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# Quality of Afterschool Activities and Relative Change in Adolescent Functioning Over Two Years

Sabrina Kataoka and Deborah Lowe Vandell

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Youth in Grades 6 and 7 ( $N = 186$ ; 78% low-income; 74% non-White) reported the quality of their experiences in their primary afterschool activity over a two-year period. Youth reports of more positive experiences (a composite that included emotional support from adult staff, positive relationships with peers, and opportunities for autonomy) were associated with relative gains in work habits, task persistence, and prosocial behavior with peers as reported by classroom teachers. Examination of specific aspects of experience indicated that perceived emotional support from adult staff was more strongly associated with changes in adolescent functioning than the other aspects of program experience. These findings suggest that youth reports can provide a useful window into the quality of afterschool settings.

Organized afterschool activities are common in the United States, serving nearly 10 million children and youth annually during the afterschool hours (Yohalem, Pittman, & Edwards, 2010). Recognizing the constraints on K–12 schools (e.g., resources, structure) and their focus on improving performance on standardized tests of academic achievement, policy makers and parents have turned to organized afterschool activities to expand traditional school-day learning and to foster the development of the whole child—that is, a child’s psychological, social-emotional, cognitive, relational, and physical domains (Lerner, Brentano, Dowling, & Anderson, 2002).

The potential of organized afterschool activities, however, is not necessarily actualized. Past research has found that effects are variable, depending on the quality of the youth experiences (e.g., Durlak, Weissberg, & Pachan, 2010; Hamilton & Klein, 1999; Mahoney, Stattin, &

Magnusson, 2001; Pierce, Bolt, & Vandell, 2010; Pierce, Hamm, & Vandell, 1999).

The quality of afterschool settings is most often assessed by trained observers as evidenced in the review of nine widely used program quality assessment tools by Yohalem and Wilson-Ahlstrom (2010). Each of these tools was designed for use by independent, external observers or program staff for internal self-studies. While these observations have proven to be reliable and valid, they are demanding in terms of training and expense. The present study examines whether youth reports of the quality of their afterschool activities can provide a useful perspective and whether these youth reports are associated with student outcomes reported by classroom teachers.

As noted by Mitra (2004), youth possess unique knowledge and perspectives of their afterschool activities that may be less apparent to adult observers. The current study focuses on three such areas: feelings of emotional support from adult staff, positive relationships with peers, and opportunities for autonomy. Although some studies have incorporated youth voices in reports of quality, such studies have examined youth self-reports of quality in relation to youth self-reports of outcomes. For example, in a study of Philadelphia Beacon Centers, Grossman, Campbell, and Raley (2007) found that youth who reported that their afterschool programs were well-managed also indicated that they learned more at the program. Youth who indicated more positive support

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from instructors also reported learning more from their activities than did youth who reported less positive support. Research by Mahoney, Schweder, and Stattin (2002) found that adolescents who perceived higher support from activity leaders also reported lower levels of depressed mood. In both studies, respondent bias was a concern because youth reported both program experiences and youth outcomes.

Youth voices also have been incorporated in reports of quality that included observations of program setting characteristics. Rosenthal and Vandell (1996), for example, reported concurrent associations between program features as reported by program directors and independent observers and child reports of afterschool climate. Larger group sizes and observations of more frequent negative staff-child interactions were associated with children's reports of more negative program climate. A greater variety of activities at the program was linked to children's reports of more positive program climate.

While Rosenthal and Vandell (1996) used program characteristics to predict children's reports of afterschool experiences, the current study differs from their study in that we use youth reports of the quality of their afterschool experiences to predict youth developmental outcomes. The current study also differs in that it is longitudinal, is based on a primarily non-White sample, and examines middle-school youth rather than elementary-school children. Similar to Rosenthal and Vandell's study, the current study utilizes the *After-School Environment Scale* to consider three aspects of program experience: emotional support from adult staff, positive relationships with peers, and opportunities for autonomy. These three areas of program experience were identified by the National Research Council Committee on Community-Level Programs for Youth as important features of positive developmental settings (Eccles & Gootman, 2002).

We first considered an overall quality composite that included items related to emotional support from adults, positive relationships with peers, and opportunities for autonomy. We then examined the three aspects of experience—emotional support, positive peer relationships, and opportunities for autonomy—separately to determine whether particular aspects of youth-reported quality uniquely contributed to developmental outcomes.

Five aspects of adolescent functioning were assessed: work habits, task persistence, social skills with peers, pro-social behaviors with peers, and (reduced) aggressive behaviors with peers. These areas have been identified as competencies and skills that are influenced by high-quality afterschool activities (Durlak et al., 2010; Mahoney, Vandell, Simpkins, & Zarrett, 2009). These types of intrapersonal and interpersonal skills also have been linked to more successful performance at school and later at work (Committee on Defining Deeper Learning and 21st Century Skills, 2012).

Furthermore, from an ecological perspective, youth functioning can be understood as a joint function of multiple levels of influence across contexts (Bronfenbrenner, 1979, 1989). Indeed, among others, Pierce et al. (1999) found that observations of quality in afterschool programs related to teacher reports of children's functioning in classrooms. Consistent with this perspective of cross-setting influence and functioning, we expected that experiences in the afterschool context would be reflected in youth developmental functioning within the school context.

The present study extends the literature by focusing on a primarily low-income, non-White middle school sample of youth who were in Grades 6 and 7 at the start of the study, an age group that may be particularly in need of high quality afterschool experiences. Prior research has documented declines in motivation and academic performance during the transition to secondary schooling, particularly in low-income minority youth (e.g., Eccles & Midgley, 1989; Simmons, Black, & Zhou, 1991). Prior research also has suggested that low-income middle-school youth may particularly benefit from after-school activities involving supportive adults, positive relations with peers, and opportunities for autonomy (Eccles & Gootman, 2002).

Because the current study was nonexperimental, selection and omitted variable bias were of concern. To address this concern, we used child and family covariates (i.e., child gender, race or ethnicity, school grade level, and free or reduced-price lunch) as control variables in all analyses. In addition, we used measures of youth functioning obtained at the beginning of the study and a measure of consistency of participation in the same type of activity over two years as covariates in all analyses.

We hypothesized that youth who reported more positive afterschool experiences across the two-year period would show improvements in teacher-reported functioning in late spring of Year 2, relative to youth who reported less positive afterschool experiences. We expected the overall quality of experience to relate to teacher-reported functioning in all domains—that is, improved work habits, task persistence, and social skills and behaviors with peers. In addition, we hypothesized that the three aspects of afterschool activity experience would be differentially related to youth development. In particular, we hypothesized that youth reports of greater emotional support from adult staff would be associated with more improved functioning in all domains because relational support is arguably one of the most important predictors of adolescent adjustment (Scholte, van Lieshout, & van Aken, 2001). Youth perceived support from adults, such as school personnel, has been linked to a variety of subsequent positive academic and socio-emotional outcomes, especially among youth of socioeconomic disadvantage (e.g., DuBois, Felner, Mearns, & Krier, 1994). Youth reports of positive relationships with peers at their

activity are expected to predict relative gains in social skills and behaviors with peers. This hypothesis is consistent with past research that has found positive peer interactions to be linked to reductions in youth behavioral problems (Stewart, 2003). Finally, we hypothesized that youth reports of perceived opportunities for autonomy would be related to relative gains in work habits and task persistence over the two-year period. Autonomy research in schools has shown that adolescents' perceptions of autonomy support from teachers relate to internalization of motivation for schoolwork (Chirkov & Ryan, 2001) and an increased effort to learn (Reeve, Jang, Hardre, & Omura, 2002). Thus, we expected that opportunities for autonomy would be associated with relative changes in work habits and task persistence.

Unlike previous research that has typically considered program experiences over a single year, we examined youth reports of the quality of their afterschool experiences over a two-year period. Previous research (Burchinal et al., 2011; Vandell et al., 2010) has found that cumulative scores can provide robust and reliable measures of program experiences. Accordingly, our focus was on longitudinal associations between *cumulative* afterschool experiences and relative changes in adolescent functioning.

## METHOD

### Participants

The sample consisted of 186 youth (48% male) who were studied over a two-year period and were in either Grade 6 ( $n=95$ ) or 7 ( $n=91$ ) in the first year of the study. These students were part of a larger group of 565 students who attended nine schools in four states: California, Colorado, Michigan, and Oregon. This larger group of 565 students included all students from randomly selected language arts classrooms at the schools. However, not all of these students participated in organized activities after school. The present sample ( $N=186$ ; 33% of original sample) was composed of the subsample of youth who participated in an organized activity after school over both years of the two-year study. These activities could be at an afterschool program or some other organized afterschool activity (e.g., sports team, music lessons). Other youth did not complete the After-School Experiences Survey.

Within our study sample, 75% of the students participated in an afterschool program and 25% reported some other organized activity as their most often attended afterschool activity in Year 1. In Year 2, 62% reported an afterschool program and 38% reported some other organized activity as their most often attended afterschool activity.

The number of study participants at each school varied from 12 to 28 ( $M=20.67$ ;  $SD=5.63$ ), and students' ages

ranged from 11 to 14 years ( $M=11.83$ ;  $SD=0.71$ ). A large proportion of students qualified for free or reduced-price lunch (78%), and the sample was largely non-White (74%).

### Procedure

Surveys were administered to students and teachers during the school day. Students' reports of the quality of their afterschool experiences were collected at two points: late spring of school Year 1 and late spring of school Year 2 (typically May or June). Students were asked to report on the quality of their experiences in the afterschool program or activity that they attended most often that year. These most-attended organized activities consisted of: afterschool programs (Year 1,  $n=139$ ; Year 2,  $n=114$ ), sports (Year 1,  $n=27$ ; Year 2,  $n=43$ ), arts (Year 1,  $n=11$ ; Year 2,  $n=14$ ), academic activities (Year 1,  $n=6$ ; Year 2,  $n=9$ ), and religious/service activities (Year 1,  $n=3$ ; Year 2,  $n=4$ ).

The afterschool programs took place directly after the school day and ranged in duration from two to seven hours a day. The aims of the afterschool programs were varied and included to keep youth safe, provide enrichment activities, raise academic scores, help youth complete their homework, and create community involvement. Programs also offered a variety of activities during program sessions, such as one-on-one tutoring, academic and arts enrichment activities, recreational activities, social activities, snack time, and homework time.

Other organized activities took place on weekdays following school dismissal in the afternoon and evening hours or on the weekends, and typically ranged from two to five hours a day. Time spent in other organized activities included playing on an organized sports team, such as a soccer or basketball team; taking part in school band, choir, drill team or cheerleading practices; participating in school drama or yearbook club; taking lessons in music, art or dance; taking extra reading or math classes offered at school or elsewhere; and attending religious classes, such as catechism or Hebrew school, or religious services, such as Mass, at one's church, mosque, or temple.

Language arts classroom teachers reported adolescent functioning at two points: fall of school Year 1 (typically November or December) and spring of school Year 2 (typically May or June). The teacher survey administration in the fall took place approximately two to three months after the start of the first school year, allowing the teachers to get to know students and provide baseline assessments of their functioning.

### Measures

We first describe the youth-report measure of the quality of their primary organized afterschool experience, then

the teacher-report measures of youth functioning, and last the covariates used in the analyses. Table 1 provides descriptive statistics on all variables.

### *Youth Report of the Quality of Their Afterschool Experience*

In spring of school Year 1 and spring of school Year 2, youth completed a 23-item adapted version of the *Afterschool Environment Scale* (ASES; Rosenthal & Vandell,

1996). The ASES asked students to report how often they felt a certain way about the one organized afterschool activity that they attended most often during the current school year.

The specific aspects of students' experiences measured were emotional support from adult staff (14 items), positive relationships with peers (five items), and opportunities for autonomy (four items). Sample items included "The staff go out of their way to help kids at my afterschool activity," "I can really trust the other kids at my afterschool activity," and "The staff let me decide what to do at my afterschool activity." Responses to items were made using a 4-point scale (1 = *never*, 4 = *always*).

The ASES composite score reflected students' overall perception of an afterschool activity based on their experiences of emotional support from adult staff, positive peer relationships, and opportunities for autonomy. In both Year 1 and Year 2, nearly the full range of possible mean scores (1.35–3.90 and 1–3.96, respectively) was reported for the composite score, and Cronbach's alphas were .89 and .90, respectively. In addition, we examined the three aspects of students' experiences measured by the ASES separately to consider how these specific aspects of experience uniquely related to developmental outcomes. In both Year 1 and Year 2, we observed the full range of possible scores (1–4) on all three subscales. Cronbach's alphas in Year 1 and Year 2 were .87 and .88, respectively, for emotional support from adult staff; .77 and .83, respectively, for positive peer relationships; and .71 and .77, respectively, for opportunities for autonomy.

Bivariate correlations among afterschool experience measures in Year 1, in Year 2, and across time are presented in Table 2. We computed the mean of each participant's Year 1 ASES and Year 2 ASES composite scores to produce the participant's cumulative quality composite score (i.e., two-year average). In addition, we computed three cumulative quality subscale scores for each participant by taking the mean of the participant's Year 1 and Year 2 scores for each of the three subscales. Calculating cumulative scores provided more information about quality over the two-year study period than could be provided by a single year alone.

### *Teacher Report of Adolescent Functioning*

Classroom teachers provided assessments of the adolescents' performance at two points: fall of school Year 1 and spring of school Year 2. Teachers reported adolescent functioning in five domains: work habits, task persistence, social skills with peers, aggressive behavior with peers, and prosocial behavior with peers. We used teacher reports of youth functioning in fall of school Year 1 as control variables in substantive analyses.

TABLE 1  
Descriptive Statistics for Quality of Afterschool Experience Variables, Adolescent Functioning Variables, and Covariates

	<i>N</i>	<i>M</i> or %	<i>SD</i>
<b>Quality of Afterschool Experiences (Youth Report)</b>			
Spring Year 1			
Quality Composite	186	2.87	0.48
Emotional Support From Adult Staff	186	3.03	0.55
Positive Peer Relationships	186	2.92	0.65
Opportunities for Autonomy	186	2.26	0.76
Spring Year 2			
Quality Composite	186	2.91	0.51
Emotional Support From Adult Staff	186	3.05	0.57
Positive Peer Relationships	186	3.04	0.68
Opportunities for Autonomy	186	2.27	0.71
Two-Year Cumulative			
Quality Composite	186	2.89	0.41
Emotional Support From Adult Staff	186	3.04	0.47
Positive Peer Relationships	186	2.98	0.53
Opportunities for Autonomy	186	2.26	0.61
<b>Adolescent Functioning (Classroom Teacher Report)</b>			
Fall Year 1			
Work Habits	178	3.49	1.09
Task Persistence	178	2.98	0.70
Social Skills With Peers	160	3.42	1.00
Aggressive With Peers	178	0.23	0.38
Prosocial With Peers	178	1.47	0.47
Spring Year 2			
Work Habits	173	3.47	1.06
Task Persistence	174	2.95	0.73
Social Skills With Peers	174	3.43	0.98
Aggressive With Peers	172	0.34	0.49
Prosocial With Peers	172	1.39	0.50
<b>Covariates</b>			
Gender (Male = 1)	186	48%	
Race/Ethnicity	186		
Hispanic	97	52%	
White	49	26%	
Black	23	13%	
Asian/Other	17	9%	
Grade (Grade 6 = 1)	186	51%	
Free/Reduced-Price Lunch	146	78%	
Consistent Activity Participation	184	67%	

*Note.* The quality of afterschool experience variables are all on a 1–4 scale. The adolescent functioning measures are on scales as follows: Work Habits, 1–5; Task Persistence, 1–4; Social Skills With Peers, 1–5; Aggressive With Peers, 0–2; and Prosocial With Peers, 0–2.

TABLE 2  
Correlations Among Youth Reports of Quality in Year 1, in Year 2, and Across Time

		Year 1			
Year 1	Quality Composite	Emotional Support From Adult Staff	Positive Peer Relationships	Opportunities for Autonomy	
Quality Composite	—				
Emotional Support From Adult Staff	.93***	—			
Positive Peer Relationships	.67***	.45***	—		
Opportunities for Autonomy	.57***	.33***	.21**	—	

		Year 2			
Year 2	Quality Composite	Emotional Support From Adult Staff	Positive Peer Relationships	Opportunities for Autonomy	
Quality Composite	—				
Emotional Support From Adult Staff	.95***	—			
Positive Peer Relationships	.78***	.64***	—		
Opportunities for Autonomy	.55***	.34***	.25***	—	

		Year 1			
Year 2	Quality Composite	Emotional Support from Adult Staff	Positive Peer Relationships	Opportunities for Autonomy	
Quality Composite	.37***	.34***	.27***	.21**	
Emotional Support From Adult Staff	.38***	.38***	.27***	.13	
Positive Peer Relationships	.25***	.20**	.25***	.12	
Opportunities for Autonomy	.18*	.08	.07	.36***	

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

**Work habits.** Classroom teachers rated students' work habits using an adapted version of the *Mock Report Card* (Pierce et al., 1999) that consisted of 10 items, such as "Works well independently" and "Turns in homework promptly." Classroom teachers responded to the items using a 5-point scale (1 = *very poor*, 5 = *very good*). Mean item scoring of the 10 items produced a work habits score. In the fall of Year 1 and spring of Year 2, Cronbach's alphas were consistently high ( $\alpha = .97-.98$ ). This measure has been widely used with middle-school youth in the *Afterschool Outcome Measures Online Toolbox* (<http://afterschooloutcomes.org>).

**Task persistence.** We adapted the *Self-Efficacy* middle-school student self-report, developed by Walker and Arbreton (2001), to create *Task Persistence*, a measure of students' task persistence from the perspective of classroom teachers. Using a 4-point scale (1 = *not at all true*, 4 = *really true*), classroom teachers responded to eight items, such as "If the student can't do a job the first time, he/she keeps trying until he/she can" and "Failure just makes this student try harder." We computed a mean item task persistence score using the eight items. At both assessment points, reliability was high ( $\alpha = .93$ ).

**Social skills with peers.** Using a social skills scale from the *Teacher Checklist of Peer Relations* (Coie & Dodge, 1988), teachers assessed students' social skills with peers. Classroom teachers rated seven items about the student on a 5-point scale (1 = *very poor*, 5 = *very good*). Sample items included "Is socially aware of what is happening in a situation" and "Refrains from over-impulsive responding." We generated social skills with peers score from mean item scoring of the seven items. At both assessment points, reliability was high ( $\alpha = .96$ ). This measure has been widely used with middle-school youth in the *Afterschool Outcome Measures Online Toolbox* (<http://afterschooloutcomes.org>).

**Behavior toward peers.** Two scales, *Aggressive with Peers* (nine items) and *Prosocial with Peers* (eight items), were created by adapting the *Child Behavior Scale* (Ladd & Profilet, 1996), a measure of children's aggressive, withdrawn, and prosocial behaviors. Classroom teachers reported on the student's behavior with other children, answering how true each item was for the student on a three-point scale (0 = *not true*, 1 = *sometimes true*, 2 = *often true*). *Aggressive with Peers* items included "Annoys or irritates classmates" and "Threatens classmates." *Prosocial*

with *Peers* items included “Seems concerned when classmates are distressed” and “Is kind toward classmates.” We created an aggressive with peers score and a prosocial with peers score from mean item scoring of the nine items and eight items, respectively. Across the two assessment points, reliability was consistently high for both scales ( $\alpha = .92-.95$ ). These measures have been widely used with middle-school youth in the *Afterschool Outcome Measures Online Toolbox* (<http://afterschooloutcomes.org>).

### Covariates

In order to reduce selection and omitted variable bias, we used several child and family covariates obtained from school student records: child gender, race or ethnicity, grade level in Year 1, and whether qualifying for free or reduced-price lunch over the two-year study period. Participants were male or female and in Grade 6 or Grade 7 in Year 1 of the study. We considered those who qualified for free or reduced-price lunch in either Year 1 or Year 2 as free or reduced-price lunch recipients. As for race or ethnicity, school student records consisted of six race/ethnicity categories: Hispanic, White, Black, Asian/Pacific Islander, American Indian, and Other. Given the small proportion of Asians/Pacific Islanders, and the even smaller proportion of American Indians and youth of other ethnicities in our sample, we created an aggregate group called “Asian/Other” that included Asians/Pacific Islanders, American Indians, and youth of other ethnicities. This aggregate “Asian/Other” group accounted for less than 10% of the study sample.

We also included a covariate for consistency of participation in the same type of activity in Year 1 and Year 2. Each year, youth reported on the quality of their experiences in their most-attended afterschool activity, which was described as one of the following activity types: afterschool programs, sports, arts, academic activities, and religious/service activities. In this study, “consistent” youth (67%) were those whose most-attended type of activity remained the same in Year 1 and Year 2, and “inconsistent” youth (33%) were those whose most-attended type of activity changed from Year 1 to Year 2.

### Analysis Plan

To test pathways between youth reports of the afterschool experience and classroom teacher reports of adolescent functioning, we employed structural equation models (SEMs). The SEMs handled missing data through full-information maximum likelihood (FIML) estimation based on the data for all 186 youth with reports of afterschool quality in Year 1 and Year 2. Under the assumption that incomplete data are missing at random, it has been demonstrated that a maximum likelihood approach, such as FIML or multiple imputation, is superior to mean substitution, listwise data deletion, and pairwise

data deletion in the estimation of unbiased parameter estimates (Little & Rubin, 1987; Roth, 1994; Wothke, 1998). Furthermore, Wothke (1998) suggested that even if missing data are of the nonignorable type, maximum likelihood approaches can outperform list-wise and pairwise data deletion methods.

The SEMs predicted each adolescent outcome (e.g., work habits) separately and included as independent variables the quality of afterschool experience measure (either the quality composite or the quality subscales), a baseline measure of the functioning outcome being predicted in each model, and all covariates. In all analyses, we treated race as a dummy variable with four categories: Hispanic, White, Black, and Asian/Other, with White omitted as the reference category.

Given that the students attended nine different schools, it is possible that school-level characteristics may impact outcomes. In order to account for the likely non-independence of observations within schools, we used Huber-White standard error adjustments with clustered standard errors by school.

## RESULTS

The first set of analyses examined whether youth reports of overall afterschool quality across a two-year period were associated with classroom teachers' reports of youth functioning in spring of Year 2, controlling for adolescent performance in fall of Year 1. The second set of analyses asked whether youth reports of specific aspects of afterschool quality were associated with classroom teachers' reports of youth functioning in spring of Year 2, controlling for adolescent performance in fall of Year 1. We computed effect sizes as  $d = b \times SD_{\text{predictor}} / SD_{\text{outcome}}$ , or the expected standard deviation-unit change in the outcome given a standard deviation change in the predictor (see National Institute of Child Health and Human Development Early Child Care Research Network & Duncan, 2003).

### Effects of Overall Quality of Experience

For the first set of analyses, we hypothesized that students who reported more positive overall afterschool experiences over a two-year period would show greater gains in teacher-reported outcomes in spring of Year 2, controlling for youth functioning in fall of Year 1. As shown in Table 3, youth reports of more positive overall afterschool experiences predicted relative gains in classroom teacher reports of work habits ( $b = 0.36, p < .001, d = 0.14$ ), task persistence ( $b = 0.15, p = .037, d = 0.08$ ), and prosocial behavior with peers ( $b = 0.28, p < .001, d = 0.23$ ). SEM diagrams with all significant paths predicting work habits, task persistence, and prosocial behavior with peers are shown in Figures 1, 2, and 3,



**TABLE 3**  
Path Coefficients From Structural Equation Models Relating Cumulative Afterschool Quality Composite to Adolescent Functioning (*N* = 186)

<i>Spring Year 2 Outcomes</i>	<i>Cumulative Quality Composite Youth Report</i>		<i>d</i>
	<i>b</i>	<i>(SE)</i>	
<i>Classroom Teacher Report</i>			
Work Habits	0.36***	(0.04)	0.14
Task Persistence	0.15*	(0.04)	0.08
Social Skills With Peers	0.13	(0.08)	0.05
Aggressive With Peers	0.03	(0.06)	0.03
Prosocial With Peers	0.28***	(0.05)	0.23

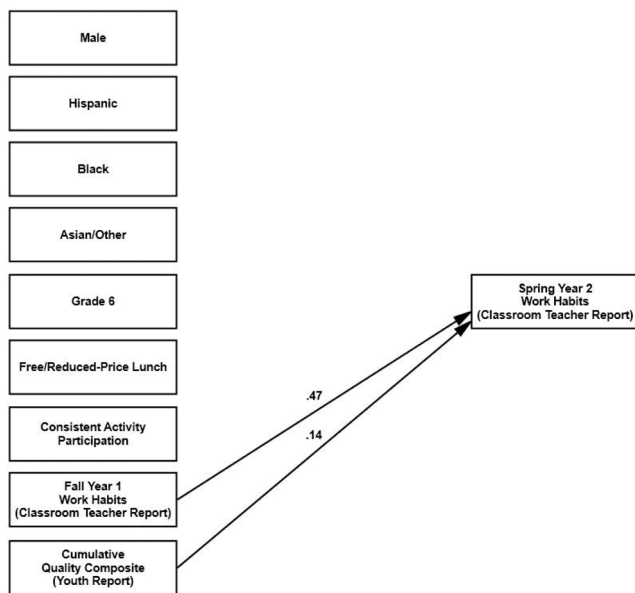
*Note.* Fall Year 1 adolescent functioning and consistency of activity participation are controlled. Models also include as covariates gender, race, grade level in Year 1, and free/reduced-price lunch. Standard errors are clustered by school. *d* is analogous to the effect size measure Cohen's *d*, computed as  $b \times SD_{\text{predictor}} / SD_{\text{outcome}}$ .

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

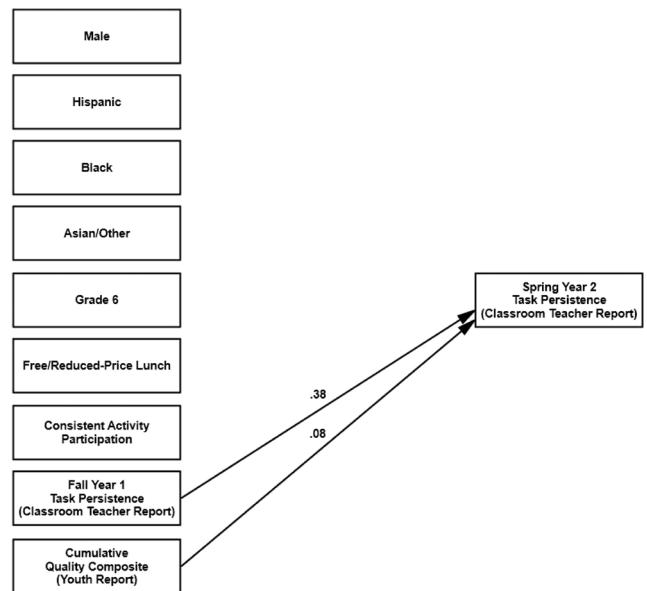
respectively. We found no significant associations between overall quality over the two-year period and classroom teacher reports of social skills with peers and aggressive behavior with peers in spring of Year 2.

**Effects Associated With Specific Aspects of Afterschool Experience**

For the second set of analyses, we examined the unique relations associated with each of the three afterschool quality subscales—emotional support from adult staff,



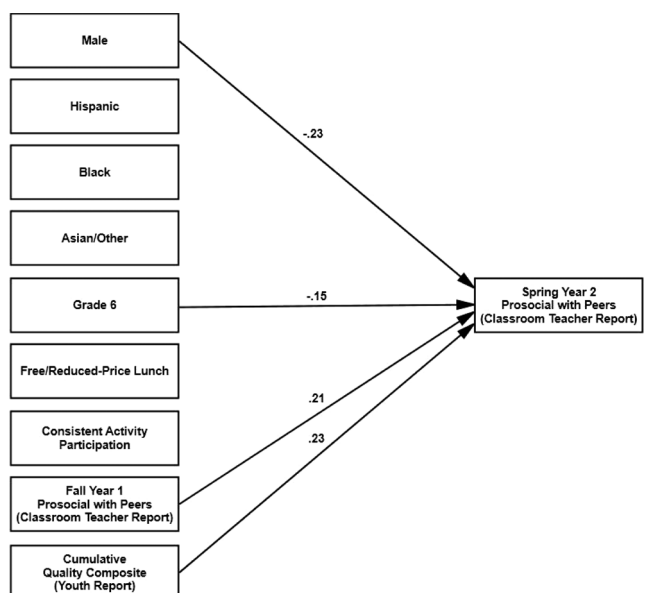
**FIGURE 1** Structural equation model testing the regression of classroom teacher-reported work habits in spring of Year 2 on youth-reported cumulative quality composite, along with covariates. Only standardized paths significant at  $p < .05$  are depicted.



**FIGURE 2** Structural equation model testing the regression of classroom teacher-reported task persistence in spring of Year 2 on youth-reported cumulative quality composite, along with covariates. Only standardized paths significant at  $p < .05$  are depicted.

positive peer relationships, and opportunities for autonomy. In this set of analyses, the previous series of SEMs were re-computed with the three cumulative quality subscale scores included in each model instead of the overall quality composite score.

As shown in Table 4, youth reports of greater emotional support from adult staff over the two-year period



**FIGURE 3** Structural equation model testing the regression of classroom teacher-reported prosocial behavior with peers in spring of Year 2 on youth-reported cumulative quality composite, along with covariates. Only standardized paths significant at  $p < .05$  are depicted.

TABLE 4

Path Coefficients From Structural Equation Models Relating Cumulative Afterschool Quality Subscales to Adolescent Functioning ( $N = 186$ )

Spring Year 2 Outcomes	Cumulative Emotional Support From Adult Staff Youth Report			Cumulative Positive Peer Relationships Youth Report			Cumulative Opportunities for Autonomy Youth Report		
	<i>b</i>	( <i>SE</i> )	<i>d</i>	<i>b</i>	( <i>SE</i> )	<i>d</i>	<i>b</i>	( <i>SE</i> )	<i>d</i>
<i>Classroom Teacher Report</i>									
Work Habits	0.45**	(0.06)	0.20	-0.12	(0.07)	-0.06	0.01	(0.04)	0.01
Task Persistence	0.27*	(0.07)	0.18	-0.12	(0.08)	-0.09	-0.02	(0.06)	-0.02
Social Skills With Peers	0.27*	(0.06)	0.13	-0.10	(0.07)	-0.05	-0.05	(0.05)	-0.03
Aggressive With Peers	-0.13*	(0.06)	-0.12	0.19***	(0.05)	0.20	-0.03	(0.06)	-0.04
Prosocial With Peers	0.26**	(0.09)	0.25	0.06	(0.06)	0.06	-0.06	(0.08)	-0.07

Note. Fall Year 1 adolescent functioning and consistency of activity participation are controlled. Models also include as covariates gender, race, grade level in Year 1, and free/reduced-price lunch. Standard errors are clustered by school. *d* is analogous to the effect size measure Cohen's *d*, computed as  $b \times SD_{\text{predictor}}/SD_{\text{outcome}}$ .

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

predicted relative gains in classroom teacher reports of work habits ( $b = 0.45$ ,  $p = .001$ ,  $d = 0.20$ ), task persistence ( $b = 0.27$ ,  $p = .011$ ,  $d = 0.18$ ), social skills with peers ( $b = 0.27$ ,  $p = .040$ ,  $d = 0.13$ ), and prosocial behavior with peers ( $b = 0.26$ ,  $p = .007$ ,  $d = 0.25$ ). Youth reports of greater emotional support predicted relative decreases in classroom teacher reports of aggressive behavior with peers ( $b = -0.13$ ,  $p = .032$ ,  $d = -0.12$ ). Figure 4 illustrates

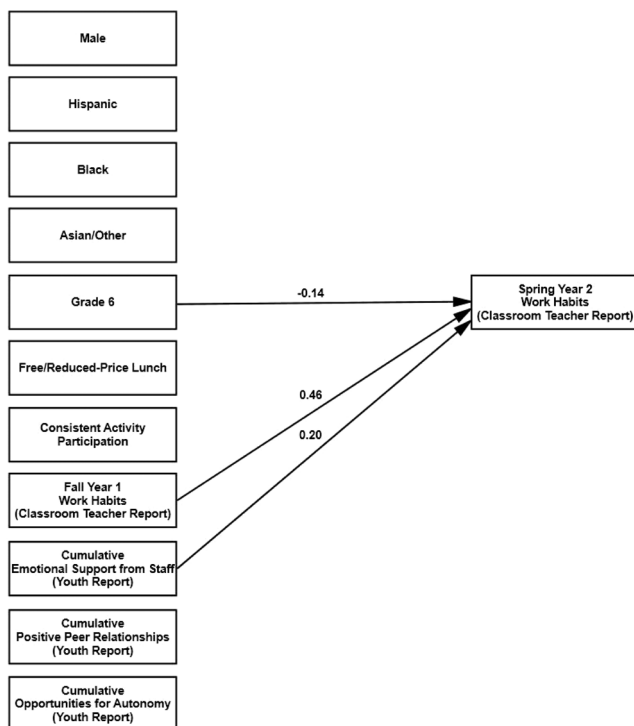


FIGURE 4 Structural equation model testing the regression of classroom teacher-reported work habits in spring of Year 2 on youth-reported cumulative quality subscales (emotional support from adult staff, positive peer relationships, and opportunities for autonomy), along with covariates. Only standardized paths significant at  $p < .05$  are depicted.

the relation between emotional support from staff and adolescent work habits in spring of Year 2.

With regard to the other two afterschool quality subscales, youth reports of more positive peer relationships over the two-year period predicted relative increases in classroom teacher reports of aggressive behavior with peers ( $b = 0.19$ ,  $p < .001$ ,  $d = 0.20$ ; see Table 4). We found no significant associations between youth reports of opportunities for autonomy over the two-year period and teacher reports of youth functioning in spring of Year 2.

### Follow-Up Analyses

Follow-up analyses were conducted to determine if the obtained relations between youth reports of the quality of their afterschool experiences and youth developmental outcomes were the results of different types of activities. In each year, the majority of youth reported their most-attended organized afterschool activity was a school-based afterschool program. Fewer youth participated in sports, arts, academic activities or religious/service activities as their primary type of afterschool activity each year.

First, to test if yearly reports of quality differed by activity type, we conducted a 2 (year)  $\times$  3 (type of activity: afterschool programs, sports, other activities) analysis of variance (ANOVA) for quality composite and quality subscale scores. The arts, academic, and religious/service categories were combined into an "other activities" category, given the small numbers of youth who participated most often in these types of activities. Levene's test of equality of error variances yielded nonsignificant results at  $p < .05$  for all ANOVAs. For reports of overall quality, we found a statistically significant main effect for activity type,  $F(2, 364) = 5.11$ ,  $p = .007$ . Post-hoc Tukey tests showed that reports of overall quality of experience were lower in afterschool programs ( $M = 2.83$ ;  $SD = 0.51$ ) compared to in sports ( $M = 3.01$ ;  $SD = 0.47$ ) and other afterschool

activities ( $M = 3.03$ ;  $SD = 0.41$ ). For reports of emotional support from adult staff, we also found an activity type main effect,  $F(2, 364) = 10.14$ ,  $p < .001$ . Post-hoc tests indicated that youth experienced significantly lower levels of emotional support from staff in afterschool programs ( $M = 2.95$ ;  $SD = 0.57$ ) than did youth in sports ( $M = 3.22$ ;  $SD = 0.52$ ) or in other afterschool activities ( $M = 3.24$ ;  $SD = 0.45$ ). For positive peer relationships, we obtained significant main effects for year,  $F(1, 364) = 5.62$ ,  $p = .018$ , and type of activity,  $F(2, 364) = 5.74$ ,  $p = .004$ . Positive peer relationship scores were significantly higher in Year 2 ( $M = 3.14$ ;  $SD = 0.57$ ) than in Year 1 ( $M = 2.93$ ;  $SD = 0.55$ ). Furthermore, post-hoc tests showed that youth experienced less positive peer relationships in afterschool programs ( $M = 2.90$ ;  $SD = 0.66$ ) than in sports ( $M = 3.24$ ;  $SD = 0.64$ ). With regard to opportunities for autonomy, there was a significant main effect for year,  $F(1, 364) = 99.76$ ,  $p < .001$ , and a significant year\*type interaction,  $F(2, 364) = 11.19$ ,  $p < .001$ .

Controlling for type of activity in the quality of experience analyses was complicated because many of the adolescents' most-attended type of activity differed in Year 1 and Year 2. For this reason, we performed follow-up analyses on a subsample of youth that included only those who participated in the same type of activity in both years ( $N = 123$ ).

All SEMs of the primary analyses were re-computed with dummy variables included for afterschool programs and sports, and with other activities omitted as the reference group. Similar patterns of results (effect sizes of 0.15 to 0.27) to those of the primary analyses (effect sizes of 0.08 to 0.25) were found for the quality composite and quality subscales, indicating that relations between youth reports of the quality of their afterschool experiences and youth developmental outcomes were not accounted for by different types of activities alone.

## DISCUSSION

The present study asked if youth reports of the quality of their afterschool experiences were related to relative changes in classroom teacher reports of adolescent functioning over a two-year period. We found that youth reports of the quality of their afterschool experiences significantly predicted developmental outcomes as reported by classroom teachers. In particular, youth reports of overall experience predicted relative gains in classroom teacher reports of work habits, task persistence, and pro-social behavior with peers. Specific aspects of experience also predicted relative changes in youth functioning. Among these aspects of experience, emotional support from adult staff predicted changes in youth functioning most strongly compared to positive peer relationships and opportunities for autonomy.

These results are important for several reasons. First, these findings extend those of Rosenthal and Vandell (1996) and suggest that youth reports of the quality of organized activities are useful as indicators of developmental functioning. Rosenthal and Vandell found that youth reports of afterschool experiences related to concurrent observations of program characteristics. In particular, observations of more frequent negative staff-child interactions related to children's reports of lower emotional support in afterschool programs. The present study found that youth reports of afterschool experiences also longitudinally predict teachers' reports of personal and social functioning. The utility of youth-reported experience in predicting developmental outcomes suggests that youth reports of their experiences may be a useful addition to observational measures of afterschool quality.

Second, consistent with other research on organized afterschool activities, the present findings demonstrate cross-setting impacts. Pierce et al. (1999) found that *observations* of afterschool program quality related to classroom teacher reports of children's functioning in school. The present study demonstrated that *youth reports* of quality related to classroom teacher reports of youth functioning in school. According to a bioecological perspective (Bronfenbrenner & Morris, 2006), development occurs across multiple ecologies, such as school, family, and neighborhood, and these ecologies have reciprocal influences on one another. The findings are in line with this perspective, showing that the benefits of positive organized afterschool experiences reported by youth can be reflected in other settings, such as the school classroom.

Third, the present study underscores the central role of supportive youth-adult relationships for adolescents. Emotional support has been viewed as especially significant in relation to adolescent functioning, both theoretically and empirically. Bioecological theories of development place special importance on the proximal exchanges of the microsystem, the level of ecology in which youth experience face-to-face interactions with the environment (Bronfenbrenner & Morris, 2006). The quality of youth-staff interactions should therefore be particularly important, as it can have a direct influence on youth development. Indeed, empirical studies have demonstrated the central role of supportive relationships on positive youth outcomes (e.g., Grossman et al., 2002; Hirsch, Roffman, Deutsch, Flynn, & Pagano, 2000). Supportive relationships have been found to be especially beneficial for youth who may be lacking supportive relationships in other contexts of their lives. For example, among youth who reported low levels of support from family members, support from school personnel was associated particularly strongly with lowered levels of psychological symptoms (DuBois, Felner, Brand, Adan, & Evans, 1992). Having even one emotionally supportive

relationship with a nonfamily member, such as an adult in the afterschool activity context, can greatly compensate for the lack of warm, caring relationships at home (Werner & Smith, 1982). Such findings suggest that youth who experience disadvantaged and stressful circumstances outside of school may be especially likely to benefit from supportive relationships in the other contexts of their lives. Policy discussions regarding the quality of youth experiences in organized activities should consider the importance of caring youth-staff relationships as a critical component of the afterschool climate and as a predictor of positive youth development. This may be particularly significant for youth who experience relational and socioeconomic disadvantages in other contexts of their daily lives.

While emotional support from adults was positively linked to youth work habits, task persistence, social skills with peers, and aggressive and prosocial behavior with peers, the hypothesized associations between positive peer relationships experienced in the afterschool setting and positive peer relationships in the school setting were not found. Instead, positive relationships with peers after school were linked to more aggressive behavior with peers at school as reported by classroom teachers. This unanticipated association may reflect how participation in afterschool activities can place youth in contact with deviant peer groups (Dodge, Dishion, & Lansford, 2006). Students who develop affiliations in their afterschool activities with antisocial peers could be influenced negatively by them.

Also, contrary to our hypotheses, we failed to detect associations between opportunities for autonomy and relative changes in youth functioning. Several factors may have contributed to this lack of effects. The wording of the items on the autonomy subscale did not distinguish extreme experiences of autonomy that lack adult guidance from the more adult-guided, perhaps more developmentally-appropriate, experiences of autonomy. Therefore, autonomy may not have been well-measured. In addition, the autonomy subscale had only four items and an acceptable, but lower reliability. Prior research has demonstrated that early adolescents have an increased desire for autonomy, but instead experience fewer decision-making opportunities—a mismatch that can contribute negatively to adolescents' motivational and achievement-related developmental outcomes (Eccles et al., 1993). In consideration of such research, further work on the associations between provisions for autonomy and youth functioning is necessary.

Future work should also consider the types of afterschool activities that youth participate in, in addition to the quality of their experiences. Nonetheless, in our follow-up analyses for a subsample of youth, we included controls for activity type and found similar patterns to those found in the primary analyses. Given these results,

it is unlikely that the effects of quality obtained in this study were an artifact of the type of experience alone.

Although significant statistically, are the significant associations in this study also of practical importance? The effect sizes obtained are “small” by conventional standards (Cohen, 1988), but when assessing practical importance, it is critical to do so in the context of the existing empirical literature (McCartney & Rosenthal, 2000). Benchmarking the present study's longitudinal effects (effect sizes of .08 to .27) against the average estimated effects from Durlak et al.'s (2010) recent large-scale meta-analysis of associations between afterschool programs with high-quality features and youth outcomes (effect sizes of .14 to .37), the results resemble each other. It is important to note that while Durlak et al. focused on concurrent effects, the present study extends the literature by finding longitudinal effects that were as large or nearly as large.

In addition to its longitudinal design, another strength of the present study was that it examined *cumulative* associations between the quality of experience in afterschool activities and youth functioning. These cumulative associations were found even with baseline functioning and child and family demographics controlled. A further strength of the current study was that it accounted for the clustering of youth within schools.

Next steps are to examine the effect of specific aspects of youth-reported quality of experience on adolescent functioning, accounting for activity dosage. Although detailed attendance data for participation in the afterschool programs were collected in our study, detailed attendance data for participation in other organized afterschool activities were not collected. Nonetheless, some studies (e.g., Hansen & Larson, 2007) suggest that attending structured afterschool activities for a greater amount of time may relate to more positive developmental experiences and outcomes. It is possible that the quality of the afterschool experience differentially affects adolescent functioning based on one's dosage of participation. Future work on relations between youth reports of afterschool quality and developmental functioning can determine how best to collect detailed attendance data in all organized afterschool activities and also account thoroughly for other important aspects of youth organized activity involvement such as breadth of participation and engagement in activities.

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