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Parenting Practices as Predictors of Substance Use, Delinquency, and Aggression Among Urban Minority Youth: Moderating Effects of Family Structure and Gender

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This study examined how parenting factors were associated with adolescent problem behaviors among urban minority youth and to what extent these relationships were moderated by family structure and gender. Sixth-grade students (N = 228) reported how often they use alcohol, smoke cigarettes, or engage in aggressive or delinquent behaviors; a parent or guardian reported their monitoring and other parenting practices. Findings indicated that boys and those from single-parent families engaged in the highest rates of problem behavior. More parental monitoring was associated with less delinquency overall, as well as less drinking in boys only. Eating family dinners together was associated with less aggression overall, as well as less delinquency in youth from single-parent families and in girls. Unsupervised time at home alone was associated with more smoking for girls only. Implications for prevention interventions are discussed.

Research and theory on the etiology of problem behavior in childhood and adolescence often focus on the role of the family in the development of antisocial behavior (e.g., Hirschi, 1969; Jessor & Jessor, 1977; Patterson, DeBaryshe, & Ramsey, 1989; Steinberg, 1987a). An important factor examined in past studies has been family structure, and this research has shown that youth from single-parent families often have higher rates of problem behaviors including substance use (Hoffman, 1993; Turner, Irwin, & Millstein, 1991), aggression (Vaden-Kiernan, Ialongno, Pearson, & Kellam, 1995), school dropout (Astone & McLanahan, 1991), and teenage pregnancy (Hogan & Kitagawa, 1985). Although the reasons for the higher rates of problem behavior among single-parent families remain unclear, a number of factors are likely to contribute. For example, single parents often have limited financial resources, greater social isolation, and fewer coping resources compared with parents in traditional two-parent families (Elder, Eccles, Ardelt, & Lord, 1995; Gabel, 1992; Norton & Glick, 1986). Also, youth from single-parent families appear to be more susceptible to peer pressure (Steinberg, 1987b) and more likely to make decisions without consulting a parent (Dornbusch et al., 1985).

A separate body of research has shown that poor parenting practices are associated with similar negative behavioral outcomes among youth. Poor parental monitoring has been found to be associated with higher rates of adolescent substance use, particularly in terms of initiation of use at earlier ages (Chilcoat & Anthony, 1996; Steinberg, Fletcher, & Darling, 1994), and higher levels of delinquency and aggression

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(Patterson & Stouthamer-Loeber, 1984). Similarly, poor parent–child communication and poor parental support are frequently associated with greater youth substance use (Anderson & Henry, 1994; Selnow, 1987; Wills & Cleary, 1996) and delinquency (Clark & Shields, 1997). For example, infrequent communication between parent and child and low amounts of time spent together have been found to be associated with higher rates of alcohol and tobacco use onset in fifth to seventh graders (D. A. Cohen, Richardson, & La Bree, 1994). Additional studies have shown that other parenting variables such as poor discipline practices play an important role in the development of adolescent antisocial behavior (Gorman-Smith, Tolan, Zelli, & Huesmann, 1996).

Although family factors have been recognized as important in the etiology of adolescent problem behavior, few studies have examined both family structure and parenting practices together. An understanding of these relationships is increasingly important because the number of single-parent families in the United States has been on the increase since the 1970s, especially among minority families. Census data indicate that in 1993, approximately 21% of White youth lived with only one parent, whereas this was true for 57% of Black youth; in 1970, about 9% of White youth and 32% of Black youth lived in single-parent families (Saluter, 1994). In addition, many single-parent Black families live in economically disadvantaged urban communities and are exposed to crime, delinquency, and overcrowding (National Research Council, 1993). This combination of factors may make the transition into adolescence more challenging for minority youth from single-parent families, relative to youth from families with greater social and economic resources. Furthermore, due to gender role socialization processes, male adolescents may have to contend with greater peer pressure to engage in substance use (Rienzi et al., 1996) and other antisocial behaviors, relative to female adolescents. Thus, urban minority adolescents from single-parent families, particularly boys, may be at higher risk for a variety of negative outcomes.

Despite these potential obstacles, it is clear that many urban, minority youth maneuver successfully through adolescence, including those at highest risk for problem behavior. One of the factors that may promote successful adjustment in adolescence is good parenting, including close parental monitoring, frequent communication about important issues, and regular daily involvement and interaction between parent and adolescent. These parenting factors may have a particularly strong protective effect on high-risk youth. For example, a single mother with excellent parenting practices may increase resiliency in her adolescent son or daughter by instilling appropriate values and norms regarding conventional behavior and may help the adolescent avoid involvement with substance use, delinquency, and aggression by monitoring his or her whereabouts. Conversely, the absence of good parenting among similar high-risk youth may lead to high levels of problem behavior, in part because adolescents may fail to internalize conventional attitudes and may begin to affiliate with deviant peer groups.

A few studies have examined adolescent problem behaviors in the context of family structure, focusing on quality of the parent–child relationship (Brody & Forehand, 1993; Farrell & White, 1998; Mason, Cauce, Gonzales, & Hiraga, 1994). For example, in a study of predominantly Black urban high school youth, Farrell and White (1998) found that a strong parent–adolescent relationship within a single-parent family helped to buffer adolescents from the impact of problem peers; Mason et al. (1994) reported similar results in a study of 12- to 14-year-old Black adolescents. However, both of these studies focused largely on affective qualities of the parent–child relationship and did not examine how specific parenting behaviors (e.g., monitoring, checking homework, and having family meals together) were associated with adolescent problem behaviors. This may be an important limitation because different components of parenting can have unique effects on youth behavior. For example, Wasserman et al. (1996) found that parental monitoring, involvement, and parent–child conflict each made significant independent contributions to levels of child conduct problems in a study of high-risk urban boys. Other limitations of previous research are that some studies have relied on self-reports from a single family member (Farrell & White, 1998; Stice & Barrera, 1995), even though parents and adolescents

may view family processes differently. For example, Farrell and White (1998) examined adolescents' self-reports of their own behavior and their perceptions of relationships with parents. In addition to obscuring possible differences in family members' perceptions, such an approach may also inflate any observed relationships among variables due to shared method variance.

In the present study, we examined the relationships between key parenting variables and adolescent substance use, aggression, and delinquency among urban minority youth living in two-parent versus single-parent[1] family structures. In addition to examining possible interactions among family structure and parenting in the prediction of adolescent problem behaviors, this study extends previous research by examining gender differences in these effects by focusing on several related behavioral outcomes, including alcohol use, smoking, interpersonal aggression, and delinquency, and by using adolescent reports of problem behaviors along with parent reports of their monitoring, communication, and daily involvement with their children.

The first hypothesis was that substance use, aggression, and delinquency rates would be higher among high-risk youth, that is, those from single-parent families relative to those from two-parent families and boys relative to girls. A second hypothesis was that the strongest protective effects of good parenting would be observed among high-risk youth. For example, it was expected that parental monitoring would be associated with less problem behavior overall but that this association would be particularly strong among those from single-parent families or boys. Thus, in addition to testing for mean and proportional differences by family structure and gender, we tested for interaction effects among parenting practices, family structure, and gender in predicting youth substance use, delinquency, and aggression.

Method

Sample Description

The adolescent sample consisted of 228 sixth-grade students attending New York City public middle schools. Approximately 50% were boys and 50% were girls, and the racial–ethnic breakdown of the sample was Black (88%) followed by smaller numbers of Hispanic (2%), Asian (2%), White (1%), or mixed or other ethnicities (7%). Over half of students (57%) lived in two-parent families, and the remaining 43% were from single-parent or other nonintact family structures, including mother-only (31%) or father-only (2%) households or households headed by guardians or other relatives (10%). Participating parents (n = 228), whose responses were matched to those of their child, were primarily female (85%), and about 77% were currently employed. Whereas most of the participating adults were a parent or stepparent of the student respondent (90%), some were a grandparent (4%), aunt or uncle (4%), or other guardian (2%). Household income was $30,000 or less for two thirds of all households, and a large proportion of students (45%) came from low socioeconomic status families, as indicated by enrollment in the school free-lunch program.

Procedure

Recruitment of students was accomplished by meeting with school district superintendents and middle school principals from several schools in a borough of New York City. Out of seven middle schools that initially showed interest in the study, two eventually agreed to participate. The two schools that participated in this study had a higher proportion of Black (94%) and immigrant (15%) students and had lower reading levels (59% at or above state minimum) relative to New York City schools overall, in which 35% of students are Black, 9% are new immigrant, and 69% of sixth grade students score at the state reading level. All sixth-grade regular education classrooms in the participating schools were included in the study, and the response rate for students was 86%.

Students completed a self-report questionnaire that included frequency measures for substance use, delinquency, and interpersonal aggression, as well as several demographic variables including race, gender, and family structure. Students were assured that their responses would remain confidential and would not be made available to parents, teachers, or school personnel. In addition, students were informed that the surveys were being coded with unique identifiers available only to the researchers, and were asked not to put their names anywhere on the survey. Questionnaires were administered during two regular class-

[1] We use the term *single-parent family* to include any nonintact family structure (including households headed by relatives or guardians) because the vast majority of families that were not headed by two parents were in fact single-parent families.

room periods by a team of data collectors who were members of the same minority groups as the participating students.

For each participating student, home phone numbers were obtained from school records. A parent or guardian was contacted by one of several trained interviewers, who used a computer-assisted telephone interviewing protocol. The response rate for parent interviews was 63%, and the interview lasted an average of 18 min. The interviewer asked each parent a series of questions regarding her or his parenting behaviors, as described below.

Measures

Student assessments. Students were assessed to determine frequency of substance use, aggression, and delinquency. To assess the frequency of substance use, students were asked "how often (if ever) do you" (a) "smoke cigarettes" and (b) "drink beer, wine, wine coolers or hard liquor?" The substance use questions asked about frequency of use "in general," and item response options were on a 9-point Likert-type scale anchored by *never* (1) and *more than once a day* (9).

Ten items taken from a scale developed by Elliot, Huizinga, and Menard (1989) were used to assess delinquency and aggression over the past year. All items were anchored on a 5-point response scale ranging from *never* (1) to *more than 5 times* (5) in terms of frequency of behavior over the past year. Exploratory principal-components factor analysis with oblique rotation was used to obtain a two-factor solution: Five items loaded highly on an Interpersonal Aggression factor, and five items loaded highly on a Delinquency factor, and the correlation between these two factors was .56. The item loadings for the Interpersonal Aggression factor were .81 for picking fights, .80 for hitting someone with the intention of hurting them, .79 for fighting if provoked, .71 for destroying others' things, and .70 for participating in group fights, and this factor explained 50% of total variance in scores. The item loadings for the Delinquency factor were .80 for shoplifting, .78 for stealing something worth $50 or more, .78 for throwing rocks or bottles at cars or people, .69 for vandalizing at school, and .67 for taking something from someone by force, and this factor explained 10% of total variance in scores. Separate summary scores for Interpersonal Aggression and Delinquency were created by taking the mean of the relevant items. Low base rates caused a negative skew for the outcome variables (substance use, aggression, and delinquency), and to normalize these, a log transformation was used (J. Cohen & Cohen, 1983).

Parent assessments. Parent telephone interviews assessed parental monitoring, parent–child communication, and parental involvement in the adolescent's life. Five items assessed parental monitoring, including whether the parent knew his or her child's whereabouts after school, where the child was and her or his activities on weekends, and details about the child's peer network and specific peer activities. The parental monitoring items were adapted from the Family Management Scale (Catalano et al., 1993), and each item had a 5-point response scale ranging from *never* (1) to *always* (5). Mean responses to these items was taken as an indicator of Parental Monitoring, and higher scores indicated a greater degree of concern. Next, parents were asked how often they had discussed with their child (over the past 6 months) the child's plans for the day, schoolwork, drug-related issues, violence-related issues, and other general concerns of the child. Each item had a 6-point response scale ranging from *never* (0) to *every day* (5). The mean of the responses to these items was taken as an indicator of the degree of Parent–Child Communication about important issues. In terms of Parental Involvement, parents rated how often they check their child's homework and how often the family eats dinner together, both on a 6-point response scale from *never* (0) to *every day* (5). We asked an additional indicator reflecting a lack of daily involvement: the amount of unsupervised time (in hours and minutes) that the child spent alone at home in the previous day. These three Parental Involvement items were analyzed separately because each item assessed a distinctly different aspect of involvement.

Results

Rates of Substance Use, Delinquency, and Aggression

Rates of substance use were relatively low in the student sample: 10% of students reported that they had smoked a cigarette at some point in their life, and 35% had consumed alcohol. Rates of delinquency and interpersonal aggression were somewhat higher: In the previous year, 17% of students had vandalized property at school, 33% had shoplifted, 39% of students had picked a fight, and 41% reported that they had fought when provoked. One of the study hypotheses was that youth at highest risk would engage in the most problem behaviors; thus, we examined levels of adolescent substance use, aggression, and delinquency by gender and family structure categories. Proportional analysis showed that more boys than girls had ever smoked cigarettes, $\chi^2(1, N = 228) = 5.1, p <$

.03, and more boys than girls were aggressive, $\chi^2(1, N = 228) = 4.1, p < .05$, or delinquent, $\chi^2(1, N = 228) = 9.2, p < .003$, in the past year. Furthermore, analysis of variance showed differences in the behavioral outcomes according to gender and family structure. As shown in Table 1, there were two significant Gender × Family Structure interactions, with boys from single-parent families reporting the highest rates of smoking, $F(1, 214) = 3.7, p < .05$, and drinking, $F(1, 213) = 5.3, p < .05$. Additional main effects showed that boys scored higher on Interpersonal Aggression and Delinquency relative to girls, and those from single-parent families scored higher on Interpersonal Aggression and Delinquency relative to those from two-parent families.

Parental Monitoring, Communication, and Involvement

Most parents reported that they monitor their child regularly and talk frequently about important issues: 94% reported discussing schoolwork several times per week or more, followed in frequency by daily concerns (69%), daily plans (67%), violence issues (63%), and drug issues (50%). Levels of daily involvement followed a similar pattern, with most parents reporting that they check the child's homework either every day (54%) or several days per week (39%), and have dinner together with the child either daily (57%) or several days per week (34%). As shown in Table 2, substance use and delinquent and aggressive behaviors were moderately intercorrelated with each other. Alcohol use was associated with aggressive behaviors ($r = .38, p < .001$) and delinquency ($r = .36, p < .001$). However, the various indicators of parental monitoring, communication, and daily involvement were not highly intercorrelated, although parental monitoring was associated with greater discussion of important issues ($r = .24, p < .001$), checking homework ($r = .14, p < .05$), and having dinner together more frequently ($r = .17, p < .05$). Levels of parental monitoring, communication, and daily involvement did not differ for boys and girls or for single-parent versus two-parent families.

Parenting Practices as Predictors of Adolescent Problem Behavior

Following conventions for testing moderation, we conducted a series of hierarchical regression analyses to examine how the parenting variables were associated with adolescent substance use, delinquency, and aggression. In each analysis, the student's self-reported behavior was regressed on family structure and adolescent gender. These demographic variables were included as main effects in Step 1 so that potential interaction effects with parenting practices could be examined. Continuous predictor variables were centered, to reduce multicollinearity between higher order and lower order terms (Aiken & West, 1991). In Step 2, parental reports of their monitoring, communication, and daily involvement were entered into the equation. In Step 3, the interaction terms for the Demographic × Parenting variables were entered, followed by Gender × Family Struc-

Table 1
Descriptive Statistics of Behavioral Outcomes by Gender and Family Structure

	Boys						Girls						
	Single-parent family		Two-parent family		All boys		Single-parent family		Two-parent family		All girls		
Problem behavior	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	Effect
Smoking	1.42	1.22	1.15	0.55	1.25	0.85	1.04	0.19	1.21	1.12	1.12	0.79	G × F*
Alcohol use	2.21	2.07	1.54	1.06	1.77	1.51	1.51	0.88	1.64	0.96	1.58	0.92	G × F*
Aggression	1.98	0.93	1.73	0.80	1.82	0.85	1.73	0.97	1.53	0.70	1.63	0.85	G, F†
Delinquency	1.57	0.78	1.44	0.79	1.49	0.78	1.31	0.52	1.17	0.36	1.24	0.45	G, F*

Note. G = gender main effect; F = family structure main effect; G × F = Gender × Family Structure interaction.
† $p < .10$. * $p < .05$.

Table 2
Correlations Among Adolescent Problem Behaviors and Parenting Practices

Variable	1	2	3	4	5	6	7	8	9
Adolescent problem behavior									
1. Smoking	—								
2. Alcohol use	.23	—							
3. Aggressive behavior	.12	.38	—						
4. Delinquent behavior	.15	.36	.70	—					
Parenting practice									
5. Monitoring	−.16	−.11	−.14	−.22	—				
6. Communication	−.09	.07	−.04	.07	.24	—			
7. Checking homework	−.07	.07	−.01	.00	.14	.20	—		
8. Dinners together	−.09	−.01	−.21	−.09	.17	.06	.12	—	
9. Leaving child home alone	.28	−.06	.04	.00	.05	−.06	−.05	−.08	—
M	1.18	1.65	1.72	1.36	4.37	3.82	4.42	4.44	0.35
SD	0.81	1.24	0.84	0.64	0.52	0.83	0.82	0.80	1.13

Note. For correlations ≥ .13, $p < .05$.

ture × Parenting interactions, where appropriate. Only significant interaction terms were retained in the final model for each outcome variable, as recommended by J. Cohen and Cohen (1983). Significant interaction terms were interpreted rather than the corresponding main effects.

Table 3 contains the results of the multiple regression analyses. As shown, there were four main effects of the parenting variables, independent of gender or family structure. There was a significant protective effect of parental monitoring on lower delinquency levels ($\beta = -.21, p < .01$) and a marginal effect of monitoring on less smoking ($\beta = -.13$, $p < .10$). There was a significant main effect of eating family dinners together on lower aggression levels ($\beta = -.18$, $p < .01$). Somewhat contrary to our hypotheses, the frequency of parent–child communication was positively associated with adolescent delinquency levels ($\beta = .14, p < .05$). In addition to these main effects, there were a number of significant interaction effects indicating that the relationship between parenting and adolescent problem behaviors differed according to family structure and gender. First, parental monitoring significantly interacted with gender in predicting adolescent alcohol use. Parental monitoring was associated with less drinking for boys ($\beta = -.32, p < .01$) and more drinking for girls ($\beta = .24$, $p < .01$). In addition, dinners with the family showed an association with delinquency scores for gender and family structure, so that a higher frequency of eating dinners with the family was associated with less delinquency for those from single-parent families, as well as for girls, relative to those from two-parent families and to boys, respectively. In terms of alcohol use, checking homework was marginally associated with less alcohol use in two-parent families ($\beta = -.27$, $p < .10$), but not in single-parent families ($\beta = .15$, $p < .10$). Finally, although more unsupervised time alone at home was associated with less smoking for boys ($\beta = -.19$, $p < .05$), time alone at home was associated with more smoking for girls ($\beta = .25$, $p < .05$).[2] An analysis of potential Parenting × Family Structure × Gender effects revealed one significant three-way interaction, which showed that more unsupervised time alone at home was associated with greater smoking, particularly in girls from two-parent families, $F(7, 207) = 4.5$, $p < .001$.[3] Overall, the demographics, parenting variables, and their interactions explained 12% of the variance in smoking scores ($p < .001$), 8% of that in alcohol consumption scores ($p <$

[2] Because smoking rates were so low, the log transformation of scores may not have adequately addressed the skewed distribution of scores. Thus, we conducted an additional nonparametric analysis (logistic regression), to examine predictors of having ever smoked versus never smoked. This analysis found that only gender predicted smoking, and the higher order effects dropped to nonsignificance.

[3] Consistent with previous reports of curvilinear relations between parenting variables and adolescent problem behaviors (e.g., Mason, Cauce, Gonzales, &

Table 3
Summary of Hierarchical Multiple Regression Analyses of Parenting Variables as Predictors of Adolescent Problem Behaviors

Variable	Smoking		Alcohol use		Aggression		Delinquency	
	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1		.02		.01		.03*		.05**
Gender (male)	.13†		.08		.15*		.21**	
Family structure (two-parent)	−.05		−.08		−.13†		−.12†	
Step 2		.08**		.02		.05		.07*
Monitoring	−.13†		−.08		−.09		−.21**	
Communication	−.04		.08		.01		.14*	
Check homework	−.04		.05		.03		.00	
Dinners together	−.05		−.02		−.18**		−.08	
Child home alone	.21**		−.05		.01		.02	
Step 3		.02*		.05**		.02		.05*
Gender × Monitoring			−.32** (.24**)					
Gender × Check Homework					.15† (−.21†)			
Gender × Dinners Together							.28** (−.23**)	
Gender × Child Home Alone	−.19* (.25*)							
Structure × Check Homework			−.27† (.15†)					
Structure × Dinners Together							.21* (−.22*)	
Full model		.12**		.08**		.10*		.17***

Note. To facilitate the interpretation of significant interaction effects in Step 3, the betas from the post hoc analyses (i.e., simple slopes of Step 1 variables) are reported rather than the beta for the original interaction term. For gender interactions, the first beta represents the simple slope for boys, and the second beta represents the simple slope for girls; for family structure interactions, the first beta represents the simple slope for two-parent families, and the second beta represents the simple slope for single-parent families.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

.01), 10% of that in aggression scores ($p < .05$), and 17% of that in delinquency scores ($p < .001$).

Discussion

The goals of the present study were to examine the degree to which family structure and gender were related to substance use, delinquency, and aggression in a sample of urban minority youth and to examine the potential protective role of parenting practices among high-risk youth. Because two-parent families may afford greater protection against adolescent antisocial behavior, we examined whether youth from single-parent homes were at greater risk for maladaptive outcomes and whether boys were at greater risk than girls. Findings indicated that boys and those from single-parent families engaged in higher rates of several problem behaviors relative to girls and youth from two-parent families. For example, boys from single-parent families reported smoking cigarettes and drinking alcohol more frequently than other youth. Similarly, youth from single-parent homes reported more aggressive and delinquent behavior than those from two-parent homes, and boys reported more aggression and delinquency than girls. Thus, differences in each of the problem behaviors were observed in the hypothesized direction, with those from single-

Hiraga, 1996; Stice, Barrera, & Chassin, 1993), we tested for curvilinear effects between the main predictors in the analysis and the five outcome measures. Only one significant curvilinear effect was observed: unsupervised time alone at home and smoking, $t(220) = 3.7$, $p < .001$. An examination of the scatterplots by gender revealed a U-shaped distribution that mirrored the gender difference observed in the Gender × Parenting interaction effect (i.e., negative slope for boys and positive slope for girls).

parent families and boys engaging in higher levels of each behavior.

In terms of parenting factors, findings indicated that parental monitoring had the strongest protective effect of any parenting variable included. Greater parental monitoring was associated with less delinquency and marginally less smoking across gender and family structure categories and had interactive effects on alcohol use; thus, monitoring predicted lower levels of three out of four problem behavior outcomes. The finding that parental monitoring plays a central protective role in adolescent problem behavior has been observed in previous studies. Patterson and Stouthamer-Loeber (1984) reported that parental monitoring accounted for over twice as much variance relative to discipline, reinforcement, and other parenting factors in predicting delinquency and number of police contacts in a sample of White adolescent boys. In a study of Black and Hispanic youth, Forehand, Miller, Dutra, and Chance (1997) found that parental monitoring was of primary importance in terms of reduced adolescent problem behavior but that parent–child communication was not; these effects were found in four separate samples from New York City, Puerto Rico, and Montgomery, AL. Taken together, these studies suggest that the primary protective effects of monitoring are similar across gender, race, ethnicity, and location.

The present study also examined whether the protective effects of parenting varied according to family structure and youth gender and hypothesized that parenting may have the strongest protective or buffering effect among youth at the highest risk for problem behaviors. Findings indicated that three interaction effects supported the buffering hypothesis. Parental monitoring was most strongly associated with less drinking in boys, so that monitoring served as a stronger protective effect in boys than in girls. Part of this may be due to higher base rates in boys relative to girls. In addition, eating family dinners together was associated with less delinquency in those from single-parent homes, which also shows a strong protective effect of parenting among youth at high risk. There are several potential mechanisms by which eating family meals together could lead to less problem behavior in adolescents, including those at increased risk. Regular family meals together may be one part of a daily routine that provides structure and stability to family life for the child and may give parents more opportunities to interact with, advise, and supervise their children on a day-to-day basis.

Some of the protective effects of parenting practices were limited to girls. More frequent family meals together was associated with less delinquency in girls, but not in boys. Similarly, more frequent parent checking of homework was associated with less aggression in girls, but not in boys. Although counter to the hypothesis that parenting would be more protective for boys than girls, these findings are consistent with research showing that girls are more sensitive to family affect than boys (Conger et al., 1993). Results also indicated that girls who spent more unsupervised time alone at home (according to parent ratings) reported that they smoked more frequently. This finding suggests that smoking may be less closely tied to social activity in girls than in boys and that girls have additional reasons aside from social ones to smoke. One of these reasons may be, for example, concerns about body weight and the belief that smoking cigarettes is an effective way to lose or maintain weight (Grigg, Bowman, & Redman, 1996). In summary, the gender-specific parenting effects observed in this study illustrate the need for further research on how parenting factors differentially protect boys and girls from involvement in problem behaviors.

In some cases, parenting was positively related to delinquency in ways that were not hypothesized. For example, the frequency of parents' checking homework was associated with greater drinking among youth from single-parent families. This and other positive associations may reflect a reactive response whereby parents closely supervise children engaging in the most problem behaviors. For example, the checking of homework may reflect behavioral supervision used by parents of high-risk children who engage in drinking or other problem behaviors. Reactive parenting may also explain the positive association between parent–child communication and levels of delinquency. Parents may make greater attempts to communicate with an adolescent after an observed increase in the child's delinquent behavior. This association may also be an artifact of the parent–child communication scale that was used in this

study, which asked about the frequency of discussing topics related to problem behaviors (e.g., drug-related issues). A broader scale of parent–child communications that captured the affective or supportive qualities of these parent–child interactions may have produced different results. To the extent that good communication along these lines may promote an adolescent's internalization of parents' conventional attitudes and behaviors, use of such a scale may have shown a stronger protective effect of parent–child communications. On the other hand, a recent study of parent–child communication and adolescent problem behavior among minority youth also failed to show a protective effect of communication (Forehand et al., 1997).

This study has several limitations that should be mentioned. One of the most important limitations is the cross-sectional design of the study, which limits the ability to examine causal pathways among variables. For example, an assumption of this study was that weak parenting leads to greater adolescent problem behaviors, but these relationships are likely to be reciprocal to some extent (Stice & Barrera, 1995). For example, in some cases, childhood aggression can lead to weak parent–child attachment (Brook, Whiteman, & Finch, 1993). A longitudinal design would also allow an examination of how changes in family structure affect adolescent behavior. A recent change such as parental divorce is likely to be associated with more family dysfunction and adolescent acting out compared with a more stable family situation (Allison & Furstenberg, 1989; Capaldi & Patterson, 1991; Zastowny & Lewis, 1989). Finally, there was a relatively high refusal rate among parents, with 37% refusing to participate in the phone interviews. However, because the refusal rate may have been higher in parents of problem adolescents or parents with poor parenting skills, this would serve to restrict the range of potential outcomes and bias estimation of associations. Also, the base rates of substance use were low given the age of the sample in the present study, and the magnitude of relations may increase with age as these youth engage in more substance use and other problem behaviors. For example, Turner et al. (1991) found that boys from single-parent families are most likely to use substances relative to others later during their adolescent years, around age 16 to 17 years. Future studies should use longitudinal designs to examine the reciprocal nature of parenting and adolescent problem behavior throughout adolescence, with the goal of further clarifying the mechanisms by which parenting impacts adolescent problem behavior.

The present findings have several implications for prevention of drug abuse and delinquency among youth. First, parent training to improve monitoring skills, communication, and other forms of parental control may need to be included in primary prevention efforts. Many school-based efforts to reduce drug use, for instance, could be expanded to included a parenting component. Existing cognitive–behavioral strategies that have been successful with middle school youth (Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995; Botvin, Baker, Dusenbury, Tortu, & Botvin, 1990) could be modified to include a parent-training component. Parent interventions should include training in family management skills (e.g., monitoring, communicating, and discipline practices) because these approaches have been found to prevent the escalation of problem behaviors (Dishion & Andrews, 1995). If parents are provided with appropriate monitoring, communication, coping, and other skills, they may learn to become more proactive in their parenting, and youth may learn to be resilient, even in high-risk settings.

References

Aiken, L., & West, S. (1991). *Multiple regression: Testing and interpreting interactions.* Newbury Park, CA: Sage.

Allison, P., & Furstenberg, F. F. (1989). How marital dissolution affects children: Variations by age and sex. *Developmental Psychology, 25,* 540–549.

Anderson, A. R., & Henry, C. S. (1994). Family system characteristics and parental behaviors as predictors of adolescent substance use. *Adolescence, 29,* 405–420.

Astone, N. M., & McLanahan, S. S. (1991). Family structure, parental practices and high school completion. *American Sociological Review, 56,* 309–320.

Botvin, G. J., Baker, E., Dusenbury, L. D., Botvin, E. M., & Diaz, T. (1995). Long-term follow-up results of a randomized drug abuse prevention trial in a White middle-class population. *Journal of the American Medical Association, 273,* 1106–1112.

Botvin, G. J., Baker, E., Dusenbury, L., Tortu, S., & Botvin, E. M. (1990). Preventing adolescent drug abuse through a multimodal cognitive–behavioral approach: Results of a three-year study. *Journal of Consulting and Clinical Psychology, 58,* 437–446.

Brody, G. J., & Forehand, R. (1993). Prospective associations among family form, family processes, and adolescents' alcohol and drug use. *Behavior Research and Therapy, 31,* 587–593.

Brook, J. A., Whiteman, M., & Finch, S. (1993). Role of mutual attachment in drug use: A longitudinal study. *Journal of the American Academy of Child and Adolescent Psychiatry, 32,* 982–989.

Capaldi, D. M., & Patterson, G. R. (1991). Relation of parental transitions to boys' adjustment problems: I. A linear hypothesis. II. Mothers at risk for transitions and unskilled parenting. *Developmental Psychology, 27,* 489–504.

Catalano, R. F., Hawkins, J. D., Krenz, C., Gillmore, M., Morrison, D., Wells, E., & Abbott, R. (1993). Using research to guide culturally appropriate drug abuse prevention. *Journal of Consulting and Clinical Psychology, 61,* 804–811.

Chilcoat, H. D., & Anthony, J. C. (1996). Impact of parental monitoring on initiation of drug use through late childhood. *Journal of the American Academy of Child and Adolescent Psychiatry, 35,* 91–100.

Clark, R. D., & Shields, G. (1997). Family communication and delinquency. *Adolescence, 32,* 81–92.

Cohen, D. A., Richardson, J., & La Bree, L. (1994). Parenting behaviors and the onset of smoking and alcohol use: A longitudinal study. *Pediatrics, 94,* 368–375.

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

Conger, R. D., Conger, K. J., Elder, G. H., Lorenz, F. O., Simones, R. L., & Whitebeck, L. B. (1993). Family economic stress and adjustment of early adolescent girls. *Developmental Psychology, 29,* 206–219.

Dishion, T. J., & Andrews, D. W. (1995). Preventing escalation in problem behaviors with high-risk young adolescents: Immediate and 1-year outcomes. *Journal of Consulting and Clinical Psychology, 63,* 538–548.

Dornbusch, S. M., Carlsmith, J. M., Bushwall, S. J., Ritter, P. L., Leiderman, H., Hastort, A. H., & Gross, R. T. (1985). Single-parents, extended households, and the control of adolescents. *Child Development, 56,* 326–341.

Elder, G. H., Eccles, J. S., Ardelt, M., & Lord, S. (1995). Inner-city parents under economic pressure: Perspective on the strategies of parenting. *Journal of Marriage and the Family, 57,* 771–784.

Elliot, D. S., Huizinga, D., & Menard, S. (1989). *Multiple problem youth: Delinquency, substance use, and mental health problems.* New York: Springer-Verlag.

Farrell, A. D., & White, K. S. (1998). Peer influences and drug use among urban adolescents: Family structure and parent–adolescent relationship as protective factors. *Journal of Consulting and Clinical Psychology, 66,* 248–258.

Forehand, R., Miller, K. S., Dutra, R., & Chance, M. W. (1997). Role of parenting in adolescent deviant behavior: Replication across and within two ethnic groups. *Journal of Consulting and Clinical Psychology, 65,* 1036–1041.

Gabel, S. (1992). Behavioral problems in sons of incarcerated or otherwise absent fathers: The issue of separation. *Family Processes, 31,* 303–314.

Gorman-Smith, D., Tolan, P. H., Zelli, A., & Huesmann, L. R. (1996). The relation of family functioning to violence among inner-city minority youth. *Journal of Family Psychology, 10,* 115–129.

Grigg, M., Bowman, J., & Redman, J. (1996). Disordered eating and unhealthy weight reduction practices among adolescent females. *Preventive Medicine, 25,* 748–756.

Hirschi, L. (1969). *Causes of delinquency.* Berkeley: University of California Press.

Hoffman, J. P. (1993). Exploring the direct and indirect family effects on adolescent drug use. *Journal of Drug Issues, 23,* 535–557.

Hogan, D. P., & Kitagawa, E. M. (1985). The impact of social status, family structure, and neighborhood on the fertility of Black adolescents. *American Journal of Sociology, 90,* 825–855.

Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth.* San Diego, CA: Academic Press.

Mason, C. A., Cauce, A. M., Gonzales, N., & Hiraga, Y. (1994). Adolescent problem behavior: The effect of peers and the moderating role of father absence and the mother–child relationship. *American Journal of Community Psychology, 22,* 723–743.

Mason, C. A., Cauce, A. M., Gonzales, N., & Hiraga, Y. (1996). Neither too sweet nor too sour: Problem peers, maternal control, and problem behavior in African-American adolescents. *Child Development, 67,* 2115–2130.

National Research Council. (1993). *Losing generations: Adolescents in high-risk settings.* Washington, DC: National Academy Press.

Norton, A. J., & Glick, P. C. (1986). One parent families: A social and economic profile. *Family Relations, 35,* 9–17.

Patterson, G. R., DeBaryshe, B. D., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist, 44,* 329–335.

Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices

and delinquency. *Child Development, 55,* 1299–1307.

Rienzi, B. M., McMillin, J. D., Dickson, C. L., Crauthers, D., McNeill, K. F., Pesnia, M. D., & Mann, E. (1996). Gender differences regarding peer influence and attitude toward substance use. *Journal of Drug Education, 26,* 339–347.

Saluter, A. F. (1994). Marital status and living arrangements: March 1993. *Current population reports* (Series P20-478). Washington, DC: U.S. Government Printing Office.

Selnow, G. W. (1987). Parent–child relationships and single- and two-parent families: Implications for substance usage. *Journal of Drug Education, 17,* 315–326.

Steinberg, L. (1987a). Familial factors in delinquency: A developmental perspective. *Journal of Adolescent Research, 2,* 255–268.

Steinberg, L. (1987b). Single parents, stepparents, and the susceptibility of adolescents to antisocial peer pressure. *Child Development, 58,* 269–275.

Steinberg, L., Fletcher, A., & Darling, N. (1994). Parental monitoring and peer influences on adolescent substance use. *Pediatrics, 93,* 1060–1064.

Stice, E., & Barrera, M. (1995). A longitudinal examination of the reciprocal relations between perceived parenting and adolescent substance use and externalizing behaviors. *Developmental Psychology, 31,* 322–334.

Stice, E., Barrera, M., & Chassin, L. (1993). Relation of parental support and control to adolescents' externalizing symptomatology and substance use: A longitudinal examination of curvilinear effects. *Journal of Abnormal Child Psychology, 21,* 609–629.

Turner, R. A., Irwin, C. E., & Millstein, S. G. (1991). Family structure, family processes, and experimenting with substances during adolescence. *Journal of Research on Adolescence, 1,* 93–106.

Vaden-Kiernan, N., Ialongno, N. S., Pearson, J., & Kellam, S. (1995). Household family structure and children's aggressive behavior: A longitudinal study of urban elementary school children. *Journal of Abnormal Child Psychology, 23,* 553–568.

Wasserman, G. A., Miller, L. S., Pinner, E., & Jaramillo, B. (1996). Parenting predictors of early conduct problems in urban, high-risk boys. *Journal of the American Academy of Child and Adolescent Psychiatry, 35,* 1227–1236.

Wills, T. A., & Cleary, S. D. (1996). How are social support effects mediated? A test with parental support and adolescent substance use. *Journal of Personality and Social Psychology, 71,* 937–952.

Zastowny, T. R., & Lewis, J. L. (1989). Family interactional patterns and social support systems in single-parent families. *Journal of Divorce, 13,* 1–40.

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