

# Parental Influences on Students' Aggressive Behaviors and Weapon Carrying

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This article describes the association between four family constructs (family structure, relationship with parents, parental monitoring, and perception of parental attitudes toward fighting) and aggressive behaviors and weapon carrying among middle school students. Results are based on a cross-sectional survey of 8,865 6th, 7th, and 8th graders from eight urban schools in Texas (88.5% response rate). The sample was ethnically diverse. An inverse relationship was observed between aggression scores, fighting, injuries due to fighting, and weapon carrying and the family variables: parental monitoring, a positive relationship with parents, and the lack of parental support for fighting. Students who lived with both parents were less likely to report aggression than students in other living arrangements. These four family constructs accounted for almost one-third of the total variance in the aggression score. The perception of parents' attitudes toward fighting was the strongest predictor of aggression. Results provide support for including a strong parental component in the development of violence prevention programs for young people.

The increase in adolescent violence during the last decade has intensified the search for predictors of violent behaviors. In an effort to develop a comprehensive model for prevention of adolescent aggression, it is necessary to examine different domains of influence such as family, environment, and personal beliefs and skills. Studies on the influence of the family, however, have frequently focused on male antisocial behavior,<sup>1-3</sup> whereas fewer studies have focused on school-age nondelinquent male and female adolescents. This article examines family influences on aggressive behaviors among middle school students.

The impact of family violence on children's and adolescents' aggressive behaviors has been widely documented. Different, although not incompatible, theoretical approaches have guided the research on the relationship between the family and the development of aggressive behavior. Social learning theory states that children learn from their parents the ways to manage conflict and enact aggression. Parents act as models for violent

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This research was partially supported by the Centers for Disease Control and Prevention, Grants U81/CCU609953-02 and U48CCU609653.

*Health Education & Behavior*, Vol. 26 (6): 774-787 (December 1999)  
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behaviors that children observe and then imitate. Children also learn that violence is one way, and sometimes the only way, to solve conflicts.<sup>4</sup> A second theoretical approach emphasizes that aggression emerges as a reaction to unsatisfactory and frustrating relationships with significant others, especially the attachment object, in this case, the parents.<sup>5</sup> Gottfredson and Hirschi's general theory of crime integrates aspects of social learning and attachment theories.<sup>6</sup> According to their theory, low self-control of the delinquent or aggressive person explains multiple forms of crime. The major source of low self-control is ineffective child rearing: low parental supervision, parental support for aggression, lack of parental recognition and punishment for aggressive behaviors, and poor relationship with the parents. General systems theory, on the other hand, suggests that not only do parents influence their children, but also that the characteristics of children will influence their parents' behaviors.<sup>7</sup> For example, children with neurobiological deficits may have a higher propensity to aggression and lower self-control,<sup>8</sup> which will in turn influence their parent's child-rearing practices.

Parenting practices, parenting styles, and family structure are dimensions of parental influence on adolescent risk behaviors that lie on a continuum of changeability. Parental monitoring, a parenting practice, prevents exposure to models of adolescent risk behaviors and promotes opportunities for parents to train their children in self-control. Consistent with this assumption, parental monitoring has been inversely associated with antisocial behavior, drug use, tobacco use, and early sexual activity.<sup>9-12</sup> Low parental monitoring and poor discipline have also been found to correlate significantly with delinquency among 7th- and 10th-grade boys,<sup>2</sup> and to predict delinquency in 4th-grade boys who were followed through 7th grade. Parental monitoring may prevent adolescents from drifting into deviant peer groups.<sup>1</sup> The more removed from parental supervision the adolescent is, the more he or she becomes susceptible to peer influences to engage in violence and other health-compromising behaviors.<sup>13</sup>

Parental communication about behaviors is another parenting practice influencing aggressive behaviors. Social cognitive theory postulates that aggressive behaviors are learned through modeling and reinforcement. Parents may model and praise aggressive peer interactions and various high-risk practices such as fighting or "acting tough."<sup>4</sup> Parents may have considerable influence on their child's risk behaviors by their communications about those behaviors.<sup>14</sup> Parental disapproval of aggressive behaviors, combined with parental monitoring and a positive relationship, will increase the child's self-control, reducing the likelihood of aggression and delinquency.<sup>6</sup>

Parenting styles may be reflected in children's assessments of how well they get along with their parents.<sup>15</sup> Adolescents who feel close to their parents consistently show more positive psychosocial development, behavioral competence, and psychosocial well-being.<sup>16</sup> A study of 5th- and 7th-grade boys and girls showed that the child's perception of positive relations with parents was associated with less disruptive behaviors, less substance use, and less association with deviant peers.<sup>14</sup> Vissing, Straus, Gelles, and Harrop,<sup>17</sup> in a national representative sample of parents with children under 18, found higher levels of physical aggression, delinquency, and interpersonal problems among both boys and girls who had experienced verbal aggression from the parents in the form of swear words and insults. Another national study of middle and high school students showed that violence is inversely associated with parent-family connectedness, and that this association was stronger among middle school students than high school students.<sup>18</sup> A negative relationship with parents combined with lack of parental monitoring could evidence a disrupted parent-child bonding,<sup>5</sup> which implies a failure to identify with parental and societal values, leaving the child with a lack of internal control.

Family structure may be the least changeable parental influence in the context of an intervention. Some studies have shown that family structure has little impact on risk taking,<sup>19</sup> whereas others support a direct influence. Among 4th graders, boys living in mother-only families were four times as likely to be aggressive than boys living with both parents.<sup>20</sup> However, another study showed that living in a nonintact family was a significant risk factor for fighting among African American boys but not white boys.<sup>21</sup>

The purpose of this article is to describe the association between four family constructs and aggressive behaviors and weapon carrying among a large, ethnically diverse population of middle school students. The four family constructs studied were family structure, relationship with parents, parental monitoring, and perception of parental attitudes toward fighting. The hypothesis to be tested is that students who do not live with both parents, who have a poor relationship with their parents, who have low parental monitoring, and who perceive that their parents support fighting will be more likely to exhibit aggressive behaviors and carry weapons.

## **METHOD**

### **Sample**

During the spring of 1994, we conducted a cross-sectional survey of all 6th, 7th, and 8th graders from eight urban middle schools of a large school district in Texas. The final sample included 8,865 students (88.5% response rate), who were present on the day the survey was administered and who consented to participate. Only 105 parents returned the passive consent form requesting that their child not participate, and only 50 students refused to answer the survey. In addition, 70 student answer sheets were not usable due to unreliable, random, or patterned responses. This sample was a baseline evaluation of Students for Peace, a large study designed to evaluate the comprehensive, schoolwide violence prevention intervention.<sup>22</sup>

Students were evenly distributed by gender and grade. Of the students evaluated, 66% were Hispanic, 19% were African American, 8% were white, and 4% were Asian (the remaining 3% described themselves as belonging to "other" ethnic groups or being biracial). The mean age of students was 13 years (12 for 6th graders, 13 for 7th graders, 14 for 8th graders).

### **Student Survey**

The student survey and passive informed consent were approved by the Committee for the Protection of Human Subjects of the University of Texas at Houston and by the school district's research department. Before the administration of the questionnaire, a parent information form was sent to parents explaining the purpose and content of the evaluation. Parents who did not want their child to participate in this evaluation could sign the letter and return it to the school. Research staff administered the questionnaire following standardized instructions. The importance of the study and the procedures to ensure confidentiality were explained to students. Students who did not wish to answer the questionnaire or whose parents signed the parent information form were given another activity to complete at their desk.

### *Measures of Aggressive Behavior*

Self-reported aggressive behavior was measured by the aggression scale, which measures aggressive behaviors during the week prior to the survey. The aggression scale is composed of 11 items, and responses can range from *0 times* to *6 or more times* per week. Responses are additive; thus, the scale can range between 0 and 66 points. Each point represents one aggressive behavior the student engaged in during the week prior to the survey. The scale includes behaviors such as teasing, pushing, name calling, hitting, encouraging students to fight, kicking, threatening to hurt or hit, and getting angry easily. The scores of the scale have shown high internal consistency (Cronbach's alpha = .87 in the pilot study and .88 in this baseline data) and good stability over time.<sup>23</sup> More details about the construction of the aggression scale and its psychometric properties have been described elsewhere.<sup>24</sup>

Two questions taken from the Centers for Disease Control and Prevention's Youth Risk Behavior Survey measured fights and injuries. Frequency of fights at school during the month prior to the survey ranged from 0 to 10 or more times. Injuries due to fighting during the year prior to the survey ranged from 0 to 6 or more times. Weapon carrying was measured by four questions. Students were asked how many times during the past 30 days they have carried (1) a handgun; (2) other guns (such as a rifle or shotgun); (3) a knife or razor; and (4) a club, stick, or pipe. Possible responses ranged between 0 and 6 or more days. A study conducted by Brener and colleagues in a sample of adolescents showed that test-retest reliability scores were substantial for weapon carrying (kappa = .76) and physical fights (kappa = .68) and somewhat lower for injuries (kappa = .51).<sup>25</sup>

### *Family Measures*

Family structure was measured by one question: "The parents or guardians you live with most of the time are: mother and father, mother and stepfather, father and stepmother, only mother, only father, grandparents, and other adults."

Relationship with parents was evaluated by the question: "How well do you get along with your parent or guardian you live with all or most of the time?" Students had five possible responses ranging from *very well* to *very bad*.

Parental monitoring was measured by two questions: "Do your parents let you come and go as you please?" and "When you are away from home, do your parents know where you are and who you are with?" Students had five possible responses, ranging from *never/almost never* to *almost always*. Responses to both questions were added and recoded into five categories ranging from *very high* to *very low* parental monitoring.

The student's perception of parental attitudes toward fighting was measured on a 10-item scale. Items were obtained from focus groups with students done the first year of Students for Peace<sup>22</sup> and during the pilot evaluation.<sup>23</sup> The final scale contains 10 statements of frequent parental sayings about fighting. Students were asked "What do your parents tell you about fighting?" To each statement, students responded *yes* or *no*. The scale includes five items that support peaceful alternatives to conflict ("If someone calls you names, ignore them" "If someone asks you to fight, you should try to talk your way out of a fight" "You should think the problem through, calm yourself, and then talk the problem out with your friend" "If another student asks you to fight, you should tell a teacher or someone older" and "No matter what, fighting is not good, there are other ways to solve problems") and five items that support fighting ("If someone hits you, hit them

back” “If someone calls you names, hit them back” “If someone calls you names, call them names back” “If someone asks you to fight, hit them first” and “If you can’t solve the problem by talking, it is best to solve it through fighting”). Positive responses to statements that support peaceful alternatives to conflict were added, and positive responses to statements that support fighting were subtracted. The original sum ranged between  $\pm 5$ . To avoid negative numbers, 5 points were added to each score; thus, the scale ranged between 0 points (strong support for peaceful alternatives) and 10 points (strong support for fighting). The internal consistency of the scale’s score (Cronbach’s alpha) was .81.

### Data Analysis

The prevalence of aggressive behaviors, as well as the family characteristics, was described by gender and race. Then, the association between aggression and family constructs was examined. All bivariate analyses were done separately for boys and girls. The mean scores on the aggression scale were described for each level of the family constructs. Analysis of variance was used to calculate significant differences of means; Scheffé’s multiple-comparisons procedure was used for post hoc comparisons. The prevalence of students who at least once had been in a physical fight at school, had been injured in a fight, had carried a handgun, or had carried other weapons was then described for each level of the family constructs. Weapon carrying was divided into “carried a handgun” and “carried other weapons,” which included rifles, knives and razors, and bats or clubs. Chi-square tests were used to calculate significant differences. Finally, we evaluated the effect of the four family constructs on the aggression score using multiple regression analysis, and we evaluated the effect of the four family constructs on fighting, injuries, and weapon carrying using multiple logistic regression analysis. For the regression analyses, family structure was dichotomized into “living with both parents” and all other living arrangements.

To assess the relative importance of the four family constructs in predicting the aggression scores, beta weights and uniqueness indices were interpreted. Beta weights, or standardized multiple regression coefficients, were obtained for each family construct when the aggression scores were regressed on all constructs. To calculate the uniqueness index, the  $R^2$  value for the reduced equation (without the construct of interest) was subtracted from the  $R^2$  value for the equation with all constructs. The uniqueness index for a given family construct represents the percentage of variance of the aggression scale that is accounted for by the family construct (e.g., family structure) above and beyond the variance accounted for by the other constructs.<sup>26</sup> All analyses were done using SPSS<sup>27</sup> statistical software.

## RESULTS

The mean self-reported aggressive behaviors for the total sample was 16.1 ( $SD = 14.4$ ); that is, on average, students reported 16 aggressive acts during the week prior to the survey. Self-reported aggressive behavior varied significantly by race/ethnic group, with the highest mean among African Americans ( $M = 21.0$ ,  $SD = 15.5$ ) and Hispanics ( $M = 15.4$ ,  $SD = 14.0$ ) and lowest mean among Asian students ( $M = 10.6$ ,  $SD = 11.1$ ),  $F = 53.3$ ,  $p < .0001$ . Mean aggression scores did not differ between Asian and white students, but they were statistically different among all other groups. During the month prior to the survey, almost one-fourth of the students had fought at school, 1 of 10 students had carried a

(text continues on p. 782)

Table 1. Prevalence of Aggressive Behaviors and Family Related Variables by Gender and Race/Ethnicity

	Time Frame	Total ( <i>N</i> = 8,865)	Boys ( <i>n</i> = 4,474)	Girls ( <i>n</i> = 4,384)	Hispanic ( <i>n</i> = 5,829)	African American ( <i>n</i> = 1,699)	White ( <i>n</i> = 726)	Asian ( <i>n</i> = 308)
<b>Aggressive behaviors</b>								
Aggression score (mean)	Prior week	16.1	18.0	14.4	15.4	21.0	12.9	10.6
Fought at school (%) <sup>a</sup>	Prior month	22.8	28.5	17.0	23.1	23.6	17.1	17.6
Injured in a fight (%) <sup>a</sup>	Prior year	14.4	18.7	10.0	14.3	14.4	13.0	12.4
Carried a handgun (%) <sup>a</sup>	Prior month	10.9	16.9	4.9	11.7	10.9	5.3	4.6
Carried other weapons (%) <sup>a</sup>	Prior month	27.3	37.0	17.5	29.3	24.0	21.9	19.6
<b>Family</b>								
Lives with both parents		58.3	59.6	57.0	65.5	32.0	61.1	72.3
Gets along well with parents		75.3	78.3	72.2	75.6	71.6	79.4	83.7
High parental monitoring		56.1	46.6	65.7	56.7	54.3	57.4	55.4
Parental support for peace <sup>b</sup>		53.1	44.4	61.9	53.3	44.8	65.8	69.3

a. Percentage of students who did the behavior at least once.

b. Includes scale values of 0-2.

Table 2. Family Structure, Relationship With Parents, and Parental Monitoring by Aggressive Behaviors and by Gender

	<i>n</i>	%	Aggression Score		Fought at School	Injured in a Fight	Carried a Handgun	Carried Other Weapons
			Mean	<i>SD</i>	%	%	%	%
Family structure								
Boys								
Mother and father	2,647	59.6	16.2	14.2	25.9	16.7	13.9	34.7
Mother and stepfather	480	10.8	20.5	15.2	31.6	20.3	18.7	38.3
Father and stepmother	81	1.8	21.4	17.3	40.0	36.3	35.9	48.1
Mother only	862	19.4	21.1	15.9	30.2	21.0	19.4	39.8
Father only	129	2.9	19.1	14.2	38.6	23.6	23.6	46.5
Grandparent	89	2.0	20.3	17.6	33.0	18.2	23.3	37.6
Other adults	150	3.4	19.7	16.8	35.3	22.7	26.6	42.0
Girls								
Mother and father	2,482	57.0	12.6	12.5	13.8	8.0	3.8	15.2
Mother and stepfather	566	13.0	16.7	13.7	23.8	13.3	5.8	21.5
Father and stepmother	89	2.0	18.2	13.9	24.7	18.0	12.0	23.2
Mother only	934	21.4	16.4	14.4	18.1	9.6	4.9	18.6
Father only	62	1.4	15.5	13.7	19.4	22.6	3.3	20.0
Grandparent	98	2.2	17.8	15.6	23.5	12.2	9.4	25.0
Other adults	126	2.9	18.6	16.5	29.6	20.6	13.7	29.0

Relationship with parents/guardians

Boys

Very well	2,132	48.0	14.7	13.9	22.2	15.0	11.6	29.4
Well	1,347	30.3	18.5	14.3	28.8	18.7	16.6	40.0
Just okay	803	18.1	23.7	15.8	39.6	25.0	26.2	47.7
Bad	104	2.3	30.0	17.4	50.0	29.8	39.2	60.0
Very bad	58	1.3	31.0	16.8	56.1	48.3	50.9	60.4

Girls

Very well	1,843	42.2	10.5	11.4	11.4	7.3	1.8	9.6
Well	1,312	30.0	14.0	12.2	15.3	9.2	3.8	15.8
Just okay	1,011	23.1	19.2	14.3	24.4	12.4	7.6	27.8
Bad	135	3.1	27.7	15.9	37.8	23.7	23.7	49.2
Very bad	69	1.6	29.1	17.9	46.4	33.3	29.9	54.5

Parental monitoring

Boys

Very high monitoring	415	9.4	12.3	12.8	16.3	11.2	5.5	18.3
High monitoring	1,644	37.2	15.1	13.0	23.6	15.3	9.1	28.0
Medium monitoring	1,661	37.6	19.0	15.3	29.5	20.0	19.2	40.7
Low monitoring	583	13.2	24.9	16.2	41.6	25.1	33.0	58.6
Very low monitoring	113	2.6	32.4	16.6	58.6	42.0	53.6	71.4

Girls

Very high monitoring	903	20.8	9.9	10.4	10.0	5.8	1.8	8.9
High monitoring	1,955	45.0	12.9	11.9	13.3	7.7	2.6	13.0
Medium monitoring	1,183	27.2	17.5	14.4	22.9	14.0	6.5	24.1
Low monitoring	262	6.0	24.7	17.0	35.3	19.8	20.2	43.2
Very low monitoring	46	1.1	27.3	19.9	52.2	32.6	32.6	61.9

handgun, and 1 of 4 students had carried other weapons. All measures of aggressive behavior were significantly higher for boys than for girls ( $p < .0001$ ) (Table 1).

Sixty percent of the students reported living with both parents. However, strong differences were found by race. Only one-third of African American students lived with both parents, whereas two-thirds of students of other races lived with both parents. Over 70% of the students reported that they got along *very well* or *well* with their parents. Almost one-half of the boys and two-thirds of the girls reported high parental monitoring. Perceived parental support for alternatives to fighting was higher among girls and Asian students and lower among boys and African American students (Table 1).

Students who lived with both parents had significantly lower aggression scores ( $M = 14.5$ ,  $SD = 13.5$ ) than students in other living arrangements ( $M = 18.7$ ,  $SD = 13.5$ ),  $F = 181.8$ ,  $p < .0001$ . Students living with both parents also were the least likely to fight at school, to be injured in a fight, and to carry weapons,  $\chi^2 = 51.4$ , 33.6, and 38.6, respectively,  $p < .0001$  (Table 2).

For both boys and girls, an inverse relationship was observed between the mean aggression score and a positive relationship with parents,  $F = 197.7$ ,  $p < .0001$ . In addition, the percentage of students who fought at school, were injured in a fight, and carried a weapon was significantly higher for those who got along poorly with their parents than for those who got along well,  $\chi^2 = 255.4$ , 144.0, and 332.7, respectively,  $p < .0001$  (Table 2). The odds of being involved in violence were higher for students with a worse relationship with parents. For example, students who got along *very bad* with their parents were significantly more likely to fight at school (odds ratio [OR] for boys = 4.5, confidence interval [CI] = 2.6, 7.7; OR for girls = 6.7, CI = 7.1, 11.0), be injured in a fight (OR for boys = 5.3, CI = 3.1, 9.0; OR for girls = 6.4, CI = 3.8, 10.8), and carry a handgun (OR for boys = 7.9, CI = 4.6, 13.8; OR for girls = 22.7, CI = 12.1, 42.5) than students who got along *very well* with their parents (referent group).

An inverse relationship was also observed between the mean aggression score and parental monitoring,  $F = 223.2$ ,  $p < .0001$ . For both boys and girls, the aggression score was almost three times higher among students with *very low parental monitoring* than students with *very high parental monitoring*. In addition, the percentage of students who fought at school, were injured in a fight, and carried a weapon was significantly higher for students with low parental monitoring than for students with high parental monitoring,  $\chi^2 = 397.9$ , 238.9, and 805.3, respectively,  $p < .0001$  (Table 2). The odds of being involved in violence increased as parental monitoring decreased. For example, students who had *very low* parental monitoring were significantly more likely to fight at school (OR for boys = 7.3, CI = 4.6, 11.5; OR for girls = 9.8, CI = 5.3, 18.2), be injured in a fight (OR for boys = 5.7, CI = 3.5, 9.3; OR for girls = 7.9, CI = 4.0, 15.6), and carry a handgun (OR for boys = 19.8, CI = 11.2, 35.8; OR for girls = 26.3, CI = 11.7, 58.9) than students who had *very high* parental monitoring (referent group).

A strong association was observed between students' aggression scores and students' perceived parental support for fighting (Pearson's  $r = .50$ ,  $p < .001$ ). Mean scores in the perception of parental attitude scale were significantly higher among students who fought at school, were injured in a fight, and carried weapons than among students who were not involved in any of these behaviors,  $F = 637.4$ , 249.3, and 1,443.9, respectively,  $p < .0001$  (Table 3).

In the regression analysis, the four family constructs and gender had a significant main effect on the score of the aggression scale, explaining almost one-third of its variance,  $F = 711.7$ ,  $p < .0001$ ,  $R^2 = .302$ . No significant interaction effects were found. Beta weights and uniqueness indices for the four family constructs showed that perception of parental

Table 3. Students' Perceptions of Parents' Attitudes Toward Fighting by Aggression and by Gender

Perception of Parental Attitudes Toward Fighting	<i>n</i>	%	Aggression Score		Fought at School	Injured in a Fight	Carried a Handgun	Carried Other Weapons
			Mean	<i>SD</i>	%	%	%	%
<b>Boys</b>								
0	749	17.8	9.8	10.5	14.5	10.0	3.4	15.7
1	582	13.8	11.4	10.6	19.4	14.1	4.8	20.4
2	539	12.8	13.8	11.9	21.2	13.0	9.2	29.5
3	458	10.9	16.8	13.4	28.3	19.4	13.2	33.3
4	400	9.5	19.0	13.0	30.3	22.9	19.6	43.7
5	417	9.9	21.2	14.1	34.0	24.8	21.4	43.3
6	329	7.8	23.1	15.5	39.0	23.8	24.7	54.0
7	243	5.8	24.9	14.9	40.2	22.3	23.7	49.6
8	227	5.4	29.3	15.6	46.7	26.2	39.8	64.7
9	162	3.8	33.8	16.3	45.1	22.2	49.1	75.6
10	108	2.6	40.3	17.0	57.5	36.8	58.9	75.7
<b>Girls</b>								
0	1,200	28.7	7.7	9.0	7.5	5.3	0.9	6.6
1	760	18.2	11.2	10.7	12.0	7.2	1.6	9.5
2	627	15.0	13.6	11.4	16.2	9.6	3.4	15.0
3	441	10.6	15.4	11.9	21.6	11.4	4.1	18.7
4	351	8.4	18.9	13.3	17.4	11.1	8.6	27.4
5	269	6.4	19.8	14.1	26.6	14.9	10.3	32.8
6	220	5.3	23.9	14.4	30.0	15.9	7.9	30.5
7	115	2.8	26.7	15.4	40.7	16.5	17.7	43.4
8	107	2.6	30.7	15.9	31.8	19.6	22.4	47.7
9	61	1.5	36.0	17.3	42.6	18.0	23.0	47.5
10	25	0.6	39.0	15.0	64.0	36.0	33.3	79.2

NOTE: 0 indicates strong support for alternatives to fighting and no support of fighting as a way to solve conflicts; 10 indicates strong support for fighting as a way to solve conflicts and no support for peaceful alternatives to solve conflicts.

Table 4. Adjusted Odds Ratios (OR) and Confidence Intervals (CI) for Fighting, Injuries, and Weapon Carrying

	Fighting		Injuries		Weapon Carrying	
	OR	(CI)	OR	(CI)	OR	(CI)
Gender (boy)	1.59	(1.4 1.8)	1.81	(1.6 2.1)	2.24	(2.0 2.5)
Low parental monitoring	1.35	(1.3 1.4)	1.31	(1.2 1.4)	1.59	(1.5 1.7)
Poor relationship with parents	1.31	(1.2 1.4)	1.25	(1.2 1.3)	1.37	(1.3 1.5)
Perceived parental support for fighting	1.17	(1.1 1.2)	1.10	(1.1 1.1)	1.27	(1.2 1.3)
Family structure (does not live with both parents)	1.24	(1.1 1.4)	1.25	(1.1 1.4)	1.16	(1.0 1.3)

attitudes toward fighting accounted for the majority of the variance in the aggression score, 14% ( $\beta = .41$ ), the relationship with parents accounted for 2% of the variance ( $\beta = .15$ ), parental monitoring accounted for 1% of the variance ( $\beta = 0.12$ ), and family structure and gender accounted for less than 1% of the variance. Due to large sample size, all  $F$  tests were statistically significant at the .001 level.

Since the distributions of fighting, injuries, and weapon carrying were highly skewed, these constructs were dichotomized to represent no participation versus participation. Multiple logistic regression was used to evaluate the main effects of the family constructs. All four family constructs (monitoring, getting along with parents, perception of parental attitudes, and family structure) had a statistically significant main effect on fighting, injuries, and weapon carrying (Table 4). No interaction effects were observed. The logistic regression model for fighting correctly classified 78% of the students, the model for injury correctly classified 85% of the students, and the model for weapon carrying correctly classified 77% of the students.

## DISCUSSION

Results from this cross-sectional evaluation provide strong support for the association between family constructs and both aggressive behaviors and weapon carrying in an ethnically diverse sample of middle school students from a large urban school district. Students' aggression scores, frequency of fights at school, injuries in fights, and weapon carrying were significantly higher among students with a poor relationship with their parents, who had low parental monitoring, who perceived that their parents support fighting, and who did not live with both parents. The nature of this study, a cross-sectional evaluation, does not allow us, however, to establish causative relationships between parental constructs and aggressive behavior. Aggression could be a consequence of the poor relationship with parents and lack of parental skills, or the poor relationship with their parents could be a consequence of children's aggressive behavior. The relationship between parents and children is interactive. According to general systems theory, not only do characteristics of the parents influence the child, but also the characteristics of the child (e.g., neurophysiological abnormalities or head injuries) could influence the relationship with the parents.

Another limitation of the study is the lack of independent measures for cross validation of students' self-reports. Unfortunately, it is difficult to compare the prevalence of aggressive behaviors in this study with that in other studies because different studies have used different contexts (e.g., fights in school or anywhere), different time frames, and different grade levels. The prevalence of weapon carrying in this study, however, is comparable to that found in other studies.<sup>28</sup> More studies that evaluate the accuracy of students' self-reports are needed.

Perceived parental communication about fighting had the strongest effect on the students' aggression. A study in progress by the authors indicates that the degree of congruence between what students perceive their parents tell them and what parents say they tell them is fairly high. However, it is also possible that more aggressive students are more likely to perceive their parents as more supportive of aggression or to justify their aggression by stating that their parents approve of it. An alternative explanation is that both parents and students live in a subculture where fighting is accepted as a norm. Even if this is true, raising awareness among parents could be a venue for prevention.

Parental monitoring also had a strong effect on students' aggressive behaviors. Parents who do not monitor their children are less likely to punish aggressive acts, be attached to their children, and prevent the child from associating with deviant peers.<sup>29</sup> Moreover, children of these parents are more likely to exhibit conduct problems, diminished association with normal peers, and poor academic success, all of which contribute to a stronger commitment to a deviant peer group. Parental monitoring and relationship with parents explained a relatively low percentage of the variance compared to perceived parental communication about fighting. A possible explanation is that these two constructs were measured only by two items and one item, respectively. A more comprehensive evaluation of these constructs targeted to specific populations may increase their predictive power.<sup>29</sup>

Although students who lived with both parents had the lowest aggression scores, low parental monitoring, relationship with parents, and perceived parental support for fighting were more predictive of aggression than family structure. Since parental monitoring, relationship with parents, and communication about fighting are more changeable than family structure, this result is promising for prevention. Studies on prevention of antisocial behavior suggest that parent management training could be an important venue for reducing students' aggressive behaviors.<sup>30,31</sup> Parent training refers to procedures in which parents are given specific instructions to improve family management practices, and preliminary work suggests that parental monitoring may be increased through a small media intervention.<sup>32</sup>

Interestingly, Asian students and girls reported the lowest aggressive behaviors and had the highest parental monitoring and the strongest parental support for solving conflicts without violence. On the other hand, Hispanic and African American students reported the highest prevalence of aggressive behaviors and the highest parental support for fighting. The study lacks information with regard to family income or other family-related variables that could account for some of the differences in aggressive behaviors among ethnic groups.

The strong association between the family and aggression found in this study is supported by different theories, such as social cognitive theory<sup>4</sup> and self-control theory.<sup>6</sup> Based on our results and theory, prevention programs should have a strong parental component that educates parents about the influence of their communication about handling conflict and their parental monitoring of their child's behavior.

## IMPLICATIONS FOR PRACTICE

This study showed a strong association between family variables and students' aggression. The study suggests that parents may play an important role in preventing violence among adolescents. School violence prevention programs should have a strong parental component designed to develop a more positive relationship between students and their parents and to increase parental supervision on students. Parents should know the whereabouts, activities, and companions of their children. Most important, parents should give clear and explicit messages to their children that fighting is not accepted and show them some alternatives to solve conflicts.

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