

Implications of Extracurricular Activity Participation During Adolescence on Positive Outcomes

Jonathan F. Zaff
Kristin A. Moore
Angela Romano Papillo
Stephanie Williams
Child Trends

The present study was conducted to determine if participation in extracurricular activities predicts multiple positive outcomes such as attending college, voting in national and regional elections, and volunteering for community and religious organizations. From analyses of the National Education Longitudinal Study of 1988, a nationally representative survey of students, our results suggest that consistent participation in extracurricular activities from 8th grade through 12th grade predicts academic achievement and prosocial behaviors in young adulthood. This finding remains after accounting for control and individual, parent, peer, and school process variables. Both research and policy implications are discussed.

Keywords: *extracurricular activities; positive development; volunteering; voting; academic achievement*

Time in school is obviously important for adolescents. Schools are charged with the primary responsibility for helping students to learn academic, social, and civic skills and responsibilities. Accordingly, Congress and many federal policy makers focus on in-school initiatives and reforms. However, advocacy groups, practitioners, and researchers have all argued that filling nonschool time with constructive activities that are supervised by caring adults in safe settings will decrease youth violence and increase social skills and academic achievement.

A draft of this article was presented at the 2001 biennial meeting of the Society for Research in Child Development. Correspondence should be addressed to the first author at 416 7th Street, NE, Washington, DC 20002.

Journal of Adolescent Research, Vol. 18 No. 6, November 2003 599-630

DOI: 10.1177/0743558403254779

© 2003 Sage Publications

Nonschool time accounts for nearly 80% of a child's waking hours. According to recent data, nearly five million children are unsupervised after school, and the majority of juvenile violent crime and gang violence and drug use occurs between 2 p.m. and 8 p.m. (National Research Council and Institute of Medicine, 2000; Nadel, 2000). With approximately 66% of America's children and adolescents living in homes with a single employed parent or two parents who are both employed (and no sign of this trend slowing), creating and sustaining programs that provide a safe and caring environment during nonschool hours could be considered a pressing need.

After-school programs are assumed to have positive short- and long-term effects, but the available data are surprisingly sparse and often flawed. Programs also tend to focus on the reduction of negative outcomes, such as dropping out of school or teenage pregnancy. Although a reduction in negative behaviors is desired, youth also need to develop positive characteristics to be prepared for adulthood (Pittman & Cahill, 1991). Therefore, the purpose of the present article is to determine whether participation in extracurricular activities is associated with an increase in positive outcomes.

Children and adolescents have a significant amount of free time that is spent in passive leisure activities, such as watching television, or in more physically demanding activities, such as a part-time job (Hofferth, in press; Larson & Verma, 1999). More stimulating activities that combine intrinsic motivation and purpose have been found to promote positive outcomes such as greater school engagement and academic and social achievements (Larson, 2000), whereas there are data that show unstructured activities may have negative effects on youth (Mahoney, 2000). In fact, according to a study conducted by the YMCA of the USA (2000), 52% of adolescents in a nationally representative sample say that they wish that there were more structured after-school activities in their neighborhoods and communities.

Spending time in productive activities could be beneficial for varied reasons. Adolescents are able to interact with peers in a safe and structured format. Also, time is spent in productive activities instead of in delinquent activities, in front of a television, or playing video games. Teens can also build a positive sense of self by exploring what they can do best, resulting in an increased sense of self-worth and self-efficacy (National Research Council and Institute of Medicine, 2000). In addition, extracurricular activities provide opportunities for mentoring relationships and having a relationship with a caring adult. These areas of the child's environment have been shown to positively affect child and adolescent social, emotional, and cognitive development (Bukowski, in press; Cox, in press; Zaff & Hair, in press).

Several projects have examined the effects of extracurricular activities on the cognitive, behavioral, and social outcomes of children and adolescents

(e.g., Eccles & Barber, 1999; Glancey, Willits, & Farrell, 1986; Mahoney & Cairns, 1997), including both positive and negative outcomes. Some of these studies have been longitudinal and some have examined the effects among various types of activities. However, there have been few, if any, studies that have used a combination of nationally representative data, a multivariate design, and multiple indicators of positive development, and looked at several developmental periods instead of only one or two. The present study uses data from the National Longitudinal Education Study of 1988 (NELS:88) to explore the multiple positive effects that extracurricular activity participation has on adolescents, using data points in 8th, 10th, and 12th grades, and the period 2 years after 12th grade.

With regard to effects of extracurricular activities, existing work provides evidence of the positive benefits of extracurricular activity participation. Evaluations of Big Brother/Big Sister (Tierney, Grossman, & Resch, 1995), Know Your Body (Walter, Vaughn, & Wydner, 1989), and Children at Risk Program (Harrell, Cavanaugh, & Sridharan, 1999) are three examples of studies that suggest that structured programs have demonstrated strong, positive impacts on youth development, such as increases in social, academic, and cognitive competencies, and decreases in negative behaviors such as dropping out of school. These and similar programs, though, tend not to be composed of nationally representative samples, tend to be structured with activities foreign to the everyday lives of most adolescents in this country, and tend to be focused on early and middle childhood. Because there is the potential that different activities affect different ethnicities, socioeconomic groups, and genders in different ways (e.g., Mahoney & Stattin, 2000; Miller, Sabo, Farrell, Barnes, & Melnick, 1998), these studies limit the ability to generalize prevention research to the broader adolescent population. Therefore, examining the effects of common after-school activities (such as sports teams and academic and arts clubs) using a nationally representative sample is necessary.

Previous research suggests that general extracurricular activity participation promotes a reduction in negative behaviors among adolescents. Rates of dropping out of school, sexual activity, and antisocial behaviors appear to be higher among those who are not involved in extracurricular endeavors (e.g., Eccles & Barber, 1999; Mahoney & Cairns, 1997).

As noted, a reduction in negative behaviors is a good outcome; however, youth also need to develop positive characteristics to be prepared for adulthood (Moore & Halle, in press; Pittman & Cahill, 1991). Research regarding extracurricular activities has begun to study positive outcomes by examining civic engagement and academic achievement as important outcomes of after-school participation. One plus of many of these analyses is that they were

conducted on nationally representative data sets. Analyses of data from NELS:88 (Smith, 1999), the National Longitudinal Study of Youth (Hart, Atkins, & Ford, 1998, 1999), and Monitoring the Future (Youniss, McLellan, Su, & Yates, 1999) have found that close familial relationships and participation in extracurricular activities in middle school and high school predict greater political and civic involvement in young adulthood. The types of activities range from clubs or sport teams to community service. The relationship of these activities on positive outcomes is above and beyond the variance accounted for by self-efficacy, sociability, political interest, political awareness, and community leadership attitudes. Both quantitative and qualitative research has demonstrated an association between extracurricular activity participation and academic achievement (Cooper, Valentine, Nye, & Lindsay, 1999; Gerber, 1996; Reis & Diaz, 1999).

Data also suggest that different types of activities could have different benefits. For instance, instrumental participation, in contrast to participation in expressive activities, predicts political participation in early adulthood (Glanville, 1999). School-based extracurricular activities, as opposed to non-school-related activities, have been found to have a stronger effect for adolescents with regard to improved academic achievement (Gerber, 1996). Different outcomes have also been found for adolescents involved in athletics or prosocial activities (Baber & Eccles, 1999). Prosocial activities were found to be associated with positive educational trajectories and low rates of risky behaviors, whereas team sports, for males, were linked to high rates of drinking alcohol. In the present study, preliminary analyses at the bivariate level did not find an association between specific types of activities and positive outcomes or any differences between outcomes associated with school-based and nonschool-based activities. From the studies cited above and the intuition that not all extracurricular activities give youth the same developmental opportunities, this is surprising. Although this may have been an artifact of small cell sizes, and therefore conclusions should not be drawn regarding the associations of specific activity types with positive outcomes, we aggregated across all possible types of extracurricular activities for the multi-variate analyses.

In summary, previous research suggests that extracurricular activity participation is important in the positive development of adolescents. Several studies support the role of extracurricular activity participation in the increased development of positive outcomes, such as academic achievement and civic involvement, and the reduction of negative outcomes, such as anti-social behaviors, skipping school, and teenage sexual activity. However, there are several limitations to the cited studies. First, data were many times not longitudinal (e.g., Cooper et al, 1999; Mahoney & Stattin, 2000; Miller

et al., 1998; Youniss et al., 1999), and therefore causal ordering cannot be inferred. Second, the majority of the studies focused on a small number of outcomes, many times using only one outcome, such as academic achievement or voluntary community service. Using multiple outcomes with the same sample could provide evidence that extracurricular activities have multiple positive benefits. Third, because of sample sizes and types of questions asked in the respective surveys, many variables within the adolescent's ecosystem (Bronfenbrenner, 1979) were not examined or controlled during the analyses, such as parenting practices, peer relationships, the school environment, and socioeconomic status (SES).

Considering the strong effects that all levels of an adolescent's environment can have on his or her development, numerous components of the ecosystem need to be addressed. For instance, individual-level variables such as genetics, personality traits, and sense of self (Marsh & Yeung, 1997; Phinney, Ferguson, & Tate, 1997; Plomin, 1989), as well as parenting practices (Bronfenbrenner & Ceci, 1994; Cox, in press; Eisenberg, in press), peer relationships (Hartup, 1996), and the school environment (Hoge, Smit, & Hanson, 1990; Moore, Manlove, Gleib, & Morrison, 1998; Voekl & Frone, 2000; Wigfield, Eccles, MacIver, Reumann, & Midgley, 1991) have all been shown to predict various positive outcomes such as academic achievement and participation in civic activities. It is not definitively understood however, how extracurricular activities affect youth outcomes net of these factors. Finally, studies have not examined issues of the amount of involvement, although the press has focused on the hurried lives of upper middle-class children and adolescents (e.g., Kantrowitz, 2000). The more critical issue and the one addressed in our study is whether sustained and consistent participation has positive implications relative to no or minimal participation.

To address some of the gaps in the understanding of the effects of extracurricular activities, the present study will involve a longitudinal analysis of NELS:88 to explore the implications of consistent extracurricular activity participation in 8th, 10th, and 12th grades on positive outcomes 2 years after 12th grade. Multiple variables representing proximal and distal antecedents in adolescents' environments are also controlled. Specifically, parenting (i.e., monitoring and involvement), the influence of peers, and the school environment are factors that are included in the model. Several controls that represent different levels of the ecosystem are also incorporated, including gender, ethnicity, family structure and size, SES, and the presence of a disability.

Multiple outcomes were used to assess positive outcomes, with voting behavior, volunteering, and having had at least some college being used as indicators of civic engagement and educational attainment, respectively. Using multiple indicators of positive development will provide evidence that

extracurricular activities have multiple benefits. The following hypotheses were tested: (a) Extracurricular activity participation in 8th, 10th, and/or 12th grades predicts positive academic and civic outcomes; (b) Consistent participation in activities (i.e., across all three waves in adolescence) has stronger effects on positive outcomes than inconsistent participation; and (c) Variables of parental monitoring and involvement, peer influence, and the school environment each add unique variance to the overall model, but activities will predict positive outcomes over and above the influence of these controls.

METHOD

Data

The data for this study are from the NELS:88, a nationally representative longitudinal study of an eighth-grade cohort in 1988 followed through high school and into early adulthood. Information is provided on the transition to adulthood, family background, schooling, and individual characteristics. NELS:88 contains an oversampling of African American and Hispanic youth.

The NELS:88 data were collected from students, parents, teachers, and the school. The student data for NELS:88 were collected in four waves: 8th grade, 10th grade, 12th grade or the equivalent, and 2 years out of high school. The teacher and school data were collected in 1988, 1990, and 1992. Parent data were collected in 1988 and 1992.

Sample

For the present study, a panel sample of 13,120 adolescents was used that includes student information from each wave of data collection. Ninety-four to 95% of the teens contacted at each wave of the study completed at least part of the questionnaire. Nevertheless, the panel sample remains more advantaged than those who were lost to the study (National Center for Educational Statistics, 1994). After accounting for missing data on relevant variables and dropouts, the final sample was 8,599 in-school students (see Table 1 for demographics of the final sample). Students who dropped out were not included because the drop-out students were not asked questions about extracurricular activity participation. It should also be noted that the data were collected before a majority of high schools instituted mandatory community service requirements for graduation.

Dependent Variables

We examined three positive outcomes measured at the third follow-up in 1994: (a) academic achievement (i.e., whether respondent had attended some college since 1992), (b) voting behavior (i.e., whether respondent voted in the 1992 national election or in a local election during the previous 12 months), and (c) volunteering (i.e., whether respondent had volunteered for a community or religious activity or organization).

Independent Variables

Controls. Nine control measures taken from the base-year (1988) survey are included: family SES, student ethnicity, student gender, family composition, number of siblings, student reading and math test score composite, whether the student had ever been held back prior to the eighth grade, emotional disability, and student disability (excluding emotional disability).

A composite measure of family SES was created from four variables: highest parental education, highest parental occupation, parent's employment status, and family income. For students living in two-parent families, measures of highest parental education and highest parental occupation reflect the educational attainment of the most educated parent and the occupation with the highest Duncan Socioeconomic Index code. Each component of the SES measure was standardized around a mean of 0 and a standard deviation of 1. This final standardized SES measure ranges from -3.30 to 1.93.

Ethnicity categories included in this study are non-Hispanic White, non-Hispanic Black, Hispanic, Asian/Pacific Islander, and Native American. The family composition variable indicates whether the student lived with two parents, lived with one parent and a guardian, lived in a single-parent household, or whether the student lived with another relative or nonrelative. A dichotomous variable is included indicating whether the student has three or more siblings.

A composite test score of reading and math ability from the eighth grade is included to measure academic capability. The standardized measure ranges from 32.40 to 75.81.

Student disability is created as a dichotomous variable based on parent report that the student had at least one of the following disabilities: visual handicap, hearing problem, deafness, speech problem, orthopedic problem, other physical disability, specific learning problem, mental retardation, or "other" health problem. An additional dichotomous parent-report variable is included indicating whether the student has an emotional disability, because

physical compared with emotional disabilities are expected to affect volunteering, voting, and college attendance in different ways.

Process variables. Individual, parenting, school, and peer measures are used to tap processes. Four individual-level measures are included in the analyses: locus of control, religiosity, turbulence, and private school attendance.

Locus of control is a continuous variable measured in the eighth grade which ranges from 6 to 24. The higher the number, the more internal locus of control the student has. Using NELS data, this scale had an alpha of .65.

At the first follow-up, students were asked how often they attend religious services. The response categories for this measure are "at least weekly," "occasionally," and "not at all." A dummy variable measuring turbulence was created assessing whether any of the following things happened between 8th and 10th grade or between 10th and 12th grade: parents were divorced, the student became seriously ill, a parent died, or the family was homeless.

Parenting measures included indices of parental monitoring and parental school involvement. Parental monitoring was measured in eighth grade and was created from the following items: the student spends time alone after school, parents monitor time spent with friends on school nights, parents monitor TV viewing, and parents check whether homework is completed. A dichotomous measure was created indicating low-medium (bottom two quartiles) monitoring and medium-high (top two quartiles) monitoring.

Parental involvement in school was measured in 8th, 10th, and 12th grades and included items such as discussing with parents school programs, activities, and things studied in class and whether the parent has volunteered at the school. From these items, two variables were created. The first variable indicates low parental involvement across all three waves (students who fell in the bottom two quartiles in each wave). The second variable indicates high parental involvement across each wave (students who fell in the top two quartiles in each wave).

Two measures tap peer influence. The first variable measures positive peer influence and is created with the following items indicating how important it is for the student's friends to attend class regularly, to study, to play sports, to get good grades, to finish high school, to continue education beyond high school, to participate in religious activity, to do community/volunteer work, and to not be willing to party. If a respondent said that five or more of these items were "very important" to his or her friends, they were coded as having positive peer influence. A second measure of peer influence indicates whether or not at least one friend dropped out of high school.

A dummy variable was created to measure school problems. This variable was assessed in the eighth grade, and if the student reported that at least one of the following items was a problem at school, then they were coded as having school problems: student tardiness, student absenteeism, students' cutting class, physical conflicts between students, robbery or theft at school, vandalism of school property, student use of alcohol at school, student use of illegal drugs at school, student possession of weapons, physical abuse of teachers, and verbal abuse of teachers.

Primary independent variable. We included a combined measure of in- and out-of-school activity involvement across the first three waves of data. The measure of extracurricular activity involvement indicated whether the student participated in at least one in-school (i.e., academic, sports, arts, civic involvement, and/or hobby clubs) or out-of-school (scouting, religious youth groups, and/or neighborhood or community youth groups) extracurricular activity each wave, occasionally across the waves, or had not participated during any of the waves.¹ Exploratory bivariate analyses indicated that the relationship between specific types of extracurricular activity involvement and our dependent measures were not related. However, an aggregate variable comprising all of the extracurricular activity types was significantly associated with voting, volunteering, and attending college. Thus, we have aggregated across types of extracurricular activity for these analyses.

Plan of Analysis

We first examined the bivariate relationship between extracurricular activity involvement and attending some college, civic involvement, and volunteering. This study utilizes logistic regression to examine factors associated with attending some college, voting, and volunteering. Three logistic models were run. Model 1 includes only extracurricular activity participation. Model 2 includes both control measures and extracurricular activity. Finally, Model 3 is a full model including control measures, process measures, and extracurricular activity.

Because students included in NELS:88 were selected from a clustered sample in a stratified sample of schools, results may be more variable than if the sample were truly random. Therefore, the statistical program SUDAAN is used for both bivariate and multivariate analyses to adjust standard errors and significance levels for design effects.

RESULTS

Descriptive Statistics

Table 1 lists the means or frequencies for all variables used in the analysis, distinguishing between control, process, and outcome variables. As can be seen, this nationally representative sample of adolescents who stayed in school throughout middle and high school were moderately engaged in civic activities when they were young adults (i.e., 2 years after 12th grade). For instance, in the previous 12 months, only 39% of the young adults had volunteered for community or religious organizations and 57% had voted in a local or presidential election. Among this sample of nondropouts, 56% had attended at least some college.

Turning to the independent variables, 82% of the adolescents were either occasional or frequent attendees at religious services, and only 18% had a serious turbulent event (e.g., parent death, serious illness) occur during high school. However, nearly 72% of the students said that there were problems with deviant students at their schools. Also, although parents were generally diligent about monitoring their children's activities, only one quarter of parents were involved throughout middle and high school in adolescents' lives as students. On the other hand, only about one eighth of parents were reported to exhibit low involvement across the three school-aged waves of the study. Again, this may reflect the absence of high school dropouts from our sample. About 11% of the youth attended private school, as assessed in 10th grade, and a comparable proportion said they had been held back a grade at some point. Parents reported that 2.3% of the students had an emotional disability (e.g., behavior problems), whereas an additional 13.4% reported the student to have a disability other than an emotional problem.

Bivariate Analysis

As can be seen in Table 2, after aggregating across extracurricular activity types, there is a significant linear relationship between participating in extracurricular activity and attending college, voting, and volunteering (see the appendix for a listing of the other bivariate relationships between the control and process variables). According to the data, if an adolescent consistently participates in activities from 8th grade through 12th grade, he or she will be more likely to vote (66.4%), volunteer (51.1%), or attend college (70.4%) than someone who only occasionally participated (51.8%, 32.3%, and 48%, respectively) during this time period or someone who never participated (38.8%, 14.9%, and 16.4%, respectively). The relationship is most dramatic

TABLE 1: Descriptive Statistics of the Outcomes, Control, and Process Measures

<i>Measure</i>	<i>Mean or Frequency</i>
Outcome measures	
Attended some college (1994 student report)	
Yes	56.3%
No	43.8%
Voted in the 1992 presidential election or a local election (1994 student report)	
Yes	57.3%
No	42.7%
Has done volunteer work (1994 student report)	
Yes	39.3%
No	60.7%
Controls	
Family SES composite (range -3.3 to 1.9) (1988 student or parent report)	0.19
Student's race/ethnicity (1994 student report)	
Asian Pacific Islander	3.8%
Hispanic	9.5%
Black, non-Hispanic	10.1%
White, non-Hispanic	75.4%
Native American	1.2%
Student's gender (1994 student report)	
Male	47.3%
Female	52.7%
Family composition (1988 student report)	
Two parents	70.6%
One parent and one guardian	12.1%
Single parent	15.2%
Other	2.0%
Three or more siblings (1988 student report)	
Yes	32.7%
No	67.3%
Student reading and math composite test score (range 32.4 to 75.8) (1988 student report)	52.84
Student ever held back a grade (1988 student report)	
Yes	11.4%
No	88.6%
Student has emotional disability (1988 parent report)	
Yes	2.3%
No	97.7%
Student has a disability (excluding emotional problems) (1988 parent report)	
Yes	13.4%
No	86.6%

(continued)

TABLE 1 (continued)

<i>Measure</i>	<i>Mean or Frequency</i>
Process variables	
Individual-level measures	
Student locus of control index (range 6.0 to 24.0) (1988 student report)	17.83
How often parent attends religious services (1990 student report)	
At least weekly	45.8%
Occasionally	36.3%
Not at all	17.9%
Student reported at least one turbulent event (1992 student report)	
Yes	18.2%
No	81.8%
Student attended private school in 10th grade (1990 student report)	
Yes	11.2%
No	88.8%
Parenting measures	
Parental monitoring (1988 student report)	
Low-medium	22.4%
Medium-high	77.6%
Low parental involvement across three waves (1988, 1990, and 1992 student reports)	
Yes	13.5%
No	86.5%
High parental involvement across three waves (1988, 1990, and 1992 student reports)	
Yes	25.8%
No	74.2%
Peers	
Positive peer influence (1990 student report)	
Yes	43.3%
No	56.7%
At least one friend dropped out of high school (1990 student report)	
Yes	22.1%
No	77.9%
School measures	
School problems (1988 student report)	
Yes	71.7%
No	28.3%
Extracurricular activities (ECAs)	
In-school & out-of-school ECA participation across three waves (1988, 1990, and 1992 student reports)	
Did not participate in anything	1.6%

(continued)

TABLE 1 (continued)

<i>Measure</i>	<i>Mean or Frequency</i>
Participated in at least one ECA each wave	38.9%
Inconsistent participation	59.4%

N (unweighted) = 8,599

TABLE 2: Bivariate Associations Between In-School and Out-of-School Extracurricular Activity Participation and Attending College, Voting, and Volunteering (in percentages; *N* = 8,599)

<i>Measure</i>	<i>Attended Some College***</i>		<i>Voted***</i>		<i>Volunteered***</i>	
	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>
Did not participate in anything	16.4	83.7	38.8	61.2	14.9	85.1
Participated in at least one activity in each wave	70.4	29.6	66.4	33.6	51.1	48.9
Occasional participation	48.0	52.0	51.8	48.2	32.3	67.7

*** $p < .01$.

for attending college, with a consistent participant 2.5 times as likely as someone who occasionally participates to attend at least some college (see Table 3). The magnitude of the relationship is also strong for the other outcomes, with a consistent participant being 1.8 times as likely to vote in a national or local election and more than twice as likely to volunteer for community or religious organizations, respectively (see Table 3). In analyses not shown in this article, we looked for associations between the positive outcomes and specific types of participation (e.g., sports, academic clubs, civic clubs). No significant correlations were found at the bivariate level.

Multivariate Analysis

Two multivariate models were tested to determine whether the bivariate relationships between extracurricular activity participation and the positive outcomes remained after including control and process variables (see Table 3). First, the control variables were included in the model (see Model 2 in Table 3). As can be seen in the table, consistent participation in extracurricu-

(text continued on p. 617)

TABLE 3: Logistic Regression Models Predicting College Attendance, Voting, and Volunteer Experience

<i>Measure</i>	<i>Model 1</i>			<i>Model 2</i>			<i>Model 3</i>		
	<i>Attend College</i>	<i>Voted</i>	<i>Volunteered</i>	<i>Attend College</i>	<i>Voted</i>	<i>Volunteered</i>	<i>Attend College</i>	<i>Voted</i>	<i>Volunteered</i>
Extracurricular activities (ECAs)									
In-school & out-of-school ECA participaton across three waves									
Never participated	0.21****	0.59**	0.37*	0.26****	0.65*	0.42*	0.41***	0.72	0.63
Participated in at least one ECA each wave	2.51****	1.80****	2.17****	1.71****	1.58****	1.83****	1.47****	1.51****	1.59****
Occasional participation (reference)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Controls									
Family SES (range -3.3 to 1.9)	—	—	—	1.92****	1.21****	1.39****	1.74****	1.20****	1.32****
Student's race/ethnicity									
Asian/Pacific Islander	—	—	—	2.06****	0.36****	0.81**	2.12****	0.38****	0.84
Hispanic	—	—	—	1.21*	0.76**	1.26**	1.21*	0.76**	1.20*
Black, non-Hispanic	—	—	—	1.65****	0.87	1.29**	1.45***	0.85	1.12
White, non-Hispanic (reference)	—	—	—	1.00	1.00	1.00	1.00	1.00	1.00
Native American	—	—	—	0.70	0.94	1.58*	0.75	0.98	1.70*

Student's gender									
Male	—	—	—	0.78****	1.14**	1.05	0.77****	1.17***	1.11
Female (reference)	—	—	—	1.00	1.00	1.00	1.00	1.00	1.00
By family composition									
Two parents									
(reference)	—	—	—	1.00	1.00	1.00	1.00	1.00	1.00
One parent and									
one guardian	—	—	—	0.62****	0.94	0.78**	0.71***	0.96	0.86
Single parent	—	—	—	1.12	1.00	0.91	1.25**	1.05	1.00
Other	—	—	—	0.68	0.65*	1.08	0.86	0.71	1.33
Three or more									
siblings									
Yes	—	—	—	0.71****	0.86**	1.23***	0.72****	0.86**	1.24***
No (reference)	—	—	—	1.00	1.00	1.00	1.00	1.00	1.00
Student reading and									
math composite									
test score (range									
32.4 to 75.81)	—	—	—	1.06****	1.02****	1.03****	1.05****	1.02****	1.02****
Student ever held									
back a grade									
Yes	—	—	—	0.64****	0.93	0.88	0.71***	0.94	0.96
No (reference)	—	—	—	1.00	1.00	1.00	1.00	1.00	1.00
Student has emotional									
disability									
Yes	—	—	—	0.50**	0.95	0.75	0.54**	1.06	0.83
No (reference)	—	—	—	1.00	1.00	1.00	1.00	1.00	1.00
Student has a disability									
(excluding emotional									
problems)									
Yes	—	—	—	0.95	1.43****	1.04	0.93	1.45****	1.02

(continued)

TABLE 3 (continued)

Measure	Model 1			Model 2			Model 3		
	Attend College	Voted	Volunteered	Attend College	Voted	Volunteered	Attend College	Voted	Volunteered
No (reference)	—	—	—	1.00	1.00	1.00	1.00	1.00	1.00
Process variables									
Individual-level measures									
Student locus of control index (range 6.0 to 24.0)	—	—	—	—	—	—	1.03**	1.01	1.02*
How often parent attends religious services									
At least weekly	—	—	—	—	—	—	1.48****	1.24**	1.93****
Occasionally	—	—	—	—	—	—	1.41****	1.23**	1.44****
Not at all (reference)	—	—	—	—	—	—	1.00	1.00	1.00
Student reported at least one turbulent event									
Yes	—	—	—	—	—	—	0.86	0.74****	0.96
No (reference)	—	—	—	—	—	—	1.00	1.00	1.00
Student attended private school in 10th grade									
Yes	—	—	—	—	—	—	1.64***	0.77**	0.86
No (reference)	—	—	—	—	—	—	1.00	1.00	1.00

Parenting measures									
By parental monitoring									
Low-medium	—	—	—	—	—	—	0.87	1.02	0.72****
Medium-high (reference)	—	—	—	—	—	—	1.00	1.00	1.00
Low parental involvement across all three waves									
Yes	—	—	—	—	—	—	0.71***	0.80**	0.80**
No (reference)	—	—	—	—	—	—	1.00	1.00	1.00
High parental involvement across all three waves									
Yes	—	—	—	—	—	—	1.31***	1.10	1.30****
No (reference)	—	—	—	—	—	—	1.00	1.00	1.00
Peers									
F1 peer influence (student report)									
Yes	—	—	—	—	—	—	1.35****	0.96	1.23***
No (reference)	—	—	—	—	—	—	1.00	1.00	1.00
At least one friend dropped out of high school									
Yes	—	—	—	—	—	—	0.51****	0.99	0.86*
No (reference)	—	—	—	—	—	—	1.00	1.00	1.00
School measures									
School problems									
Yes	—	—	—	—	—	—	0.90	1.08	0.95

(continued)

TABLE 3 (continued)

Measure	Model 1			Model 2			Model 3		
	Attend College	Voted	Volunteered	Attend College	Voted	Volunteered	Attend College	Voted	Volunteered
No (reference)	—	—	—	—	—	—	1.00	1.00	1.00
χ^2	291.07****	202.00****	193.60****	538.32****	319.38****	308.12****	572.79****	335.16****	397.28****
df	3	3	3	17	17	17	28	28	28
N for all three models = 8,599									

NOTE: The flag for the number of items the respondent is missing on is significant at $p < .001$ for Model 1 where attend some college and voted is the outcome variable. The flag is significant at $p < .01$ for Model 2 where attend some college and voted is the outcome variable and Model 3 where voted is the outcome variable. The flag is also significant at $p < .05$ for Model 1 where volunteered is the outcome variable.

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

lar activity remains a strong predictor of positive outcomes, with consistent participants approximately 70% more likely to attend some college, 60% more likely to vote, and 80% more likely to volunteer than those who only occasionally participate, $\chi^2(17) = 538.32, p < .001$; $\chi^2(17) = 319.38, p < .01$; and $\chi^2(17) = 308.12, p < .01$, respectively. Those who never participated were nearly 75% less likely to attend college than those who were occasional participants, a significant difference. Those who never participated were less likely to vote (35% less likely) and volunteer (nearly 60% less likely) than those who occasionally participated, but the coefficients were significant only at the .10 level, possibly because of the relatively small sample size.

The full model, in which controls and process variables are both included, substantiates the effects of ECA participation. Although the magnitude of the effects decreases, consistent participants were approximately 50% more likely to attend college, to vote, and to volunteer than were occasional participants, $\chi^2(28) = 572.79, p < .001$; $\chi^2(28) = 335.16, p < .001$; and $\chi^2(28) = 397.28, p < .001$, respectively. However, the effects of never participating were no longer significant, except that this group was nearly 60% less likely to attend college than were those who participated inconsistently. In sum, students who consistently participated in ECA across the high school years have significantly and substantially more positive outcomes in early adulthood, even taking account of demographic, family background, family processes, and individual characteristics.

An examination of the control and the process variables adds interesting information to this study, demonstrating that different components of the ecosystem have an effect on positive outcomes for adolescents.

Attended at least some college. Looking first at college attendance in the third model, $\chi^2(28) = 572.79, p < .001$ (see Table 3), the Asian/Pacific Islander (112% more likely), Hispanic (21% more likely), and non-Hispanic Black (45% more likely) groups were all significantly more likely to attend some college than were non-Hispanic White students, net of family and demographic factors, family processes, and test scores. Continuing with demographic variables, male adolescents were 23% less likely than their female counterparts to attend college. The personal capacities of adolescents were also found to be predictive of attending at least some college. Higher standardized reading and math composite scores were found to be indicative of attending college with a 5% increased likelihood for every additional point on the test, whereas being held back a grade (29% less likely) and having an emotional disability (45% less likely) were both related to a decreased likelihood of attending college.

Family control variables were associated with college attendance as well. Based on Model 3, having one parent and one guardian in the home is associated with a 29% decreased likelihood of attending college, compared with being from a two-parent family. Surprisingly, an adolescent from a single-parent family is 25% more likely to attend college, compared to an adolescent from a two-parent family. Again, this may reflect the fact that dropouts are not included in the sample and it may be due to the strong set of control variables included in our models. An additional family structure variable, having three or more siblings, has an effect on college attendance, with adolescents from large families having a 28% decreased likelihood of attending college than smaller families. Family SES had a significant positive association (i.e., a higher SES relating to 74% greater likelihood of attending college).

Individual-level process variables also had significant effects on college attendance. An adolescent's locus of control, for example, has a small but significant effect on the odds that an adolescent will attend college, with a 3% increase for every additional point on the locus of control scale, whereas a child attending religious services every week or at least occasionally has an increased likelihood of attending college (48% and 41% more likely, respectively) compared with nonattendance. Attending a private school as compared to a public school predicts a 64% greater likelihood of attending college.

As noted, consistently low parental involvement across the first three waves of data resulted in a 29% decreased likelihood that adolescents would attend college, whereas high parental involvement across those waves resulted in a 31% greater likelihood of going to college. Positive and negative peer influences had expected relationships to the outcome measures. Positive peer influence was related to a 35% greater likelihood of going to college. In addition, negative influences were related to a 49% decreased likelihood of going to college.

Voting in regional and national elections. Overall, in this sample of non-dropouts, ethnicity had a significant effect on voting, $\chi^2(28) = 335.16$, $p < .001$ (see Table 3). Asian/Pacific Islander (62% less likely) and Hispanic (24% less likely) adolescents were significantly less likely to vote, compared with non-Hispanic Whites. There were significant, though moderate, effects regarding gender, with males 17% more likely than females to vote in national and regional elections. There was no relationship between family composition for voting, but having three or more siblings did have an effect on voting behaviors, with adolescents from large families having a 14% lower likelihood of voting. With regard to personal capacities of the adolescent, higher standardized reading and math composite predicted a 2% greater

likelihood of voting for each point increase on the test, as did having a physical disability (45% greater likelihood).

Individual-level process variables predicted voting behavior as well. For instance, attending religious services either weekly or occasionally was related approximately to a 24% increased likelihood of voting, but having a turbulent event in life resulted in a 26% decreased likelihood of voting. Attending a private school as compared to a public school, interestingly, predicted a 23% less chance of voting.

Consistently low parental involvement across the first three waves of data resulted in 20% decreased likelihood that adolescents would vote, whereas high parental involvement across those waves had no relationship to voting. Positive and negative peer influences had no influence on voting behavior. Also, school problems did not have an effect on voting in regional and national elections.

Volunteering. Both individual and proximal factors were found to predict greater volunteering, $\chi^2(28) = 397.28, p < .01$ (see Table 3). On the individual level, Hispanic (20% more likely) and Native American (70% more likely) adolescents were more likely than were non-Hispanic Whites to volunteer, whereas adolescents from families with three or more children had a 24% greater likelihood of volunteering. Furthermore, higher standardized reading and math composite scores were predictive of greater involvement in volunteering, with an increased likelihood of 2% for each additional point on the test. Other individual level factors were related to volunteering, as well. An adolescent's locus of control, for example, had a small but significant effect on the likelihood that adolescents would volunteer, with a 2% increased likelihood for each additional point on the scale. Whether a child attended religious services every week (93% greater likelihood) or at least occasionally (44% greater likelihood) corresponded with a greater likelihood of volunteering compared to those who never attended religious services. Those adolescents whose parents were low on monitoring across all three waves were 28% less likely to volunteer than those whose parents monitored more. Parental involvement also had a significant effect on volunteer behavior. As noted, consistently low parental involvement across the first three waves of data resulted in a 20% decreased likelihood that adolescents would volunteer, whereas high parental involvement across those waves resulted in 30% greater likelihood of volunteering. Peer influences also were found to affect volunteering, with positive peer influence predicting a 23% increased likelihood of participating in volunteer efforts and negative influences predicting a 14% less likelihood of volunteering. School problems did not have an effect on volunteering.

DISCUSSION

The present study was conducted to determine whether participation in EAC predicts multiple positive outcomes, such as attending college, voting in national and regional elections, and volunteering for community and religious organizations. Using a nationally representative data set of students who remained in school until the completion of high school, the results suggest that consistent participation in extracurricular activities from 8th grade through 12th grade predicts academic achievement and prosocial behaviors in young adulthood. This finding remains after accounting for control and individual, parent, peer, and school process variables. Also, given that the outcome variables were collected 2 years after high school, it can be concluded that consistent participation has positive effects that last over a moderate length of time.

These findings are consistent with previous research on EAC participation that has demonstrated positive benefits (Barber & Eccles, 1999; Hart et al., 1998, 1999; Mahoney & Cairns, 1997; Mahoney & Stattin, 2000; Miller et al., 1998; Youniss et al., 1999). Participation has been linked to lower rates of dropping out of school, greater civic involvement, and higher levels of academic achievement. However, our study is the first to our knowledge to track consistent participation from eighth grade through high school and examine outcomes in the postsecondary years.

Four possible reasons for the apparent positive effects that extracurricular activities have on adolescents are time use, skill acquisition, engagement in school and community, and positive relationships with adults (National Research Council and Institute of Medicine, 2000). Extracurricular activities give adolescents a safe place to be during the high-risk after-school hours. Instead of being involved with deviant peers and activities, adolescents are engaged in more positive activities such as academic clubs, arts clubs, or sport teams. The structure of after-school activities may also contribute to positive development. Participating in activities with peers may result in improved social skills such as learning to work with others and conflict resolution. The adolescent may also gain a positive sense of self-efficacy from the practical skills learned in an activity, such as leadership, academic, or athletic skills. One could imagine that working with others toward a common goal and having confidence in your abilities to reach that goal could lead to greater civic engagement such as volunteering and voting in important elections, as well as achieving academic goals such as going to college. Being involved in extracurricular activities at school may also engage youth in other aspects of school such as academic and civic programs, particularly if the extracurricular activities focus specifically on academics or civics. Finally, having a car-

ing adult in adolescents' lives to help them navigate the potentially high-risk time of the teen years may provide the necessary support for adolescents to develop positively.

Participation in specific types of activities was not individually related to positive outcomes. Other researchers have found such an association (e.g., Barber & Eccles, 1999; Barber & Stone, 2001). There are two possible reasons for this discrepancy. For one, the size of the cells for each of the activities was too small to detect significant associations. Therefore, a larger sample size may, indeed, demonstrate a positive effect. The other reason could be that the activities that were tapped by NELS:88 do not differ qualitatively with regard to the important content described above. Future research should continue to examine the qualitative differences of programs and activities.

Aside from extracurricular activities, numerous other variables within the adolescents' ecosystems appear to predict positive outcomes in young adulthood. Most of these findings are intuitive and have been supported by much research evidence, though there were some surprises.

A constellation of four predictors appears to predict positive effects across the three outcomes. Those adolescents who have parents who are from a high SES background and who are highly involved in the adolescents' lives throughout high school have a higher probability of going to college, voting, and volunteering. Attending religious services and having positive peer models were also found to be indicative of adolescents with positive outcomes.

Other variables had mixed, and at times unexpected, results. For instance, going to private school significantly predicted a higher probability of going to college but also predicted a lower rate of voting. It is possible that private schools do not emphasize civic responsibility as much as public schools, but more research is necessary before anything more than speculation is given. Further, adolescents who had three or more siblings were more likely to volunteer but less likely to vote. In this paradigm, siblings may act as role models or comparisons for each other on a community level but not on a state or national level. Two other surprising findings are worth noting. First, students with a disability were more likely to vote. One could imagine that someone with a disability might be motivated to have his or her voice heard on high-profile legislation involving the physically disabled. Also, students from one-parent families were more likely to attend college than those from two-parent families. This finding goes against previous research, but, because this panel sample excludes dropouts, it is possible that those from one-parent families who have remained in school throughout high school are very resilient and very motivated.

There are limitations to this study that should be noted. For one, this study did not use an experimental design. Therefore, causality is not conclusive.

However, we believe that the theory behind extracurricular activities is very strong and that findings from previous research further support our conclusions, including experimental evaluations of structured programs (e.g., Tierney et al., 1995). A follow-up experimental study of consistent program interventions, though, is definitely warranted. Because the present study has a follow-up survey 2 years later, a long-term follow-up that includes positive as well as negative outcomes would also be appropriate.

A second limitation, which has been mentioned throughout this article, is the exclusion of high school dropouts from the sample. We decided upon this exclusion because NELS:88 does not ask the drop-out sample about extracurricular activities, the main question of this study. Future research could track dropouts to see whether extracurricular activity participation among this high-risk sample leads to positive outcomes such as interpersonal skills, volunteering, voting, and participation in vocational training programs. Also, students were only included in our sample if they had data from all waves. Therefore, generalization of the findings can be made only to those students who have stayed in school and completed high school.

The indicators of positive development that are used were another limitation of the study. Because the data were collected 2 years after high school, it is not known what percentage of students will finish college, a better indicator of academic success. The civic engagement measures of volunteering and voting do not get at the qualitative reasons for being engaged or not being engaged. Nonengaged students may have expressed a sense of altruism or communalism in other ways not tapped by the voting and volunteering questions, such as charitable giving. Also, many high school students in this country have expressed that they can affect their communities by volunteering but that they do not vote in elections (Flanagan & Faison, 2001). This fact may account for the low prevalence of voters in the NELS:88 sample. Finally, parent reports are only available from the first follow-up. Therefore, the results are based mainly on the perspective of the adolescent. Triangulation of adolescent data with more comprehensive parent and school data would be advisable in future nationally representative surveys.

Policy Implications

Extracurricular (or after-school) activities are increasingly recommended as a way to provide child care to younger children and as a way to keep chil-

dren and adolescents off of the streets during high-risk hours. As what could be considered an added bonus, based on our analyses and the results of previous research, we can suggest that consistent extracurricular activity participation also predicts positive academic and civic outcomes among young adults. Therefore, engaging students in extracurricular activities may benefit both the adolescent and the community. Youth have a higher probability of attending college and therefore potentially securing a higher income and economic stability. Communities, meanwhile, receive the volunteer efforts of young adults and the voice that young adults bring to local, state, and federal elections. The increase in civic involvement is relevant considering the low rates of voting behavior and volunteering among adolescents that were found in this nationally representative study (39% of young adults volunteered for community or religious organizations, and 57% voted in local or national elections) and others (see Flanagan & Faison, 2001). Even among those who have graduated from high school, who might be considered a motivated subpopulation, only slightly more than half attend even some college. Our findings suggest that adolescents who participate in extracurricular activities, have parents who monitor and participate in their lives, are involved in positive peer groups, have affiliations with religious activities, and come from higher SES groups have a higher probability of achieving these desired positive outcomes.

This study suggests that school-based programs are not the only way to involve adolescents in after-school activities. Therefore, local and national initiatives should focus on all aspects of adolescents' lives, including the after-school hours. For example, a number of experimental studies have found that mentoring enhances adolescent development (Jekielek, Moore, & Hair, 2001). Community-based programs are especially pertinent to two groups of adolescents: those who attend school outside of their immediate neighborhoods and are not able to stay on campus after normal school hours, and high school dropouts who do not have access to school-based activities. Our analyses could not examine the effects of school-based programs for dropouts, because they were not asked questions on this topic. Additional study of this important subgroup is warranted. However, for enrolled high school students, continuous involvement in after-school activities seems to represent one important avenue to positive development in early adulthood.

APPENDIX
Bivariate Analysis for Control and Process Variables and Attending College, Voting, and Volunteering

<i>Measure</i>	<i>Attended Some College</i>			<i>Voted</i>			<i>Volunteered</i>		
	<i>Yes</i>	<i>No</i>	<i>p Value</i>	<i>Yes</i>	<i>No</i>	<i>p Value</i>	<i>Yes</i>	<i>No</i>	<i>p Value</i>
Controls									
Family SES (range -3.3 to 1.9)	0.45	-0.16	****	0.31	0.02	****	0.39	0.06	****
Student's race/ethnicity			****			****			*
Asian Pacific Islander (%)	73.5	26.5		38.9	61.2		38.4	61.6	
Hispanic (%)	42.3	57.7		44.6	55.5		35.4	64.6	
Black, non-Hispanic (%)	48.2	51.8		48.1	51.9		35.8	64.2	
White, non-Hispanic (%)	58.6	41.4		61.2	38.8		40.3	59.7	
Native American (%)	29.7	70.3		47.5	52.5		38.3	61.7	
Student's gender			****						
Male (%)	52.9	47.1		58.2	41.8		38.8	61.3	
Female (%)	59.3	40.8		56.4	43.6		39.8	60.2	
By family composition			****			****			****
Two parents (%)	60.5	39.5		59.1	40.9		41.8	58.2	
One parent and one guardian (%)	45.2	54.9		55.0	45.0		34.0	66.0	
Single parent (%)	48.6	51.4		53.5	46.5		32.7	67.3	
Other (%)	32.4	67.6		36.8	63.2		33.1	67.0	
Three or more siblings			****			****			
Yes (%)	45.7	54.4		51.7	48.3		39.2	60.9	
No (%)	61.4	38.6		60.0	40.0		39.4	60.6	
Student reading and math composite test score (range 32.4 to 75.81)	55.94	48.85	****	54.33	50.84	****	55.22	51.30	****

Student ever held back a grade			****			****			****
Yes (%)	31.9	68.1		48.9	51.1		29.1	70.9	
No (%)	59.4	40.6		58.4	41.7		40.6	59.4	
Student has emotional disability			****						**
Yes (%)	29.9	70.1		52.8	47.2		26.7	39.6	
No (%)	56.9	43.1		57.4	42.6		73.4	60.4	
Student has a disability (excluding emotional problems)			****			**			*
Yes (%)	47.2	52.8		61.4	38.6		35.9	64.1	
No (%)	57.7	42.4		56.6	43.4		39.8	60.2	
Process variables									
Individual-level measures									
Student locus of control index (range 6.0 to 24.0)	18.30	17.21	****	18.05	17.53	****	18.24	17.56	****
How often parent attends religious services			****			****			****
At least weekly (%)	63.3	36.7		60.1	39.9		47.2	52.8	
Occasionally (%)	55.3	44.7		57.4	42.6		36.4	63.6	
Not at all (%)	40.2	59.8		49.9	50.2		25.0	75.0	
Student reported at least one turbulent event			****			****			***
Yes (%)	47.7	52.3		49.3	50.7		35.1	64.9	
No (%)	58.2	41.8		59.0	41.0		40.3	59.8	
Student attended private school in 10th grade			****						***
Yes (%)	76.1	23.9		57.2	42.8		44.4	55.6	
No (%)	53.8	46.3		57.3	42.7		38.7	61.3	
Parenting measures									
By parental monitoring			****						****
Low-medium (%)	50.5	49.5		56.3	43.7		31.3	68.7	
Medium-high (%)	57.9	42.1		57.5	42.5		41.6	58.4	

(continued)

APPENDIX (continued)

<i>Measure</i>	<i>Attended Some College</i>			<i>Voted</i>			<i>Volunteered</i>		
	<i>Yes</i>	<i>No</i>	<i>p Value</i>	<i>Yes</i>	<i>No</i>	<i>p Value</i>	<i>Yes</i>	<i>No</i>	<i>p Value</i>
Low parental involvement across all three waves			****			****			****
Yes (%)	34.9	65.1		46.1	53.9		25.1	74.9	
No (%)	59.6	40.4		59.0	41.0		41.5	58.5	
High parental involvement across all three waves			****			****			****
Yes (%)	73.9	26.1		65.0	35.0		52.3	47.7	
No (%)	50.1	49.9		54.6	45.4		34.8	65.2	
Peers									
F1 peer influence (student report)			****			*			****
Yes (%)	64.9	35.2		58.7	41.3		45.6	54.4	
No (%)	49.7	50.3		56.2	43.8		34.5	65.5	
At least one friend dropped out of high school			****			****			****
Yes (%)	33.3	66.7		50.7	49.3		29.2	70.8	
No (%)	62.8	37.3		59.1	40.9		42.2	57.8	
School measures									
School problems									
Yes (%)	55.7	44.2		58.0	42.0		39.1	60.9	
No (%)	57.5	42.5		55.5	44.5		39.9	60.1	

Extracurricular activities (ECAs)									
In-school & out-of-school ECA participation across three waves									
Did not participate in anything (%)	16.4	83.7	****	38.8	61.2	****	14.9	85.1	****
Participated in at least one ECA each wave (%)	70.4	29.6		66.4	33.6		51.1	48.9	
Inconsistent participation (%)	48.0	52.0		51.8	48.2		32.3	67.7	

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

NOTE

1. Volunteering/community service was not an explicit choice in the survey but could have been a component of one of the other choices, such as involvement in a religious or community youth group.

REFERENCES

- Barber, B. L., & Eccles, J. S. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *Journal of Adolescent Research, 14*, 10-43.
- Barber, B. L., & Stone, M. (2001, April). Whatever happened to the Jock, the Brain, and the Princess? Young adult paths linked to adolescent activities and social identity. In J. L. Mahoney (chair), *Protective Aspects of After-School Activities: Processes and Mechanisms*. Symposium presented at the biennial conference of the Society for Research in Child Development, Minneapolis, MN.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized: A bio-ecological model. *Psychological Review, 101*, 568-586.
- Bukowski, W. (in press). Peer relationships. In M. Bornstein, L. Davidson, C. Keyes, and K. Moore (Eds.), *Well-being: Positive development across the lifespan*. New York: Lawrence Erlbaum.
- Cooper, H., Valentine, J. C., Nye, B., & Lindsay, J. J. (1999). Relationships between five after-school activities and academic achievement. *Journal of Educational Psychology, 91*, 369-378.
- Cox, M. (in press). Parent-child relationships. In M. Bornstein, L. Davidson, C. Keyes, and K. Moore (Eds.), *Well-being: Positive development across the lifespan*. New York: Lawrence Erlbaum.
- Eisenberg, N. (in press). Empathy, sympathy, and prosocial behaviors. In M. Bornstein, L. Davidson, C. Keyes, and K. Moore (Eds.), *Well-being: Positive development across the lifespan*. New York: Lawrence Erlbaum.
- Flanagan, C. A., & Faison, N. (2001). *Social policy report: Vol. 15. Youth civic development: Implications of research for social policy and programs*. Ann Arbor, MI: Society for Research in Child Development.
- Gerber, S. B. (1996). Extracurricular activities and academic achievement. *Journal of Research and Development in Education, 30*, 42-50.
- Glancey, M., Willits, F. K., & Farrell, P. (1986). Adolescent activities and adult success and happiness: Twenty-four years later. *Sociology and Social Research, 70*, 242-250.
- Glanville, J. L. (1999). Political socialization or selection? Adolescent extracurricular participation and political activity in early adulthood. *Social Science Quarterly, 80*, 279-290.
- Harrell, A., Cavanaugh, S., & Sridharan, S. (1999). *Evaluation of the Children at Risk Program: Results 1 year after the end of the program* (Report No. NCJ 178914). Washington, DC: National Institute of Justice.
- Hart, D., Atkins, R., Ford, D. (1998). Urban America as a context for the development of moral identity in adolescence. *Journal of Social Issues, 54*, 513-530.

- Hart, D., Atkins, R., & Ford, D. (1999). Family influences on the formation of moral identity in adolescence: Longitudinal analyses. *Journal of Moral Education, 28*, 375-386.
- Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development, 67*, 1-13.
- Hofferth, S. (in press). How American children spend their time. *Journal of Marriage and the Family, 63*.
- Hoge, D. R., Smit, E. K., Hanson, S. L. (1990). School experiences predicting changes in self-esteem of sixth- and seventh-grade students. *Journal of Educational Psychology, 82*, 117-127.
- Jekielek, S., Moore, K. A., & Hair, E. C. (2001). *Mentoring programs and youth development: A synthesis*. Report prepared for the Edna McConnell Clark Foundation.
- Kantrowitz, B. (2000, July 17). Stop the insanity. *Newsweek*.
- Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist, 55*, 170-183.
- Larson, R. W., & Verma, S. (1999). How children and adolescents spend time across the world: Work, play and developmental opportunities. *Psychological Bulletin, 125*, 701-736.
- Mahoney, J. L. (2000). Participation in school extracurricular activities as a moderator in the development of antisocial patterns. *Child Development, 71*, 502-516.
- Mahoney, J. L., & Cairns, R. B. (1997). Do extracurricular activities protect against early school dropout? *Developmental Psychology, 33*, 241-253.
- Mahoney, J. L., & Stattin, H. (2000). Leisure activities and adolescent antisocial behavior: The role of structure and social context. *Journal of Adolescence, 23*, 113-127.
- Marsh, H. W., & Yeung, A. S. (1997). Coursework selection: Relations to academic self-concept and achievement. *American Educational Research Journal, 34*, 691-720.
- Miller, K. E., Sabo, D. F., Farrell, M. P., Barnes, G. M., & Melnick, M. J. (1998). Athletic participation and sexual behavior in adolescents: The different worlds of boys and girls. *Journal of Health and Social Behavior, 39*, 108-123.
- Moore, K. A., & Halle, T. G. (2000). *Preventing problems vs. promoting the positive: What do we want for our children?* Washington, DC: Child Trends.
- Moore, K. A., Manlove, J., Gleit, D., & Morrison, D. R. (1998). Nonmarital school-age motherhood: Family, individual, and school characteristics. *Journal of Adolescent Research, 13*, 433-457.
- Nadel, W. R. (2000). *The web of support: Providing safe, nurturing, learning environments during out-of-school time*. Westport, CT: Save the Children.
- National Research Council and Institute of Medicine. (2000). *After-school programs to promote child and adolescent development: Summary of a workshop*. Committee on Community-Level Programs for Youth. J.A. Gootman (Ed.). Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- Phinney, J., Ferguson, D., & Tate, J. (1997). Intergroup attitudes among ethnic minority adolescents: A causal model. *Child Development, 68*, 955-969.
- Pittman, K. J., & Cahill, M. (1991). *A new vision: Promoting youth development*. Washington, DC: Center for Youth Development and Policy Research, Academy for Educational Development.
- Plomin, R. (1989). Environment and genes: Determinants of behavior. *American Psychologist, 44*, 105-111.
- Reis, S. M., & Diaz, E. (1999). Economically disadvantaged urban female students who achieve in school. *The Urban Review, 31*, 31-54.
- Smith, E. S. (1999). The effects of investments in the social capital of youth on political and civic behavior in young adulthood: A longitudinal analysis. *Political Psychology, 20*, 553-581.

- Tierney, J., Grossman, J., & Resch, N. (1995). *Making a difference: An impact study of Big Brothers/Big Sisters*. Philadelphia, PA: Public/Private Ventures.
- Voelkl, K. E., & Frone, M. R. (2000). Predictors of substance use at school among high school students. *Journal of Educational Psychology, 92*, 83-592.
- Walter, H., Vaughn, R., & Wynder, E. (1989). Primary prevention of cancer among children: Changes in cigarette smoking and diet after six years of intervention. *Journal of the National Cancer Institute, 81*, 995-999.
- Wigfield, A., Eccles, J., MacIver, D., Reuman, D., & Midgley, C. (1991). Transitions at early adolescence: Changes in children's domain-specific self-perceptions and general self-esteem across the transition to junior high school. *Developmental Psychology, 27*, 552-565.
- YMCA of the USA. (2000). *After school for America's teens: A national survey of teen attitudes and behaviors in the hours after school*. Chicago, IL: Author.
- Youniss, J., McLellan, J. A., Su, Y., & Yates, M. (1999). The role of community service in identity development: Normative, unconventional, and deviant orientations. *Journal of Adolescent Research, 14*, 248-261.
- Zaff, J. F., & Hair, E. C. (in press). Sense of self. In M. Bornstein, L. Davidson, C. Keyes, and K. Moore (Eds.), *Well-being: Positive development across the lifespan*. New York: Lawrence Erlbaum.

Jonathan F. Zaff, Ph.D., is an independent research consultant and president of 18-35, a policy and advocacy organization dedicated to infusing national policy debates with an innovative and young perspective as well as to empowering young adults to be engaged in these debates. He is a former research associate at Child Trends and has extensively researched and written about promoting civic engagement among youth and young adults. He received his doctorate in lifespan developmental psychology from the University of Georgia.

Kristin A. Moore, Ph.D., is president and senior scholar at Child Trends. Her research has focused primarily on teenage childbearing and positive youth development. She holds a Ph.D. in social psychology from the University of Michigan.

Angela Romano Papillo, M.A., is a senior research analyst at Child Trends. Aside from her work on extracurricular activities, she has worked on several research projects examining the antecedents of teenage sexuality, pregnancy, and childbearing. She holds a Master of Arts in sociology from the University of Maryland at College Park.

Stephanie Williams was formerly a research assistant at Child Trends. She holds a Bachelor of Arts in psychology and sociology from the University of Virginia.