

Prospective Analysis of Peer and Parent Influences on Minor Aggression Among Early Adolescents

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The research examined the influence of parent and school variables on minor aggression among early adolescents. Sixth-grade students ($N = 1,081$) were interviewed at the beginning of the school year (Time 1) about aggressive behaviors and selected psychosocial variables and at the end of the year (Time 2) about aggressive behaviors. Aggression increased over time and was greater for boys than girls at both time points. In path analyses, Time 1 aggression was directly associated with Time 2 aggression and indirectly associated through affiliation with Time 2 problem-behaving friends. School engagement was associated indirectly with Time 2 aggression through affiliation with problem-behaving friends. Parenting behavior was negatively and directly associated with Time 2 aggression and indirectly through Time 2 affiliation with problem-behaving friends. The findings indicated that selection and previous behavior predicted peer affiliation and parenting and school engagement protected against early adolescent aggression.

Keywords: aggression; youth; early adolescents; school; parenting behavior; peer influences

Adolescent aggressive behavior is among the most prevalent and demanding problems for parents, teachers, youth leaders, and juvenile authorities.¹ Physical fighting, bullying, and weapon carrying, considered “minor” aggression, account for most of the aggressive acts reported in school and community settings and are the focus of substantial research.²⁻⁴ The prevalence of minor aggression increases through adolescence, peaks in late adolescence or early adulthood, and then decreases with age.⁵ In surveys of middle school students, 20% to 34% have reported being in a physical fight;^{2,5} 8% report frequent bullying behaviors such as teasing, name-calling, and threatening;³ and 14% in one study reported carrying a weapon to school.⁶ Because many victims are also bullies,⁷ bullying often stimulates aggressive reactions. Among middle school students, boys report more physical fighting,^{1,5,8,9} bullying,^{3,7} and weapon carrying^{4,10} than girls and display differences in types, intensities, onset, and duration of aggression.^{11,12}

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A range of risk and protective psychosocial factors for minor aggression have been identified,¹³ and the nature of the relationships between these variables is an important research emphasis. According to social control, social learning, and problem behavior theories,¹⁴⁻¹⁸ goal-directed behaviors are largely the product of long-term and immediate social contexts and social influences. Social influences by parents and peers are thought to provide direct effects on behavior in the form of modeling and social reinforcement and indirect effects by shaping perceptions and attitudes toward what is acceptable and appropriate behavior.¹⁹ Social contexts, including school and family, provide exposure to peers and adults and in other ways provide important influences on aggression norms, attitudes, and behavior. Youths who have difficulty adjusting to middle school and fail to become engaged in school may be more likely to develop antisocial attitudes, to affiliate with problem-behaving friends, and to engage in aggressive and other antisocial behavior.^{9,13,20-22} The well-established association between antisocial friends and aggressive behavior^{11,23,24} may be due to direct peer socialization, where teens are aggressive because of the culture of aggressiveness of their peer group, or the tendency of youths who are aggressive to affiliate with other aggressive, antisocial youths who are likely to approve and reward this behavior. The role of school and parent variables in moderating either the actual association with problem-behaving youths or the effects of such association on problem behavior is of considerable research interest.^{2,3,14,23}

Authoritative parenting practices^{21,25} such as clear behavioral expectations, close monitoring, and active involvement are thought to be negatively associated with aggressive, violent, and delinquent behaviors during adolescence. Parental monitoring, in particular, has been shown to associate negatively with early adolescent aggression, fighting, and weapon carrying.^{23,26} However, the findings are not consistent, and it is unclear which parenting behaviors may be most important or how these behaviors may affect aggression. Parenting practices may directly influence aggression by reducing opportunities and encouraging alternate, prosocial behavior or indirectly through attitudes, expectations, and skills, thereby reducing the motivation for aggression.²⁷ Similarly, youths who adjust well to school may be less likely to affiliate with problem-behaving youths or less influenced by this association. However, the possible influences of parenting and school adjustment on aggression are not well researched.¹²

The purposes of this research are to assess the possible direct effects of authoritative parenting practices, adjustment to school, and school engagement on minor aggression and possible indirect effects of parenting behavior, school adjustment, and school engagement on minor aggression through reduced peer influence.

METHOD

Two successive cohorts of students in four middle schools in one suburban Maryland school district were surveyed at the beginning (Time 1) and again toward the end of the sixth grade (Time 2) during the 1996-1997 and 1997-1998 school years. School records indicate that 24% of students were enrolled in the national free or reduced school lunch program. Special education students with reading difficulties were excluded from data collection. Two trained proctors administered the surveys in each class of 20 to 35 students. Students absent on the day of assessment were measured during a special assessment held within 2 weeks of the original data collection. To emphasize confidentiality, students first completed, detached, and turned in a cover page that included their name, survey identification number, birth date, and homeroom teacher's name. Thus, students

completed questionnaires that included only the survey identification number for identification. Students were encouraged to complete the questionnaire but were informed that they could skip any questions. The study protocol was approved by the National Institute of Child Health and Human Development Institutional Review Board and authorized representatives of the school district.

Sample

Out of 1,490 eligible students, a total of 1,270 (85.3%) completed the baseline (Time 1) survey. Of those not completing the survey, the parents of 118 refused permission to participate, 47 students did not return a completed consent form, 55 were absent both assessment days, and three surveys from eligible students were incomplete and deemed unusable. Of the 1,267 students assessed at Time 1, 1,081 (85%) were also assessed at Time 2. Of the 186 not reassessed at Time 2, 17 were absent both days of the assessment, 46 transferred or could not be located, 61 failed to return a parent consent form, and the parents of 43 refused participation. In addition, 19 students not identified as special education students with reading difficulties at Time 1 were identified as such by the school at Time 2. The final sample ($N = 1,081$) was 48% male, 52% female, 70% White, 19% Black, and 11% other race (composed in near equal proportions of Asian, American Indian, and Hispanic). The 186 assessed at Time 1 but not Time 2 (lost to follow-up), compared with the sample who completed assessments at both Time 1 and Time 2, were significantly ($p < .05$) to be male, Black, and to have a mother with no greater than a high school education. Those assessed at Time 1 only also reported significantly ($p < .001$) more aggression ($M = 3.30$, $SD = 3.62$) than those who completed assessment at both Time 1 and Time 2 ($M = 1.74$, $SD = 3.17$).

Measures

The characteristics of the variables of interest (except demographic) are shown in Table 1, including the number of items, coefficient alphas, range, mean, standard deviation, and correlations. Several background items provided basic information concerning sex, race, school attended, and mother's education.

Dependent Variables. An index for assessing minor aggression was developed that included four items. The aggression scale was formed from questions that asked students about the number of times in the past year (0, 1-2, 3-5, 6 or more) they had (1) been in a fight and tried to hurt another youth but did not; (2) been in a physical fight in which you knocked someone down or hurt them; (3) bullied or picked on someone younger, smaller, or weaker; and (4) carried a knife or other weapon at school.

Independent Variables. Indices were developed to measure seven independent variables. Shown in Table 1 for each scale are the number of items, coefficient alphas, means, standard deviations, and correlations. Affiliation with problem-behaving peers was measured by asking the respondent to indicate how many of his or her five closest friends smoked, drink alcohol, cheat on a test, get into fights with other kids, and bully other youths. Two variables assessed attitudes toward school. The school adjustment variable had 11 items for which participants compared themselves with their peers in terms of how

difficult (*much harder, a little harder, a little easier, much easier*) it was for them to keep up with schoolwork, stay out of trouble at school, pay attention in class, follow rules, get along with teachers, and make friends. To assess school engagement, an index of six items asked students to report how much they agreed (*strongly agree, agree, disagree, strongly disagree*) with each statement: (1) I pay attention in class, (2) I take school seriously, (3) I am proud to be at this school, (4) I want to do well at school, (5) Most days I am happy at school, and (6) I do not care how I do at school. Four parenting behaviors were measured. Parental monitoring was assessed with how much the parent knows (*almost nothing, a little, a lot*) about how the teen is doing in school and about the teen's free time, friends, activities, and health habits. Parental expectations included six items that asked how upset (*not at all, a little, somewhat, extremely*) your parent or guardian would be if they found out you smoked cigarettes, drank alcohol, were sent to the office for misbehavior, did poorly on a test, were disrespectful to a teacher, or got into a physical fight at school. Parental support included 12 items (*strongly agree, agree, disagree, strongly disagree*) that asked about having a parent/guardian who student perceives as helps, gives care and attention, is easy to talk to, praises student, enjoys student's company, likes student, respects student's opinions, takes student's ideas seriously, gives reasons for decisions, really listens, encourages self-expression, and agrees with student a lot of the time. Study participants were asked if they *strongly agree, agree, disagree, or strongly disagree* that they have a parent who is hard to get along with, gets angry almost every day, easily loses his or her temper with me, with whom I am often angry. Parent-child conflict was assessed with four items that asked about having a parent with whom you are often angry, who is hard to get along with, gets angry, and loses his or her temper.

Analyses

In unadjusted analyses, correlations among the variables of interest were calculated. Separate path analyses in MPlus²⁸ were used to evaluate the direct and indirect effects on aggressive behavior of school adjustment and school engagement, as well as parenting behavior. Separate analyses were run for the school and parent variables to have a clear picture of the moderating effect of these variables on the association between problem-behaving friends and aggression. Time 1 measures of problem-behaving friends, aggression, sex, and race were included in each of these models. A latent variable representing parenting behaviors was constructed using four Time 1 parenting variables—monitoring, expectations, support, and conflict. The measurement model for this latent variable had good fit statistics (Comparative Fit Index [CFI] = .99, Tucker-Lewis Index [TLI] = .99, root mean square error of approximation [RMSEA] = .02). Time 1 variables were allowed to correlate with one another and modeled as exogenous variables. To examine the cross-lagged effects of Time 1 and Time 2 problem-behaving friends and aggression, we specified the model to restrict the association between Time 1 aggression and Time 2 problem-behaving friends to be equal to the association between Time 1 problem-behaving friends and Time 2 aggression and compared this model using a chi-square difference test with the model that allowed the two parameters to be freely estimated.²⁹ Having refined the separate models, a final path model was run that included both the school and parenting variables to compare the relative magnitude of the associations between the school and aggression with the association between parenting and aggression. However, the model did not fit the data adequately, and no comparisons could be made.

Table 1. Correlations Between Aggression and Time 1 Independent Variables ($N = 1,081$)

Variable	n	α	Range	M	SD	1	2	3	4	5	6	7	8	9	10
1. Aggression Time 2	4	.66	0-12	2.29	3.60	—									
2. Aggression Time 1	4	.67	0-12	1.74	3.17	.49	—								
3. Time 1 problem-behaving peers	5	.84	0-35	2.96	4.91	.35	.50	—							
4. Time 2 problem-behaving peers	5	.86	0-35	5.25	6.66	.52	.42	.50	—						
5. School adjustment	11	.86	11-44	35.67	5.97	-.23	-.29	-.30	-.23	—					
6. School engagement	6	.73	3-12	10.92	1.38	-.27	-.35	-.34	-.33	.42	—				
7. Parental involvement	6	.81	6-24	16.48	2.23	-.27	-.29	-.34	-.28	.31	.40	—			
8. Parental monitoring	4	.63	4-16	14.40	1.84	-.17	-.17	-.16	-.24	.24	.45	.31	—		
9. Parent expectations	6	.80	6-24	20.36	3.15	-.21	-.30	-.25	-.19	-.20	-.30	.31	.34	—	
10. Parent-teen conflict	4	.82	4-16	7.86	3.15	.20	.23	.25	-.20	-.31	-.27	-.36	-.19	-.17	—

NOTE: All correlations significant at $p < .001$.

Table 2. Prevalence of Aggression by Sex, Race, and Total

Category	<i>n</i>	Time 1		Time 2		Difference ^a
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Boys	511	2.67 _a	3.70	3.14 _a	4.05	+0.47
Girls	567	0.91 _b	2.31	1.52 _b	2.96	+0.61
White	768	1.72	3.15	2.30	3.70	+0.57
Black	195	1.96	3.38	2.14	2.91	+0.18
Other	109	1.58	3.00	2.51	4.10	+0.93
Total ^b	1,081	1.74	3.17	2.29	3.60	+0.55

NOTE: Means for subgroups with different subscript letters are significantly different ($p < .01$) for that time.

a. Increases from Time 1 to Time 2 were significant ($p < .001$) for total and all subgroups except Black.

b. Subgroups do not total 1,081 due to missing data.

RESULTS

Table 2 shows the mean prevalence of aggressive behavior reported at Time 1 and Time 2 by sex and race. Within-subject t -test comparisons confirmed that aggression increased significantly ($p < .01$) from Time 1 to Time 2 for the total population and all subgroups, except Black, for whom aggression increased but not significantly. Between-group t tests revealed that boys reported significantly more aggression than girls at Time 1 and Time 2 ($p < .001$), although the increase in aggression among girls was somewhat greater than the increase among boys. Blacks reported somewhat more aggression at Time 1 than Whites or Other Races so that by Time 2, both Whites and Other Races reported more aggression than Blacks, but these differences were not significant.

Shown in Table 1 are the correlations between aggression at Time 2 and the independent variables assessed at Time 1. The correlation between Time 1 and Time 2 aggression was .49. Time 1 problem-behaving friends were correlated at .40 with Time 1 aggression and at .35 with Time 2 aggression. With the exception of conflict, other correlations with Time 2 aggression were negative, ranging from $-.17$ for parental monitoring to $-.27$ for Time 1 school engagement and Time 2 problem-behaving friends.

The first path model included sex; race; Time 1 school adjustment, school engagement, problem-behaving friends, and aggression; and Time 2 problem-behaving friends and aggression. The association between school adjustment and Time 2 outcomes was not significant, so it was dropped from the model. Standardized path coefficients for the revised model are shown in Figure 1. This model fit the data well ($\chi^2 = .89$, $p = .83$; CFI = 1.00, TLI = 1.01, RMSEA = .00). Significant associations with Time 2 aggression were found for sex and race, negative for female and positive for Black. School engagement had a direct negative association with Time 2 problem-behaving friends, which was positively associated with Time 2 aggression, indicating that the association of school engagement with aggression was primarily indirect. Time 1 aggression was positively associated with both Time 2 aggression and Time 2 problem-behaving friends, whereas Time 1 problem-behaving friends was significantly associated with Time 2 problem-behaving friends, but not Time 2 aggression. To confirm this finding, this model was compared with a similar model in which the parameter estimating the association between Time 1 aggression and Time 2 problem-behaving friends was restricted to be

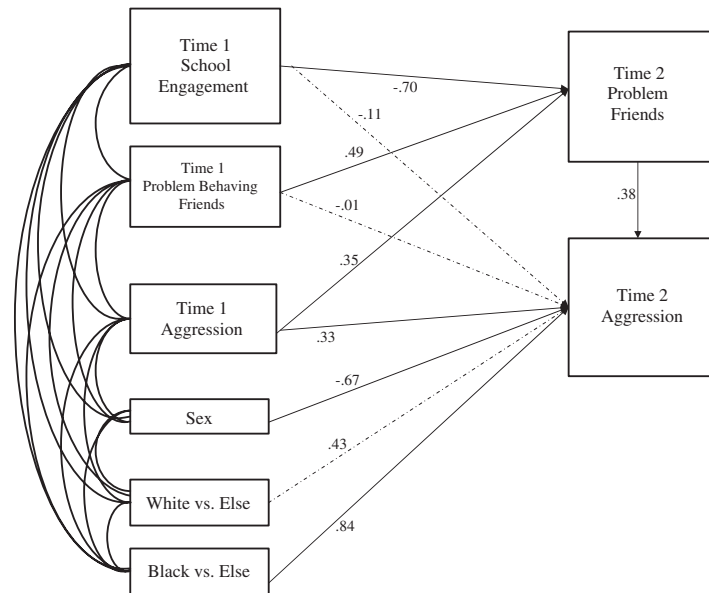


Figure 1. Path model depicting effects of school engagement on aggression.

NOTE: Model fit statistics ($N = 1,034$) = $\chi^2 = .89$, $df = 3$, $p = .83$; Comparative Fit Index (CFI) = 1.00; Tucker-Lewis Index (TLI) = 1.01; root mean square error of approximation (RMSEA) = .00; 90% confidence interval = .00, .03; standardized root mean residual (SRMR) = .00. Dashed lines indicate nonsignificant ($p > .05$) paths.

equal to the parameter estimating the association between Time 1 problem-behaving friends and Time 2 aggression. The restricted model resulted in a poorer fit to the data (χ^2 difference = 27.57, $df = 1$, $p < .001$) than the first model, confirming that Time 1 aggression predicted Time 2 problem-behaving friends, whereas Time 1 problem-behaving friends did not predict Time 2 aggression directly.

The second path model, shown in Figure 2, included sex, race, Time 1 aggression, problem-behaving friends, and parenting behaviors (latent variable composed of parent monitoring, expectations, support, and conflict), and Time 2 aggression and problem-behaving friends. The model fit the data adequately (CFI = .98, TLI = .97, RMSEA = .04; $\chi^2 = 58.88$, $df = 25$, $p = .00$).²⁸ Being female was associated negatively with Time 2 aggression; being Black was associated positively with Time 2 aggression. Time 1 problem-behaving friends was associated with Time 2 problem-behaving friends. Time 1 parenting had a direct negative association with Time 2 aggression and an indirect negative association through problem-behaving friends with Time 2 aggression. Modification indices (MIs) were examined post hoc to see if any of the variables included in the latent parenting variable had an additional direct effect on the Time 2 variables. The MI in Mplus is in line with Lagrangian multiplier tests and provides the expected drop in the likelihood ratio chi-square when a parameter is freed.²⁸ No modification to the model was indicated. Consistent with the previous model, Time 1 aggression was associated directly and positively with Time 2 aggression and Time 2 problem-behaving friends. The association between Time 1 problem-behaving friends and Time 2 aggression was indirect through its association with Time 2 problem-behaving friends.

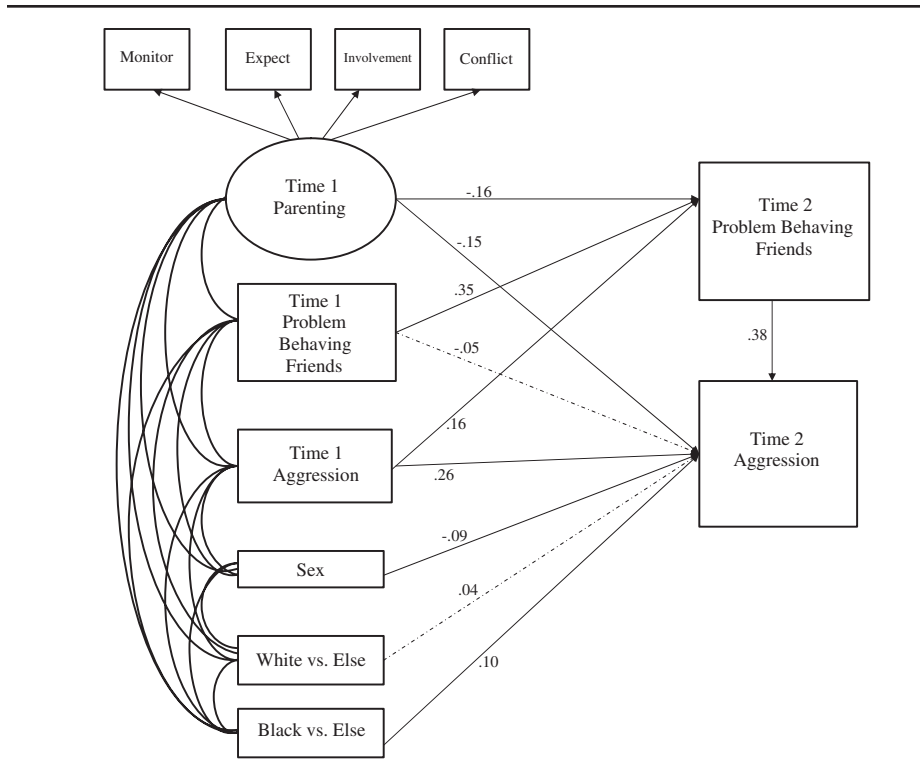


Figure 2. Path model depicting effects of parenting behavior on aggression. NOTE: Model fit statistics ($N = 1,027$) = $\chi^2 = 58.88$, $df = 25$, $p = .00$; Comparative Fit Index (CFI) = .98; Tucker-Lewis Index (TLI) = .97; root mean square error of approximation (RMSEA) = .04; 90% confidence interval = .02, .05; standardized root mean residual (SRMR) = .03. Dashed lines indicate nonsignificant ($p > .05$) paths.

The third model (not shown) that included both school engagement and parenting was examined but was not found to fit the data adequately (CFI = .96, TLI = .91, RMSEA = .06; $\chi^2 = 114.214$, $df = 24$, $p = .00$).

DISCUSSION

The study findings are limited in several ways. First, the inclusion of only four suburban schools limits generalization to early adolescents in general. Of course, most studies have limited generalizability, a general understanding of behavior emerging only through consistent findings across a number of studies. Second, the brief follow-up period of less than 8 months limits our understanding of the timing and persistence of effects of the independent variables on aggression. Nevertheless, prospective studies, even those with a fairly brief follow-up, provide stronger evidence of causal association than cross-sectional studies.³⁰ Third, although study participation was high, those lost to follow-up were more aggressive and more likely to be Black and male than those who completed both surveys, posing a threat to internal validity. Differential loss to follow-up is a common problem in prospective studies, and the best protection against it is to minimize the number of study participants lost, as was the case in this study. Fourth, the internal consis-

tency coefficient for our measure of minor aggression was $r = .67$, quite good for a three-item index, but low enough to indicate that it might not fully capture aggression in its broadest definition. Fortunately, the variable worked well in all analyses. Assessment of aggression among early adolescents is problematic. Early adolescents are not necessarily good reporters of their own behavior, but they are certainly better than parents and teachers, who only see them a limited period of the day under fairly special circumstances. Despite these limitations, the study provides new information about rates of minor aggression among early adolescents and factors associated with minor aggression. These prospective findings are consistent with the findings of others²⁴ that both selection of problem-behaving friends and previous problem behavior lead to increased affiliation with problem-behaving peers, thereby increasing future aggressive behavior. The findings also indicate that school engagement and parenting behavior are negatively associated with aggression.

Whites reported more aggression than Blacks, and boys reported more aggression than girls at both Time 1 and Time 2. Although aggression increased significantly for all subgroups from Time 1 to Time 2, this increase was greater for Whites than Blacks and girls than boys.^{1,31} However, the path analyses indicated that aggression was significantly more likely to track over time among Blacks than Whites. It is unclear why this might be the case, but possibly early adolescent Blacks who behave aggressively may be more likely than Whites to be labeled as problem behaving and segregated with other problem-behaving youths. Most studies of youth violence have focused on high-risk, early initiating youths, included only high school-age youths, and/or lumped a wide age range of adolescents into the same report.³¹ However, Orpinas et al.,²⁶ using a similar outcome measure, presented data on a cohort of sixth graders showing higher initial rates of aggression for boys than girls and a substantial increase for both boys and girls during sixth grade, similar to our findings. Orpinas et al.³² also reported the prevalence of aggressive behavior for a cohort of sixth, seventh, and eighth grades, which showed relatively stable rates of overall aggression and declines in fighting after sixth grade. Hence, based on the few studies reporting prevalence for the age-groups of interest, including the current study, it appears that minor aggression may be a particularly prevalent problem among sixth graders.

School engagement was associated indirectly with Time 2 aggression through its association with Time 2 problem-behaving friends. This finding is consistent with the hypothesis that school engagement discourages affiliation with problem-behaving youths and that low engagement increases affiliation with problem-behaving youths. Adolescents who do not try hard in school may be drawn to other unengaged youths.²⁴ Similarly, schools may aggregate less engaged youths in courses, cocurricular activities, and discipline groups, thereby increasing the likelihood of their affiliation with other unengaged and problem-behaving youths.

Time 1 aggressive behavior predicted aggression at Time 2, indicating that earlier aggression led to later aggression. Time 1 aggression was also associated with Time 2 problem-behaving friends, indicating additional indirect effects on Time 2 aggression. This finding is consistent with the hypothesis that aggressive behavior increases selection of other problem-behaving youths as friends. Moreover, the effect on Time 2 aggression of affiliating at Time 1 with problem-behaving friends was indirect through its association with Time 2 problem-behaving friends, providing support for the peer influence hypothesis. The issue of whether behavior leads to selection or selection leads to behavior has been examined and discussed frequently, without resolution.^{5,15,18,24} Snyder et al.²⁴ provided a thoughtful analysis of the insidious and lasting relationships between problem

behavior and affiliation with other problem-behaving youths, suggesting reciprocal relationships. Selection of problem-behaving friends, either by choice or default, predicts future problem behavior. Concurrently, problem behavior brings youths into contact with others who behave the same way or are accepting of this behavior, and these social affiliations reinforce attitudes accepting of deviance and provide new opportunities to engage in problem behavior.

Whereas previous aggressive behavior and peer affiliation were found to increase aggressive behavior, positive parenting behavior (latent variable) was found to protect against aggressive behavior. Parenting behavior provided both direct protective effects against later aggressive behavior and indirect protective effects through its moderation of the effect of problem-behaving friends. The magnitude of the associations between parenting and aggression was modest compared to problem-behaving friends, but the data indicate significant protective effects of parenting behavior. We used post hoc analyses to examine the contribution of specific dimensions of parenting but found that the individual parenting variables did not contribute additionally to the model beyond the effects of the latent variable. In our experience in this and earlier analyses, the parenting variables are colinear and cannot usefully be included together in traditional regression models. Thus, the latent variable takes advantage of their shared variance, providing a broader assessment of parent influences than any one parenting variable.

In general, the findings are consistent with other research^{24,26} and theory²¹ indicating that demanding and responsive parenting behaviors provide positive influences on child and adolescent behavior. Close parental monitoring and clear expectations are measures of demandingness. Parental monitoring increases the likelihood that antisocial behavior would be detected and punished, discourages association with unacceptable peers, and reinforces parental expectations.^{24,27} Clear parental expectations provide a powerful socializing force by distinguishing and emphasizing acceptable from unacceptable behavior and linking behavior to family goals and rules.¹⁴⁻¹⁶ Parental involvement, a measure of responsiveness, is a demonstration of parental interest, concern, and acceptance and provides increased opportunities for support and interaction, including the establishment of clear expectations for behavior and peer affiliation.

IMPLICATIONS FOR PRACTICE

The findings from this study confirm the protective effects of school engagement and parenting behaviors against adolescent aggression. The study findings underscore the need for primary prevention efforts, as minor aggression appears to increase during early adolescence and track over time. Moreover, the findings indicate that school engagement and parenting behaviors are indirectly associated with aggression through associations with problem-behaving friends. Sixth graders may be particularly susceptible to social influences as they explore identity and cope with increasingly complex and social interactions. It may be useful to remind parents how important it is for youths to affiliate with prosocial rather than antisocial peers and that parents may be able to discourage aggressive behavior directly through clear expectations, consistent monitoring, and active involvement. Both parents and schools should be reminded that the way they handle early adolescent problem behavior may greatly influence the prevalence of future problem behavior. For example, constructive discipline and management of early aggressive behavior may prevent future aggressive behavior. Conversely, policies and practices that label and aggregate problem-behaving youths may foster rather than reduce future prob-

lem behavior. In particular, schools would be advised to review policies and practices that tend to concentrate on problem-behaving youths, for example, when youths who get in trouble at school are grouped as part of disciplinary actions.

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