

Influence of Deviant Friends on Delinquency: Searching for Moderator Variables

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Three categories of potential moderators of the link between best friend's deviancy and boys' delinquency during early adolescence were investigated: personal (i.e., disruptiveness profile during childhood, attitude toward delinquency), familial (i.e., parental monitoring, attachment to parents), and social (i.e., characteristics of other friends). Best friend's and other friends' deviancy were assessed during preadolescence through the use of peer ratings. Potential moderators were assessed at the same age period with teacher ratings or self-reports. Finally, delinquent behaviors were assessed at ages 13 and 14, as well as age 10 for control purposes, with self-reports. Results showed that boys' disruptiveness profiles during childhood, attachment to parents, and attitude toward delinquency moderated the link between best friend's deviancy and later delinquent behaviors. Other friends' deviancy and parental monitoring had main effects but no moderating effects. These results help clarify the conditions under which exposure to a deviant best friend can influence boys' delinquent behaviors. They also help to reconcile different theoretical explanations of the role of deviant friends in the development of delinquency.

KEY WORDS: Delinquency; friends; adolescents; moderators; parents.

INTRODUCTION

Several studies have shown strong links between affiliation with deviant friends and adolescents' delinquent behaviors (e.g., Agnew, 1991; Elliott, Huizinga, & Ageton, 1985; Elliott & Menard, 1996; Farrington, Ohlin, & Wilson, 1986; Patterson & Dishion, 1985; Simons, Wu, Conger, & Lorenz, 1994; Warr, 1993a,b). For example, Elliott (1994) showed that the initiation of delinquency for most 11- and 12-year olds begins with deviant peer association. Even Gottfredson and Hirschi (1990), who emphasize individual characteristics such as bonding to conventional society to explain delinquency, granted that association with deviant peers might facilitate the development of delinquency in individuals already exhibiting anti-

social tendencies. Several other studies looked at variables that predict association with deviant friends or mediate the link between association with deviant friends and subsequent delinquency (Brendgen, Vitaro, & Bukowski, 1998; Dishion & Andrews, 1995; Dishion, Capaldi, Spracklen, & Li, 1995a; Dishion, Patterson, Stoolmiller, & Skinner, 1991; Dishion, Spracklen, Andrews, & Patterson, 1996; Fergusson & Horwood, 1999; Patterson, Reid, & Dishion, 1992). In contrast, few studies examined variables that might moderate the influence of deviant friends on delinquency.

The scarcity of studies examining variables that might moderate the influence of deviant friends is surprising for many reasons. First, since the early 1960s, researchers from all theoretical backgrounds acknowledged the probable existence of potential moderators (Agnew, 1991; Hartup, 1999; Orcutt, 1987; Short, 1960). However, these researchers have rarely conducted specific tests on these moderators (Rutter, Giller, & Hagell, 1998). Second, examining factors that may condition the influence of delinquent peers on delinquency may have important clinical implications. Because it is not always possible to

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prevent exposure to deviant peers (although this would be the best way to prevent their negative influence), it may be possible to reduce the influence of peer's deviance by identifying and manipulating variables that play a moderating role. Of course, this is only possible if these potential moderating variables are amenable to intervention. Third, the identification of moderating variables might help reconcile contradictory findings about the role deviant friends play in the development of delinquency. In the present study, moderating variables are defined as protective factors that mitigate the influence of deviant friends, altering the slope of the (probable) relation between friends' deviancy and subsequent delinquency (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). As in Jessor *et al.*'s (1995) study, putative moderating variables are considered as independent factors that can also have a direct (negative) effect on subsequent delinquency. Finally, the moderators used in the present study originate from the three categories of protective factors identified by Garmezy (1985): characteristics of the friendship network (i.e., presence of other nondeviant friends), family attributes (i.e., parental monitoring, attachment to parents), and individual dispositions (i.e., childhood disruptiveness profile, attitude toward delinquency).

Presence of Other Nondeviant Friends

The Peer Influence/Socialization model (Elliott *et al.*, 1985) proclaims that weak bonding to conventional peers leads to association with deviant friends, which in turn is responsible for initiation or aggravation of delinquent behaviors. The social learning perspective from which the Peer Influence model is derived (Bandura, 1977) suggests that features of friendships or friends' characteristics might moderate the influence of deviant friends. In support of this notion, Agnew (1991) showed that the association with friends who engage in serious delinquency has an impact on delinquency only when adolescents are strongly attached to peers or spend much time with them and when peers manifest deviant attitudes and encourage deviant behaviors. However, Agnew (1991) used a global measure of friends' deviancy (i.e., how many friends have been involved in delinquent acts), ignoring the possible presence of some nondeviant friends. Indeed, as suggested by some authors, association or attachment to delinquent peers increases delinquency, whereas association or attachment to conventional peers reduces it (Conger, 1976; Jessor *et al.*, 1995; Johnson, 1979). Each friendship and each friend create a context with particular features and norms that might differ from other friendships and other friends (Newcomb, Bukowski, & Bagwell, in press). Thus, following Short's (1960) suggestions, it is possible that

the presence of a second or third friend who is nondeviant might decrease the negative influence of a best friend's delinquency in comparison to the presence of additional delinquent friends. It is also important to test the possible moderating role of the absence of additional friends, as this situation could create an intermediate condition between additional nondeviant and additional deviant friends. As already mentioned, authors have not assessed this possibility well when using only a global score of friends' deviancy or considering only best friends, although best friends might exert stronger influences than other friends or acquaintances (Newcomb & Bagwell, 1995; Urberg, Degirmencioglu, & Pilgrim, 1997).

Parent Monitoring and Attachment to Parents

Proponents of the Peer Influence model suggest that family experiences might also moderate the impact of delinquent friends on delinquent behavior (Elliott *et al.*, 1985; Jensen, 1972). Family experiences have been defined in different ways, however. Some researchers used measures such as parental control, discipline, or supervision (i.e., monitoring), whereas other researchers focused on the affective nature of the parent-child relationship (i.e., attachment, closeness, acceptance, and rejection). A number of studies examined the moderating role of each dimension separately with conflicting results. For example, Poole and Regoli (1979) reported data showing that delinquent friends had a greater impact on delinquent behavior for adolescents who had weak family support than for those who had strong family support. Similarly, Mason, Cauce, Gonzales, and Hiraga (1994) reported that a positive mother-adolescent relationship reduced the influence of deviant friends. In contrast, Warr (1993b) showed that affective attachment to parents (i.e., communication and closeness) did not reduce the negative effect of deviant friends toward delinquency, although attachment to parents successfully inhibited the establishment of deviant friendships. Similarly, Keenan, Loeber, Zhang, Stouthamer-Loeber, and Van Kammen (1995), who used a composite score of supervision, discipline, and affectionate relationship, found no interaction between family variables and association with deviant peers in predicting severe delinquency. Notably, no author (to our knowledge) considered in the same study attachment to parents and parental monitoring as potential moderators of the influence of deviant friends on delinquency. Thus, one way to reconcile the existing contradictory findings may be to include both aspects of parenting in the same study and examine their specific and combined capability to moderate the influence of deviant friends on delinquency.

Individual Dispositions

In contrast to the Peer Influence model, the Social Interactional/Facilitation/Enhancement model (Dishion, 1990a,b; Patterson, DeBaryshe, & Ramsey, 1989; Thornberry, 1987; Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994) suggests that not only deviant peers but also personal antisocial characteristics contribute in predicting delinquency. In addition, these two sets of variables are believed to interact such that (a) deviant friends increase the link between antisocial personal dispositions and delinquency (Dishion, 1990a,b), or (b) antisocial personal dispositions condition the degree to which deviant friends influence delinquency (Vitaro, Tremblay, Kerr, Pagani, & Bukowski, 1997). Unfortunately, these studies assessed subjects' behavioral characteristics only during early adolescence. This is regrettable in light of Moffitt's (1993) and Patterson, Capaldi, and Bank's (1991), suggestion that antisocial trajectories be examined over time because only this type of analysis can distinguish early and late starters. The early starters manifest antisocial tendencies early in life and supposedly do not depend on delinquent peers to the same extent as the late starters, who are assumed to be initiated to delinquency through the influence of peers.

Some support for this notion was provided by Simons *et al.* (1994), who showed that affiliation with deviant peers was the contributing factor to delinquency for late starters. However, deviant peers also amplified the link between disruptive behaviors and later delinquency for early starters. Conversely, Keenan *et al.* (1995) found no moderating effect of attention-deficit hyperactivity problems on the link between exposure to deviant peers and initiation of delinquency in fourth- and seventh-grade boys. Because Keenan *et al.* included only boys who were delinquent-free at the beginning of their study, they may well have excluded early starters, for whom an interaction might have been possible. Also, up to half of early starters outgrow their early problems (Loeber, 1990). It is not known whether these desisters are differentially influenced by exposure to deviant friends than early starters who persist. In the present study, we specifically investigated whether late starters, early starters who desist (i.e., desisters), and early starters who persist (i.e., persisters) would be differentially influenced by deviant peers.

The final possible moderator from the individual disposition category refers to individuals' attitudes toward delinquency. A favorable or unfavorable attitude toward delinquency has been shown to respectively increase or decrease subsequent delinquency, above and beyond a variety of other risk factors, including friends' deviancy (Jessor *et al.*, 1995). In addition to this main effect, Orcutt (1987) suggested that a favorable/unfavorable at-

titude toward delinquency might moderate the influence of deviant friends on subsequent maladjustment. Orcutt (1987) based his suggestion on Sutherland's (1939) Differential Association theory that might be considered a variant of the Peer Influence perspective. Sutherland, however, assumed that a favorable attitude toward delinquency mediated the link between association with deviant peers and later delinquency, an assumption that was not supported by later studies because deviant peers influenced delinquency above and beyond definitions favorable to law violation (Elliott *et al.*, 1985; Menard & Elliott, 1994; Warr & Stafford, 1991). Orcutt's (1987) suggestion for a moderator effect of favorable/unfavorable attitude toward delinquency, however, remains possible, but as yet untested.

In addition to their scarcity, previous studies that looked at moderators are plagued with methodologic problems. For example, previous studies used only one informant (i.e., the participants themselves) to report on their delinquent behaviors, their friends' delinquent behaviors, and the moderating variables. This procedure has been criticized because it may introduce bias due to shared source variance (Aseltine, 1995; Thornberry & Krohn, 1997). Also, previous studies sometimes failed to control for the initial levels of the outcome and did not use a longitudinal design, thus preventing the examination of the effect of possible moderators on the link between friends' deviancy and changes in delinquent behavior over time. In addition, previous studies used only single data points to establish the predictors, the outcome, and the moderators, whereas several data points would make the measures more reliable. More than one data point can also serve to establish profiles or take into account changes in the variables of interest. Finally, previous studies failed to establish if friendships were mutual or unilateral. As suggested by Bukowski and Hoza (1989), unilateral nominations are not an unambiguous indicator that friendship even exists. This problem adds to the problem already mentioned that previous studies used a global index of friends' deviancy and failed to distinguish the best friend from other friends.

Objectives of the Present Study

The goal of the present study was to explore the moderating roles of three categories of variables on the influence of best friend's deviancy on delinquency: (a) participants' characteristics (e.g., early disruptiveness profile, attitude toward delinquency); (b) friends' characteristics (e.g., presence of other friends who are deviant or not); (c) the joint influence of parental monitoring and attachment to parents. The present study focused exclusively

on behavioral profiles of boys obtained during childhood. Peer ratings were used to assess the participants' exposure to deviant friends during preadolescence. Potential moderating variables were also assessed during preadolescence. Finally, the self-reported outcome measure of delinquent behavior was assessed during early adolescence. The initial level of the outcome was controlled throughout the analyses.

METHOD

Participants

The 567 boys who participated in this study were part of a longitudinal sample of boys followed since kindergarten (M age = 6.23 years, $SD = .30$). The original sample included 1037 Caucasian boys from 53 French-speaking schools in low socioeconomic areas of Montreal (Canada). This culturally homogeneous sample was selected to meet the following criteria: (1) both parents were born in Canada and French was their mother-tongue; (2) parents had attained an average of 10.5 years of schooling when their sons were in kindergarten; and (3) parents' socioeconomic status (SES) was low to average.

Of the initial 1037 boys, 835 had complete data. These 835 boys were compared to the 202 boys who were lost through attrition. The boys lost through attrition were rated by teachers as more disruptive at age 6 and came from families with lower SES than boys who remained in the sample. The remaining 835 boys were assessed to determine whether a mutual friend at age 11 or 12 was available for analysis in the present study. A mutual friend was found to exist for 567 of the boys. A series of t -tests showed that according to teachers, at ages 6 and 10, the friendless boys ($n = 268$) were more disruptive relative to boys who had a mutual friend. Yet, friendless boys were not more delinquent at ages 13 and 14, did not express a more favorable attitude toward delinquency at ages 11 and 12, and did not differ on parental supervision or attachment to parents at ages 11 and 12.

Moderated Variable

Best Friend's Deviancy

When the participants were 11 and 12 years old, the Pupil Evaluation Inventory (PEI; Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976) was used to gather peer assessments. The PEI contains 34 short behavior descriptions grouped into three scales: aggressiveness–disturbance

(20 items), social-withdrawal (9 items), and likability (5 items).

Participants' classmates (boys and girls) nominated up to four boys in the classroom who best fit each behavior descriptor. A code number was assigned to each boy in the classroom and these were presented in a roster format to the children. PEI assessment took place near the end of the school year at the same time teachers completed the Social Behavior Questionnaire (see description below). Target boys also nominated their best friend and up to three other friends in the classroom. Mutuality of friendship nomination was established if the nominated best friend also rated the target boy as his best friend or among his three other friends. Because only boys could be nominated, all mutual best friends were boys. The PEI aggressiveness–disturbance scale was then used to assess the mutual best friend's deviancy (alphas at age 11 = .97; age 12 = .96). Scores were standardized within each classroom. When participants had a mutual best friend both at age 11 and age 12, average scores of best friends' deviancy were computed across the two years. Two hundred seven (207; 36.5%) boys had a mutual best friend at both ages. One hundred forty-nine (149) boys (26.3%) had a mutual best friend only at age 11, and 211 boys (37.1%) had a mutual best friend only at age 12. Best friends' deviancy scores varied from -1.91 to 2.26 ($M = -.05$; $SD = .85$).

The use of classmates to assess best friends' deviancy avoids the problem of shared source variance with respect to the outcome measure (i.e., delinquency), which is self-reported. Limiting friendship nominations to the classroom probably did not overly restrict selection of friends because Parker and Asher (1993) as well as Kupersmidt, Burchinal, and Patterson (1995) have shown that a vast majority of elementary school children choose classmates as their best friend even when they are given the opportunity to nominate friends from outside the classroom.

Moderators

Other Friends' Deviancy

The PEI aggressiveness–disturbance scale was also used to assess *other mutual* friends' deviancy at ages 11 and 12. When mutual friends existed at both ages or when more than one mutual friend existed, an average score was computed. Other friends' deviancy scores ranged from -2.01 to 2.36 ($M = -.06$; $SD = .76$). One hundred thirty-one (131; 23.1%) target boys had no other mutual friends at age 11 nor 12. These boys with no other mutual friends were kept in the study as will be explained later.

Disruptive Behavior

Teachers rated the boys' behavior at ages 6 and 10 using the Social Behavior Questionnaire (SBQ; Loeber, Tremblay, Gagnon, & Charlebois, 1989; Tremblay *et al.*, 1991). Ratings took place near the end of the school year, in April or May. The SBQ is a 32-item behavior-rating questionnaire used to assess disruptiveness (i.e., aggressiveness-opposition-hyperactivity; 13 items), inattention (4 items), anxiety-withdrawal (5 items), and prosocial behavior (10 items). Teachers indicated whether items did not apply (0), applied sometimes (1), or applied often (2). For the purpose of the present study, only the disruptiveness scale was used. Internal consistency was high, with alphas = .87 and .89 at age 6 and age 10, respectively. Scores ranged from 0 to 26 at age 6 ($M = 5.35$; $SD = 5.87$), and from 0 to 24 at age 10 ($M = 5.73$; $SD = 5.89$).

Attitude Toward Delinquent Behavior

Six items were used to assess boys' attitude toward delinquent behaviors when they were 11 and 12 years old. Each item could be rated on a 4-point scale, ranging from 0 to 3. The total score could thus range from 0 to 24, with a higher score indicating a more favorable attitude toward delinquency ($M = 7.23$; $SD = 1.62$). These items were inspired from a scale used by Jessor *et al.* (1995). The six items were as follows: What do you think of boys your age who steal things in stores, . . . use marijuana, . . . skip school without reasons, . . . break objects that belong to others, . . . run away from home, . . . steal objects worth \$10 or more from their family. Alphas were .80 and .81 at ages 11 and 12, respectively.

The attitude toward delinquency scale as well as the other questionnaires were administered at school during April and May.

Family Experiences

At ages 11 and 12, boys reported on parents' monitoring (2 items) and on their own emotional attachment to their parents (10 items). Each item could be rated 0, 1, 2, or 3, with higher scores indicating more monitoring or more attachment. The two monitoring items were, "Do your parents know where you are when you go out?" and "Do your parents know who you hang out with?" (alphas for the total monitoring scale were .71 and .73 for ages 11 and 12, respectively). Examples of the attachment items are: "Do you talk with your parents about the future?" and "Do you feel rejected by your parents?" (alphas for the total attachment scale were .72 and .75 for ages 11 and

12, respectively). For the monitoring and the attachment scales, respectively, an average score across ages 11 and 12 was computed to increase reliability. Scores ranged from 0 to 6 ($M = 4.67$; $SD = 1.22$) for monitoring and from 5 to 27 ($M = 17.34$; $SD = 4.72$) for attachment.

Control Variable

Sociodemographic Information

Mothers reported on family structure and occupation of both parents (or the parent with whom the child was living) when the boys were 6 and 10 years of age. Parental occupation was scored on a continuous scale using the Blishen *et al.* (1987) Occupational Prestige scale. This score is based on the average income and average education level associated with occupations in Canada. For boys living with two working parents, the highest parental occupation score was used. The minimum score on the scale (i.e., 17.8) was obtained by boys living in families on social welfare or on unemployment insurance; 13% of the boys lived in such families. The average occupational prestige score for the sample ($M = 38.87$; $SD = 14.54$) was lower than that of a representative sample of parents with same age boys in Quebec ($M = 42.08$; $SD = 12.09$).

Outcome Variable

Self-Reported Delinquency Questionnaire

Participants answered 17 items from the Self-Reported Delinquency Questionnaire (SRDQ; LeBlanc & Fréchette, 1989) when they were 13 and 14 years old. The SRDQ assesses involvement in delinquent behaviors over the previous 12 months. Subjects answered the same questionnaire at age 10 with reference to their whole previous life. The SRDQ is comprised of one overt (physical violence) and two covert (theft and vandalism) delinquency scales. The physical violence scale includes five items: used a weapon during a fight; beat someone for no reason; carried a weapon; engaged in a fistfight; and threw rocks or other objects at someone. The theft scale includes seven items: stole \$100 or more; broke a door or window to steal something; stole a bicycle; stole money from family members; entered without paying admission; stole something worth less than \$10; and entered without authorization. The vandalism scale includes five items: vandalized a car; intentionally set a fire; intentionally destroyed school property; intentionally destroyed instruments at school; and intentionally destroyed another's property.

Each question was rated on a 4-point scale (0, never; 1, once or twice; 2, often; or 3, very often). Scores ranged from 0 to 33 for age 13–14 delinquency ($M = 5.58$; $SD = 3.7$). Cronbach's alphas for the total delinquency scale were .89 at age 13 and .92 at age 14 (.76 at age 10). LeBlanc and McDuff (1991) demonstrated the temporal stability and concurrent validity of the SRDQ with early adolescent boys. Others (Hindelang, Hirschi, & Weiss, 1981; Klein, 1989) documented the validity of self-reported delinquency. The SRDQ items were embedded in a series of questions about school, hobbies, social relations, and parent relations.

RESULTS

Preliminary Analyses: Zero-Order Correlations Among the Study Variables

The zero-order correlations among the study variables are presented in Table I. As can be seen, most variables were significantly but modestly related to each other, with the highest correlation emerging between disruptiveness at 6 years of age and disruptiveness at 10 years of age, $r(565) = .43$, $p < .001$.

Computation of Moderator Variables

Other Friends' Deviancy

The boys were assigned to one of three groups: Those who had no other mutual friends except their best friend ($n = 131$), those whose other friends were nondeviant

(i.e., other friends' averaged deviancy score below the mean, $n = 256$), and those whose other friends were deviant (i.e., other friends' averaged deviancy score at or above the mean, $n = 180$). Group membership was then represented by two dummy-coded variables. The first one, labeled OF1, contrasted those with nondeviant other mutual friends and those with deviant other mutual friends. The second dummy-coded variable (OF2) contrasted those without any other mutual friends and those with deviant other mutual friends. It is important to note that boys without any other mutual friends except the mutual best friend were included in the analysis, whereas boys who had no mutual best friend were dropped from the study sample. This was made possible because we used a categorical strategy for mutual other friends, whereas we used a continuous strategy for mutual best friend. The inclusion of boys without any other mutual friends except the mutual best friend made it possible to retain all boys who did have a mutual best friend in the analysis.

Parental Monitoring and Attachment to Parents

Parental monitoring was dichotomized so that boys with values at or below the mean were assigned to the low monitoring group, and boys with monitoring scores above the mean were assigned to the high monitoring group. Attachment to parents was dichotomized in the same manner. Then, the boys were assigned to one of four groups: boys with low monitoring and low attachment ($n = 213$); boys with high monitoring and low attachment ($n = 76$); boys with low monitoring and high attachment ($n = 133$); and boys with high monitoring and

Table I. Zero-Order Correlations among the Study Variables

	A	B	C	D	E	F	G	H	I	J
A. Disruptiveness ^a	1.00									
B. Disruptiveness ^b	.43	1.00								
C. Delinquency ^b	.20	.31	1.00							
D. Attitude toward delinquency ^c	.16	.24	.26	1.00						
E. Best friend's deviancy ^c	.06	.18	.15	.15	1.00					
F. Existence of other friends ^c	-.12	-.19	-.11	-.10	-.08	1.00				
G. Other friends' deviancy ^c	.00	.06	.00	.11	.20	na	1.00			
H. Attachment to parents ^c	-.07	-.01	-.20	-.21	-.03	.10	.02	1.00		
I. Parental monitoring ^c	-.15	-.18	-.34	-.38	-.14	.12	-.11	.44	1.00	
J. Delinquency ^d	.16	.21	.42	.42	.23	-.10	.15	-.16	-.36	1.00

Note: na = not applicable. Absolute correlations of .10 or higher are at least significant at $p < .05$. Correlations involving other friends' deviancy are based on the subsample of boys who had more than one best friend ($n = 436$). All other correlations are based on the total sample ($N = 567$).

^aAt age 6.

^bAt age 10.

^cAt ages 11–12.

^dAt ages 13–14.

high attachment ($n = 145$). For the analysis, these groups were represented by three dummy-coded variables. The first one (PAR1) contrasted those with low levels of monitoring but high levels of attachment and those with low levels of both monitoring and attachment. The second dummy-coded variable (PAR2) contrasted those with high levels of monitoring but low levels of attachment and those with low levels of both monitoring and attachment. The third dummy-coded variable (PAR3) contrasted those with high levels of both monitoring and attachment and those with low levels of both monitoring and attachment.

Childhood Disruptiveness Profile

Childhood disruptiveness scores at ages 6 and 10, separately, were dichotomized so that boys with scores at or below the mean were considered to be low in disruptiveness at a given year, and those with scores above the mean were considered high in disruptiveness at a given year. The boys were then assigned to one of four groups: boys who were never disruptive (i.e., the nevers, $n = 198$); those who were disruptive at age 6 but were not at age 10 (i.e., the desisters, $n = 104$); those who were not disruptive at age 6 but were at age 10 (i.e., the late starters, $n = 93$); and those who were disruptive at both times (i.e., the persisters, $n = 172$). For the analysis, membership in the four groups was represented by three dummy-coded variables. The first one (DP1) contrasted the nevers and the persisters. The second dummy-coded variable (DP2) contrasted the desisters and the persisters. The third dummy-coded variable (DP3) contrasted the late starters and the persisters.

Attitude Toward Delinquency

In contrast to the previous moderator variables, each of which consisted of two variables, the attitude toward delinquency was represented by only one continuous score, which was kept for the analysis.

General Analytical Strategy

Hierarchical linear regression analysis was conducted to assess whether the effect of best friend's deviancy on adolescents' delinquent behavior was moderated by other friends' deviancy, parental monitoring and attachment to parents, childhood disruptiveness profile, and/or adolescents' attitude toward delinquency. Adolescents' own delinquent behavior at 10 years of age and best friend's deviancy were entered as predictors on the first step. On

the second step, the moderator variables were entered to assess potential main effects of these variables on adolescents' delinquent behavior. Potential moderating effects were tested, separately for each moderator variable, on the third step. For example, in order to assess whether the predictive effect of best friend's deviancy was qualified by other friends' deviancy, two multiplicative interaction terms (best friend's deviancy \times OF1, and best friend's deviancy \times OF2) were entered on the third step. The variance inflation indicators before entering the interaction terms were all around 1.0 which indicated that multicollinearity was not a statistical problem in the analysis. For each step of the analysis, the standard beta coefficients, the explained variance, and the F -statistics are presented in Table II.

Main Effects

As expected, best friend's deviancy significantly predicted adolescents' subsequent delinquent behavior $\beta = .18$, $p < .001$, even when controlling for adolescents' previous levels of delinquent behavior. Other friends' level of deviancy was also related to adolescents' subsequent delinquent behavior. Specifically, having other nondeviant mutual friends was related to somewhat lower levels of delinquent behavior compared to having other deviant mutual friends, $\beta = -.09$, $p < .05$. In addition, adolescents' attitude toward delinquency had a significant main effect on subsequent delinquent behavior, with a more favorable attitude toward delinquency being related to higher levels of delinquent behavior, $\beta = .29$, $p < .001$. Parental monitoring, attachment to parents, and the childhood disruptiveness profile from age 6 to age 10 had no main effects on subsequent delinquent behavior, however.

Interaction Effects

Other Friends' Deviancy

Contrary to expectations, other friends' deviancy did not moderate the effect of best friend's deviancy on adolescents' delinquent behavior.

Parental Monitoring and Attachment to Parents

There was a significant interaction between best friend's deviancy and the combined parental monitoring and attachment to parents variable. To assess this interaction, the relation between best friend's deviancy and adolescents' subsequent delinquent behavior was assessed separately for the four groups (i.e., low monitoring/low

Table II. Hierarchical Multiple Linear Regression Analysis to Test Potential Moderating Variables of the Effect of Best Friend's Aggression on Adolescents' Subsequent Delinquent Behavior

Step No.	Predictor	β	R	R^2 Change
Step 1	Age 10 delinquency	.39***	.45	.21***
	Best friend's aggression	.18***		
Step 2	OF1 (No friends vs. aggressive friends)	-.02	.56	.11***
	OF2 (Nonaggressive friends vs. aggressive friends)	-.09*		
	PAR1 (High monitoring low attachment vs. Low monitoring low attachment)	-.04		
	PAR2 (Low monitoring high attachment vs. Low monitoring low attachment)	.03		
	PAR3 (High monitoring high attachment vs. Low monitoring low attachment)	-.04		
	BP1 (Never aggressive vs. aggressive at age 6 and age 10)	-.05		
	BP2 (Aggressive at age 6 only vs. aggressive at age 6 and 10)	.05		
	BP3 (Aggressive at age 10 only vs. aggressive at ages 6 and 10)	-.01		
Step 3a	Attitude toward delinquency	.29***	.56	.00
	OF1 \times best friend's aggression	-.04		
Step 3b	OF2 \times best friend's aggression	-.06	.57	.01 ^a
	PAR1 \times best friend's aggression	-.05		
	PAR2 \times best friend's aggression	-.09*		
Step 3c	PAR3 \times best friend's aggression	-.11*	.57	.01*
	BP1 \times best friend's aggression	-.13**		
	BP2 \times best friend's aggression	-.10*		
Step 3d	BP3 \times best friend's aggression	-.04	.57	.02***
	Attitude \times best friend's aggression	.60***		

Note: Interactions have been tested separately for each moderator variable in steps 3a, 3b, 3c, and 3d. Standardized regression coefficients are provided.

^a $p = .06$; * $p < .05$; ** $p < .01$; *** $p < .001$.

attachment, low monitoring/high attachment, high monitoring/low attachment, and high monitoring/high attachment). The results revealed that, for adolescents who experienced high levels of parental monitoring but low levels of attachment to parents, best friend's deviancy was positively related to adolescents' subsequent delinquent behavior, $\beta = .21$, $p = .06$, and this relation was similar to the one obtained for adolescents who were low in both parental monitoring and attachment to parents, $\beta = .24$, $p = .001$. In contrast, for adolescents who had a high attachment to parents, even though they had low levels of parental monitoring, best friend's deviancy was not related to subsequent delinquent behavior, $\beta = .10$, n.s. Similarly, for adolescents who had high levels of both parental monitoring and attachment, best friend's deviancy was also not related to subsequent delinquent behavior, $\beta = .07$, n.s.

Disruptiveness Profile from Age 6 to Age 10

There also was a significant interaction between the childhood disruptiveness profile from age 6 to age 10 and best friend's deviancy. To assess this interaction, the relation between best friend's deviancy and adolescents'

subsequent delinquent behavior was assessed separately for the four disruptiveness profile groups (i.e., nevers, desisters, late starters, and persisters). The results showed that, for adolescents who were never disruptive as well as for the desisters, best friend's deviancy was not related to subsequent delinquent behavior, $\beta = .11$, n.s., and $\beta = .06$, n.s., respectively. In contrast, for the late starters as well as for the persisters, best friend's deviancy was positively related to subsequent delinquent behavior, $\beta = .26$, $p < .01$, and $\beta = .24$, $p < .001$, respectively.

Delinquent Attitude

Adolescents' attitude toward delinquency also significantly interacted with best friend's deviancy. To assess this interaction, the sample was split at the mean level of the attitude variable. Those who had values above the mean were considered to have a favorable attitude toward delinquent behavior ($n = 197$), whereas those with values at or below the mean were considered to have an unfavorable attitude toward delinquent behavior ($n = 370$). Next, the relation between best friend's deviancy and adolescents' subsequent delinquent behavior was assessed separately for the two groups. The results revealed

that, for those adolescents with an unfavorable attitude toward delinquency, best friend's deviancy did not contribute to subsequent delinquent behavior, $\beta = .08$, n.s. In contrast, for adolescents with a favorable attitude toward delinquency, best friend's deviancy was significantly related to subsequent delinquent behavior, $\beta = .25$, $p < .001$.

DISCUSSION

As expected, mutual best friend's peer-rated deviancy predicted delinquency during early adolescence, even after controlling for preadolescent delinquent behaviors. This result is supportive of the Peer Influence or the Social Interactional models (see Thornberry & Krohn, 1997; Vitaro, Tremblay, & Bukowski, in press). However, this finding does not support Hirschi's (Gottfredson & Hirschi, 1990; Hirschi, 1969) Social Control model, which gives priority to individual characteristics with no direct or mediated contribution of deviant friends in explaining delinquency during adolescence. Examination of moderating variables might help reconcile these seemingly opposite theoretical models—deviant friends may exert an influence on delinquency, but only under certain conditions.

Presence of Other Nondeviant Friends

Contrary to expectations, the presence of other mutual friends who were not deviant did not decrease the influence of best friend's deviancy on subsequent delinquency. However, if other mutual friends were not deviant, the level of delinquency was lower than if they were. In other words, the presence of other nondeviant friends had a main effect but did not moderate the influence of the best friend. Consequently, we may need to assess more than best friend's deviancy and distinguish between best friend and other friends because their influence may be additive (or subtractive, depending on their characteristics).

Parent Monitoring and Attachment to Parents

Neither parental monitoring nor attachment to parents predicted early adolescent delinquency after controlling for age 10 delinquency, best friend's deviancy, other friends' deviancy, the childhood disruptiveness profile, and attitude toward delinquency at age 10 (see step 2 of the regression equation). This finding contradicts results of several studies that reported a link between monitoring or attachment and delinquency (cf. Tolan, 1988, for attachment; Snyder, Dishion, & Patterson, 1986, for monitoring). However, these authors did not control for friends' deviancy or, sometimes, for previous delinquency. In the

present study, if we do not control for all the previous variables except for age 10 delinquency, parental monitoring makes a significant contribution in explaining subsequent delinquency. Although not reported, this result clearly suggests that age 10 parental monitoring has an indirect effect on delinquency at ages 13–14 through the mediating role of the association with deviant friends. This result is congruent with both the Peer Influence and the Social Interactional models. In addition, it is consistent with past studies that demonstrated the mediating role of friends on the link between parental monitoring and delinquency (Snyder *et al.*, 1986).

In contrast to parent monitoring, attachment to parents reduced the influence of deviant friends. Hence, external control such as monitoring can help prevent the association with deviant friends but, once this association is established, only an affective bond with parents can buffer teenagers against the influence of deviant peers. This result supports data from Poole and Regoli (1979) and Mason *et al.* (1994), who also reported a moderating role for attachment to parents. This result is also in line with suggestions from McCord (1990), who detailed that bonding to parents might make the adolescents less susceptible to negative peer influence through the development of internal standards that are consonant with parental standards. The only discordant result has been reported by Warr (1993b), who showed that affective attachment to parents did not reduce the negative effect of deviant friends toward delinquency. Differences in sample characteristics (i.e., older adolescents in Warr's study) and instruments may help explain these seemingly contradictory results. Nonetheless, present and past findings suggest a moderating role for attachment to parents. This must be taken into account in current theoretical models to help explain why deviant friends only sometimes influence subsequent delinquency. This is also an important finding with respect to prevention because high attachment to parents protects teenagers from the influence of deviant friends, whereas monitoring does not (although it might prevent association with deviant friends in the first place). At a certain point, it becomes difficult and even impossible to prevent teenagers from becoming exposed to deviant friends. Hence, it may be effective in the long run to foster the parent-child bond through communication, support, and shared activities in addition to monitoring the child's behavior.

Attitudinal and Behavioral Dispositions

Another important and often neglected variable that had a strong main effect (despite all the control variables) and a strong moderating effect was adolescents' attitude toward delinquency. Although correlated with delinquent behavior at age 10, attitude toward delinquency still made

an independent contribution in predicting later delinquency. Attitude toward delinquency distinguished between adolescents who would be influenced by deviant friends to commit delinquent acts and those who would not. Unfavorable attitude toward delinquency is one way to operationalize the adolescents' concept of bonding to conventional values and norms (Elliott, Huizinga, & Menard, 1989; Hirschi, 1969). Hence, adolescents with unfavorable attitudes toward deviancy are not influenced by deviant friends. Jessor *et al.* (1995) also showed that a measure of intolerance toward deviance had a protective effect on different problem behaviors, including delinquency, thereby reducing the combined risk associated with a series of risk factors, among which deviant friends proved to be the strongest. However, these authors did not examine whether their measure of intolerance towards deviancy moderated the influence of deviant friends specifically. Instead, they combined intolerance toward deviancy with six other protective factors and found that the resulting composite score moderated the link between a composite score of six risk factors and a series of four problem behaviors (including delinquency). In future research, it would be interesting to examine variables that are predictive of an unfavorable attitude toward delinquency.

Unexpectedly, the boys' disruptiveness profile during childhood was not directly related to subsequent delinquency. As with parental monitoring, however, boys' disruptiveness profile would have made a significant contribution if the other predictor variables had not been included. It is also important to remember that the boys who were lost through attrition and those who were dropped because they had no mutual best friend were rated as more disruptive than those who were part of the final sample. Their inclusion would probably have increased the link between early disruptiveness and later delinquency. More importantly with respect to the objectives of the present study, however, the childhood disruptiveness profile moderated the influence of deviant friends. Specifically, desisters were not more sensitive to best friend's deviancy than stably nondisruptive children. In contrast to expectancies, early starters were as much influenced by best friend's deviancy as were late starters. This result is not consistent with predictions made by Moffitt (1993), who suggested that late starters would be more influenced by deviant friends than early starters. The way the late starters were defined in the present study may help reconcile the findings with the theory. First, our criterion to establish disruptiveness at ages 6 and 10 might have been somewhat lenient (i.e., above the mean on the teacher-rated disruptiveness scale), but this was necessary to ensure a sufficient number of boys in each group. Second,

late starters have been defined on the basis of age 10 disruptiveness scores. This is in contrast with other investigators that used ages 13–14 to distinguish late starters from early starters (Moffitt, 1993; Simons *et al.*, 1994). Besides methodologic conveniences, our decision to use age 10 was based on *DSM-IV* criteria that use age 10 as a cutoff to differentiate early- from late-onset conduct disorder (APA, 1994). In that sense, results might have been different had we used a later age to distinguish early and late starters. In future studies, more stringent criteria and a consensual definition of late starters should be used, as well as profiles established on more than two data points and corrected for measurement error, as suggested by Nagin and Tremblay (1999). Nevertheless, the finding that desisters are not influenced by best friend's deviancy provides an argument in favor of early intervention aimed at reducing aggressive behaviors. Reducing aggression may prevent delinquent behaviors either because treated children tend to associate less with or are less influenced by deviant peers (Vitaro, Brendgen, Pagani, Tremblay, & McDuff, 1999).

Summary, Methodologic Issues, and Conclusion

In summary, the present results largely support the Social Interaction model, which predicts (a) that antisocial behavior or antisocial orientation, deviant friends, and poor parental monitoring (when considered alone) all contribute to predicting delinquency; (b) that a nonantisocial orientation (i.e., an unfavorable attitude toward delinquency) and an improved or nondisruptive behavior profile during childhood reduce and even block the influence of deviant friends toward delinquency; and (c) that family experiences also moderate the influence of deviant friends. In the present study, it was attachment to parents rather than parental monitoring that achieved this goal.

The analysis showed that there were no differences in best friend's deviancy across the levels of all the predictors. This suggests that some stably nondisruptive children (or children with unfavorable attitudes toward deviancy) associated with deviant friends. Conversely, some early starters (i.e., persisters) and some boys with favorable attitudes toward deviancy associated with nondeviant friends. Maybe children are still "shopping around" for the right friends at that age, as suggested by Dishion, French, and Patterson (1995b). In any case, the .40 to .50 correlation coefficients between early adolescents' aggressiveness and friends' aggressiveness, although impressive, should not make us lose sight of the fact that propensity to affiliate with peers on the basis of behavioral similarity (i.e., homophily) is still far from complete. Maybe homophily becomes stronger later. Moreover, during early

adolescence, children's friends are not all similar. Some are deviant whereas others are not, and their influence seems to be additive although probably not equal in weight. Jessor *et al.* (1995) contributed data in the same direction, showing that (a) friends' deviancy and friends' conventionality only correlated .20, and (b) both predictors retained a significant beta weight in predicting delinquency and marijuana use. As already mentioned, a single measure of only best friend's deviancy can obscure important and divergent influences from other friends with different characteristics, and is not recommended in future studies.

The present study has many assets: a large community sample, different informants to avoid the problem of shared source variance, use of average scores over a 2-year period for many variables to increase reliability, and control for age 10 delinquency. It has, however, some limitations. First, the sample included only boys. Obviously, girls must be included in future studies. Second, no higher-order interactions could be tested because the number of subjects in some cells would have been very low despite a reasonably large sample size to begin with. Also, the percentage of additional variance contributed by the interaction terms was relatively small (i.e., 1% or 2%). However, as stated by McClelland and Judd (1993) and by Jessor *et al.* (1995), interactions are difficult to detect in nonexperimental studies (involving nonselected community samples). It is also the general case that when moderator effects are detected in nonexperimental studies, they account for about 1% to 3% of the variance, as in the present study (Chaplin, 1991). Third, 30% of the boys in the sample had to be dropped because they had no mutual best friend in the classroom. Even if the benefit was a more valid measure of friendship, this was unfortunate, given they were more disruptive than the rest of the sample. In addition, it is possible that these boys have friendships outside the classroom. As suggested by Poulin, Dishion, and Haas (1999), it is also possible that these disruptive boys with marginal friendships are influenced more heavily by a deviant friendship. It could well be that including these disruptive boys with marginal friendships would change the findings somewhat, and possibly increase the predictive power of the childhood disruptiveness profile with respect to subsequent delinquency. A related issue is the focus on mutual best friend and on other mutual friends in the present study. Although an improvement on previous research that used a global, and often self-reported, measure of friends' deviancy, the present study failed to consider the rest of the social context within which the friendships are imbedded (e.g., gangs, unilateral "admired" friends, older siblings). These contextual factors may exert important moderating effects on the influence of deviant friends. Future research may benefit from studying the social ecol-

ogy of friendships to better understand friends' influence. Additional limitation comes from the fact that the boys in the present sample were all French-speaking Caucasians from low SES areas of a large city.

Despite these limitations, the present study clearly showed that some variables might moderate the influence of deviant friends on subsequent delinquency. The next step will be to test for the moderating role of other variables also suggested by different theoretical models and try to understand through what mechanisms they operate (Rutter *et al.*, 1998). This will enable clinicians to incorporate this new knowledge in their prevention/intervention efforts.

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