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TWO ROUTES TO DELINQUENCY: DIFFERENCES BETWEEN EARLY AND LATE STARTERS IN THE IMPACT OF PARENTING AND DEVIANT PEERS*

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This paper tests hypotheses concerning differences in the determinants of involvement with the criminal justice system for adolescents who show early versus late onset of delinquency. Four waves of data collected on 177 adolescent boys living in small towns in the midwest were used to test the hypotheses. For late starters, quality of parenting predicted affiliation with deviant peers, which was associated in turn with criminal justice system involvement. Oppositional/defiant behavior was unrelated both to affiliation with deviant peers and to involvement with the criminal justice system. For early starters, on the other hand, quality of parenting predicted oppositional/defiant behavior. This behavior pattern predicted affiliation with deviant peers, which in turn predicted criminal justice system involvement. Further, we found evidence of an interaction effect for early starters: criminal justice system involvement was highest for those youths who both were oppositional/defiant and had deviant friends. Overall the findings support the idea of different routes to criminal behavior and arrest for early versus late starters.

A profusion of studies has established a correlation between parenting factors, affiliation with deviant peers, and involvement in delinquent behavior (see Elliott et al., 1985; Farrington et al., 1986; Loeber and LeBlanc, 1990). Correlations between these constructs not only are widely reported; they also tend to be quite strong in light of the standards of social scientific research. Although criminologists generally accept this set

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of relationships, they disagree considerably about their causal significance. Generally speaking, criminologists hold two contrasting views of the theoretical processes that explain the correlations between the three factors.

Probably the most widely accepted interpretation is that inept parenting allows (or encourages) an adolescent to affiliate with deviant peers; as a consequence of these associations, he or she acquires attitudes favorable to delinquent behavior. Sutherland and Cressey (1966) presented this hypothesis some years ago, and in recent years this view has been popularized by Elliott and his colleagues (Elliott et al., 1979; Elliott et al., 1985; Elliott et al., 1989). Drawing on social learning theory, Elliott and his colleagues argue that association with deviant peers is the *primary cause* of delinquency; quality of parenting exerts an *indirect* influence through its impact on probability of affiliation with deviant peers.

This theoretical position, which for purposes of this paper we label the *peer influence perspective*, assumes that all youths are influenced by their friends' values and behaviors. Inadequate parental monitoring and discipline allow adolescents to drift into association with deviant peers. Delinquents are not viewed as differing from conventional youths in regard to number or quality of relationships with peers. Rather, their deviance is considered merely to reflect the types of actions that are encouraged and reinforced by their deviant friends. In keeping with the causal claims of this perspective, some studies have reported that parenting factors are not related to delinquency, once affiliation with deviant peers is introduced as a control (e.g., Elliott et al., 1985; Elliott et al., 1989), and that involvement with deviant peers predicts level of delinquency even after controlling for prior participation in delinquent behavior (e.g., Elliott et al., 1985).

A second, dramatically different line of reasoning is presented by theorists committed to a *control perspective* (Glueck and Glueck, 1950; Gottfredson and Hirschi, 1990; Hirschi, 1969). This point of view considers the quality of child socialization within the family as the fundamental determinant of delinquent behavior. Glueck and Glueck (1950), for example, argued that children subjected to inadequate supervision and discipline are likely to manifest antisocial behavior and to affiliate with deviant peers. Although Hirschi's (1969) social control theory specified several avenues by which youths might be bonded to (and thus controlled by) society, he identified attachment to others, particularly parents, as the primary social bond. The theory suggested that delinquents possess weak attachments to parents, which in turn decrease the probability that they will acquire the skills and values which promote attachments to peers, teachers, and other authority figures. Yet the most comprehensive formulation of a control perspective on the relationship between parenting, peer group, and delinquency is presented by Gottfredson and Hirschi (1990) in *A General Theory of Crime.*

Gottfredson and Hirschi argue that as a result of inept parenting some adolescents tend to be impulsive, defiant, and risk-taking (i.e., lacking in self-control). Such youths are attracted more strongly to delinquent acts than those who have been socialized to possess strong internal controls. Further, these poorly socialized youths are likely to be attracted to peers with the same antisocial characteristics. Thus the authors view inadequate parenting as contributing *directly* to the development of antisocial traits, and regard these delinquent tendencies as *causing* (rather than as *a cause of*) involvement with deviant peers ("birds of a feather flock together").

Although they grant that delinquents may have as many friends as conventional youths, Gottfredson and Hirschi contend that the quality of these friendships is apt to be quite different. Individuals who are impulsive, risk-taking, and insensitive often may be enjoyable company, but they are likely to be unreliable and untrustworthy as friends (Gottfredson and Hirschi, 1990). Hence, in contrast to proponents of the peer influence perspective, control theorists maintain that relationships between delinquents generally involve less trust and less support than friendships between conventional youths.

Whereas peer influence and control perspectives represent diametrically opposed views on the role of inept parenting and the quality and causal significance of friendships between delinquents, Patterson and his colleagues at the Oregon Social Learning Center represent a third position regarding the relationships between parenting, deviant peers, and delinquency (Patterson et al., 1991; Patterson and Yoerger, 1993; Patterson et al., 1989; Patterson, Reid, and Dishion, 1992). Their theory might be regarded as a compromise to the contrasting contentions of the peer influence and the control perspectives.

Patterson and his colleagues believe that there are *two routes to delinquent behavior*, one for late and another for early starters. Late starters are defined as youths who experiment with delinquent acts during mid- to late adolescence, when such rebellious behavior is quite prevalent. Their participation in such actions is considered largely to be a function of the encouragement and support provided by peers. Such youths often have experienced a decline in quality of parenting because of the perturbations in the parent-child relationship that frequently accompany pubescence, or as a result of parents' divorce or unemployment. These disruptions facilitate drift into association with deviant peers and experimentation with delinquent behavior.

In contrast, early starters (individuals who engage in delinquent behavior during early adolescence) are viewed as having serious deficits in social skills as a result of inept parenting. They are aggressive and defiant in their interactions with others, and thus are rejected by conventional peers. By default, these socially rejected youths establish friendships with each

other, forming a deviant peer group. Patterson and his colleagues contend that whereas late starters tend to discontinue their delinquency within a short period, early starters are at risk for chronic offending during adolescence and criminal careers as adults (Patterson et al., 1991; Patterson, Reid, and Dishion, 1992; Patterson and Yoerger, 1993).

This distinction between early and late starters might be interpreted as suggesting that both the peer influence and the control perspective on family, peers, and delinquency are correct. The late starter model identifies peer influences as a cause of delinquent behavior. Disrupted parenting is seen as contributing indirectly to late starters' delinquency by encouraging affiliation with deviant peers. Such individuals are viewed as having adequate social skills; hence their friendships would not be expected to differ in quality (e.g., trust, support) from those of conforming youths. Thus the late starter model is consistent with the peer influence perspective.

Although Patterson and colleagues stress somewhat different processes than do control theorists (e.g., coercive parenting as negative reinforcement for child's aggression and noncompliance), their early starter model posits that inept parenting fosters oppositional/defiant behavior. These antisocial tendencies lead in turn to friendships with other deviant youths, although these relationships are likely to be aggressive and turbulent. Thus in many respects the early starter model is consonant with the predictions of control theory.

This model differs from control theory, however, in its view of the consequences, for antisocial youths, of affiliation with deviant peers. Whereas Gottfredson and Hirschi (1990) grant that association with deviant peers may facilitate further expression of an individual's deviant tendencies, they do not regard this influence as an important determinant of delinquent behavior. Patterson and colleagues, on the other hand, argue that deviant peer groups provide antisocial youths with attitudes, motivations, and rationalizations that support involvement in criminal behavior (Dishion, 1990; Patterson et al., 1989; Patterson and Yoerger, 1993). They view affiliation with deviant peers as *amplifying* antisocial youths' deviant behavior. Although the early starter model has much in common with control theory, this latter component reflects the peer influence perspective.

The present study is concerned with testing these various contentions about the nature of the associations between parenting practices, deviant peers, and involvement in criminal activities. We use structural equation modeling to test hypotheses regarding associations between parenting, oppositional/defiant behavior, affiliation with deviant peers, and involvement in serious delinquency (as evidenced by involvement with the criminal justice system). The control and peer influence perspectives argue for

very different views of the relationships between these variables. The peer influence perspective suggests that inept parenting leads to affiliation with deviant peers, which in turn increases the probability of involvement with the criminal justice system. Thus affiliation with deviant peers is viewed as mediating the relationship between parenting practices and criminal behavior. Delinquents are regarded as having normal interpersonal skills; hence no association would be predicted between an oppositional/defiant orientation and either affiliation with deviant peers or involvement with the criminal justice system. Patterson and colleagues would predict this pattern of findings for late, but not for early, starters.

In contrast, the control perspective posits that ineffective parenting results in children's being impulsive, self-centered, and lacking in self-control; these characteristics, in turn, increase the probability both of affiliation with deviant peers and of delinquency. Thus the effect of parenting practices on affiliation with deviant peers and delinquency is mediated by the extent to which an adolescent possesses antisocial characteristics. An oppositional/defiant orientation is viewed as the cause both of affiliation with deviant peers and of participation in criminal behavior; therefore any relationship between the latter two constructs should disappear, once the effect of antisocial orientation is removed. That is, the relationship between affiliation with deviant peers and involvement with the criminal justice system is spurious because both are associated with antisocial orientation.

Similarly, Patterson and colleagues' early starter model suggests that the impact of parenting on affiliation with deviant peers is mediated by an oppositional/defiant orientation. They view affiliation with deviant peers, however, as the means whereby these antisocial tendencies escalate into criminal behavior and involvement with the criminal justice system (Dishion, 1990; Patterson, 1992). Deviant peer groups are believed to provide a training ground where youths with antisocial tendencies learn to commit criminal acts. Thus the early starter model argues for a causal sequence in which inept parenting fosters oppositional/defiant behavior, which in turn increases the probability of affiliation with deviant peers, which leads in turn to crime and arrest. This line of reasoning differs from the control perspective: affiliation with deviant peers is viewed as mediating the relationship between antisocial tendencies and illegal behavior. Thus the early starter model, unlike control theory, would predict an association between affiliation with deviant peers and involvement with the criminal justice system even after controlling for involvement in oppositional/defiant behavior.

In the preceding paragraph we interpreted Patterson and colleagues' contention that deviant peer groups serve as a training ground where antisocial youths learn to commit delinquent acts as suggesting that affiliation

with deviant peers mediates the relationship between an antisocial orientation and serious delinquency. Their argument, however, also might be interpreted as suggesting an interaction between this personal characteristic and involvement with deviant peers. It may be that the effect of deviant peers on serious delinquency is limited largely to adolescents with antisocial tendencies, or that youths with antisocial tendencies are most likely to engage in illegal activities when they are members of a deviant peer group. The present study tests for such an interaction effect.

METHODS AND PROCEDURES

SAMPLE

We recruited a sample of 451 two-parent families through the cohort of all seventh-grade students, male and female, in eight counties in north central Iowa who were enrolled in public or private schools during winter and spring 1989. An additional criterion for inclusion in the study was the presence of a sibling within four years of age of the target seventh-grade student. Slightly fewer than half of the cohort of target youths had families who met these criteria. Seventy-eight percent of the eligible families agreed to participate in the study; this rate is comparable to the response rates reported by other studies that attempt to recruit multiple family members (Capaldi and Patterson, 1987). Substantial remuneration appears to be necessary to obtain participation by multiple family members in studies involving intensive assessment procedures (Capaldi and Patterson, 1987). Families in the present project received $250 for taking part, which translated into about $10 per hour for each family member's time.

The families in the sample lived on farms (about one-third) or in small towns. All of the families were white; annual income ranged from 0 to $135,000, with a mean of $29,642. Fathers' education ranged from eight to 20 years, with a mean of 13.5 years; for mothers the range was eight to 18 years, with a mean of 13.4 years. The fathers ranged in age from 31 to 68, with a median of 40 years; mothers' ages ranged from 29 to 53, with a median of 38 years. Because families of fewer than four were excluded from the sampling frame, the families were larger on average than one would expect from a general population survey. Families ranged from four to 13 members, with an average of 4.9.

Only male target children were included in the present investigation because the females reported very low levels of involvement in delinquent behavior. These boys were in the seventh grade and averaged 12 1/2 years of age at Wave 1 of data collection. Of the 200 boys who took part in the study at Wave 1, 169 completed all four waves of data. We used these individuals in the analyses for this paper.

PROCEDURES

Data were collected annually from families when the target child was in grades 7, 8, 9, and 10. Essentially the same procedures and instruments were used at all four points. Each wave of data collection involved two visits to each of the study families. During the first visit, each of the four family members completed a set of questionnaires focusing on family processes, individual family members' characteristics, and socioeconomic circumstances. On average, approximately two hours were needed to complete the first visit. Between the first and the second visit, family members completed questionnaires left with them by the first interviewer. These questionnaires dealt with information on the extended family, parents' developmental history, and plans for the future. Each family member was instructed to place his or her completed questionnaire in an envelope, seal it, and give it to the interviewer at the time of the second visit.

During the second visit, which normally occurred within two weeks of the first, the family was videotaped while engaging in several different structured interaction tasks. At the beginning of the visit, each individual completed a short questionnaire designed to identify issues of concern or disagreement within the family (e.g., chores, recreation, money). The family members then were gathered around a table and were given a set of cards to read and discuss. All four family members were asked to discuss among themselves each of the items listed on the cards and to continue talking until the interviewer returned. The interviewer remained out of earshot during the family discussion, in which family members essentially interviewed one another about the daily dynamics of their lives. The items on the cards concerned family issues such as discipline, chores, and the children's friends and school performance. The second task, 15 minutes in length, also involved all four family members. For this task, the family was asked to discuss and try to resolve the most significant issue or disagreement that they had cited in the questionnaires earlier in the visit. The third task, which involved only the two youths, took 15 minutes. The youths were given a set of cards listing questions about how they got along, how their parents treated them, their friends, and their future plans. The fourth task involved the married couple and lasted 30 minutes. Spouses were asked to discuss issues related to aspects of their relationship, areas of agreement and disagreement (e.g., parenting, finances), and their plans for the future.

The family's interaction during these four tasks were videotaped. Interviewers explained each task and then left the room while the family members discussed issues raised by the task cards. When a family member was

not involved in a videotaped interaction task, he or she completed an additional questionnaire on significant life events, attitudes toward sexuality, and personal characteristics. The second visit lasted approximately two hours.

The videotapes were coded by project observers using the Iowa Family Interaction Rating Scales (Melby et al., 1990). These scales focus on the quality of behavioral exchanges between family members. The project observers were staff members who had received several weeks of training on rating family interactions and who specialized in coding one of the four interaction tasks. Before observing tapes, coders had to independently rate precoded interaction tasks and achieve at least 90% agreement with that standard. To assess interobserver reliability, 12% of the tasks at Wave 1, 28% at Wave 2, and 25% at Wave 3 were selected randomly to be observed and rated independently by a second observer.

MEASURES

Effective Parenting

Past research has established that effective parents set standards for their children, monitor their behavior, are consistent in enforcing rules, and eschew harsh punishments (Maccoby and Martin, 1983). These four dimensions of parenting were treated as indicators of the latent construct Effective Parenting. We formed the indicators by aggregating standardized scores from adolescents' reports and observers' ratings of the videotaped family interaction tasks.

Children's reports about the parenting practices of their parents often are influenced by their emotional state, attributional style, or personality (Baucom et al., 1989; Lorenz et al., 1991). Simply substituting observers' ratings for children's reports is not a wholly satisfying solution because videotapes of family interaction sample only a restricted segment of parental behavior. Olson (1977) suggests that one remedy is to use reports both from insiders (the child) and from outsiders (trained observers) in constructing measures; we used this strategy in the present study. Family members often are poor observers of one another's behavior (Furman et al., 1989); yet they have the greatest opportunity to observe one another in many contexts. Trained observers, on the other hand, have only limited access to a family's time together but can assess family interactional patterns. They use a well-defined coding system and have a broader view of normative behavior as a result of applying that system to numerous families. Thus pooling the two types of information should produce a more valid assessment of parental behavior than is provided by either of the two sources of data alone. On average, the correlation between the adolescents' reports and the observers' ratings was .35 to .40. We describe the

measures briefly below; a more fully detailed description of the instruments and the factor analytic procedures used to generate them is presented in McGruder et al. (1992).

The adolescents used a four-item scale to report on the extent to which each of their parents uses *harsh disciplinary* practices (e.g., "When punishing you, how often does your mother hit you with a belt, paddle or something else?"). The response format for this instrument, as well as for the other adolescent report scales described below, ranged from 1 (never) to 5 (always). Coefficient alpha at each wave was approximately .70 for fathers and .65 for mothers. Observational coders rated the harsh discipline of both mothers and fathers toward each of their children on the basis of family interaction and content of discussion in Task 1 of the videotaped interaction. Interobserver reliabilities for the various waves averaged .80 for fathers and .70 for mothers. We standardized and summed the adolescents' and observers' ratings for each parent. For each wave, the combined score for mothers correlated above .70 with the combined score for fathers. We summed the mothers' and the fathers' scores to form a composite indicator of parents' harsh discipline.

The adolescents reported on *monitoring* by each of their parents on a four-item scale (e.g., "How often does you mom know who you are with when you are away from home?"). At each wave, coefficient alpha was approximately .70 for both mothers and fathers. The observational monitoring measure consisted of a single rating based on the interaction and the content of the discussion in Task 1. Interobserver reliability averaged .65 and .60 for mothers and fathers respectively. At each wave, the correlation between the combined adolescents' and observers' ratings for mothers and the combined scores for fathers was approximately .65. Thus we summed mothers' and fathers' scores to obtain a composite measure of parents' monitoring.

The adolescents were asked to rate the *consistency of discipline* of each of their parents on a four-item scale (e.g., "How often does your mother punish you for something at one time and then at other times not punish you for the same thing?"). The response format ranged from 1 (never) to 5 (always). Across waves, coefficient alpha averaged .65 for fathers and .60 for mothers. The observational measure consisted of coders' ratings based on family interaction and content of discussion in videotaped Task 1. Interobserver reliability averaged .80 for mothers and .70 for fathers. At each wave, the summed adolescents' reports and observers' rating for mothers correlated approximately .80 with the corresponding score for fathers. We summed the mothers' and fathers' scores to form a composite indicator of parents' inconsistent discipline.

Finally, we used a five-item scale to obtain the adolescents' ratings of the extent to which each of their parents *set standards* in the course of

establishing or enforcing rules (e.g., "How often does your mother discipline you by reasoning, explaining, or talking to you?"). At each wave, coefficient alpha was approximately .75 for mothers and .80 for fathers. Coders rated the level of setting standards on the basis of family interaction and content of the discussion in Task 1 of the videotapes. At each wave, the combined adolescents' and observers' ratings for mothers correlated approximately .75 with the combined scores for fathers. We summed the mothers' and fathers' scores to form a composite indicator of parents' inductive reasoning.

Arrest/Sanctions

We used three items adapted from the National Youth Survey (Elliott et al., 1985; Elliott et al., 1989) to form a measure of involvement with the criminal justice system. Respondents were asked to indicate how often during the preceding year (0 = never, 4 = 6 or more times) they had been arrested for something they had done, had been placed in juvenile detention or jail, or had gone to court or been placed on probation. Coefficient alpha for the measure was .56.

The use of such items as a measure of involvement in crime is potentially problematic because they introduce the possibility of discrimination or labeling effects (e.g., low SES or affiliation with deviant peers may increase the probability of arrest). Such biasing influences, however, would be expected to operate for both early and late starters. Therefore it is unlikely that discrimination or labeling can explain any differences found between the two groups regarding the predictors of Arrest/ Sanctions.

Deviant Peers

Both a sibling-report and a self-report measure were used as indicators of involvement with deviant peers. We included the sibling-report instrument in an effort to reduce the degree of shared method variance between the indicators of Deviant Peers and the self-report instrument used as an indicator of Delinquency. The sibling-report scale consisted of three items: sibling were asked to indicate the extent to which they agreed (1 = strongly disagree, 5 = strongly agree) that their brother's friends got into a lot of trouble, drank and smoked a lot, and sometimes broke the law. Coefficient alpha at each wave was approximately .75.

We adapted the self-report measure from the National Youth Survey (Elliott et al., 1985; Elliott et al., 1989). Respondents were asked how many of their *close* friends (1 = none, 3 = half, 5 = all) had engaged in each of 15 delinquent acts. These acts ranged from relatively minor offenses

such as skipping school to more serious violations such as stealing something worth more than $25. We summed the responses to the items to obtain a total score concerning the extent to which the respondents' friends engaged in deviant behavior. Coefficient alpha for the scale was approximately .80 for each of the four waves.

Oppositional/Defiant Orientation

This construct was concerned with the extent to which the adolescents demonstrated a coercive, noncompliant orientation in their interactions with others. We used a self-report and an observational measure as indicators of the construct. Inclusion of the observational measure reduced the degree of shared method variance between the indicators of Self-Centered/Aggressive and the self-report indicator of Delinquency. The seven-item *self-report measure* was adapted from Velicer et al.'s (1985) modification of the Buss-Durkee Hostility Inventory. It contained items such as "I do whatever I have to in order to get what I want," "I don't care much about what other people think or feel," and "When I get mad I say nasty things." The response format for the items ranged from 1 (not at all) to 5 (exactly). Coefficient alpha was approximately .80 at each wave.

The *observational measure* consisted of the coders' ratings (1 = no sign, 5 = frequently) of the target adolescents' antisocial behavior toward other family members in the videotaped tasks. Antisocial behavior was defined as the extent to which the adolescent actively resisted, defied, or was inconsiderate of others by being noncompliant, insensitive, or obnoxious. Thus adolescents rated as high on antisocial behavior were characteristically self-centered, egocentric, irritable, and uncooperative. Intercoder reliability for the antisocial rating was approximately .65 at each wave.

RESULTS

We used structural equation modeling (SEM) to test the predictions of the various theoretical perspectives regarding the pattern of associations between Effective Parenting, Oppositional/Defiant Orientation, Deviant Peers, and Arrest/Sanctions. A test of the views of Patterson and his colleagues dictated that the modeling be performed separately for early and for late starters. Thus we were required to establish a definition of early versus late starters. Patterson and colleagues (Patterson et al., 1991; Patterson and Yoerger, 1993) showed that early starters are involved in serious delinquency, with many having been arrested, by age 13 or 14 (Patterson et al., 1992). Analysis based on official records showed, for example, that youths who were rated as hostile and aggressive in the fourth grade (i.e., children who were at risk for becoming early starters)

had a high arrest rate by age 13, whereas the arrest rate for adolescents who were not rated as hostile and aggressive in elementary school was virtually zero before age 14 or 15.

In an effort to define early starters, we constructed a list of 14 serious delinquent acts. These acts included stealing an item valued at more than $25, selling drugs, breaking into a building to take something, attacking someone with a weapon, and setting fire to a building. Adolescents who reported having engaged in two or more of these acts by Wave 3 (when the average age for the target group was 14) were considered to be early starters. Eighty-nine boys met this criterion, although complete data were available for only 87 of these individuals.

Removal of the early starters left a subsample of 80 boys who reported no more than one serious act during the first three waves; complete data on the study variables were available for 76 of these individuals. Virtually none of these adolescents reported having engaged in a serious delinquent act at Wave 3. (By contrast, at Wave 3 more than 80% of the early starters reported having engaged in at least one serious act during the preceeding year.) By Wave 4, however, 25% reported having engaged in one or more such acts during the preceeding year. Thus, whereas this subsample was largely nondelinquent at age 14 (Wave 3), many had begun to engage in delinquent behavior by age 15 (Wave 4); that is, they were late starters.

When the subsamples are compared on contact with the criminal justice system, neither of the two groups reported significant involvement at Waves 1 or 2. More than 90% of the boys in the early starter group and 99% of the late starter group reported no involvement. At Wave 3, approximately 25% of the early starter group indicated some involvement with the criminal justice system, whereas 98% of the late starter group still reported no involvement. A year later, however, at Wave 4, 23% of the late starter group reported that they had been arrested, held in detention, or placed on probabion. Thus by Wave 4 the percentage of boys from the late starter group who had experienced contact with the criminal justice system approached the percentage for the early starter group at Wave 3. We employed structural equation modeling to examine how widely the two groups differed as to the path to involvement with the criminal justice system.

Before performing the SEM, we used LISREL VII to assess the adequacy of the assumed measurement model. We conducted this analysis using the total sample (i.e., early and late starter groups combined); the results are presented in the appendix. Loadings for single indicators of constructs were set to 1 (i.e., we assumed them to be perfect measures of the construct). All of the factor loadings for constructs with multiple indicators were in the acceptable range, and the chi-square and goodness-of-fit index (GFI) indicated a reasonable fit of the data. These findings

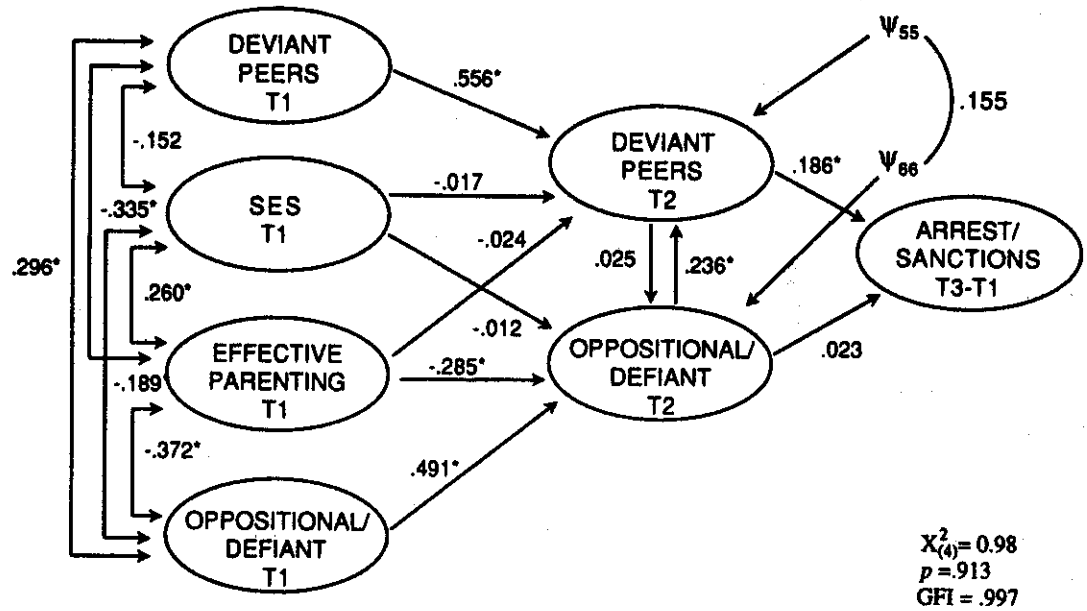
suggested that measures assumed to be indicators of a common construct were correlated with each other and were correlated in a similar fashion with other indicators of constructs. Unfortunately we had to modify the measurement model before analyzing the paths between constructs: there were not enough degrees of freedom or sufficient cases to allow us to estimate all of the parameters associated with such a complex model. In an effort to simplify the model, we standardized and summed the multiple indicators for each construct to form composite measures. Then we treated the various constructs as observed (rather than latent) variables in performing the analyses.

The results of the SEM for early starters are presented in Figure 1. In an effort to provide a strong test of the causal priorities assumed by the different theoretical orientations, the model examined the impact of Effective Parenting_{T1} on $\text{Oppositional/Defiant Orientation}_{T2}$ and $\text{Deviant Peers}_{T2}$ while controlling for Time 1 scores on the latter two variables. This procedure provided an assessment of the association of Effective Parenting with subsequent change in Oppositional/Defiant Orientation and Deviant Peers. The Wave 1 scores for Deviant Peers and Oppositional/Defiant Orientation also served as instrumental variables that allowed calculation of the reciprocal relationship between the Wave 2 assessments of these two constructs. We treated this relationship as instantaneous rather than as lagged because social scientists, regardless of the causal priority that they ascribe to the correlation between personal and peer characteristics, tend to describe the effect as fairly immediate: either adolescents conform to the behavior expected by their current peer group or friendship alliances are likely to change within weeks. This rather direct effect stands in contrast to that of parenting practices either on affiliation with deviant peers or on oppositional/defiant orientation; the effect of parenting is likely to accumulate over an extended period.

Finally, the model tested for the impact of Oppositional/Defiant Orientation and Deviant Peers on Arrest/Sanctions reported at Wave 3 minus the Wave 1 scores for this measure. Thus the model examined the extent to which these constructs predict an escalation in involvement with the criminal justice system. We used change scores for Arrest/Sanctions rather than treating the Wave 1 scores for this variable as a separate construct in the model so as to minimize the number of parameters to be estimated.[1] No paths were expected from either Socioeconomic Status or

1. The reader might question the decision to use a measure of involvement with the criminal justice system rather than simply an index of delinquency as the criterion variable in the model. We selected involvement with the criminal justice system over delinquency for three reasons. First, the hypotheses to be tested are concerned with the process whereby oppositional/defiant behavior escalates into criminal behavior. Unfortunately, garden-variety delinquency is confounded somewhat with oppositional/defiant

Figure 1. Structural Equation Model for Early Starter Group (N = 87)



* Significant at ≤ .05

Effective Parenting to Arrest/Sanctions. Control theory posits that Oppositional/Deviant Orientation mediates the effect of these variables, whereas the peer affiliation perspective describes their impact as indirect through Deviant Peers.

behavior. Both involve fighting, disobeying rules, flouting authority, and so on. Involvement with the criminal justice system, on the other hand, is clearly distinct from oppositional/defiant behavior and represents more extreme norm violations.

Second, the use of delinquency as the outcome means that a single variable would be used both as a dependent variable and as the criterion for dividing the samples into early and late starters. Consequently for early starters a rather strong relationship would exist between early- and later-wave reports of delinquency (i.e., the stability coefficient would be strong), whereas for the late starters, who by definition were not delinquent during the first three waves, there would be virtually no association between early- and later-wave scores. Thus adjusting later-wave scores by subtracting scores from the early waves would be a rather different exercise for early than for late starters. This problem is reduced if Arrest/Sanctions is used as an outcome because neither early nor late starters reported significant criminal justice system involvement at Waves 1 or 2.

Finally, being arrested, going to court, and being held in detention or placed on probation are less ambiguous and more salient events than many of the activities listed on an inventory of delinquent behavior. Hence retrospective reports about these encounters with the criminal justice system are likely to be more valid than reports about the frequency of delinquent behavior.

The coefficients presented in Figure 1 represent the standardized maximum likelihood estimates obtained by using LISREL VII. The paths from SES_{T1} and Effective $Parenting_{T1}$ to $Arrest/Sanctions_{T3\text{-}T1}$(−.025 and −.089) did not approach significance, nor did the change in χ^2 (.11 with two degrees of freedom) obtained by constraining them to equal 0. The figure shows that Effective $Parenting_{T1}$ predicts $Oppositional/Defiant\ Orientation_{T2}$ (−.285); also, there is a significant path from $Oppositional/Defiant\ Orientation_{T2}$ to $Deviant\ Peers_{T2}$ (.236), but not from $Deviant\ Peers_{T2}$ to $Oppositional/Defiant\ Orientation_{T2}$. This pattern of findings is consistent with the control perspective and with Patterson and colleagues' early starter model.

In keeping with the contentions of Patterson and colleagues, but counter to the control perspective, $Deviant\ Peers_{T2}$ is associated with $Arrest/Sanctions_{T3\text{-}T1}$ (.186), whereas Oppositional/Defiant Orientation is not. This finding suggests that Deviant Peers mediates the impact of $Oppositional/Defiant\ Orientation_{T2}$ on $Arrest/Sanctions_{T3\text{-}T1}$. The path from $Deviant\ Peers_{T2}$ to $Arrest/Sanctions_{T3\text{-}T1}$ is consistent with the peer influence perspective. Yet the failure to find an association between Effective $Parenting_{T1}$ and $Deviant\ Peers_{T2}$ is contrary to this theoretical position, as is the finding that Oppositional/Defiant Orientation mediates the impact of Effective Parenting on Deviant Peers.

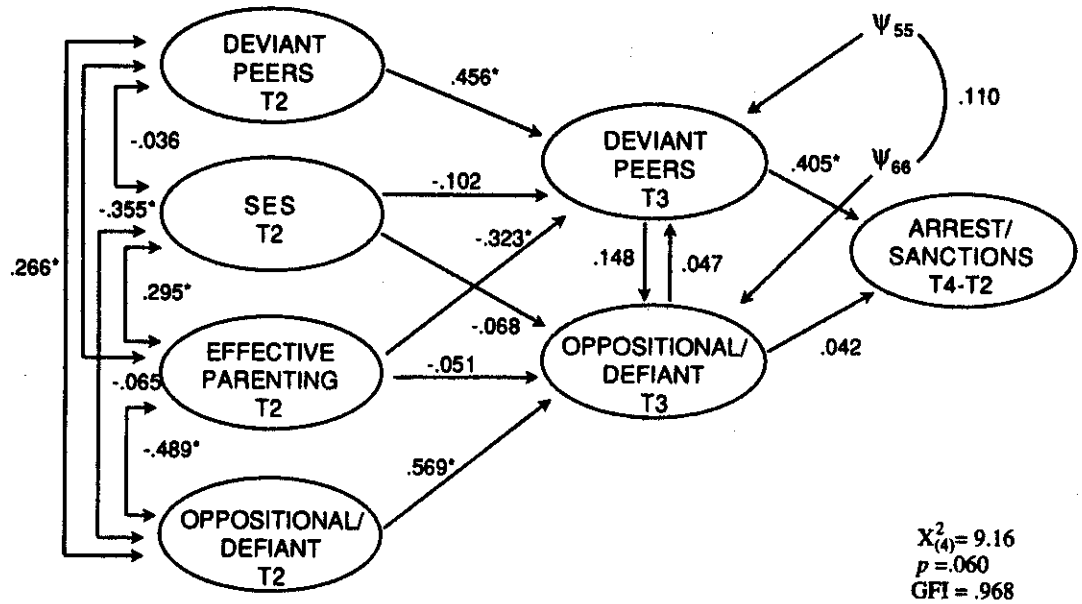
Although not directly pertinent to the competing hypotheses tested here, SES is related positively to Effective $Parenting_{T1}$ (.260) and negatively to $Oppositional/Defiant\ Orientation_{T1}$ (−.189). This variable is not related significantly to any of the other constructs in the model. This finding suggests that SES influences delinquency indirectly through its effect on quality of parenting and on development of an aggressive, noncompliant orientation.

Figure 2 presents the results of the SEM for the late starter group.[2] As was the case for early starters,the paths from SES and Effective Parenting to Arrest/Sanctions did not approach significance, nor did the change in χ^2 obtained by constraining them to equal 0. Also in keeping with the findings for early starters, the figure shows that SES exerts its influence indirectly through Effective Parenting. The remaining relationships display a pattern quite different from that of the early starters. Effective $Parenting_{T2}$ is associated negatively with $Deviant\ Peers_{T3}$ (−.323), which in turn is related positively to $Arrest/Sanctions_{T4\text{-}T2}$ (.405). Effective $Parenting_{T2}$ is not related to $Oppositional/Defiant\ Orientation_{T3}$. In turn, Oppositional/

2. The data for the late starters are censored in the sense that selection to this group is conditional on *not* being an early starter. SEM estimates based on conditional samples may be biased. Correction for this bias is difficult in multi-equation models, although single-equation models with censored data often incorporate a selection term such as the inverse Mills ration (Maddala, 1986).

Defiant Orientation$_{T3}$ shows no significant association with either Deviant Peers$_{T3}$ or Arrest/Sanctions$_{T4-T2}$. These results suggest that for late starters the impact of parental behavior on illegal behavior is mediated by affiliation with deviant peers, and that a coercive, noncompliant interpersonal style is not a risk factor for late initiation into delinquency and involvement with the criminal justice system. This pattern of findings is consonant with the peer influence perspective and with Patterson and colleagues' contentions regarding late starters.

Figure 2. Structural Equation Model for Late Starter Group (N = 76)



* Significant at ≤ .05

Although the pattern of associations depicted in Figure 1 appeared to differ from that shown in Figure 2, it was not clear that the differences were statistically significant. We used the model comparison option of LISREL VII to test the significance of these disparities. This procedure entailed stacking the models for the early and the late starter groups and testing for differences in χ^2 between models that constrained relationships to be identical in the two groups and models that allowed specific relationships to vary between the groups (Bollen, 1989). Analysis showed no significant differences in χ^2 between models that constrained the associations between the exogenous variables to be equal for the two groups versus those that allowed them to differ. The same was true of the stabilities for

Deviant Peers and Oppositional/Defiant Orientation. This finding suggested that the small differences between the two groups with regard to these associations are not statistically significant.

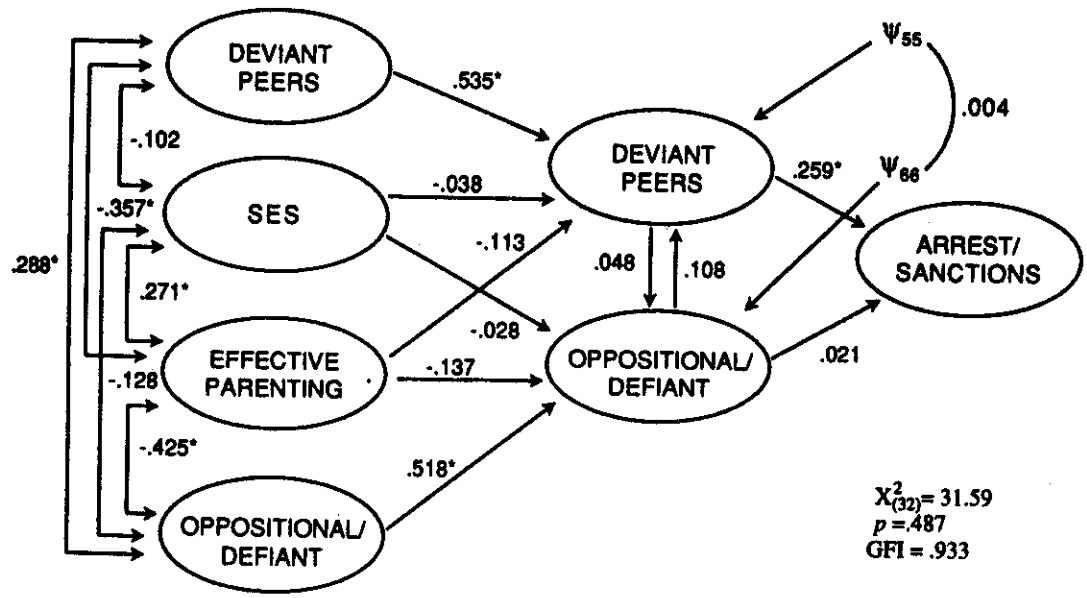
Next we compared the baseline model that constrained all paths to be equal between the two groups (Model A in Figure 3) with an alternative model that allowed the groups to differ on the six theoretically interesting relationships: the paths between Effective Parenting, Deviant Peers, Oppositional/Defiant Orientation, and Arrest/Sanctions. The findings for this alternative model are presented as Model B in Figure 3. (For the six released paths, the coefficients for the late starter group are in parentheses.) The difference in χ^2 between the baseline and the alternative model is 14.97. With six degrees of freedom, this change is significant at the .02 level. This finding indicates that freeing these paths to differ provides a better fit of the data than constraining them to be equal.

In the next step we freed the six paths one at a time to determine whether each contributed to an improvement in χ^2 or whether the improvement in fit was explained by only some of the paths. The results of this analysis are presented in Table 1. For each of the six paths, the table shows the coefficients and χ^2 for the model; the relationship is constrained to be equal for the two groups, in contrast to the alternative model, where it was allowed to differ. The table then reports the change in χ^2 and the p-value associated with this difference. The table shows that freeing the path from Effective Parenting to Deviant Peers produces a significant improvement in χ^2 ($p = .037$); this finding suggests that quality of parenting is associated with affiliation with deviant peers more strongly for late than for early starters. The opposite is true for Effective Parenting and Oppositional/Defiant Orientation. We see a significant improvement in χ^2 ($p = .030$) when this path is allowed to differ between groups; the early starters show the larger coefficient. Freeing the path between Oppositional/Defiant Orientation and Deviant Peers also improves the fit ($p = .045$); the coefficient is larger for early starters. No improvement in χ^2 was achieved by freeing the path either between Deviant Peers and Oppositional/Defiant Orientation, between Oppositional/Defiant Orientation and Arrest/Sanctions, or between Deviant Peers and Arrest/Sanctions (p-values = .171, .708, and .306 respectively). The coefficients for the former two paths are insignificant and close to 0 for both groups, whereas we found a significant effect for both groups from Deviant Peers to Arrest/Sanctions. Thus the results of the model comparisons support the idea of two routes to involvement with the criminal justice system; the control perspective largely explains the involvement of early starters, and the peer influence perspective accounts for the involvement of later starters.

Although the findings for early starters are largely consistent with the control perspective of Gottfredson and Hirschi (1990), they depart with

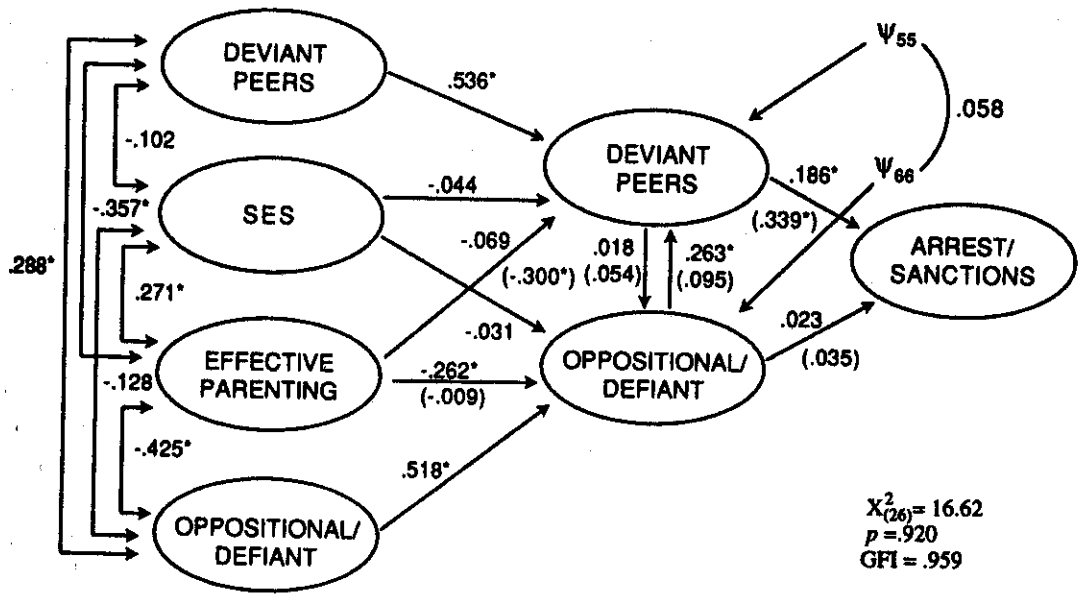
Figure 3. Baseline and Alternative Model for Early and Late Starter Groups (N = 163)

Model A. Baseline Model with Paths Constrained to Be Equal for Both Groups



*Significant at ≤ .05

Model B. Model with Theoretically Significant Paths Free to Vary Between Groups (Late Starter Group in Parentheses)



*Significant at ≤ .05

Table 1. Comparison of the Paths for Early and Late Starter Groups

	Model	β Early Starters	β Late Starters	χ^2	D.F.	$\Delta\chi^2_{(1)}$	*P*-Value for $\Delta\chi^2_{(1)}$
Effective Parenting-Deviant Peers	*B*s equal in both groups	−.113	−.113	31.59	32	—	—
	B free to differ	−.002	−.263*	27.28	31	4.31	.037
Effective Parenting-Oppositional/Defiant	*B*s equal in both groups	−.137	−.137	31.59	32	—	—
	B free to differ	−.260*	−.016	26.93	31	4.66	.030
Oppositonal/Defiant-Deviant Peers	*B*s equal in both groups	.108	.108	31.59	32	—	—
	B free to differ	.194*	.025	27.58	31	4.01	.045
Deviant Peers-Oppositional/Defiant	*B*s equal in both groups	.048	.048	31.59	32	—	—
	B free to differ	.089	.159	29.72	31	1.897	.171
Deviant Peers-Arrest Sanctions	*B*s equal in both groups	.259*	.259	31.59	32	—	—
	B free to differ	.184*	.340*	30.54	31	1.05	.306
Oppositional/Defiant-Arrest Sanctions	*B*s equal in both groups	.021	.021	31.59	32	—	—
	B free to differ	.007	.051	31.45	31	.140	.708

* Significant at .05.

regard to the finding that Deviant Peers is related to Arrest/Sanctions after controlling for Oppositional/Defiant Orientation (and earlier scores on Arrest/Sanctions). This result is consistent with Patterson and colleagues' contention that affiliation with deviant peers serves to amplify antisocial tendencies. As noted earlier, this assertion might be interpreted as suggesting that risk of involvement with the criminal justice system is a function of the interaction between a coercive, noncompliant orientation and affiliation with deviant peers. We used ordinary least squares regression to test this hypothesis.

For the early starter group, we regressed Arrest/Sanctions on the explanatory variables displayed in Figure 1, plus the product term

obtained by multiplying Deviant Peers$_{T2}$ by Oppositional/Defiant Orientation$_{T2}$. Once the interaction term was introduced into the regression equation, none of the other variables was related significantly to Arrest/Sanctions. Indeed, in no case did the *t*-values for these factors even approach significance. The *t* for the interaction term was 2.21 ($p = .03$; $R^2 = .12$). This finding suggests that a combination of having an aggressive, defiant orientation *and* belonging to a deviant peer group leads to early involvement with the criminal justice system.

SEM assumes, of course, that relationships between constructs are additive. The regression analysis shows that this is not the case for the impact of Deviant Peers and Oppositional/Defiant Orientation on Arrest/Sanctions for early starters. It does *not* appear, however, that this interaction compromised the SEM analyses reported for early starters. First, investigation of the nature of the interaction effect showed that Deviant Peers was related more strongly to Sanctions/Arrest for boys high on Oppositional/Defiant, whereas the association was slight for those low on Oppositional/Defiant. Thus the magnitude but not the direction of the association between Deviant Peers and Arrest/Sanctions varied by level of Oppositional/Defiant. This finding suggests that the coefficient between these two constructs which is reported in Figures 1 and 3B might be interpreted as roughly the average effect of Deviant Peers on Arrest/Sanctions across levels of Oppositional/Defiant. Second, one would not expect the interaction between Deviant Peers and Oppositional/Defiant to distort the associations between constructs that occur before Deviant Peers and Oppositional/Defiant in the SEM for early starters. Indeed, when we analyzed the model reported in Figure 1 with Arrest/Sanctions deleted, the coefficients obtained for these paths were virtually identical to those reported in Figure 1.

We also performed the regression analysis for the late starter group by regressing Arrest/Sanctions on the explanatory variables in Figure 2, plus the interaction term for Deviant Peers and Oppositional/Defiant Orientation. The only significant association was for Deviant Peers ($t = 3.55$, $R^2 = .19$). None of the other explanatory variables approached significance, including the interaction term ($t = .139$). This finding suggests that among late starters, affiliation with deviant peers increases the risk of involvement with the criminal justice system regardless of the adolescent's personal characteristics.

The result of the regression analysis for the late starter group corroborate the findings from the SEM: no variable except Deviant Peers predicted Arrest/Sanctions. This consistency is reassuring because LISREL assumes multivariate normality; this assumption clearly is not met for Arrest/Sanctions, a highly skewed variable. Thus, although the SEM may have provided reasonably reliable estimates of relationships between most

of the constructs in the model, this may not have been the case for the paths to Arrest/Sanctions. Ordinary least squares, however, is less vulnerable to departures from normality, and the procedure produced similar findings regarding the impact of the explanatory variables on Arrest/Sanctions; that is, only Deviant Peers has a direct effect.

DISCUSSION

Before discussing the results of the study, we must acknowledge three limitations. First, although we made causal assumptions in performing the analyses, the findings represent only covariation among variables. We used longitudinal data, but such information is more useful in establishing the temporal order than in revealing the causal processes at work among variables. Second, the definitions of early versus late starters used in the study might be viewed as arbitrary. Individuals who had committed two or more serious acts by age 14 were considered early starters. The decision to use two acts rather than (say) one or three was based in part on pragmatic rather than theoretical criteria. By using two or more acts as a standard, we designated approximately half of the sample as early starters and the other half as late. As a result, the *N* for both groups was large enough to permit multivariate analyses. In addition, however, we tried alternative definitions of early versus late starters (e.g., three or more acts of minor delinquency); they produced a similar pattern of results.

We selected age 14 as the cutoff point on the basis of the work of Patterson and his colleagues (Patterson, 1992; Patterson and Yoerger, 1993; Patterson et al., 1991). Researchers also use this approximate age to differentiate early from late police arrest (Blumstein et al., 1986). Patterson, Crosby, and Vuchinich (1992) have shown that arrest rates for boys not identified as troublemakers in elementary school remain virtually zero until age 14 or 15, at which point they begin to rise dramatically. Self-report data also show sharp increases in delinquency during this period, with rates peaking at about age 16 (Elliott et al., 1989). This burst in deviant behavior coincides with puberty and with the transition from middle school to high school. In this period, parents begin to increase the amount of unsupervised time that their adolescent is allowed to spend away from home with peers. These physical changes and new freedoms may contribute to experimentation with delinquent acts by youths with little history of deviant involvements.

Although the cutting point selected for the present study was based on Patterson's work, ultimately the proper age for differentiating early from late starters is an empirical issue. Insofar as predictors and covariates differ for early and for late starters, the age used to distinguish between the

two groups should reflect the point at which the pattern of associations begins to change. In the present sample, age 14 appeared to be that point.

A third limitation of the study relates to the sample. All of the families in the study had two parents. Presumably the same processes operate in single-parent families, but this possibility could not be examined in the present study. Also, the sample consisted largely of adolescents living in small towns. Deviant peer groups are apt to be less prevalent in such communities than in inner-city neighborhoods. Certainly, delinquent gangs are rare in small towns. As a result, peer pressure to engage in delinquent behavior may be less strong in small towns than in large urban areas. Also, delinquent behavior is likely to be more prevalent in cities. Thus the results obtained here may not generalize to a more urban sample. It is possible, for example, that the greater availability of deviant peers in urban areas causes them to exert more influence on early starter delinquency than we found in the present study. Again, in view of the greater prevalence of delinquent behavior in urban neighborhoods, the age that distinguishes early from late starters may be younger than 14. Thus the findings from this study must be replicated with samples that include adolescents from urban areas and inner-city neighborhoods. We present the following discussion with these qualifications in mind.

The control and the peer influence perspective present contrasting views regarding the importance of parenting and peer relations in the etiology of delinquent behavior. Gottfredson and Hirschi (1990), in their recent statement of the control perspective, assert that inept parenting promotes antisocial characteristics, which lead in turn both to involvement with other deviants and to criminal behavior. The peer influence model (Elliott et al., 1979; Elliott et al., 1985; Sutherland and Cressey, 1966), on the other hand, contends that inept parenting fosters affiliation with deviant peers, and that such friendships encourage delinquent behavior. Patterson and his colleagues (Patterson et al., 1991; Patterson et al., 1992; Patterson and Yoerger, 1993) present a framework that suggests a compromise position. They argue that early and late starters follow different routes to illegal activities. Their model implies that the peer influence perspective correctly depicts individuals who first become involved in delinquent behavior during middle adolescence, whereas control theory, with some modification, more accurately describes youths who show antisocial behavior during early adolescence. Findings from the present study support this position.

For late starters, quality of parenting predicted affiliation with deviant peers, which in turn predicted an increase in involvement with the criminal justice system. Oppositional/defiant orientation was unrelated either to affiliation with deviant peers or to involvement in delinquent behavior. This pattern of findings is consonant with the peer affiliation perspective

and with Patterson's views on the determinants of delinquency among late starters, whereas it contradicts control theory.

The results were quite different for early starters, a group that researchers have shown to be at risk for adult crime (Loeber and LeBlanc, 1990). Quality of parenting predicted oppositional/defiant behavior. This behavioral orientation, in turn, predicted affiliation with deviant peers and involvement with the criminal justice system. These findings are contrary to the peer affiliation model but consistent with Gottfredson and Hirschi's control theory. Contrary to Gottfredson and Hirschi's contentions, however, affiliation with deviant peers mediated much of the relationship between oppositional/defiant behavior and involvement with the criminal justice system. Further, regression analysis showed that possession of an oppositional/defiant orientation interacted with type of peer group; that is, criminal justice system involvement was highest among youths who were oppositional/defiant *and* who had deviant friends. These results suggest that affiliation with deviant peers is the means whereby adolescents with antisocial tendencies learn to commit delinquent behavior. Overall this pattern of findings supports Patterson and colleagues' early starter model.

Although the results suggest that in general Gottfredson and Hirschi's control theory provides a more accurate explanation than the peer influences perspective for early involvement in delinquency, the findings on the mediating and interactive effects of affiliation with deviant friends suggest that peers may play a more significant role in deviants' life course trajectories than is typically indicated by control theories. Gottfredson and Hirschi (1990) note that involvement with deviant peers may facilitate expression of antisocial tendencies, although they do not develop the implications of this possibility in their control theory of crime. The finding that an oppositional/defiant orientation interacts with type of peer group suggests that association with deviant peers may operate to amplify deviant tendencies, whereas interaction with conventional peers may moderate (or control) antisocial propensities. This view is consonant with Sampson and Laub's (1990, 1993) finding that antisocial adolescents who subsequently developed strong marital attachments manifested dramatically less involvement in adult crime than those who remained single or were involved in problematic marriages. This point argues for an expanded control perspective that includes a consideration of the manner in which peer friendships, as well as other social relationships, may operate to amplify or moderate the antisocial tendencies fostered by ineffectual parental behavior.

By incorporating the role of deviant peers, one might build structural factors into the control perspective. Violent adolescent gangs are common, for example, in certain schools and neighborhoods but nonexistent in

others. Therefore, although early antisocial behavior may predict affiliation with deviant peers, these peers are likely to be much more deviant in some communities than in others. Thus neighborhood characteristics determine in part whether an oppositional/defiant youth will become involved with seriously deviant peers who escalate his involvement in delinquency, or will form ties to more conventional individuals who might moderate his antisocial tendencies.

Because inept parenting appears to be an important cause of early delinquency (and contributes indirectly to late starters' delinquency), a comprehensive theory of delinquent behavior should devote some attention to the determinants of parental behavior. Past research has established, for example, that life stress (e.g., Conger et al., 1984); and family economic hardship (e.g., Elder and Caspi, 1988; Simons et al., 1992; Simons, Lorenz, Wu and Conger, 1993) are associated with less nurturant, harsher, and more explosive approaches to parenting, and that individuals who work at tightly controlled, routinized jobs tend to employ an authoritarian style of parenting (Gecas and Nye, 1974; Kohn, 1977). Evidence also suggests that inept parenting may be transmitted across generations (e.g., Egeland et al., 1987; Simons et al., 1991; Simons, Beamon, Conger and Chao, 1993). Such findings might be used to build theories concerning the mechanisms that account for the distribution of crime and delinquency by social class, race, and family structure. Because stress, economic strain, routinized jobs, and exposure to harsh parenting as a child are all more prevalent among the lower classes, minorities, and female-headed households, one would expect more disrupted parenting and higher rates of child antisocial behavior in such groups. In keeping with this idea, Larzelere and Patterson (1990) reported that the association between social class and delinquency is mediated by level of effective parenting. Similarly, Conger et al. (1992) found that the association between family economic pressure and child antisocial behavior is explained by quality of parenting, and Sampson and Laub (1993) reported recently that parenting practices mediate the impact of structural factors such as household income, size, and crowding on delinquency.

Indeed, consideration of the factors that disrupt effective parenting provides a second avenue for linking control theories of delinquency to broader structural factors. Community factors not only determine access to deviant peers but also affect the quality of parenting in an area. Thus community characteristics influence the probability both of ineffectual parenting and of exposure to deviant peers, who amplify antisocial tendencies caused by a breakdown in parenting practices. In keeping with this idea, findings from the present study indicated that the relationship between SES and delinquency was indirect through quality of parenting and affiliation with deviant peers.

Finally, past research provides little support for the position that delinquents specialize in a particular form of delinquency. Rather, delinquent acts tend to be correlated: adolescents who engage in one type of delinquent act tend to participate in other types as well (e.g., Donovan and Jessor, 1985; Farrington, 1991; Jessor and Jessor, 1977; Osgood et al., 1988). On the basis of this finding, it is often maintained that researchers should abandon efforts to identify theories which account for a particular type of delinquent behavior and should concentrate instead on building theoretical explanations for delinquency in general. Our results suggest a somewhat different position: although disparate theories may not be needed to explain each type of delinquent behavior, different theoretical processes may be required to account for early and for late starters. Both groups engage in a wide variety of delinquent behaviors, but they may follow different routes to delinquency, exhibit dissimilar personal characteristics, and manifest dramatically different criminal careers.

Although the results from this study support the idea of two paths to involvement with the criminal justice system, the study focused only on male adolescents. Females may show different routes to serious delinquency and arrest. Antisocial behavior is much less common among girls than among boys; hence it may be that few young women follow the early starter path to delinquency. (Most female delinquents are late starters influenced by peers, especially male friends.) On the other hand, because serious delinquency by females is rather rare and unexpected, the few who engage in such actions may have a history of oppositional/defiant behavior; that is, they may fit the pattern for early starters. Thus there is a need for research examining the extent to which the distinction between early and late starters is valid for females' as well as males' illegal actions.

REFERENCES

Baucom, Donald H., Steven L. Sayers, and Autumn Duhe
1989 Attributional style and attributional patterns among married couples. Journal of Personality and Social Psychology 56:596-607.

Blumstein, Alfred, Jacqueline Cohen, Jeffrey A. Roth, and Christy A. Visher
1986 Criminal Careers and Career Criminals, Vol. 2. Washington, D.C.: National Academy Press.

Bollen, Kenneth
1989 Structural Equations with Latent Variables. New York: Wiley.

Capaldi, Deborah and Gerald R. Patterson
1987 An approach to the problem of recruitment and retention rates for longitudinal research. Behavioral Assessment 9:169-177.

Conger, Rand D., John A. McCarthy, Raymond K. Young, Benjamin B. Lahey, and Joseph P. Kropp
1984 Perception of child, child-rearing values, and emotional distress as mediating links between environmental stressors and observed maternal behavior. Child Development 55:2234-2247.

Conger, Rand D., Katherine Conger, Glen H. Elder, Frederick O. Lorenz, Ronald L. Simons, and Les B. Whitbeck
1992 A family process model of economic hardship and influences on adjustment of early adolescent boys. Child Development 63:526-541.

Dishion, Thomas
1990 The peer context of troublesome child and adolescent behavior. In Peter E. Leone (ed.), Understanding Troubled and Troubling Youth. Newbury Park: Sage.

Donovan, John E. and Richard Jessor
1985 Structure of problem behavior in adolescence and young adulthood. Journal of Consulting and Clinical Psychology 53:890-904.

Egeland, Byron, Deborah Jacobavitz, and Kathleen Papatola
1987 Intergenerational continuity of abuse. In Richard J. Gelles and Jane B. Lancaster (eds.), Child Abuse and Neglect: Biosocial Dimensions. New York: Aldine De Gruyter.

Elder, Glen H., Jr. and Avshalom Caspi
1988 Economic stress in lives: Developmental perspectives. Journal of Social Issues 44:25-45.

Elliott, Delbert S., Suzanne S. Ageton, and Rachelle J. Canter
1979 An integrated theoretical perspective on delinquent behavior. Journal of Research in Crime and Delinquency 16:3-27.

Elliott, Delbert S., David Huizinga, and Suzanne S. Ageton
1985 Explaining Delinquency and Drug Use. Beverly Hills: Sage.

Elliott, Delbert S., David Huizinga, and Scott Menard
1989 Multiple Problem Youth: Delinquency, Substance Use, and Mental Health Problems. New York: Springer-Verlag.

Farrington, David. P.
1991 Childhood aggression and adult violence: Early precursors and later life outcomes. In David J. Pepler and Kenneth H. Rubin (eds.), The Development and Treatment of Childhood Aggression. Hillsdale, N.J.: Erlbaum.

Farrington, David P., Lloyd E. Ohlin, and James Q. Wilson
1986 Understanding and Controlling Crime: Toward a New Research Strategy. New York: Springer-Verlag.

Furman, Wyndol, Laura Jones, Duane Buhrmester, and Terry Adler
1989 Children's, parents', and observers' perspectives on sibling relationships. In Patricia Goldring Zukow (ed.), Sibling Interaction across Cultures: Theoretical and Methodological Issues. New York: Springer-Verlag.

Gecas, Viktor and F. Ivan Nye
1974 Sex and class differences in parent-child interaction: A test of Kohn's hypothesis. Journal of Marriage and the Family 36:742-749.

Glueck, Sheldon and Eleanor Glueck
1950 Unraveling Juvenile Delinquency. New York: Commonwealth Fund.

Gottfredson, Michael and Travis Hirschi
1990 A General Theory of Crime. Stanford: Stanford University Press.

Hirschi, Travis
1969 Causes of Delinquency. Berkeley: University of California Press.

Jessor, Richard L. and Shirley L. Jessor
1977 Problem Behavior and Psycho-Social Development. New York: Academic Press.

Kohn, Melvin L.
1977 Class and Conformity: A Study of Values. 2nd ed. Chicago: University of Chicago Press.

Larzelere, Robert E. and Gerald R. Patterson
1990 Family management practices as a mediator of the longitudinal effects of socioeconomic status on early delinquency. Criminology 28:301-324.

Loeber, Rolf and Marc LeBlanc
1990 Toward a developmental criminology. In Michael Tonry and Norval Morris (eds.), Crime and Justice: A Review of Research, Vol. 12. Chicago: University of Chicago Press.

Lorenz, Frederick O., Rand D. Conger, Ronald L. Simons, Les B. Whitbeck, and Glen H. Elder, Jr.
1991 Economic pressure and marital quality: An illustration of the method variance problem in the causal modeling of family process. Journal of Marriage and the Family 53:375-388.

Maccoby, Eleanor, and John A. Martin
1983 Socialization in the context of the family: Parent-child interaction. In Peter Mussen (ed.), Handbook of Child Psychology. New York: Wiley.

Maddala, G.S.
1986 Limited-Dependent and Qualitatiave Variables in Economics. Cambridge: Cambridge University Press.

McGruder, Brian, Frederick O. Lorenz, Danny Hoyt, Xiao Jai Ge, and Ruth Montague
1992 Dimensions of Parenting: A Technical Report. Ames: Center for Family Research in Rural Mental Health, Iowa State University.

Melby, J., R. Conger, R. Book, M. Rueter, L. Lucy, D. Repinski, K. Ahrens, D. Black, D. Brown, S. Huck, L. Mutchler, S. Rogers, J. Ross, T. Stavros.
1990. The Iowa Family Interaction Coding Manual. Ames: Iowa Youth and Families Project.

Olson, David H.L.
1977 Insiders' and outsiders' views of relationships: Research studies. In George Levinger and Harold L. Rausch (eds.), Close Relationships: Perspectives on the Meaning of Intimacy. Amherst: University of Massachusetts Press.

Osgood, D. Wayne, Lloyd D. Johnston, Patrick M. O'Malley, and Jerald G. Bachman
1988 The generality of deviance in late adolescence and early adulthood. American Sociological Review 53:81-93.

Patterson, Gerald R.
1992 Developmental changes in antisocial behavior. In Ray DeV. Peters, Robert J. McMahon, and Vernon L. Quinsey (eds.), Aggression and Violence throughout the Life Span. Newbury Park: Sage.

Patterson, Gerald R. and Karen Yoerger
1993 Developmental models for delinquent behavior. In S. Hodgins (ed.), Mental Disorder and Crime. Newbury Park: Sage.

Patterson, Gerald R., Deborah Capaldi, and Lou Bank
1991 An early starter model for predicting delinquency. In Debra J. Pepler and Kenneth H. Rubin (eds.), The Development and Treatment of Childhood Aggression. Hillsdale, N.J.: Erlbaum.

Patterson, Gerald R., L. Crosby, and Samuel Vuchinich
1992 Predicting risk for early police arrest. Journal of Quantitative Criminology 8:335-355.

Patterson, Gerald R., Barbara D. DeBaryshe, and Elizabeth Ramsey
1989 A developmental perspective on antisocial behavior. American Psychologist 44:329-335.

Patterson, Gerald R., John B. Reid, and Thomas J. Dishion
1992 Antisocial Boys. Eugene: Castalia.

Sampson, Robert J. and John H. Laub
1990 Crime and deviance over the life course: The salience of adult social bonds. American Sociological Review 55:609-627.
1993 Crime in the Making: Pathways and Turning Points through Life. Cambridge: Harvard University Press.

Simons, Ronald L., Jay Beaman, Rand D. Conger, and Wei Chao
1993 Childhood experience, conceptions of parenting, and attitudes of spouse as determinants of parental behavior. Journal of Marriage and the Family 55:91-106.

Simons, Ronald L., Frederick O. Lorenz, Rand D. Conger, and Chyi-In Wu
1992 Support from spouse as mediator and moderator of the disruptive influence of economic strain on parenting. Child Development 63:1282-1301.

Simons, Ronald L., Frederick O. Lorenz, Chyi-In Wu, and Rand D. Conger
1993 Marital and spouse support as mediator and moderator of the impact of economic strain upon parenting. Developmental Psychology 29:368-381.

Simons, Ronald L., Les B. Whitbeck, Rand D. Conger, and Chyi-In Wu
1991 Intergenerational transmission of harsh parenting. Developmental Psychology 27:159-171.

Sutherland, Edwin H. and Donald R. Cressey
1966 Criminology. 7th ed. Philadelphia: Lippincott.

Velicer, Wayne F., Joseph Michael Govia, Nancy P. Cherico, and Donald P. Corriveau
1985 Item format and the structure of the Buss-Durkee hostility inventory. Aggressive Behavior 11:65-82.

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Appendix. Measurement Model for Study Constructs