

CAN AFTER-SCHOOL PROGRAMS BENEFIT CHILDREN
WHO LIVE IN HIGH-CRIME NEIGHBORHOODS?

Deborah Lowe Vandell & Kim M. Pierce

University of Wisconsin-Madison

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ABSTRACT

The purpose of this study was to examine effects of participation in after-school programs for children who resided in low-income, high-crime neighborhoods. Previous work with similar samples has focused on comparisons of program and nonprogram children, with an implicit assumption that children participate in programs with equal frequency. We examined variations in participation among program children during the course of a school year, associating these variations with measures of adjustment obtained at the end of the year. With prior adjustment controlled statistically, dosage effects were found for children's work habits at school, ability to work well with others at school, endorsement of negative strategies for managing peer conflicts, and school absences. Children who attended programs more days during the school year outperformed children who attended fewer days.

BACKGROUND

Prior research examining the effects of after-school programs on children who are at risk for academic and social problems has focused on comparisons between children who attend programs and children who do not. Some studies have documented beneficial effects of program participation in terms of reading and math achievement, academic and conduct grades, work habits at school, emotional and behavioral adjustment, and peer relations (Marshall, Coll, Marx, McCartney, Keefe, & Ruh, 1997; Mayesky, 1980; Morris, Shaw, & Perney, 1990; Posner & Vandell, 1994; Sheley, 1984; Tucker et al., 1995). Other studies, however, have found no effects in comparisons between program and nonprogram children (Pettit, Laird, Bates, & Dodge, 1997; Posner & Vandell, in press). These conflicting results may be due to participation differences in the program group.

After-school program participation can vary widely, ranging from sporadic attendance to daily participation. We examined the influence of this variation in program participation on the academic and social adjustment of at-risk children. We hypothesized that attending a program more days across the school year would be associated with better academic and conduct grades at school, greater endorsement of positive conflict resolution strategies and less endorsement of negative strategies, and better school attendance than attending a program fewer days, controlling for prior adjustment.

METHOD

Programs

Four after-school programs were studied. The programs were targeted to elementary school children living in neighborhoods characterized by poverty and high crime rates, and were offered free of charge by the school district and the city in which it is located. Goals of the

programs included enhancing children's cognitive skills, helping children learn how to interact positively and effectively in groups, teaching conflict resolution strategies to children, and improving school attendance. The programs operated 5 days per week during the school year and offered both staff-directed activities (e.g., computer lab, art class, dance group) and free-choice activities (e.g., games, puzzles, books, art, music, dramatic play, outside play) on a daily basis. Time for homework was optional, with help from program staff available. Although children were formally enrolled in the programs, regular attendance was not required.

Participants

The programs served children in Grades 1-5. Participants in this study were 99 children in third, fourth, and fifth grades.

- 53% female
- 71% minority race (55% Black, 11% Asian, 5% Hispanic)
- 77% school lunch subsidy provided to low-income students
- 49% single-parent home

Measures

Data on children's adjustment were collected at two time points: (1) prior to program participation (pretest), and (2) at the end of the school year (posttest). Table 1 shows descriptive statistics for these variables.

Academic and conduct grades. School classroom teachers used a 5-point scale (Pierce, Hamm, & Vandell, 1999) to rate children's:

- academic grades (composite of reading, math, language)
- work habits at school
- ability to work well with others at school

Table 1

Descriptive Statistics for Child Adjustment Measures

	Pretest		Posttest	
	<i>M (SD)</i>	Range	<i>M (SD)</i>	Range
Academic grades	3.2 (0.9)	1.25-5	3.3 (0.9)	1.25-5
Work habits	3.3 (1.1)	1-5	3.4 (1.0)	1-5
Work well with others	3.5 (1.2)	1-5	3.5 (1.1)	1-5
Conflict resolution strategies				
Assertive friendliness	7.0 (1.7)	2.3-9.8	6.8 (1.5)	2-9.5
Avoidance	4.6 (2.1)	2-8.8	6.5 (1.7)	2-9.5
Overt aggression	3.0 (1.6)	2-10	3.4 (1.9)	2-9.8
Relational aggression	3.7 (1.5)	2-9	4.0 (1.6)	2-8.5
School absences, half days	14 (12)	0-52	17 (13)	0-92

Conflict resolution strategies. Children completed *School Stories* (Crick & Dodge, 1996), a paper-and-pencil measure of responses to hypothetical peer conflict situations. Children indicated which of four strategies they would use in each of four hypothetical situations, how often they would use each strategy if the situations happened frequently, and how good or bad it is to use each strategy. Four composite scores with a possible range of 2-10 were created:

- assertive friendliness
- avoidance
- overt aggression
- relational aggression

School absences. The school district provided the number of half days that children were absent from school during the year (posttest) and the year prior (pretest).

Program attendance. Program staff provided attendance reports from which we computed the number of days that children attended the programs during the school year. The mean number of days was 89 ($SD = 48$, median = 92, range = 1-163).

RESULTS

Comparisons of Program and Nonprogram Children

Prior to conducting the substantive analyses, we compared the pretest adjustment of program children and other children in their schools. These data were collected at the end of the previous school year. Children who subsequently participated in the programs during the next school year, compared to children who did not participate:

- had poorer academic and conduct grades
- were less likely to endorse assertive friendliness as a conflict resolution strategy

These results document that the program children were at risk for academic and social

adjustment problems and potentially could benefit from the program intervention.

Analytic Strategy

There was substantial variation in children's participation in the after-school programs. Our analyses focused on the effects of these attendance variations on program children's adjustment. Two sets of correlations were computed between the number of days during the school year that children participated in the programs and adjustment at the end of the school year: (1) simple Pearson product-moment correlations, and (2) partial Pearson product-moment correlations with pretest adjustment partialled out. Sample sizes varied in these analyses due to some classroom teachers not providing academic and conduct grades, and some children being absent from school when the child measure was administered. For the partial correlations, some children were not enrolled in the target schools when pretest measures were obtained.

Effects of Program Attendance Frequency on Child Adjustment

Simple correlations. As shown on Table 2, the more days that children attended the programs during the school year:

- the better their academic grades at the end of the year
- the better their work habits and ability to work well with others at school at the end of the year
- the less likely they were at the end of the year to endorse relational aggression as a solution to peer conflicts
- the fewer days they were absent from school during the year

Table 2

Relations between Amount of Program Participation and Child Adjustment

	Simple correlations	Partial correlations
Academic grades	.27 ⁺ (76)	.20 (59)
Work habits	.20 ⁺ (76)	.27 ⁺ (59)
Works well with others	.20 ⁺ (76)	.23 ⁺ (59)
Conflict resolution strategies		
Assertive friendliness	.10 (86)	.07 (79)
Avoidance	.12 (86)	.11 (79)
Overt aggression	-.05 (86)	.00 (79)
Relational aggression	-.24 ⁺ (86)	-.25 ⁺ (79)
School absences	-.27 ^{**} (94)	-.34 ⁺ (40)

Note. Numbers in parentheses are sample sizes.

⁺ $p < .09$ ^{*} $p < .05$ ^{**} $p < .01$

Partial correlations. Table 2 also shows that when pretest adjustment was controlled, the more days that children attended the programs:

- the better their work habits at school at the end of the year
- the better their ability to work well with others at school at the end of the year
- the less likely they were at the end of the year to endorse relational aggression as a solution to peer conflicts
- the fewer days they were absent from school during the year

SUMMARY AND CONCLUSIONS

- The children who attended the after-school programs examined in this study were at substantial risk for poor academic and social adjustment. Compared to other children in their schools, program children had poorer academic and conduct grades, and were less likely to endorse positive conflict resolution strategies, prior to participating in the programs.

- The number of days that children attended after-school programs was associated with their academic and social adjustment. Children who attended more days during the school year, compared to children who attended fewer days, had better work habits and greater ability to work well with others in the classroom at the end of the year, were less likely to endorse relational aggression for management of peer conflicts at the end of the year, and were absent from school less often during the year, even when pretest adjustment was controlled.

- Rather than simply contrast children who are enrolled in after-school programs with other children when examining effects of programs, future research should consider how often children actually attend the programs. Effects likely are different for children who attend sporadically compared to children who participate more frequently.

REFERENCES

- Crick, N. R., & Dodge, K. A. (1996). Social information processing mechanisms in reactive and proactive aggression. *Child Development*, 67, 993-1002.
- Marshall, N. L., Coll, C. G., Marx, F., McCartney, K., Keefe, N., & Ruh, J. (1997). After-school time and children's behavioral adjustment. *Merrill-Palmer Quarterly*, 43, 497-514.
- Mayesky, M. E. (1980). A study of academic effectiveness in a public school day care program. *Phi Delta Kappan*, 62, 284-285.
- Morris, D., Shaw, B., & Perney, J. (1990). Helping low readers in grades 2 and 3: An after-school volunteer tutoring program. *The Elementary School Journal*, 91, 133-150.
- Pettit, G. S., Laird, R. D., Bates, J. E., & Dodge, K. A. (1997). Patterns of after-school care in middle childhood: Risk factors and developmental outcomes. *Merrill-Palmer Quarterly*, 43, 515-538.
- Pierce, K. M., Hamm, J. V., & Vandell, D. L. (1999). Experiences in after-school programs and children's adjustment in first-grade classrooms. *Child Development*, 70, 756-767.
- Posner, J. K., & Vandell, D. L. (1994). Low-income children's after-school care: Are there beneficial effects of after-school programs? *Child Development*, 65, 440-456.
- Posner, J. K., & Vandell, D. L. (in press). After-school activities and the development of low-income urban children: A longitudinal study. *Developmental Psychology*.
- Sheley, J. F. (1984). Evaluation of the centralized, structured, after-school tutorial. *Journal of Educational Research*, 77, 213-218.
- Tucker, C. M., Chennault, S. A., Brady, B. A., Fraser, K. P., Gaskin, V. T., Dunn, C., &

Frisby, C. (1995). A parent, community, public schools, and university involved partnership education program to examine and boost academic achievement and adaptive functioning skills of African-American students. *Journal of Research and Development in Education*, 28, 174-185.