

Adolescent Participation in Structured and Unstructured Activities: A Person-Oriented Analysis¹

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The current study used a person-oriented approach to examine the participation of adolescents in both constructive, organized activities as well as relaxed leisure activities. The goal of this research was to identify different profiles of involvement in activities and the relations to psychosocial indicators for these differing groups. Activity profiles were created using cluster analytic techniques for 918 adolescents' responses in 11 activity domains. The groups were found to be both statistically and substantively unique and consistent with findings from previous research. Further, the groups showed meaningful and consistent differences across a range of psychosocial indicators, including academic performance, problem behavior, and mental health. Results indicated that adolescents' activity involvement was related to their psychological and behavioral functioning and that the profiles of participation across activity settings provide a more holistic view of teens' choices than do single variable models.

KEY WORDS: adolescence; activities; well-being; person-oriented.

Despite the fact that 40% of adolescents' waking hours are discretionary, we know little about the correlates of adolescents' choices of leisure time activities for academic, psychological, and behavioral functioning. Participation in activities can provide opportunities to develop specific skills and to interact with nurturing and caring adults as well as a sense of belonging with particular peer groups and recognition from others. Time use and beeper studies have provided rich descriptive pictures of adolescents' daily lives including what teens do, who they are with, and their affective states across their out-of-school experiences (Hofferth and Sandberg, 2001; Larson and

Richards, 1991). The focus of this paper is on adolescents' activity choices and on the correlates of involvement in a variety of activities. We include a broad array of activity indicators in order to capture the total picture of adolescents' behavioral choices, including school-related extracurricular activities, structured, adult-led activities, unstructured leisure activities, and paid employment. Unlike previous research in this area, we use a person-centered approach to examine the profile of adolescents' activity choices in an effort to more fully understand the linked nature of activity settings and psychological and behavioral functioning.

Much of the previous research has examined a single activity domain and the corresponding links to academic and social performance. A number of studies (e.g., Eccles and Barber, 1999; Marsh, 1992), for example, have reported that participation in extracurricular activities is related to better academic performance. Whether or not to participate in extracurricular activities, however, is only one of the many choices adolescents' make regarding their discretionary time. Of those teens that engage in extracurricular activities, some also participate in structured activities within the community such as youth groups, sports teams, and hobby or special interest clubs. Others work at paid jobs or spend significant amounts of time helping

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their families by caring for younger siblings. Still others elect to spend much of their remaining free time with their peers in unsupervised settings in the community or at home. Knowing only about extracurricular involvement provides a quite limited picture of youth's out-of-school activities and their relation to other characteristics of adolescents' lives.

Previous research on the activity participation of children or adolescents has come from several disciplines. Sociological studies, including work by Landers and Landers (1978), Otto (1975, 1976), and Otto and Alwin (1977), have linked adolescents' extracurricular participation to adult educational and occupational attainment and income. Psychological studies have documented the positive consequences of participation in some structured, organized acts. For example, in studies by McNeal (1995) and Mahoney and Cairns (1997), reduced rates of school dropout were related to adolescents' participation in extracurricular activities. Numerous other indicators of positive development have been linked to involvement in particular extracurricular activities, including academic performance and engagement (Bartko and Eccles, 1998; Bartko *et al.*, 2000; Eccles and Barber, 1999; Lamborn *et al.*, 1992; Marsh, 1992; Posner and Vandell, 1994), self concept (Eccles and Barber, 1999), civic engagement (Youniss *et al.*, 1997), psychological health (Barber *et al.*, 2001; Larson and Kleiber, 1993; Vandell and Corasaniti, 1988), and reduced delinquency (Bartko and Eccles, 1999; Eccles and Barber, 1999; Mahoney, 1997; Yin *et al.*, 1999) and substance use (Youniss *et al.*, 1997). One activity in particular, sports, has received a great deal of attention from researchers, although results have been mixed (Eccles and Barber, 1999; Gould and Weiss, 1987; Holland and Andre, 1987; Howell and McKenzie, 1987; Lamborn *et al.*, 1992). For example, although participation in sports is linked to higher academic performance during high school, greater likelihood of attending college, and higher mental health, it is also linked to increased alcohol use during the high school and college years (Barber *et al.*, 2001; Eccles and Barber, 1999). These studies demonstrate a strong connection between participation in constructive, prosocial activities and psychosocial, behavioral, and academic adjustment.

Researchers in leisure studies have given great attention to the correlates of different types of activities, such as constructive, organized activities, and relaxed leisure acts. Kleiber and his colleagues (Kleiber, 1999; Kleiber *et al.*, 1986; Larson and Kleiber, 1993) have distinguished between activities that are enjoyable but not necessarily demanding or related to the development of specific skills or competencies (relaxed leisure) and leisure activities that require effort and persistence and that are thought to be

more directly related to skill development, self-concept, and identity.

One recent study examined multiple after-school activities, both organized and unstructured, and the relations with student achievement for 6th through 12th grade adolescents. Cooper *et al.* (1999) reported significant contributions to the prediction of achievement for each of the 5 after-school activities: homework, television viewing, extracurricular activities, other types of structured after-school groups, and jobs. More importantly, however, the authors found that the joint effect of the 5 activity variables doubled the amount of variance explained for each of 3 measures of student achievement, even after controlling for the gender, grade level, ethnicity, free lunch eligibility, and level of adult supervision after school of the adolescents. Results from this study demonstrated the increased explanatory power gained from examining multiple activity settings that included both constructive and passive activities.

We draw on each of these literatures to look at the profile of adolescents' participation in both passive leisure and constructive, organized, adult-led activities and the links to psychosocial functioning. In this paper, we hope to extend earlier work by (a) taking a more fine-grained view of activities to include both structured and constructive activities as well as unstructured or passive activities, (b) simultaneously examining a broad set of activity involvement rather than single activities taken one at a time, (c) examining a range of psychosocial indicators within the same study, and (d) exploring these relations with both African American and European American adolescents. We will examine how different *profiles* of activity involvement across 11 different activity settings, both constructive and passive, are linked to adolescents' well-being. Specifically, the goals of this paper are (1) to identify patterns of activity involvement among 12th grade adolescents, and (2) to examine the links between patterns of activity involvement and the academic, emotional and behavioral functioning of adolescents.

METHOD

Sample

Data are drawn from an ongoing longitudinal study of adolescent development being conducted by Eccles, Sameroff, and their colleagues—the Maryland Adolescent Development in Context (MADIC) study. The data used in this report come from individual in-home interviews with the 1004 urban and suburban adolescents and

their parents living near Washington, DC. The sample is 50% female, 66% African American, and 34% European American. Interviews were completed in the summer and fall of 1997, as the youths were beginning their senior year in high school. Thus, 95% of the teens were 16 or 17 years of age. The sample includes a broad representation of socioeconomic status in both the African American and European American families, making this one of the largest and most comprehensive studies of normative development among African American adolescents currently available. The mean income for the families was between \$60,000 and \$65,000 in 1996 (SD = \$25,000 to \$30,000). Sixty-eight percent of adolescents lived in marital intact homes, and 42% of parents held a bachelor's degree or higher.

Measures

Activity Involvement

Adolescents' involvement in structured and unstructured activities was assessed by 11 items asking teens to report on their participation over the past year. For each question, the responses were rated on a 6-point Likert-type scale ranging from *less than once a month* to *usually every day*. The 11 activities assessed were sports, reading for pleasure, homework, chores, time with friends, watching television, school clubs, community clubs, volunteering, religion, and paid work. Sports participation included athletic team sports at school or in the community. The question about reading asked about reading books, magazines, or newspapers for fun rather than for homework. Time with friends assessed unstructured time adolescents spent "hanging out with their friends." School clubs included all extracurricular activities except sports; community clubs included such activities as service, hobby clubs, and scouts.

Indicators

To assess the correlates of adolescents' activity choices, reports were obtained in 3 areas: academic performance, problem behavior, and psychological functioning. Grade point averages were obtained from school records for each youth in 4 core subjects: reading, math, science, and social studies. Mean GPA was 2.92 (on a 0 to 4 scale) with a standard deviation of 0.71. The teens reported their involvement over the past year (yes or no) in 15 negative behaviors such as lying, cheating on tests, stealing, fighting, and substance use. A total problem behavior score was calculated by summing the 15 items, with more se-

vere behaviors (e.g., stealing a car) weighted more heavily (Elliott *et al.*, 1985).

Depressive symptoms were measured using the 26-item Children's Depression Inventory (Kovacs, 1992). The CDI is a widely-used measure with excellent psychometric properties (for this study, $\alpha = 0.87$). Items ask about the adolescent's affect and behavior during the past 2 weeks on a 3-point scale with 1 representing no symptomatology and 3 indicating high symptomatology. Psychological resilience was assessed using 4 items asking youths "how often are you 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. Internal consistency for this scale was 0.73.

Adolescents' self-esteem was measured by 5 items ($\alpha = 0.82$) including, for example, "how happy are you with the kind of person you are," "how often would you like to change things about yourself if you could," and "how happy are you with the way you act." These items were adapted from Harter's Global Self-Worth scale (Harter, 1985). Responses range from "not at all happy" to "extremely happy." Finally, the internalizing and externalizing total syndrome scores from the Child Behavior Checklist (Achenbach, 1991) as reported by parents were used to assess the adolescents' psychological health. The CBCL is a standardized measure of psychological functioning that yields a variety of clinical and nonclinical ratings. Parents rate their adolescents' functioning over the last 6 months on a total of 113 items using a 3-point scale from "not true" to "very true." The internalizing and externalizing total syndrome scores provide a broad representation of overall psychological health. The internalizing and externalizing scores were obtained from the computerized scoring program provided by the scales' author. Note that the total syndrome scores used in these analyses are reported as group means only and therefore cannot be classified in terms of their clinical significance.

Covariates

Four demographic indicators were used as covariates in some of the analyses. Adolescents' gender and race were dichotomously coded for boys and girls, African Americans and European Americans, respectively. Parents' educational attainment was indicated by the highest level of education of either parent in the home. Years of education were coded on a continuous scale, ranging from 6 to 26 with a mean of 14.8 and a standard deviation of 2.69. Parents' occupational prestige was coded using the U.S. Bureau of the Census Occupational Coding of their

job titles/duties and assigning prestige scores. The highest level of occupational prestige of either parent in the home was used in these analyses. The resulting continuous variable ranged from 5 to 99 with a mean of 73.57 and a standard deviation of 19.51.

Procedure

As previously noted, our goal was to examine the profile of adolescents' participation in both structured and unstructured activities. Toward that end, we took a person-centered approach to identifying patterns of activity participation. Previous research on adolescents' participation in activities has relied primarily on variable-oriented models that assess the frequency, correlates, or consequences of involvement in individual activity settings. Thus, few empirical findings were available to guide our grouping of activities. Therefore, we used cluster analysis to classify subjects based on the pattern of their reports of participation across the 11 activity domains.

The 11 activity items were analyzed using the SLEIPNER program (Bergman and El-Khoury, 1995). This statistical package was developed specifically for person-oriented analyses and includes several algorithms used in the present study. The first step was to identify multivariate outliers prior to further analysis. Unlike traditional general linear model approaches, cluster analysis techniques do not assume normal distributions for the variables (Milligan, 1996). Rather, the procedure identifies cases that are grouped in multidimensional space. Any cases that are well outside the boundaries of the space defined by the total sample of cases cannot be classified and should be removed from the analyses (Berman and El-Khoury, 1995).

A total of 86 residual cases were identified and removed from the sample. The remaining 918 cases were cluster analyzed using Wards method with squared euclidean distance. This procedure, which maximizes differences between clusters, is one of the most robust cluster methods under a variety of conditions (Milligan, 1996). The number of clusters retained was determined by analysis of the dendrogram, the meaningfulness of each additional cluster in providing distinctly new and relevant patterns across the cluster variables, and reductions in the error sums of squares. The 6-cluster solution provided the best fit to the data, with a gamma index of 0.59, a G+ index of 0.06, and an explained error sum of squares equal to 33.8. This latter number can roughly be interpreted as the percent of variance explained.

RESULTS

The cluster analysis produced the 6 unique typologies shown in Table I. Analysis of variance results indicated that the 6 clusters differed significantly on all 11 of the activity indicators. The first cluster comprises adolescents who are highly involved in sports, relative both to the other clusters and their own reports of other activities. This cluster also reports spending more time with friends than adolescents in the other clusters. For ease of presentation, we will refer to this group as the Sports Cluster but the reader should keep in mind that a brief 1 or 2 word label cannot adequately capture the entire profile of activity involvement. The second cluster is distinguished by high rates of involvement in school-based clubs, homework, and reading for pleasure (School Cluster). Adolescents in Cluster 3 show low rates of involvement in all of the activities, with mean involvement falling below the

Table I. ANOVA Results Including Means (and Standard Deviations) for Activity Variables for Six Clusters

Variable	Sample mean	Clusters						<i>F</i> -values ^a
		Sports	School	Uninvolved	Volunteer	High involved	Work	
Sports	3.13 (1.90)	5.59 (0.76)	2.52 (1.54)	2.08 (1.22)	2.25 (1.46)	3.92 (1.83)	2.18 (1.27)	181.0
Reading	3.41 (1.57)	3.19 (1.52)	4.14 (1.48)	2.97 (1.61)	3.09 (1.47)	4.03 (1.39)	2.91 (1.33)	21.7
Homework	4.33 (1.60)	4.26 (1.69)	4.89 (1.22)	3.55 (1.73)	4.26 (1.48)	5.24 (0.92)	3.87 (1.74)	24.7
Chores	3.92 (1.27)	4.01 (1.35)	4.11 (1.16)	3.77 (1.31)	3.8 (1.22)	4.34 (1.02)	3.48 (1.35)	7.3
Hanging out with friends	3.97 (1.51)	4.71 (1.42)	3.59 (1.38)	3.87 (1.62)	3.62 (1.46)	4.05 (1.45)	3.98 (1.42)	13.9
Watching television	4.86 (1.34)	4.96 (1.30)	5.16 (1.09)	4.69 (1.49)	4.98 (1.25)	4.96 (1.15)	4.20 (1.57)	9.7
School-based clubs	2.05 (2.17)	1.32 (1.68)	4.56 (1.30)	0.42 (0.93)	0.89 (1.37)	3.58 (1.86)	0.95 (1.41)	244.6
Community-based clubs	0.66 (1.38)	0.36 (1.00)	0.54 (1.17)	0.24 (0.80)	0.34 (0.98)	3.28 (1.54)	0.10 (0.44)	149.7
Volunteering	1.76 (2.01)	1.07 (1.47)	1.51 (1.63)	0.26 (0.64)	4.71 (1.02)	4.02 (1.28)	0.58 (1.07)	277.5
Religious activities	2.03 (1.59)	2.41 (1.50)	2.50 (1.40)	0.88 (1.27)	2.11 (1.56)	2.77 (1.50)	1.54 (1.55)	36.6
Working at a job	2.01 (1.57)	1.85 (1.49)	1.88 (1.44)	1.04 (0.26)	1.67 (1.31)	1.59 (1.20)	4.47 (0.89)	133.1
<i>N</i>	918	184	216	170	122	100	126	

^aAll values significant at $p < 0.001$.

Table II. Descriptive Characteristics for Adolescents and Their Families in Six Clusters

	Clusters						Significance test
	Sports	School	Uninvolved	Volunteer	High involved	Work	
Percent female	26.4	66.2	46.1	62.3	59.0	49.2	$\chi^2(5) = 75.0^{***}$
Percent African-American	66.7	65.3	64.3	73.2	67.4	58.3	$\chi^2(5) = 5.9$
Parents' educational attainment	14.8	15.3	14.4	14.8	16.0	13.9	$F(5, 871) = 9.7^{***}$
Parents' occupational status	73.1	75.9	69.7	72.6	76.7	73.4	$F(5, 871) = 2.4^*$

* $p < .05$; *** $p < .001$.

sample mean for all 11 activities (Uninvolved Cluster). In fact, these adolescents reported the lowest levels of involvement of any of the clusters on 6 indicators, including sports, homework, school clubs, volunteering, religious activities, and paid work. Cluster 4 is characterized by very high reports of involvement in volunteer activities (Volunteer Cluster). Adolescents in Cluster 5 showed high rates of involvement in most of the activities, particularly community-based clubs but also including sports, homework, reading, chores, volunteering, and religious activities (High-Involved Cluster). This group of teens was highly involved in all of the constructive, organized activities and less involved in passive, unstructured leisure activities. Finally, Cluster 6 youths were unique in their high rates of involvement in paid work and relatively low participation in other activities, most notably television viewing, volunteering, and community clubs (Working Cluster).

Previous research has indicated adolescents' activity choices vary by gender and race and by the social status of their families (Eccles and Barber, 1999; Hofferth and Sandberg, 2001; Holland and Andre, 1987; Yin *et al.*, 1999; Zeijl *et al.*, 2000). In order to assess whether clusters differed significantly by these factors, we compared the 6 clusters on the gender and race of the adolescents and the educational and occupational levels of their parents. These results are presented in Table II. Contingency table analyses indicated significant differences across the clusters by gender but not race. First for gender, examination of the standardized residuals indicated that males are overrepresented in 2 clusters, Cluster 1 (Sports Cluster) and Cluster 3 (Uninvolved cluster). Females are overrepresented in Cluster 2 (School Cluster), Cluster 4 (Volunteer Cluster), and Cluster 5 (High-Involved Cluster). The clusters did not differ significantly by race.

Educational and occupational levels of the adolescents' parents across the 6 clusters were compared using analysis of variance procedures. Results indicated significant differences on both variables. For parents' educational attainment, Bonferroni comparisons indicated several significant differences between the groups, as noted in Table II: educational attainment of the parents of High-

Involved adolescents was significantly higher than for parents of adolescents in the Sports, Uninvolved, Volunteer, and Working clusters; parents of the Uninvolved youths reported lower educational attainment than parents of adolescents in the School group and the High-Involved cluster. Thus, the degree of adolescents' involvement in structured or constructive activities is linked to the educational level of their parents.

For parents' occupational prestige, one significant difference emerged. Parents of the School-focused adolescents reported significantly higher occupational status than parents of the Uninvolved adolescents.

Differences on Psychosocial Indicators

To gauge the relations of the different activity profiles for youths' psychological, behavioral, and academic adjustment, the activity groups were compared on several criterion variables. Again, the 6 activity clusters showed substantially different relations to each of the psychosocial measures. Given the previous findings of the differential makeup of the clusters, we used analysis of covariance techniques to control for the gender of the adolescents and the educational and occupational attainment of their parents. In each analysis, covariates were entered first, followed by the predictor.

Results of the ANCOVA analyses indicated a differential pattern of relations between activity groups and psychosocial measures, even after controlling for adolescents' gender and parents' educational and occupational attainment (see Table III). First, for academic performance, the School and High-Involved adolescents reported the highest grade point averages. Looking back at the individual activity measures, these two groups also showed the highest mean involvement in both homework and school-based clubs. The Uninvolved teens reported the lowest mean GPA and also reported the lowest involvement in homework and school clubs. The other 3 clusters were not significantly different from each other.

Adolescents' reports of engagement in problem behaviors also differed significantly across clusters. The highest problem behavior was reported by youths in the

Table III. ANCOVA^a Results (Including Means and Standard Deviations) for Psychosocial Indicators for Adolescents in Six Activity Clusters

	Sample means	Clusters						Significance test
		Sports	School	Uninvolved	Volunteer	High involved	Work	
GPA	2.92 (0.71)	2.87 _a (0.70)	3.09 _{bc} (0.63)	2.65 _{abde} (0.87)	2.86 _{cf} (0.65)	3.16 _{df} (0.49)	2.93 _e (0.68)	$F(5, 740) = 5.52^{***}$
Problem behavior	7.13 (6.79)	7.72 _a (7.16)	5.38 _{abcd} (5.58)	8.24 _{be} (7.02)	7.22 _c (6.26)	6.09 _e (6.42)	8.67 _d (7.70)	$F(5, 865) = 4.46^{***}$
Self-esteem	3.89 (0.78)	4.04 (0.79)	3.83 (0.76)	3.90 (0.77)	3.87 (0.76)	3.82 (0.80)	3.87 (0.82)	$F(5, 864) = 0.46$
Depression	1.36 (0.27)	1.33 _a (0.26)	1.35 _b (0.27)	1.43 _{abcd} (0.30)	1.35 _c (0.24)	1.35 _d (0.28)	1.37 (0.26)	$F(5, 819) = 3.16^{**}$
Resilience	3.99 (0.64)	4.08 _{abc} (0.59)	4.07 _{def} (0.58)	3.86 _{adg} (0.69)	3.87 _{beh} (0.61)	4.15 _{gh} (0.63)	3.90 _{cf} (0.69)	$F(5, 791) = 5.12^{***}$
Internalizing	5.35 (6.27)	3.52 _{abc} (4.22)	5.70 _{abd} (6.89)	7.10 _{de} (7.41)	5.55 (6.59)	4.34 _e (4.52)	5.74 _c (6.43)	$F(5, 717) = 4.18^{***}$
Externalizing	6.14 (7.12)	4.69 _{abc} (4.90)	5.07 _d (6.20)	8.51 _{ae} (9.27)	6.56 _b (7.24)	4.91 _e (5.35)	7.88 _{cd} (8.41)	$F(5, 717) = 5.86^{***}$

Note. Means with similar subscripts are significantly different at .05 level.

^aAnalyses control for adolescents' gender and parents' educational and occupational attainment. *F*-values correspond to the cluster variable and do not represent the full model. Sample sizes differ due to missing data for some variables.

** $p < 0.01$; *** $p < 0.001$.

Sports, Uninvolved, and Work clusters. Conversely, the School and High-Involved groups showed the lowest mean problem behaviors.

Significant differences across clusters were also found for adolescents' reports of psychological functioning. For depressive symptoms, the Uninvolved adolescents reported higher symptomatology than the Sports, School, Volunteer, and High-Involved subjects. The remaining 3 clusters did not differ from each other. It should be noted that the mean depression scores for the 6 clusters were all below clinically significant levels, although at the individual level, some adolescents did report high symptomatology. On the measure of psychological resilience, 3 clusters showed relatively high scores: the Sports, School, and High-Involved groups.

In addition to adolescents' self-reports, parents also reported on their adolescents' psychological and behavioral functioning. For the internalizing scale from the Child Behavior Checklist, parents reported the highest level of internalizing problems for the Uninvolved adolescents and the lowest internalizing problems for the Sports and High-Involved teens. The other 3 groups did not differ significantly from each other. Externalizing problems as reported by parents were highest for the Uninvolved youths and the Working adolescents. These 2 groups were relatively less involved in all of the activities included, with the exception of paid work for adolescents in the Working cluster. Lastly, no significant differences were found for the adolescents' reports of self-esteem.

DISCUSSION

The results of this study indicate that the choices adolescents make regarding their participation in structured and unstructured activities are connected in mean-

ingful ways to their academic performance, psychological health, and behavior problems. The equation, however, is not a simple one. In general, participation in structured, prosocial activities was associated with positive functioning for these youths while the poorest functioning was noted for adolescents who engaged in few constructive activities. Several of the clusters, each with a unique combination of activity involvement, were associated with positive psychological and behavioral functioning. In short, there is more than 1 path linking activity choices and psychosocial health.

Interestingly, 2 of the more passive activities, hanging out with friends and watching television, while showing significant and important differences across clusters, differed substantially less than other activities. It may have been that the response scale for the activity questions did not allow for enough specificity to capture the higher involvement of teens in these 2 activities. That is, while most youths watched television "every day," many no doubt watched several hours of television each day and the response scale used did not reflect the total amount of time each day. In contrast, sports, school and community clubs, volunteering, and paid work showed the largest differences across clusters and, in effect, seemed to "drive" the analyses. Because of the nature of these activities, it may be that substantial engagement is represented by participating not for several hours every day, but rather once or twice a week.

The results also highlight the advantages of the cluster analytic method for examining a number of activity settings simultaneously as compared to methods that assess only 1 indicator at a time. Adolescents' reports of volunteering, for example, are very high for both the Volunteer and High-Involved clusters. However, the High-Involved adolescents, unlike their counterparts in the Volunteer cluster, are also highly engaged in school and

community clubs and these youths show a more positive pattern of academic and behavioral functioning. It appears that the *pattern* of involvement across activity settings is tied to differences in functioning rather than any single activity indicator.

In addition to examining the links between activity clusters or even individual activities and psychosocial indicators, it is also informative to look at the broader pattern of relations by summarizing the characteristics of the 6 clusters. High-Involved adolescents, for example, reported positive adjustment on all of the indicators examined. These youths were highly involved in nearly all of the activity settings. A similar pattern of adjustment was seen with the School adolescents who were highly involved in school-based activities, including clubs and homework, but less involved in other activity settings. In contrast, Uninvolved adolescents showed low academic performance, relatively high self-reported problem behavior, and high levels of internalizing and externalizing problems as reported by their parents. A more variegated pattern of psychosocial indicators characterized the Working adolescents who reported high involvement in paid work. These teens showed moderate academic and psychological functioning but relatively high involvement in problem behaviors. Similarly, adolescents in the Sports cluster who were highly involved in sports and time with friends, reported mostly average functioning scores but were rated by parents as low on both internalizing and externalizing behaviors. Finally, the Volunteer adolescents as a group reported psychosocial functioning ratings near the sample means on all of the indicators. Taken as a whole, these patterns of results indicate the variety of ways that activity choices and psychosocial development may be linked.

One surprising finding from these analyses was the similarity of involvement patterns for African Americans and whites. While the activity clusters differed by both gender of the adolescents and the social class background of the families, there were no differences by race. Here again, it may be that previous research findings of racial differences in activity participation may be more relevant for individual activities than to patterns of leisure time use.

The findings from the present study fit well with results from previous research linking participation in constructive activities and positive developmental indicators. What the present study adds to what is already known is a more individualized or fine-grain view of adolescents' activity choices across multiple activity settings that include both constructive and passive involvement. The results indicate that this approach more closely represents

the experiences of youths in multiple activity settings than single variable methods. Future research should include even more refined analyses between activity choices and the major developmental tasks of adolescence, including identity development, positive affiliations with same-sex and opposite-sex peers, and the development of skill-based competencies. The person-oriented approach used in the present study is well suited for these types of research questions.

This study has several limitations. First, the analyses are cross-sectional, so we cannot determine the direction of effects between activity participation and adolescent functioning or how stable these clusters are over time. It is not only plausible but likely that adolescents select themselves into participation in various kinds of activities and that external influences such as costs, peer and parental influences, availability, and transportation also affect their choices. It is also likely that activity patterns fluctuate over time due to these and other influences. Second, our list of activities was not exhaustive due to constraints on the length of the interviews. For example, although we asked about chores, we did not ask specifically about the frequency of sibling caregiving, a very common undertaking for many older African American adolescents. Third, the present analyses focus on only the frequency of involvement and not on the nature or quality of participation in activities, factors that indeed may influence the relations between performance and psychological functioning. Fourth, the findings may be due to some extent to other unmeasured characteristics. For example, adolescents who engage in constructive activities may be higher in intrinsic motivation and thus more likely to report positive functioning. Similarly, temperamental differences between those who participate compared to those who do not may also be related to healthy outcomes. Much more complicated research designs are needed to take into account these types of endogenous characteristics. Finally, even the present detailed analysis of multiple activity settings provides no information about the processes by which activity participation is associated with psychosocial functioning. Organized activities provide opportunities for skill building and related improvements in specific self-competencies, for positive peer interactions and the development of friendships, and for exposure to positive adult role models. More refined person-process-context models are needed to better understand the dynamics of activity participation. Models such as these pose great challenges for researchers. Despite these limitations, we feel that the person-oriented approach we have taken holds promise for helping us to understand the interconnections of activity choices by adolescents

and individual differences in adolescents' behaviors and attitudes linked to participation.

Results of this study are also relevant for current policy debates concerning the role of after-school activities for youth development. Recent increases in federal funds for after-school programs in schools and communities, such as the 21st Century Community Learning Centers initiative, are aimed primarily at increasing academic performance and reducing crime and violence. Our findings suggest the need for taking a much broader view toward promoting positive youth development. In this study, adolescents that participated in a number of constructive, organized activities, combined with relatively little participation in passive, unstructured activities, showed healthy psychological and behavioral functioning in addition to good academic performance. While we did not directly assess the activity settings of interest, these findings highlight the productive role of organized activities for adolescents. A recent report from the National Research Council's Committee on Community-Level Programs for Youth (National Research Council and Institute of Medicine, 2002) outlined 8 features of developmental contexts that research and evaluation efforts have shown are linked to positive youth development. These included (1) safe and health-promoting facilities; (2) clear and consistent rules and expectations; (3) warm, supportive relationships; (4) opportunities for meaningful inclusion and belonging; (5) positive social norms; (6) support for efficacy and autonomy; (7) opportunities for skill building; and (8) coordination among family, school, and community efforts. Activity settings characterized by high levels of these 8 features are likely to provide the opportunity for adolescents' to build skills, form close relationships with peers and adults, and make meaningful contributions to their communities. In contrast, activity settings that require only the passive involvement of adolescents seem unlikely to promote healthy development. Policy-makers, school districts, and communities can best serve the needs of their young people by providing safe, structured, and inclusive settings that focus on a broad range of developmental needs. In addition, research that closely examines the specific mechanisms linking activity participation and psychological and behavioral functioning is crucial to better understanding how activity settings can benefit young people.

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REFERENCES

- Achenbach, T. (1991). *Manual for the Child Behavior Checklist: 4-18 and 1991 Profile*. University of Vermont, Department of Psychiatry, Burlington.
- Barber, B. L., Eccles, J. S., and Stone, M. R. (2001). Whatever happened to the jock, the brain, and the Princess? Young adult pathways linked to adolescent activity involvement and social identity. *J. Adolesc. Res.* 16: 429-455.
- Bartko, W. T., and Eccles, J. (1998, July). Adolescent extracurricular activity participation: Links to parents, families, peers and school. Paper presented at the biennial meeting of the *International Society for the Study of Behavioral Development*, Berne, Switzerland.
- Bartko, W. T., and Eccles, J. (1999, April). Adolescent participation in structured and unstructured activities. Paper presented at the biennial meeting of the *Society for Research in Child Development*, Albuquerque, NM.
- Bartko, W. T., Eccles, J., and Barber, B. (2000, April). Predicting adolescent participation in constructive activities from a motivational perspective. Paper presented at the *British Psychological Society*, Winchester, England.
- Bergman, L. R., and El-Khouiri, B. M. (1995). *SLEIPNER: A Statistical Package for Pattern-Oriented Analyses* (Version 1.0) [Computer software]. Authors, Stockholm, Sweden.
- Cooper, H., Valentine, J. C., Nye, B., and Lindsay, J. (1999). Relationships between five after-school activities and academic achievement. *J. Educ. Psychol.* 91: 369-378.
- Eccles, J. S., and Barber, B. L. (1999). Student council, volunteering, basketball, or marching band: What kind of extracurricular involvement matters? *J. Adolesc. Res.* 10: 10-43.
- Elliott, D., Huizinga, D., and Ageton, S. (1985). *Explaining Delinquency and Drug Use*. Sage, Beverly Hills.
- Gould, D., and Weiss, M. R. (1987). *Advances In Pediatric Sport Sciences, Vol. 2: Behavioral Issues*. Human Kinetics, Champaign, IL.
- Harter, S. (1985). *Manual for the Self-Perception Profile for Children: Revision of the Perceived Competence Scale for Children*. University of Denver, Denver, CO.
- Hofferth, S., and Sandberg, J. (2001). How American children spend their time. *J. Marr. Fam.* 63: 295-308.
- Holland, A., and Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known? *Rev. Educ. Res.* 57(4): 437-466.
- Howell, F., and McKenzie, J. (1987). High school athletics and adult sport-leisure activity: Gender variations across the life cycle. *Sociol. Sport J.* 4: 329-346.
- Kleiber, D. A. (1999). *Leisure Experience and Human Development: A Dialectical Interpretation*. Basic Books, New York.
- Kleiber, D., Larson, R., and Csikszentmihalyi, M. (1986). The experience of leisure in adolescence. *J. Leisure Res.* 18: 165-176.
- Kovacs, M. (1992). *Children's Depression Inventory Manual*. Multi-Health Systems, North Tonawanda, NY.
- Lamborn, S. D., Brown, B. B., Mounts, N. S., and Steinberg, L. (1992). Putting school in perspective: The influence of family, peers, extracurricular participation, and part-time work on academic engagement. In Newmann, F. M. (ed.), *Student Engagement and Achievement in American Secondary Schools*. Teachers College Press, New York, pp. 153-181.
- Landers, D., and Landers, D. (1978). Socialization via interscholastic athletics, its effect on delinquency. *Sociol. Educ.* 51: 299-301.
- Larson, R., and Kleiber, D. (1993). Free time activities as factors in adolescent adjustment. In Tolan, P. and Cohler, B. (eds.), *Handbook of Clinical Research and Practice With Adolescents*. Wiley, New York, pp. 125-145.
- Larson, R., and Richards, M. (1991). Daily companionship in late childhood and early adolescence: Changing developmental contexts. *Child Dev.* 62: 284-300.

- Mahoney, J. L. (1997). From companions to convictions: Peer groups, school engagement, and the development of Criminality. Paper presented at the biennial meeting of the *Society for Research on Child Development*, Washington, DC.
- Mahoney, J. L., and Cairns, R. B. (1997). Do extracurricular activities protect against early school dropout? *Dev. Psychol.* 33: 241–253.
- Marsh, H. (1992). Extracurricular activities: Beneficial extension of the traditional curriculum or subversion of academic goals? *J. Educ. Psychol.* 84(4): 553–562.
- McNeal, R. (1995). Extracurricular activities and high school dropouts. *Sociol. Educ.* 68: 62–81.
- Milligan, G. W. (1996). Clustering validation: Results and implications for applied analyses. In Arabie, P., Huber, L., and De Soete, G. (eds.), *Clustering and Classification*. World Scientific Publishing, River Edge, NJ.
- National Research Council and Institute of Medicine (2002). Features of positive developmental settings. In Eccles, J., and Gootman, J. (eds.), *Community Programs to Promote Youth Development*. National Academy Press, Washington, DC. Committee on Community-Level Programs for Youth. Board on Children, Youth, and Families.
- Otto, L. (1975). Extracurricular activities in the educational attainment process. *Rural Sociol.* 40: 162–176.
- Otto, L. (1976). Extracurricular activities and aspirations in the status attainment process. *Rural Sociol.* 41: 217–233.
- Otto, L. B., and Alwin, D. (1977). Athletics, aspirations and attainments. *Sociol. Educ.* 50: 102–113.
- Posner, J. K., and Vandell, D. L. (1994). Low-income children's after-school care: Are there beneficial effects of after-school programs? *Child Dev.* 65: 440–456.
- Vandell, D. L., and Corasaniti, M. A. (1988). The relation between third graders' after-school care and social, academic, and emotional functioning. *Child Dev.* 59: 168–177.
- Yin, Z., Katims, D., and Zapata, J. (1999). Participation in leisure activities and involvement in delinquency by Mexican American adolescents. *Hisp. J. Behav. Sci.* 21(2): 170–185.
- Youniss, J., Yates, M., and Su, Y. (1997). Social integration: Community service and marijuana use in high school seniors. *J. Adolesc. Res.* 12: 245–262.
- Zeijl, E., te Poel, Y., du Bois-Reymond, M., Ravesloot, J., and Meulman, J. (2000). The role of parents and peers in the leisure activities of young adolescents. *J. Leisure Res.* 32: 281–302.

