at 8th grade, higher resiliency at 11th grade, and lower depression at 11th grade than did European American youth. Gender predicted grades, school value, self-esteem, prosocial peers, and risky behavior at 8th grade and grades, school value, prosocial peers, and risk behavior at 11th grade. Females had a lower than expected decline in grades and school value at both time points than did males. In addition, females had more positive reports of prosocial peers at both times points than did males. In contrast, males had a larger than expected increase in both self-esteem at 8th grade and in risky behavior at 8th and 11th grades than did females. Finally, socioeconomic status predicted grades and prosocial peers at 8th and 11th grades.

## ANCOVA Models 8th Grade

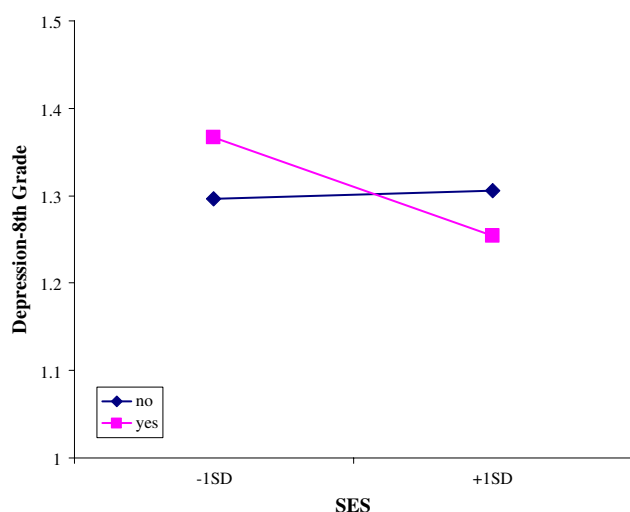
### School Clubs

After controlling for demographic factors, school engagement, the prior levels of the dependent variable, and involvement in the two other activity contexts, participation in school clubs at 8th grade predicted the following indicators of 8th grade adjustment: higher than expected grades [ $F(12, 838) = 13.93, p < .001; \eta p^2 = .016$ ], school value [ $F(12, 954) = 4.15, p < .05; \eta p^2 = .004$ ], psychological resiliency [ $F(12, 964) = 17.23, p < .001; \eta p^2 = .018$ ], and prosocial peers [ $F(12, 948) = 7.49, p < .01; \eta p^2 = .008$ ]. In contrast, after adjusting for our set of self-selection factors, participation in school clubs at 8th grade was no longer a significant predictor of depression or risky behavior. Finally, participation in school clubs at 8th grade was not related to self-esteem at 8th grade at the bivariate level (see Table 2).

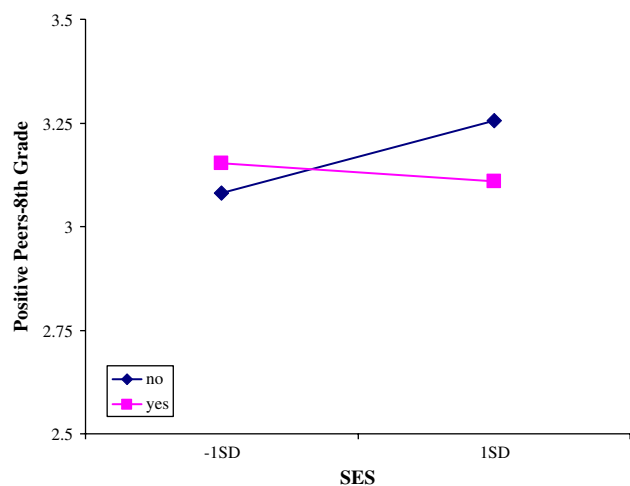
### School Sports Teams

There were few significant main effects for participation in school sports teams and our indicators of development at 8th grade. In fact, participation in school sports teams was associated with a larger than expected decrease in school value and a higher than expected increase in risky behavior. After adjusting for our set of self-selection factors, adolescents in 8th grade sports reported lower school value [ $F(12, 955) = 7.93, p < .01; \eta p^2 = .008$ ] than non-participants [adjusted means = 4.05 for participants and 4.19 for non-participants]. In addition, athletes had higher reports of risky behavior [ $F(12, 697) = 8.96, p < .01; \eta p^2 = .013$ ] than did non-athletes [adjusted means = 0.28 for participants and 0.24 for non-participants]. Participation in school sports teams was not related to grades or self-esteem at the zero-order level (see Table 2).

The school sports by socioeconomic status interaction was significant in the model predicting depression at 8th grade [ $F(12, 945) = 5.55, p < .05; \eta p^2 = .006$ ]. This interaction is graphed in Fig. 1. Athletes from higher socioeconomic status families had a larger decrease in depression than did non-participants. The pattern was reversed for participants and non-participants from lower socioeconomic status homes. In addition, the team sport by socioeconomic status interaction was significant in the model predicting prosocial peers [ $F(12, 948) = 8.67, p < .01; \eta p^2 = .009$ ]. This interaction is presented in Fig. 2. Athletes from lower socioeconomic status homes reported a lower rate of decline in the proportion of prosocial peers than did non-participants. In contrast, athletes from higher socioeconomic status homes reported a greater decline in the proportion of prosocial peers than did non-athletes. In



**Fig. 1** Interaction of sport participation × socioeconomic status and depression at 8th grade



**Fig. 2** Interaction of sport participation × socioeconomic status and prosocial peers at 8th grade

addition, the school sports by race interaction was significant in the model predicting psychological resiliency [ $F(12, 954) = 4.51, p < .05; \eta p^2 = .005$ ]. For European American youth, athletes had lower psychological resiliency as compared to non-athletes [adjusted means = 3.74 for European American participants and 3.87 for European American non-participants]. In contrast, the differences in psychological resiliency for African American athletes and non-athletes was not significant [adjusted means = 3.87 for African American participants and 3.82 for African-American non-participants].

#### *Out of School Recreational Activities*

Participation in out of school activities predicted higher than expected resiliency [ $F(12, 954) = 8.43, p < .01$ ;

$\eta p^2 = .009$ ]. In addition, the interaction of out of school recreation activities by gender was significant in the model predicting prosocial peers [ $F(12, 948) = 5.56, p < .05; \eta p^2 = .006$ ]. Female athletes had significantly higher than expected reports of proportion of prosocial peers as compared to female non-participants [adjusted means = 3.38 for female participants and 3.21 for female non-participants]. In contrast, there was no difference between male participants and non-participants reports of proportion of prosocial peers [adjusted means = 3.13 for male participants and 3.14 for male non-participants]. After adjusting for demographic factors, school engagement, the prior level of the dependent variable, and involvement in school sports teams and school clubs there was no relation between out of school recreation activities and grades, self-esteem, and risky behavior. In contrast, out of school recreation activities was not correlated with school value and depression in the zero-order correlations.

#### *ANCOVA Lagged Models*

##### *School Clubs*

Participation in school clubs at 8th grade predicted a larger than expected increase in psychological resiliency at 11th grade [ $F(12, 754) = 7.55, p < .01; \eta p^2 = .010$ ]. In addition, participation was related to reports of prosocial peers 3 years later [ $F(12, 704) = 15.59, p < .001; \eta p^2 = .022$ ]. Race moderated the relation between participation in school clubs and grade point average 3 years later [ $F(12, 606) = 10.35, p < .01; \eta p^2 = .017$ ]. European American participants had significantly lower than expected decline in grade point average at 11th grade than did non-participants (adjusted means for participants = 3.12 and 2.79 for non-participants). In contrast, there was no difference in grade point average between African American participants and non-participants (adjusted mean African American participants = 2.86 and 2.88 for African American non-participants). In addition the interaction term for school clubs and gender was significant in the model predicting school value [ $F(12, 712) = 3.92, p < .05; \eta p^2 = .005$ ]. Male participants had lower than expected decline in school value than non-participants (adjusted means for male participants = 3.30 and 3.19 for male non-participants). There was no difference in school value between female participants and non-participants (adjusted mean female participants = 3.42 and 3.41 for female non-participants). Finally, participation in 8th grade school clubs was not related to self-esteem, depression, or risky behavior at 11th grade in the zero-order correlations (see Table 2).

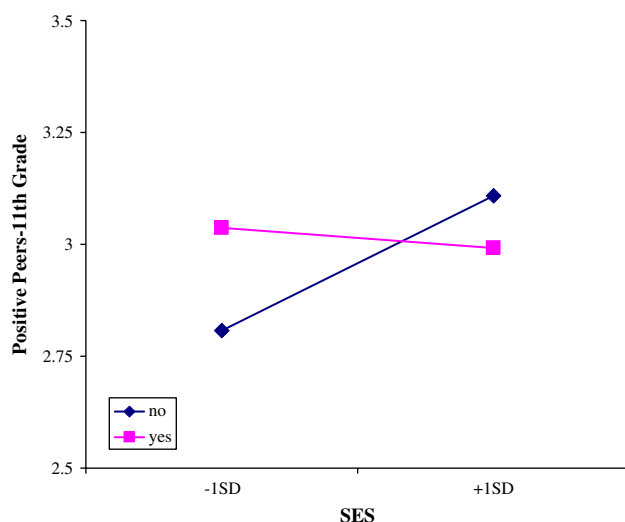
### School Sports Teams

Participation in 8th grade school sports teams predicted a higher than expected increase in psychological resiliency 3 years later [ $F(12, 754) = 6.25, p < .05; \eta p^2 = .008$ ]. In addition, participation in school sports teams was associated with a larger than expected decrease in school value [ $F(12, 712) = 5.29, p < .01; \eta p^2 = .007$ ]. After adjusting for demographic factors, school engagement, the level of the dependent variable at 7th grade, and involvement in school clubs and out of school recreation activities, adolescents in 8th grade sports reported lower school value 3 years later than non-participants (adjusted means = 3.27 for participants and 3.35 for non-participants).

The interaction of schools by socioeconomic status was significant in the model predicting prosocial peers at 11th grade [ $F(12, 704) = 7.71, p < .01; \eta p^2 = .011$ ]. This interaction is graphed in Fig. 3. Youth from lower socioeconomic status homes who participated in school sports teams at the 8th grade reported a higher proportion of prosocial peers 3 years later than did non-participants. The pattern was reversed for youth from higher-socioeconomic status homes. After adjusting for some self-selection factors at the 7th grade, participation in school sports teams at 8th grade was not significantly related to school value, self-esteem, and risky behavior at 11th grade. In contrast, sports participation at 8th grade was not correlated with grades or depression at 11th grade in the zero-order correlations.

### Out of School Recreational Activities

Few of the lagged relations between participation in out of school recreation activities and adjustment were significant. After adjusting for some demographic factors, school



**Fig. 3** Interaction of sport participation  $\times$  socioeconomic status and prosocial peers at 11th grade

engagement, the level of the dependent variable measured at 7th grade, and involvement in school clubs and school sports teams, participation in out of school recreational activities at 8th grade predicted a lower than expected decline in self-esteem [ $F(12,773) = 6.17, p < .05; \eta p^2 = .008$ ]. After adjusting for our set of self-selection factors, there was no relationship between out of school recreation participation in 8th grade and psychological resiliency and risky behavior at 11th grade. Finally, participation in out of school recreation activities at 8th grade was not correlated with grades, school value, prosocial peers, and depression at 11th grade at the bivariate level (see Table 2).

### Discussion

Several major findings emerged from this study: (a) participation in middle school clubs was positively related to academic adjustment at 8th and 11th grades, (b) participants in 8th grade school sports had lower school value than did non-athletes at 8th and 11th grades, (c) participants in 8th grade school sports higher problem behavior than did non-participants at 8th grade, (d) participation in 8th grade school clubs was a positive predictor of resiliency and prosocial peers at both 8th and 11th grades, (e) involvement in 8th grade school sports predicted an increase in resiliency over time, and (f) involvement in 8th grade out of school recreation activities predicted a lower than expected decline in self-esteem 3 years later. In general, we documented more similarities than differences in the relationship between participation in organized activities in 8th grade and developmental outcomes at 8th and 11th grade by race, gender, and socioeconomic status. Exceptions to this conclusion were that (a) participation in 8th grade school sports teams was associated with a larger than expected decrease in depression only for youth from higher socioeconomic status homes, (b) participation in 8th grade school sports teams was positively related to prosocial peers at both 8th and 11th grades only for youth from lower socioeconomic status homes, (c) participation in school sports teams was related to lower resiliency at 8th grade for European American youth only, (d) participation in out of school recreation activities was a positive predictor of prosocial peers at 8th grade for females only, (e) participation in school clubs predicted a lower than expected decline in grade point average at 11th grade for European Americans only, and (f) participation in school clubs at 8th grade was related to a lower than expected decline in school value in 11th grade for males only.

This study contributes to the literature on organized activity participation by examining the effects of participation in three extracurricular activities in middle school

on indicators of development in an economically diverse sample of African American and European American youth. Much of the evidence of the associations between extracurricular participation and adjustment has been based on research with suburban white middle class youth. Our study expands this literature by examining these associations among a diverse sample of youth drawn from a community with a variety of ecological contexts. In fact, we know relatively little about the effects of middle school extracurricular participation, despite the fact that early adolescence is a period when youth begin to engage in risky behaviors and make more decisions about how to spend their time. Organized activities are likely to serve as an important developmental context during early adolescence as youth look for settings where they can form relationships with non-familial adults and peers, experiment with different roles, and develop different skills and competencies.

Our study contributes to our understanding of the consequences of middle school organized activity participation in both early and late adolescence by using longitudinal data and adjusting for some predictors of activity involvement. Until recently, much of our understanding of the effects of organized activity participation has been based on cross-sectional studies with limited adjustment for the characteristics that may differentiate participants from non-participants (see Darling 2005; Eccles and Barber 1999; Fredricks and Eccles 2006a; Marsh and Kleitman 2002, for exceptions). Although we found that middle school extracurricular participation was associated with indicators of positive adjustment at both 8th grade and 11th grade, the effect sizes were small. Our results suggest that the associations of organized activity participation with our indicators of positive development are a function of both the types of youth who join these activities and involvement in the activity context. Participation in school and community-based extracurricular activities is only one way that adolescents spend their leisure time and taking into account other contexts may increase predictive power (Cooper et al. 1999; Darling 2005).

We documented that participation in middle school clubs was associated with several of our indicators of positive development at both 8th and 11th grades. In contrast, fewer of the relationships were significant in the sports domain. In fact, participation in school sports teams was actually associated with less favorable outcomes on two of our indicators: school value and risky behavior. The differential pattern of associations demonstrates the importance of examining relations between organized activity participation and adjustment separately by type of activity. One explanation for these findings is that different types of organized activities are ecological contexts with distinctive characteristics and relationships with adults and

peers. For example, the less favorable findings for sports may be a function of differences in the peer culture in each of these activity contexts. Eccles and her colleagues have documented that youth in sports are more likely to associate with peers who drink alcohol than non-participants (Eccles and Barber 1999). The weaker associations in sports also may reflect differences in the opportunities for growth and development in athletics and school clubs (Hansen et al. 2003; Larson et al. 2006). Athletic involvement is associated with both positive experiences, such as the development of initiative, and negative experiences, such as more frequent stress and alcohol use (Eccles and Barber 1999; Larson et al. 2006; Scanlan et al. 2005). In contrast, school clubs such as the performing arts, academic organizations, and service activities tend to be more frequent contexts for experiences related to identity formation and the development of prosocial norms (Hansen et al. 2003; Larson et al. 2006).

Participation in middle school clubs was related to positive academic adjustment in both the middle and high school years. The higher grades and perceptions of school value of activity participants as compared to non-participants may be a function of increased social capital and a greater likelihood of associating with peers who value academics (Barber et al. 2001; Eccles et al. 2003; Finn 1989). Our findings also suggest some psychological benefits from involvement in organized activities during the middle school years, especially in terms of perceived psychological resiliency. High quality organized activities offer youth the opportunity to participate in challenging tasks with support for autonomy (Eccles and Gootman 2002). This may help youth to develop problem solving skills, a critical aspect of resiliency. Observations of youth in out of school contexts support this argument; when youth work on challenging problems, they develop plans, monitor their strategies in response to feedback, and engage in problem solving (Heath 1998; Rogoff et al. 1995). Interestingly, participation on school sports teams was only related to resiliency and participation in out of school recreation activities was only related to self-esteem in the lagged analyses, suggesting that it may take time for athletic involvement to increase youths' psychological competencies. Participating in sports may increase resiliency and self-esteem by giving adolescents the chance to belong to a group and by providing them with multiple opportunities to achieve success and receive public recognition, which may be particularly important during the early adolescent years.

Finally, organized activity participation has social benefits. Participation in middle school clubs was related to youths' report of the proportion of prosocial peers in both 8th and 11th grades. Consistent with prior research (see Eccles and Barber 1999; Eccles et al. 2003), adolescents in

school clubs reported having more academic and prosocial friends than non-participants. Membership in a prosocial peer group may positively effect development through modeling, through reinforcement of conventional norms and values, and through the reduction of social alienation (Ryan 2000). In addition, membership gives youth the opportunity to try on new identities and learn social skills such as how to cooperate and take on different perspectives (Crosnoe 2000).

#### Differences by Race, Gender, and Socioeconomic Status

Our study also contributes to the literature by testing for interactive effects of extracurricular participation by gender, race, and socioeconomic status. Understanding variations in the pattern of associations between participation and adjustment across demographic groups is essential for designing appropriate organized activities for a diverse group of youth (Eccles 2005). As compared with prior research using nationally representative datasets, we documented fewer significant differences in the relationship between activity participation and development for lower socioeconomic status as compared to more advantaged youth (Marsh 1992; Marsh and Kleitman 2002). This may be a function of the unique characteristics of the MADICS dataset. In this sample, income is fairly normally distributed in the African American and European American families, making it possible to largely control for racial differences that may be accounted for by differences in income and education levels. We also have less power to detect an SES effect because there are fewer disadvantaged youth in the MADICS sample than in previous studies which have documented that activity participation is associated with more favorable academic and behavioral adjustment for youth from low socioeconomic status homes (see Marsh 1992; Marsh and Kleitman 2002).

Participation on school sports teams was positively associated with prosocial peers only for youth from lower socioeconomic status youth. Involvement in a prosocial peer group in early adolescence may be especially important for low-income youth who have greater exposure to risk factors that can negatively effect their development. In support of the differential benefits of activity participation, Mahoney (2000) found that for high risk youth, having peers who participated in extracurricular activities was associated with a reduction of antisocial behavior. In contrast, we found that participation in sports was associated with lower depression only for youth from higher socioeconomic homes. This finding may reflect differences in the type of sport, level of recognition, and opportunities for leadership given to youth from higher and lower socioeconomic status homes.

Consistent with prior research, we found that the effects of organized participation on adjustment tend to be generalizable by race and gender. One exception is that we found that participation in out of school recreation activities predicted prosocial peers for females only. This finding suggests that there are gender differences in the norms and values of youth who chose to participate in out of school athletic contexts. In addition, we found participation in school clubs was related to a lower than expected decline in grades over time only for European American participants and a lower than expected decline in school value over time only for male participants. This finding may reflect differences in the type of school clubs that male and female and African American and European American youth choose to participate in.

One possibility is that males and European American youth are more involved in academically oriented clubs than are African American youth and females. We are not able to test this hypothesis with our data.

#### Limitations

There are several limitations with this study that point to future directions for research. First, as is common in much of the literature in this area, we measure organized activity involvement with dichotomous yes/no measures. Future studies should assess how much time youth spend across a wide range of extracurricular contexts, as well as collecting information on whether youth assume a leadership position and the quality of organized activity involvement. Another issue is that we measured activity participation and adjustment with adolescent self-report measures which are subject social desirability concerns. Furthermore, since we collected no data on features of the activity setting, we can only speculate on what aspects of these ecological settings may help to explain the positive effects of organized activity participation. For example, our results suggest that one important dimension to consider in future research is the values and behavior of the peer network. Participation in extracurricular activities directly impacts on adolescents' selection of friends and the types of values and norms they are exposed to. Our findings along with prior research (Eccles et al. 2003; Eccles and Barber 1999; Fredricks and Eccles 2005) suggest that participation enhances the likelihood that individuals will be exposed to an academically oriented and prosocial peer group.

#### Conclusion

Our findings along with prior research support recommendations for encouraging organized activity involvement in



the middle school years across a diverse group of youth (e.g., Eccles and Gootman 2002). Extracurricular activities are ecological contexts with distinct “opportunity structures” for developing personal and interpersonal skills (Larson and Verma 1999). School and community-based organized activities provide a context for middle school youth to use their leisure time in productive ways, connect with supportive adults and prosocial peers, and learn competencies and skills. Future research is necessary to test the theoretically based hypotheses about the mechanisms likely to explain the positive effects of activity participation in early adolescence. This information is critical for designing extracurricular contexts that can support positive development for youth from a variety of backgrounds.

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