

The Over-Scheduling Hypothesis Revisited: Intensity of Organized Activity Participation During Adolescence and Young Adult Outcomes

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Concern exists that youth who spend a lot of time participating in organized out-of-school activities (e.g., sports) are at-risk for poor developmental outcomes. This concern—called the over-scheduling hypothesis—has primarily been assessed in terms of adolescent adjustment. This longitudinal study of a nationally representative sample of 1,115 youth (ages 12–18) assessed long-term relations between intensity of participation during adolescence and adjustment at young adulthood (ages 18–24). Time diaries measured intensity as hours per week of participation. Results showed that, controlling for demographic factors and baseline adjustment, intensity was a significant predictor of positive outcomes (e.g., psychological flourishing, civic engagement, and educational attainment) and unrelated to indicators of problematic adjustment (e.g., psychological distress, substance use, and antisocial behavior) at young adulthood.

Over the past three decades, it has become evident that organized activities, such as extracurricular activities, after-school, and community programs, are important contexts of development for adolescent's physical, psychosocial, cognitive, and educational functioning. On balance evidence suggests that participation in organized activities is linked to both relatively low rates of problem behaviors and high levels of positive adjustment (e.g., Mahoney, Parente, & Zigler, 2009a; Mahoney, Vandell, Simpkins, & Zarrett, 2009b). Coupled with the adult supervision and safety typically provided in organized activity settings, the research has provided a basis for supporting increases in local, state, and federal investments in the provision of organized activities (e.g., Mahoney et al., 2009a,b).

However, concern continues to exist that participation in these activities has become excessive. According to some writers, the time commitment and competitive elements, including pressures from adults, which coincide with increasing amounts of organized activity participation, is hypothesized to undermine aspects of family functioning, detract from schoolwork, and foster psychological distress resulting in risky coping behaviors such as substance use (e.g., Elkind, 2001; Rosenfeld & Wise, 2000). The concern that too much organized activity participation leads to poor

developmental outcomes is called the over-scheduling hypothesis (OSH). The overarching goal of this study is to critically examine the existing literature on the OSH and address some existing limitations. Of particular interest is whether, and in what direction, a long-term relation exists between time spent in activities during adolescence and multiple indicators of adjustment at young adulthood.

OVERVIEW OF RESEARCH ON THE OVER-SCHEDULING HYPOTHESIS

Mahoney, Harris, and Eccles (2006) reviewed existing research concerning three main propositions of the OSH and also conducted their own investigation that involved an analysis of time diary information from a nationally representative sample of youth. The propositions evaluated were: (1) youth participate in a high amount of organized activities because they are pressured to do so from adults, (2) organized activity participation dominates the free time of adolescents, and (3) increasing amounts of activity participation will predict adolescent psychological distress, poor school achievement, substance use, and diminishing quality of the parent-child relationship. Results of their analyses were as follows. First, youth primarily participate in organized activities for intrinsic reasons (e.g., excitement and enjoyment, to build competencies, and to affiliate with peers and activity leaders). Pressures from adults or educational and

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career goals are seldom given as primary reasons for participation. Second, the leisure time of most American adolescents is not dominated by organized activities (i.e., 5 hr/week of participation was the average). However, about 6% of adolescents participated for 20 or more hours per week. Finally, in terms of hours of participation and youth adjustment, there was consistent and strong evidence of a positive association between participating in organized activities and indicators of positive development. Even for youth participating 20 or more hours per week nearly all indicators of well-being tended either to be more positive than, or similar to, youth who did not participate. The authors concluded that there was scant evidence in support of the OSH and considerable support for the notion that organized activity participation may promote positive development during adolescence.

Since the Mahoney et al. (2006) publication, other relevant research has become available. Most, but not all, of these more recent publications suggest that the frequency or amount of time youth participate in organized activities (i.e., intensity) predicts positive psychological and school-related adjustment. For example, Bohnert and Garber's (2007) multi-wave longitudinal study of mostly White, middle-class adolescents ($n = 198$), found that, controlling for psychopathology before high school, higher levels of activity involvement in Grades 9–12 showed a negative, linear relation to externalizing symptoms, tobacco use, diagnoses of behavior disorders, and substance use in Grade 12. Moreover, using a similar sample of 240 mostly White, middle-class adolescents, Bohnert, Kane, and Garber (2008) found that more activity involvement in Grades 9–12 predicted fewer internalizing symptoms that, in turn, predicted more activity involvement. Dotterer, McHale, and Crouter's (2007) longitudinal study of 140 working- to middle-class Black early adolescents in Grades 6–9 showed that, after controlling for some demographic factors, more time spent in organized activities was positively related to school self-esteem and bonding. Similarly, a longitudinal investigation by Denault and Poulin (2009) found that participation intensity, in a sample of mostly White, French-speaking, middle-class, Canadian early adolescents in Grades 7–11 ($n = 299$), was positively related to subsequent ratings of school commitment and values toward society.

However, not all recent research supports a conclusion that participation intensity may contribute to positive youth development. For instance, Busseri, Rose-Krasnor, Willoughby, and Chalmers's

(2006) two-wave longitudinal study of 401 mostly White, English-speaking, middle-class Canadian high school students found that self-reported intensity of participation at Wave 1 (i.e., Grades 9 and 10) was associated with both high levels of well-being and academic functioning and high levels of risk behaviors and low interpersonal functioning at Wave 2 (i.e., 20 months later). Moreover, in a cross-sectional study of 152 diverse 9th-grade and 10th-grade middle-class adolescents (i.e., 30% White, 26% Latino, 26% Black, 13% Asian and 5% other), Randall and Bohnert (2009) found that either very low (less than 5 hr/week) or very high (greater than 25 hr/week) levels of activity involvement predicted elevated levels of depressive symptoms.

In summary, the existing literature on the OSH contains some discrepant findings. Almost all previous studies have used samples of mostly White, middle-class adolescents. Few studies have examined the association between participation and both positive and negative adjustment outcomes. Furthermore, few studies have spanned into the late high school years (e.g., twelfth grade) and precious little work has examined adjustment outcomes in young adulthood. The current literature on the OSH is limited in that it has little generalizability and no long-term conclusions. The goal of this study is to test the assumptions of the OSH with a diverse, nationally representative sample, and to examine the longitudinal associations of activity participation during adolescence with positive and negative adjustment outcomes at young adulthood.

REVISITING THE OVER-SCHEDULING HYPOTHESIS

Although the existing evidence suggests that, on balance, intensity of activity participation indicates positive developmental outcomes for most adolescents, several questions concerning the OSH remain. One question is whether the more positive outcomes linked with activity intensity during adolescence persist into young adulthood. Theoretically, positive youth development fostered through organized activity participation should set the stage for positive adult functioning marked by educational success, civic engagement, and contributions that give back to the broader community or society (e.g., Lerner, Brentana, Dowling, & Anderson, 2002). A limited amount of empirical research does support this contention (e.g., Busseri et al., 2010; Gardner, Roth, & Brooks-Gunn, 2008). Busseri and colleagues found that Canadian adolescents' retrospective reports of activity intensity during their

senior year of high school were significantly and positively related to grades in their first year of college, but not significantly related to several other measures of positive development (e.g., social support) or negative development (e.g., depression). Alternatively, from the OSH perspective, while intense participation may help to build a strong resume for college-bound youth, the notion that this could also come at the expense of psychological health has been a source of debate in studies of adolescents (e.g., Luthar, Shoum, & Brown, 2006). Specifically, as the intensely involved adolescent transitions to young adulthood, her or his educational and community contributions could coincide with internal stress, anxiety, and unhappiness that encourages unhealthy ways of coping (e.g., substance use). To evaluate these two perspectives, the association between activity intensity during adolescence and both positive and negative indicators of adjustment in young adulthood needs to be assessed.

A second question is whether family income and age moderate this association. As evident in the preceding literature review, the OSH has been discussed primarily in terms of middle- and upper-income families wherein parents may seek to cultivate their children's development through encouraging organized activity participation (e.g., Lareau, 2003; Weininger & Lareau, 2009). Therefore, according to the OSH, the association between participation intensity and poor adjustment should be more apparent for higher- versus lower-income families. Alternatively, from the positive youth development perspective, activity intensity should be positively associated with indicators of well-being regardless of income. With some exceptions (e.g., Luthar et al., 2006) studies examining the link between activity intensity and adjustment often control for income rather than evaluate its possible influence.

Third, the OSH could depend on the age of the adolescent. Participation in organized activities decreases across adolescence (e.g., Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Simpkins, Ripke, Huston, & Eccles, 2005), but few studies test the implications of this decline for development. Given the age-related decline, the OSH could receive the strongest support during early adolescence and then diminish with age. However, research showing declines in participation generally examines rates of participation across years, but not the actual amount of time youth spend participating. It could be argued that those who stay involved during mid-to-late adolescence may

intensify their participation in one or few activities in an effort to master activity-related skills (Bohnert, Fredricks, & Randall, 2010). This would suggest that older adolescents, while somewhat less likely to participate, would be more likely to experience over-scheduling effects from their more extensive time commitment. Both proposals suggest that the OSH may depend on the age of the child. We explore age as a moderator and test each proposal separately by operationalizing activity participation in terms of both rates of participation and actual time spent participating in organized activities.

A final question is whether linear relations between activity intensity and adjustment in young adulthood provide an adequate test of the OSH. Linear tests can evaluate whether the association between intensity and adjustment is positive, null, or negative. However, over-scheduling might apply only to those youth showing very high amounts of participation. In this case the relation between participation intensity and adjustment could either be null or positive for the majority of participants but become negative for those few youth participating very intensively. Indeed, some research has found a quadratic relation between activity intensity and adolescent adjustment (e.g., Mahoney et al., 2006; Marsh, 1992). Therefore, it seems possible that the OSH may be apparent in young adulthood for those who were intensely involved in activity participation during adolescence and that testing for quadratic effects is warranted (e.g., Cooper, Valentine, Nye, & Lindsay, 1999).

The purpose of this study was to address the above questions using a nationally representative sample of adolescents who were tracked longitudinally into young adulthood.

METHOD

Data Set and Participants

Data were drawn from the panel study of income dynamics (PSID)—child development supplement (CDS)—Transition to Adulthood Study 2007 (TA 2007). The PSID began in 1968 as a nationally representative sample of 5,000 American families who were interviewed annually until 1997, after which data collection occurred on a biennial basis. In 1997, the PSID added the CDS to address the lack of information on children. This study includes 1,115 CDS participants, ages 18–24 (49% boys; M age = 20.46, SD age = 1.69; race/ethnicity: White [45%], Black [43%], Hispanic [7%], and Other [5%]), who also participated in the TA 2007 Study. When

these participants were in adolescence (ages 12–18), the average annual household income for the sample (defined as the combined taxable, transfer, and social security income for all family members) was \$66,543 ($SD = \769).

To be included in the TA 2007, participants were at least 18 years old, no longer attending high school, participated in the CDS, and their families also participated in the PSID interview in 2007. The original PSID sample design combined samples from the Survey Research Center (SRC) and the Survey of Economic Opportunity (SEO), which are both probability samples. However, the combined sample has unequal selection probabilities. Furthermore, the longitudinal design resulted in differential nonresponse. To account for differential probabilities of selection and subsequent attrition, the TA 2007 data are provided with a sample weight (for more details on sample weights in the TA 2007 data, see Gouskova, Heeringa, McGonagle, Schoeni, & Stafford, 2009). The sample weight is included in all subsequent analyses and reported descriptive statistics. The Transition to Adulthood 2007 User Guide (Institute for Social Research, 2009) provides additional details on the TA 2007 Study and participants.

Measures

During adolescence, interviews and assessments with a primary caregiver (usually the biological mother) and target adolescent (ages 12–18) provided the information on participant demographics, organized activity participation, and indicators of adjustment in 2002–2003. Follow-up interviews and assessments with these youth were conducted in 2007. At that time, they were young adults (ages 18–24) and provided information on their own adjustment.

Organized activity participation. Time diaries required adolescents to document the time spent on every activity in which they were involved during the course of a 24-hour period during a randomly sampled weekday and weekend day. The PSID project staff assigned each diary activity to one of 365 activity codes and then to one of 39 different activity categories. Coding of the diaries was conducted by trained coders employed by the data collection organization and inter-rater reliability was high (i.e., 94%). Although Cohen's Kappa statistics were not available for the time diary coding, previous work has established time diaries as a reliable and valid form of data collection to study

adolescent time use (e.g., Larson & Verma, 1999). The response rate for the time diaries in 2002 was 88%.

Weekday and weekend day diary information was combined to determine *intensity of organized activity participation* recorded in hours and minutes per week (i.e., the sum of the typical weekday multiplied by 5 and the typical weekend day multiplied by 2). This study includes activities that the PSID-CDS research staff included under the category labeled "Organizational Activities." Although, it is not possible to verify the level of organization for each activity in this category, those listed ordinarily contain defining properties of organized activities (e.g., presence of adult leader(s), regular meetings, emphasis on skill-building). Activities for this analysis included all sports: classes or lessons in sports or leisure activities (e.g., dance activities, martial arts), meets, games, and practices for team-based and individual sports, leisure participation in any sport or exercise; and nonsports: volunteer or helping, religion-based, before- and after-school clubs, and child or family organizations.

Following Mahoney et al. (2006), this continuous measure of intensity was also dichotomized into two additional participation variables that allow for comparison with prior research and help to provide perspective on possible threshold levels. The additional variables indicated whether the adolescent spent *some time in organized activities per week versus no time in activities* (0 = no, 1 = yes), and whether the adolescent spent *20 or more hours of organized activity participation per week versus no time in activities* (0 = no, 1 = yes), respectively. Including an indicator to compare adolescents who participate for 20 or more hours per week versus nonparticipants parallels previous studies on the OSH and allows for determination of any associated risks or benefits for youth participating at high rates compared to youth who do not participate.

Young adult outcomes. Because previous work suggests that aggregate measures of substance use mask relations with participation (e.g., Eccles & Barber, 1999), substance use was assessed in three domains. *Smoking* was tapped by the question "On the average, how many cigarettes per day do you usually smoke?" Responses coded the number of times reported ranging from 0 (*Do not smoke*) to 40. *Alcohol use* was determined with the question, "In the last year, on average, how often did you have any alcohol to drink?" Responses were coded on a 6-point scale (1 = *less than once a month*, 6 = *every day*). *Marijuana use* was determined with the

following query, "On how many occasions (if any) have you used marijuana in the past 30 days?" Responses were coded on a 7-point scale (0 = *never*, 6 = *40 or more times*).

Antisocial behaviors were assessed in two areas. The *Risky Behaviors Index* averaged responses to the reported frequency of occurrence of five risky behaviors over the past 6 months (i.e., damaged public property, got in a physical fight, drove under the influence, did something dangerous, and rode with drunk driver). Responses in all areas were coded on a 7-point scale (1 = *never*, 7 = *21 or more times*). Because this is an index rather than a scale, it was not presumed that the frequency of one behavior should be correlated (i.e., internally consistent) with the frequency of another behavior. *Criminal Arrest* was coded dichotomously (0 = *no*, 1 = *yes*) in response to the question of whether the individual had ever been arrested.

Psychological adjustment was measured with two scales that indicate the frequency of negative or positive psychosocial experiences, respectively. The *Non-Specific Psychological Distress Scale* (Kessler et al., 2003) involves six items that tapped the frequency of experiencing affective distress (e.g., nervousness, sadness, and hopelessness) in the past month. Responses to each item were coded on a 5-point scale (0 = *none of the time*, 4 = *all of the time*) and averaged ($\alpha = .87$). *Flourishing* represented the sum of three subscales, adapted from Keyes (2002), that assess the frequency of experiencing emotional (e.g., happiness), psychological (e.g., confident in one's own ideas), and social (e.g., have something to contribute to society) well-being in the past month. Individual items for each subscale were coded on a 6-point scale (1 = *never*, 6 = *everyday*) and averaged ($\alpha = .91$).

Civic engagement was assessed by two items. Responses to the following question assessed *Volunteering*, "During the last 12 months, about how often did you participate in volunteer or community service work?" Responses were coded on a 6-point scale (1 = *less than once month*, 6 = *every day*). *Voting* was coded dichotomously (0 = *no*, 1 = *yes*) according to whether the participant reported voting in the national election for president in November 2004.

Educational attainment was determined by aggregating responses from five questions that assess participants' current enrollment status. A 6-point composite scale was generated as follows: 1 = *less than high school*, 2 = *high school degree or equivalent*, 3 = *some college*, 4 = *2-year college degree*, 5 = *4-year college degree*, and 6 = *graduate degree*.

Control variables. To control for prior adjustment and factors that may differentially influence intensity of organized activity participation several measures were included in all subsequent analyses. The following measures of adolescent adjustment were assessed and parallel the above outcomes in young adulthood as closely as possible: frequency of smoking, alcohol use, and marijuana use; internalizing behavior problems (using the behavior problems index [BPI]); flourishing; externalizing behavior problems (using the BPI); reading and math achievement (using the Woodcock-Johnson Revised). Based on prior work (e.g., Mahoney et al., 2009a,b) the following demographic variables measured during adolescence were also included: age, gender, race/ethnicity (dummy coded), family income, maternal education, primary caregiver's (PC) perception of neighborhood safety, PC's weekly work hours, PC's marital status, and numbers of children in the home.

RESULTS

Table 1 provides descriptive statistics for the main study variables. Focusing on the three measures of organized activity participation (i.e., whether some involvement, continuous intensity of involvement, and whether 20+ hours of involvement), 61% of the sample was involved in some organized activity during adolescence, youth averaged 6 hr/week in these activities, and 5.6% of the sample participated for 20+ hours per week (cf. Mahoney et al., 2006).

Each of the young adult outcomes was regressed on the three variations of adolescent organized activity participation along with all control variables. The analyses were done separately for each of the three measures of participation using Stata 11 software (StataCorp LP, College Station, TX). Linear or logistic regression analysis was performed according to whether the outcome variable was measured continuously or dichotomously, respectively. Results are summarized in Table 2.

There are two main findings and they are largely consistent across the three variations in activity participation coding. First, there is no significant relation between activity participation in adolescence and indicators of problematic adjustment in young adulthood (i.e., smoking, alcohol use, marijuana use, risky behavior, criminal arrest, or psychological distress). Second, organized activity participation in adolescence is significantly related to all indicators of positive adjustment in young adulthood (i.e., psychological flourishing, volunteering, voting, and educational attainment).

TABLE 1
Correlations and Descriptive Information for the Main Study Variables ($N = 1,115$)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---------------------------------------|-------------------|------------------|-------|------|-------|------|------|------|------|------|
| Organized activity participation | | | | | | | | | | |
| 1. Some versus none | — | | | | | | | | | |
| 2. Continuous | .65 | — | | | | | | | | |
| 3. 20+ Hours versus none ^a | 1.00 ^b | .97 ^b | — | | | | | | | |
| Moderating factors | | | | | | | | | | |
| 4. Family income (\$10k) | .03 | .04 | .02 | — | | | | | | |
| 5. Age (adolescence) | -.06 | -.04 | -.02 | -.02 | — | | | | | |
| Substance use | | | | | | | | | | |
| 6. Smoking | -.04 | -.01 | -.02 | -.12 | .05 | — | | | | |
| 7. Alcohol | .05 | .05 | .06 | .17 | .25 | .10 | — | | | |
| 8. Marijuana | -.03 | -.03 | -.04 | -.02 | .04 | .25 | .24 | — | | |
| Antisocial and risky behavior | | | | | | | | | | |
| 9. Risky behavior | .05 | .02 | .03 | -.06 | -.06 | .21 | .33 | .39 | — | |
| 10. Criminal arrest | -.01 | .02 | -.01 | -.13 | .06 | .31 | .11 | .25 | .28 | — |
| Psychological adjustment | | | | | | | | | | |
| 11. Distress | -.09 | -.10 | -.13 | -.05 | -.05 | .19 | .00 | .17 | .18 | .09 |
| 12. Flourishing | .16 | -.19 | .21 | .07 | -.02 | -.18 | .01 | -.14 | -.10 | -.13 |
| Civic engagement | | | | | | | | | | |
| 13. Volunteer frequency | .12 | .13 | .14 | .04 | -.17 | -.09 | .02 | -.06 | .08 | -.02 |
| 14. Vote in 2004 | .06 | .10 | .18 | -.02 | .46 | -.02 | .16 | .00 | -.02 | -.08 |
| Educational attainment | .15 | .11 | .13 | .24 | -.08 | -.10 | .11 | -.11 | -.10 | -.34 |
| <i>M</i> | .61 | 6.12 | .12 | 6.63 | 16.08 | 2.55 | 1.76 | .64 | 1.54 | .24 |
| <i>SE</i> | .02 | .02 | .01 | .40 | .05 | .25 | .05 | .06 | .04 | .02 |
| | 11 | | 12 | | 13 | | 14 | | 15 | |
| Psychological adjustment | | | | | | | | | | |
| 11. Distress | — | | | | | | | | | |
| 12. Flourishing | -.50 | | — | | | | | | | |
| Civic engagement | | | | | | | | | | |
| 13. Volunteer frequency | .02 | | .07 | | — | | | | | |
| 14. Vote in 2004 | -.08 | | .08 | | .00 | | — | | | |
| Educational attainment | -.17 | | .16 | | .22 | | .15 | | — | |
| <i>M</i> | 5.39 | | 13.44 | | .69 | | .28 | | 3.47 | |
| <i>SE</i> | .15 | | .10 | | .04 | | .02 | | .06 | |

Note. r values greater than or equal to .06 are statistically significant ($p < .05$).

^a $N = 484$.

^bThe "Some versus None" and "20+ Hours versus None" are derived from the "Continuous" measure of participation. Accordingly, the three activity variables are not independent, but they are conceptually distinct and define different facets of participation that address different aspects of the over-scheduling hypothesis.

Indicators of positive adjustment are significantly higher for activity participants as a group than nonparticipants for all outcomes except voting and the magnitude of these associated benefits are linearly related to weekly hours of participation. All positive outcomes are higher for those youth in 20+ hours per week of participation compared with those not participating in activities.

Each of the regression models presented in Table 2 was performed again but with an additional term included to test each of the proposed moderators in separate analyses (i.e., family income, age, and a quadratic term for participation intensity). There was no instance where the interac-

tion term for any moderator approached significance.

CONCLUSIONS AND FUTURE DIRECTIONS

This investigation assessed whether the amount of time adolescents spend participating in organized activities relates to their adjustment—positive, negative, or both—during young adulthood. This study adds to previous research on the OSH in several ways. First, the study is made unique by employing the only nationally representative data set that includes time use information on adolescent activity participation gathered from time

TABLE 2
Regression Analyses of Longitudinal Relations Between Organized Activity Participation During Adolescence and Indicators of Adjustment During Young Adulthood (N = 1,115)

| <i>Adjustment during young adulthood</i> | <i>Organized activity participation during adolescence</i> | | | | | |
|--|--|-------|-----------------------|--------|--|-------|
| | <i>Dichotomous</i> | | <i>Continuous</i> | | <i>Dichotomous</i> | |
| | <i>Some versus None</i> | | <i>Hours per week</i> | | <i>20+ Hours versus None^a</i> | |
| | β | (SE) | β | (SE) | β | (SE) |
| <i>Covariates^b</i> | | | | | | |
| Substance use frequency | | | | | | |
| Smoking | -.01 | (.10) | .00 | (.01) | .03 | (.20) |
| Alcohol | .08 | (.09) | .00 | (.01) | .15 | (.21) |
| Marijuana | -.09 | (.10) | -.01 | (.01) | -.19 | (.18) |
| Antisocial and risky behavior | | | | | | |
| Risky behavior | .11 | (.09) | .00 | (.01) | .14 | (.22) |
| Criminal arrest | .04 | (.09) | .00 | (.01) | .00 | (.18) |
| Psychological adjustment | | | | | | |
| Distress | -.14 | (.09) | .00 | (.01) | -.15 | (.15) |
| Flourishing | .26** | (.09) | .02** | (.01) | .46** | (.17) |
| Civic engagement ^c | | | | | | |
| Volunteer frequency | .26** | (.08) | .02* | (.01) | .50** | (.20) |
| Vote in 2004 | .06 | (.08) | .01 | (.01) | .42* | (.21) |
| Educational attainment | .18* | (.08) | .01* | (.004) | .31* | (.12) |

Note. Standardized coefficients are reported.

^aN = 485.

^bThe following covariates were measured during adolescence and included in all analyses: child age, child gender, child race/ethnicity, family household income, maternal education, maternal marital status, number of children in the family, primary caregiver's hours of employment per week, primary caregiver's perception of neighborhood safety, child externalizing behavior problems, child internalizing behavior problems, child psychological flourishing, child number of days drank alcohol in the past month, child number of days smoked cigarettes in the past month, child number of days used marijuana in the past month, child math achievement, and child reading achievement. Model estimates for the covariates and variance explained are not shown in this brief report to conserve space but are available from the author on request.

^cIn addition to the covariates identified above, analyses for volunteer frequency and voting at young adulthood control for time (hours per week) spent in organized volunteering, helping, and civic or political activities during adolescence.

* $p < .05$; ** $p < .01$.

diaries and has tracked these same adolescents to young adulthood. Next, this study adds to previous research on the OSH by testing long-term implications of different amounts of participation in adolescence for both positive and negative developmental outcomes in young adulthood. The results showed that, after controlling for numerous demographic and adjustment dimensions in adolescence, organized activity participation is a significant predictor of several indicators of positive adjustment and is unrelated to several indicators of problematic adjustment at young adulthood. The association between adolescent activity participation and positive adult adjustment tended to become stronger as the time youth spent in activities increased and the results held for those youth who participated in activities intensively (20+ hours per week) compared to those who were uninvolved.

The effect sizes ranged from small to moderate. Effect sizes for the continuous regression analyses may appear so small as to be irrelevant. However, these reflect the magnitude of associated impact for each *hour* spent participating. Moreover, only one time point of participation was assessed without reference to the quality of the activity. The cumulative effect of participating for several hours per week over time in a high quality activity may be quite large. Finally, we observe these associated benefits in multiple domains (i.e., psychological adjustment, civic engagement, and educational attainment). Taken together, the associated impact of activity participation in adolescence on outcomes at young adulthood is noteworthy.

There was no support for the proposed moderators. Consistent with recent research testing the interaction between participation and socioeconomic status (e.g., Fredricks & Eccles, 2010), these

results were not moderated by family income. Therefore, the link between activity participation during adolescence and the presence of positive outcomes at young adulthood appears to hold regardless of family income. Similarly, age was not a moderator. Although younger adolescents were more likely to participate in organized activities than older youth, the associated long-term benefits were not dependent on participants being of a certain age. Moreover, there was not a significant quadratic relation between activity intensity and any of the outcomes at young adulthood. This finding indicates that even those youth spending relatively high amounts of time participating were not likely to show poor adjustment. Rather, these youth consistently showed more positive adjustment than adolescents who were uninvolved. In fact, only those youth with very high amounts of participation during adolescence were significantly more likely to vote for the president as young adults. Overall, the study provides no support for the OSH. Although there is widespread discussion that young people may be over-scheduled during their leisure hours, this concern appears to be over-stated when looking at associated long-term consequences of activity participation in young adulthood.

The findings from this study are consistent with the bulk of research that has been conducted on activity intensity and developmental outcomes for young people (e.g., Bohnert et al., 2010) and for young adults (i.e., Busseri et al., 2010). This study builds on recent work on developmental outcomes for young adults by including a more intricate measure of activity intensity assessed with time diaries. The implication is that, when viewed at the population level, organized activity participation is generally associated with positive outcomes for adolescents that may carry forward to young adulthood.

However, there are some youth who feel pressure from their parents or other adults to achieve and this could be directed toward participation in organized activities (Luthar et al., 2006). Although the activities, per se, are not to blame for such achievement pressures, it would be valuable to identify those families where parent-child perspectives on youth participation in organized activities are misaligned. To this end, an approach that identifies subgroups of families with particular patterns of activity-related expectations and values seem useful. For example, Trost, Biesecker, Stattin, and Kerr (2007) identified a subgroup of adolescents who viewed their parents as wanting to be more

involved in their lives than they desired. These youth showed relatively poor adjustment. In contrast, a second, larger subgroup of youth also perceived their parents wanting to be highly involved in their lives but these adolescents *wanted* such involvement and showed healthy adjustment. This type of family centered analysis could help to explain why over-scheduling tends not to receive support from analyses of large-scale data sets, but may be observed on a much smaller scale when focused on families with particular characteristics.

It is also an open question whether the intensity of adolescent involvement relates to parents' own psychological adjustment or the quality of the marital relationship. Nearly all research on outcomes associated with participation in organized activities has been focused on the adjustment of the youth. From a person-in-context developmental perspective, participation in organized activities is likely to have implications for other people and contexts in the adolescent's life. One possibility, suggested by the OSH, is that intense activity participation challenges parents' ability to manage their children's activity schedule and related needs (e.g., transportation). Over time, some believe this circumstance could cause stress for parents that, in turn, could negatively affect their psychological functioning, feelings toward the child, and strain the marital relationship. A second possibility is that organized activities are viewed positively by parents. Parents may value their children's participation in organized activities for many reasons including the provision of supervision and safety, perceived benefits for the child, opportunities for parent-child communication, opportunities to know other people in the child's life, and happiness about their child's accomplishments. A third possibility is that parents may have *both* positive and negative experiences associated with the intensity of their children's activity participation. Research that evaluates these possibilities is lacking and seems warranted.

That adolescent activity participation was consistently related to indicators of positive adjustment and unrelated to indicators of problematic adjustment in young adulthood deserves comment. It has been noted many times that positive and negative functioning are not always polar opposites of each other and that different processes can be involved in their development and maintenance over time (e.g., Mahoney & Bergman, 2002). For example, perhaps organized activities are linked to a reduction in antisocial behaviors because they reduce the combination of social-situational factors that are

known to invite deviancy such as hanging out with peers in settings that lack structure and adult supervision (Osgood, Anderson, & Shaffer, 2005). If so, then the associated reduction in antisocial behavior might be most apparent during adolescence when youth are actively participating in the activity contexts, but weaken thereafter in young adulthood. In contrast, the positive attributes connected to adolescent activity participation (e.g., the 5 C's: confidence, competence, character, connection, and caring) refer to individual attributes that are internal features of the person and may be more likely to transcend the activity experience, per se (Lerner et al., 2005). If so, then long-term benefits of organized activity participation may be particularly apparent when examining positive outcomes.

LIMITATIONS

We suggest several methodological directions for further study. First, future research should address complimentary ways to describe participation. This study defined amount of participation in terms of activity intensity as measured by hours of weekly organized activity involvement in any organized activity in a randomly chosen week during the school year. It is important to note that activity involvement can vary from week to week or month to month based on the requirements or seasons of different activities. In this study, participation intensity provides only a snapshot of individual's lives. Multiple assessments of time use would better capture the dynamics of participation over time. In addition, participation itself could be operationalized in other ways. For example, the number or breadth of different activity contexts, and the consistency and durability of attendance over time are increasingly common measures of participation. Future research would benefit from a critical examination of different participation facets and the long-term implication of participation.

Next, the type and quality of the activity are important. Type of organized activity (e.g., sports, arts, clubs, etc.) was not considered in this study both because the OSH has not been framed in these terms and because insufficient power existed to make activity type comparisons among the small number of youth ($n = 62$) who were highly involved in activities (20+ hours per week). Theoretically, the OSH suggests that participation in any type of activity or any combination of activities at high rates can be associated with detrimental adjustment outcomes. However, because outcomes

can differ across activity type (e.g., Mahoney et al., 2009a,b) the links between intensity and type might be useful to explore in other data sets. Furthermore, although the threshold assessed in this and previous studies of the OSH was whether participation occurred for 20+ hours per week, future research could evaluate how other thresholds relate to development outcomes. Lastly, both the magnitude and direction of activity-related impacts will likely vary according to the quality of the offering. The PSID-CDS data set does not contain information on activity quality and this limitation should be kept in mind when interpreting the findings.

CONCLUSION

These findings suggest that young adults who were activity participants during adolescence experience levels of psychological distress and engage in risky behaviors at about the same level as everyone else. What sets these youth apart is that they are also apt to continue their education beyond high school, report high psychological well-being and satisfaction with their lives, and demonstrate citizenship and volunteer service that gives back to their communities. This profile of adjustment seems fully consistent with a view of organized activities as contexts of positive youth development that endures until young adulthood.

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