Socioeconomic Status, Subcultural Definitions, and Violent Delinquency*

KAREN HEIMER, University of Iowa

Abstract

This article examines the theoretical links between socioeconomic status and violent delinquency. The arguments draw on work on social structure and personality and learning theories of crime and delinquency. Hypotheses derived from the resulting explanation are tested using covariance structure models and panel data from a national sample of males. Consistent with these arguments, the results show that violent delinquency is a product of learning definitions favorable to violence, which itself is determined directly and indirectly by association with aggressive peers, socioeconomic status, parenting practices, and prior violent delinquency. The article concludes that explanations of violent adolescent behavior must take into account the joint contributions of social stratification and culture.

Although most theories of crime and deviance acknowledge the importance of both social structure and culture, the concrete mechanisms by which these abstract concepts affect law violation often are not articulated clearly. Indeed, the criminological literature is peppered with imprecise definitions and incomplete discussions of social structure and culture (Kornhauser 1978). One remedy for this situation would integrate criminological work on cultural processes leading to deviance with sociological

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work on stratification. Unfortunately, these two subfields of sociology too often have been isolated from each other (Hagan 1991). Two recent studies, however, attempt to marry the subfields. One study combines research on status attainment, drift into disrepute, and deviant subcultures to predict the adult status attainments of youth (Hagan 1991). Another study shows how social networks constrain opportunities for success in legitimate labor markets (Hagan 1993).

Following the spirit of these studies, the goal of the present article is to explain how socioeconomic status and cultural contexts combine to produce violent adolescent behavior. Specifically, I draw on work by Kohn and Schooler on social class, personality, and parenting styles (Kohn 1977; Kohn & Schooler 1969, 1983) and the differential association-social learning tradition in criminology (Akers 1985; Sutherland 1947; Sutherland, Cressey & Luckenbill 1992) to explain the relationship between social class and self-reported violent delinquency that has been noted in other research (e.g., Brownfield 1986; Elliott, Huizinga & Menard 1989; Farnworth et al. 1994). This study contributes to the literature in the following ways: (1) It extends the work of Kohn and Schooler on social class differences in parenting practices by showing how such differences affect children’s behavior. (2) It examines whether differential association theory can explain violent behavior. More specifically, the article assesses what has been called the mediation hypothesis, which proposes that social structure and group interactions influence delinquency mainly by shaping the learning of definitions of delinquency, which are attitudes, values, and beliefs about the law. Although some have argued that the mediation hypothesis should hold for violence (Akers 1985), empirical research has demonstrated this for intentions to assault (Jackson, Tittle & Burke 1986; Tittle, Burke & Jackson 1986), but not for actual commission of violent crime and delinquency. (3) In addition, the present research draws on studies of parental discipline, supervision, and children’s antisocial behavior (e.g., Loeber & Stouthamer-Loeber 1986; Patterson, Dishion & Bank 1984) to specify the role of parenting practices more completely than has been accomplished in previous research on differential association theory. (4) Finally, building on a conceptualization of social structure as a duality (Giddens 1984; Sewell 1992), the present research goes beyond existing work on the learning of crime to specify more precisely how social structure and culture combine to produce violent delinquency. The article thus begins to address Kornhauser’s (1978) often-cited criticism, that culture conflict and learning theories fail to specify the role of social structure adequately.

The article proceeds as follows: It briefly discusses the literature on structural and cultural processes leading to violent crime and delinquency. It then synthesizes relevant theory and research to specify an explanation of the links between socioeconomic stratification, parenting practices, cultural definitions of violence, and violent delinquency. The article next derives hypotheses and presents tests of them using data from the National Youth Survey (Elliott, Huizinga & Ageton 1985; Elliott, Huizinga &
The article concludes by arguing for a reformulation of thinking about structure, culture, and violent delinquency.

Structure, Culture, and Violence

Research on the causes of violent crime and delinquency often has focused on the relative importance of cultural and structural processes in explaining aggregate rates of violence. In their early work on a subculture-of-violence thesis, Wolfgang and Ferracuti (1967) argued that violence is more common among groups whose subcultural attitudes, norms, and values favor aggressive solutions to problems. They suggested that such subcultures may be more common among blacks and Southerners, which would account for higher rates of violent crime in those groups than in others. This controversial claim stimulated numerous studies, many of which found no evidence of a subculture of violence by race or region once socioeconomic factors were controlled (e.g., Dixon & Lizotte 1987; Loftin & Hill 1974; O'Connor & Lizotte 1978; Parker & Smith 1979). Rather, research proposed that economic inequality, not subcultural values, was the major cause of violence (Blau & Blau 1982). Such arguments imply that social structure supersedes culture in explaining violent crime. Other studies, however, find that although economic inequality is an important predictor of violence, it does not completely account for variation in overall homicide rates across region and race (Messner 1982, 1983; Williams 1984). This implies that culture may play an important role. Yet studies of subcultural processes often confound measures of culture and economic inequality, as Loftin and Hill's (1974) work highlights. Indeed, the precise relationship between structure and culture rarely is articulated in this literature. The very existence of a debate over the influence of structure versus culture, however, conjures an image of the two processes as operating rather independently.

Other viewpoints in sociology challenge such conceptualizations, arguing that social structure cannot be understood apart from culture (Giddens 1984; Sewell 1992). Sewell (1992), for example, proposes that structure is the product of cultural schemas and resources that mutually reinforce one another and are constituted and transformed over time through human agency. Cultural schemas are "conventions, recipes, scenarios, principles of action, and habits of speech and gesture" and are generalized across situations (8). Resources are sources of power that are defined by, and in turn validate, cultural schemas. Recently, dualistic conceptions of social structure have been employed to explain cross-national differences in criminal punishment (Savelsberg 1994) and risk of homicide (Gartner 1990), as well as legitimacy processes in legal institutions (Stryker 1994).

Conceptualizing structure as duality can help reframe the debate over whether violent crime and delinquency are better explained by subcultural
or economic inequality perspectives. Although the subculture-of-violence thesis emphasizes the importance of cultural knowledge or schemas of violence, it does not specify precisely how such schemas are linked to resource distributions, such as socioeconomic stratification. The economic inequality thesis, by contrast, focuses on resource distributions and largely ignores cultural schemas. Both approaches, unfortunately, lead to theoretical pitfalls. The subcultural thesis risks encompassing too much under the rubric of culture and thus explains too little (see also Kornhauser 1978). The economic inequality approach risks being overly deterministic by ignoring associated cultural contexts and schemas. In addition, neither approach can account for the empirical finding of some research, that both economic resource distributions and subcultural differences matter (Gartner 1990; Messner 1982, 1983). What is needed is a clear explanation of the interplay between socioeconomic stratification and cultural factors leading to violence.

Early work on delinquent gangs by Cohen (1955) and more recent work on youth subcultures (MacLeod 1987; Willis 1977) provide examples of ethnographic attempts to link socioeconomic and cultural factors. Cohen (1955), for instance, argues that parents in a lower socioeconomic class lack the resources to prepare their children for success in middle-class institutions, such as schools; thus their youngsters repeatedly fail in these institutions and respond by forming oppositional subcultures in which delinquency is valued positively. Willis's (1977) ethnography offers an empirical assessment of similar arguments. He finds that British working-class boys respond to the middle-class values and control mechanisms in schools by creating an oppositional subculture within peer groups that resists mental work and values manual labor.

Such ethnographic work suggests that a view of structure as the confluence of social stratification and culture may be a reasonable launching point for going beyond the debate over the importance of subculture versus economic inequality. Sensitized by the above arguments, the remainder of this article specifies links between socioeconomic stratification and violent delinquency and tests these links using survey data from a representative sample of youths in the U.S.

Stratification, Parenting, and Definitions of Violence

Socioeconomic Class and Violent Delinquency

Early theories of crime and delinquency often emphasized socioeconomic class — defined as some combination of occupation, education, and income — as an important correlate of lawbreaking (Cloward & Ohlin 1960; Cohen 1955; Miller 1958). Subsequent empirical research produces inconsistent findings on socioeconomic class differences in global measures of offending. Aggregate-level studies show an association between economic ine-
quality and crime rates (e.g., Box 1987), while individual-level studies typically report weak or nonexistent relationships between social class and global indices of self-reported delinquency (see Tittle & Meier 1990). This discrepancy is reduced, however, when we narrow the focus to serious street crimes, including violent offenses: Aggregate-level research consistently finds that rates of violent crime, such as homicide, are highest in areas with the highest concentration of people from disadvantaged social classes (e.g., Crutchfield 1989; Parker 1989), and individual-level, self-report studies find that serious and violent delinquency are most likely among youths from the lowest socioeconomic strata (e.g., Brownfield 1986; Elliott & Ageton 1980; Farnworth et al. 1994; Thornberry & Farnworth 1982). Moreover, the negative relationship between socioeconomic class and self-reported serious and violent delinquency is linear (Elliott & Ageton 1980), and stronger when measured as incidence rather than prevalence of offending (Elliott & Huizinga 1983).

Yet aggregate-level research reports that socioeconomic factors have trivial direct effects on crime rates (Cantor & Land 1985; Messner 1982; Sampson 1987) and rather, may influence rates of violent offending indirectly by determining important aspects of life-style, such as family social controls and the "situation of company" conducive to crime, including delinquent peers (Crutchfield 1989; Sampson 1987; Sampson & Groves 1989). One might argue that such aspects of lifestyle constitute the cultural contexts or avenues through which socioeconomic stratification affects violent delinquency. Aggregate-level studies do not fully illuminate these links, however, because they cannot speak to the underlying social-psychological processes (e.g., Crutchfield 1989; Heitgerd & Bursik 1987; Sampson 1987).

Socioeconomic Stratification and Parenting Practices

One cultural avenue through which socioeconomic stratification may come to influence delinquency is the child-rearing practices of parents (Hagan 1989; Sampson & Laub 1993). Indeed, the extensive work of Kohn and Schooler on stratification and personality indicates that socioeconomic factors can have important consequences for parenting practices (e.g., Kohn 1977; Kohn & Schooler 1969, 1983). On one hand, jobs with lower socioeconomic status tend to reward obedience to authority and workers generalize such experiences to parenting situations (Kohn 1977). Consequently, these parents are more likely than their counterparts in higher socioeconomic classes to stress obedience and use coercive or power-assertive discipline strategies, such as yelling, scolding, threatening, restricting privileges, and physically punishing children (e.g., Gecas 1979; Gecas & Nye 1974; Kohn 1977; Sears, Macoby & Levin 1957). On the other hand, jobs with higher socioeconomic status reward self-direction and self-control and workers come to value such characteristics in their children; thus, these parents are more likely to use inductive discipline strategies, such as moral reasoning (Kohn 1977; Wright & Wright 1976). The specific
social-psychological mechanism underlying these relationships is learning generalization, where people acquire values in their jobs and extend them to nonoccupational situations, such as disciplining their children (Kohn & Schooler 1983; Schooler 1989).

Parents' disciplinary strategies, in turn, have implications for the behavior of children. Research suggests that power-assertive discipline strategies are positively associated with children's antisocial behavior (e.g., Loeber & Stouthamer-Loeber 1986; Patterson, Dishion & Bank 1984; Sampson & Laub 1993). In addition, the relationship seems to be most pronounced in the case of aggressive and violent misbehavior (Olweus 1980; see also Straus 1991). Moreover, longitudinal research shows that highly aggressive children tend to provoke power-assertive responses from parents (Patterson 1974; Patterson, Reid & Dishion 1992), which in turn increases the likelihood that children will engage in aggression and violence (e.g., Farrington 1974; Olweus 1980; Vuchinich, Bank & Patterson 1992).

In short, these arguments suggest that a potential cultural link between socioeconomic status and violent delinquency is the disciplinary practices of parents. Parents from lower socioeconomic strata are more likely than those from higher strata to have jobs in which coercive control structures emphasize conformity and obedience, and consequently, they are more likely to use power-assertive, coercive discipline with their children. Their use of power-assertive discipline, in turn, increases the chances that their children will engage in aggressive and violent behavior.1

Another aspect of parenting that is associated with both socioeconomic status and delinquent behavior is supervision. Research finds that parents of higher socioeconomic status monitor their children more closely than do parents of lower socioeconomic status (Sampson & Laub 1993:79). Close supervision, in turn, reduces the chances of delinquency (Hagan 1989; Loeber & Stouthamer-Loeber 1986; Sampson & Laub 1993).

Overall, it seems that the negative relationship between socioeconomic status and violent delinquency may be explained, at least in part, by parenting practices, such as disciplinary strategies and monitoring. These parenting practices can be viewed as constituting a cultural context that is consequential for violent delinquency.

LEARNING VIOLENCE

The arguments above propose that social stratification and parenting are linked via a learning-generalization mechanism. In the criminology literature, the differential association-social learning tradition proposes a similar social-psychological mechanism. From this perspective, delinquency is learned, as is any other behavior, through associations with significant others and reference groups, especially parents and peers (Sutherland 1947; Sutherland, Cressy & Luckenbill 1992). More specifically, through interacting with others, youths learn techniques for engaging in delin-
quency and learn definitions of the law, which include attitudes, norms, beliefs, and rationalizations about lawbreaking. These definitions of the law — which may be considered to be cultural schemas about crime and delinquency — serve as pivots for directing behavior in situations that offer illegal opportunities. Indeed, empirical research supports the mediation hypothesis, finding that social structural factors and associations with parents and peers affect delinquent behavior indirectly, by shaping the learning of attitudes, motives, and beliefs about lawbreaking (Bruinsma 1992; Jackson, Tittle & Burke 1986; Matsueda 1982; Matsueda & Heimer 1987; Orcutt 1987; Tittle, Burke & Jackson 1986). The main exception to the hypothesis comes from studies that show that associations with delinquent peers also influence lawbreaking directly (Akers et al. 1979; Warr & Stafford 1991).

For the most part, the empirical tests of the mediation hypothesis have focused on global measures of delinquency that combine a variety of offenses (e.g., Bruinsma 1992; Matsueda 1982; Matsueda & Heimer 1987) or on minor forms of delinquency and deviance (e.g., Akers et al. 1979; Orcutt 1987). Yet Sutherland (1947) encouraged the development of more precise theoretical statements to account for exceptional forms of lawbreaking, such as violent crime and delinquency. Consistent with this, some theoretical discussions have maintained that the differential association-social learning framework can be used to explain violence (e.g., Akers 1985). To date, however, research has not assessed how well the theory and the mediation hypothesis account for violent delinquency. The studies that come closest to this are those of Jackson, Tittle, and Burke (1986) and Tittle, Burke, and Jackson (1986), which report that motives to crime mediate the effects of other variables on intentions to engage in assault; however, these studies do not include direct measures of behavior nor do they address other forms of violence, which may be more common.

Of course, we must specify the content of violent definitions to explain violent delinquency in terms of association and learning mechanisms. Differential association theory itself does not identify the precise content of definitions, which leads to the following two gaps: (1) It does not show how cultural schemas or definitions favorable to particular forms of delinquency relate to broader cultural norms, beliefs, and rationalizations in our society (Matsueda 1988); and (2) it does not explain how the content of definitions favorable to specific types of delinquency — like violence — may be structured by resource distributions, such as socioeconomic stratification. The next section specifies the content of definitions of violent delinquency. This provides the basis for addressing these two gaps in differential association theory.

**The Content of Violent Definitions**

If we view the parent or broader culture as an interleaving of smaller (sub)cultural systems, as some sociologists suggest (e.g., Fine & Kleinman
1979), we can see that subcultural definitions or schemas of violent delinquency are neither isolated from nor in total conflict with the parent culture; indeed, they are rooted within it (Akers 1985; Wolfgang & Ferracuti 1967). Specifying the content of definitions favorable to violent delinquency, therefore, requires an examination of the beliefs and norms about aggression shared by most Americans. Although many people would disapprove of indiscriminate violence, most justify violence (even extreme violence) when it is used in self-defense and to maintain social control, including control achieved through retribution (see Agnew 1994). Additional evidence comes from a national survey of men, which found that 89% and 94% agreed that a man has a right to kill in self-defense and to defend his family, respectively; 64% agreed that it is often necessary to use violence to prevent violence; and 44% agreed that violence deserves violence (Blumenthal et al. 1972). Some excuses, in fact, are legitimated by law — the justice system does not treat violence as morally reprehensible when it is used to defend oneself or one’s intimates from harm, or when it is used by authorities of the state to enforce the law, promote order, or punish murderers.

These widely shared justifications for force and aggression, ironically, provide a cultural substrate from which subcultural definitions favorable to violent delinquency can emerge (Sykes & Matza 1957). Consistent with arguments about the duality of social structure (Sewell 1992), some people may generalize beliefs learned from the broader culture to a variety of situations, including situations of law violation. Sometimes definitions favorable to violent delinquency represent a straightforward extension of principles from the broader culture. The principle of self-defense, for example, often is used by offenders to justify homicides and assaults (Felson & Ribner 1981). At other times, however, definitions favorable to violent delinquency emerge through modifying justifications for violence found in the broader culture. For example, the subcultural definition that physical aggression is warranted when one is insulted, humiliated, or otherwise wronged — which often leads to violent offenses like assault, battery, or even homicide (Athens 1977; Felson 1978, 1982; Luckenbill 1977) — can be seen as a modification of the widely shared belief that violence deserves violence. In this case, the belief from the broader culture that violence deserves violence has been transformed to a more specific belief that any harm or threat of harm — even if only to one’s identity — deserves violence in retribution. An extreme form is the case of motives for rape that justify violence for some real or imagined harm by the victim, another woman, or women in general (Scully & Marolla 1984, 1985). A similar transformation justifies violent crime as a punishment that is deserved by the victim (Black 1983; Scully & Marolla 1985).

Because the most common forms of violent delinquency are fighting, assaults, and strong-arming (Elliott, Huizinga & Ageton 1985; Short & Nye 1958), the cultural schemas or definitions of greatest interest are those that favor using aggression to solve problems, especially hitting and punching.
Following the above discussion, we can expect that these definitions justify violence on the basis of self-defense, retribution, and controlling others (Agnew 1994; Luckenbill & Doyle 1989).

Specifying Links between Socioeconomic Status, Violent Definitions, and Violent Delinquency

Rather than entering the debate over the relative strengths of the economic-inequality thesis and the subculture-of-violence thesis, I focus here on how resources and cultural factors combine to produce violent delinquency. More specifically, I synthesize the theory and research discussed above to argue that socioeconomic status is consequential for violent offending primarily because it affects the cultural contexts encountered by youths (e.g., family and peer contexts) and thus indirectly shapes the learning of cultural definitions about violent delinquency. The process can be depicted in terms of a series of pathways.

The first pathway links socioeconomic status, parents' discipline, and youths' violence. Based on work on social class and personality (Kohn 1977; Kohn & Schooler 1983), I begin with the assumption that parents of lower socioeconomic status are more likely than parents of higher status to have jobs that expose them to coercive control structures that encourage obedience. Given this, we can expect parents of lower socioeconomic status to be more likely than parents of higher status to use power-assertive or coercive discipline strategies with their children, such as commands, restrictions, threats, and physical punishment (Gecas 1979; Kohn 1977; Wright & Wright 1976). These discipline strategies, in turn, teach youngsters more than simply which rule has been broken — specifically, power-assertive discipline teaches youths that coercion and force can be used to resolve problems (Bandura 1986; Patterson 1982; Patterson, Reid & Dishion 1992). Through generalization, youths can extend to other situations the principle of using coercion to solve problems, such as situations in which they seek to control or gain compliance from peers, siblings, and parents, or those in which they seek to save face. In such situations, ideas about using coercion to solve problems can be transformed to include the use of physical force, which can constitute definitions favorable to violence. Youths who have acquired such definitions are, then, more prone to violent delinquency.

Another link between socioeconomic status, parenting, and violent delinquency occurs because parents of lower socioeconomic status are less likely than their counterparts of higher status to supervise their youngsters closely. Unlike control theories, which argue that inadequate supervision directly increases delinquency by freeing youths from restraints (Gottfredson & Hirschi 1990; Hirschi 1969; Sampson & Laub 1993), the present perspective adopts the differential association argument: Weak parental monitoring encourages violent delinquency mainly because parents do
not supervise their children’s friendships closely enough, thereby allowing youths to associate with aggressive peers, from whom they can learn definitions favorable to violence (Matsueda & Heimer 1987). Given the significance of peer groups in reproducing culture (Corsaro & Eder 1990), we might expect that peer associations are key for the acquisition of violent definitions.

In addition to the above pathways, parents also teach their children definitions about violence simply by communicating disapproval of such behavior. For instance, when parents and children jointly witness an episode of violence — whether in their own family interactions, in the neighborhood, or on television — children learn how parents feel about violence from observing their responses. When parents disapprove strongly of violence, their youngsters will be less likely to learn definitions favorable to using aggression to solve problems. Because access to legal methods for dealing with problems — such as through the police and courts — is likely to be somewhat restricted in lower socioeconomic classes, people may be more receptive to alternative ways of resolving conflict, such as through physical force (Black 1983; Messerschmidt 1986; see also Cohen 1955). In terms of the present framework, people with conflicts to resolve and few legal means to do so may generalize from the broader culture’s defenses for violence to form definitions favorable to using physical force to solve problems. This suggests that parents of lower socioeconomic status will be less likely than parents of higher status to disapprove of using physical force to solve problems; thus, their children could be more likely to form definitions favorable to violence and to solve problems using violent delinquency.

Similarly, ethnographic research suggests that oppositional peer groups, such as violent peers, are more likely to emerge in lower socioeconomic neighborhoods than in other areas, perhaps as a collective response to limitations on legitimate power (Cohen 1955; Sullivan 1989; Willis 1977). This means that youths of lower socioeconomic status would be more likely to interact with aggressive peer groups and, thus, to acquire definitions favorable to using violence to solve problems.

In short, parent and peer interactions constitute key cultural contexts in which youths learn violent definitions, and socioeconomic status influences the likelihood of violent delinquency by shaping the nature and content of these interactions. From this perspective, violent definitions mediate the effects on violence of social class, parenting, and peer associations. An alternative argument is that youths learn to behave violently through imitation, independent of the learning of violent definitions (Akers 1985). Yet studies show that imitation is important primarily for first experiences with delinquency, at least for the case of smoking (Krohn et al. 1986), and most children have some experience with aggressive behavior during their early years (Hartup 1983). We can expect, therefore, that learning violent definitions will be much more important than imitation for explaining violent behavior during adolescence.
In addition to the mechanisms discussed so far, having engaged in violent acts in the past also contributes to the learning of violent definitions, both directly and indirectly. Previous violence increases acceptance of violent definitions directly when youths reflect on their past violence and try to rationalize or justify it. Previous violence also can foster the learning of violent definitions indirectly, by increasing selection into aggressive peer groups, who reinforce and teach further violent definitions. Violent histories also encourage the learning of violent definitions by influencing the discipline strategies of parents. This is because youths with violent histories elicit more power-assertive discipline from parents, regardless of socioeconomic status (Patterson 1974; Patterson, Reid & Dishion 1992), which in turn can be modified by youths to become definitions favorable to force and violence.

Finally, when youths have histories of violence, future violent delinquency can become habitual, automatic, and scripted and occur without much conscious consideration of cultural schemas (Heimer 1996; Heimer & Matsueda 1994). Previous violence also can encourage selection into similar situations in the future, further increasing the chances of subsequent violence (Olweus 1977). The outcome is that violent delinquency is likely to be fairly stable over time.

Data, Models, and Hypotheses

Data

Assessing these arguments requires data with certain features. Given the necessity of variability in socioeconomic status, the sample must represent a wide cross-section of the population. Given the focus on intergenerational influence, ideal data would include information from parents as well as children. And, given arguments about the effects of violent histories and prior learning, the data should be longitudinal. Longitudinal data also allow us to control for levels of prior violence, which can help to reduce bias in parameter estimates due to the omission of unmeasured, stable traits, like personality and biological factors (Kessler & Greenberg 1981). Finally, the data should contain information on serious violent delinquency (e.g., assault, strong-arming), as well as the relatively minor forms of violence (e.g., fighting). The data from the National Youth Survey (NYS) satisfy these conditions (Elliott, Huizinga & Ageton 1985; Elliott, Huizinga & Menard 1989).

The NYS is a longitudinal study of self-reported delinquency in a national probability sample of youths 11 to 17 years old in 1976. The study identified respondents via a multistage, cluster sampling design, which sampled households and selected all youths in those households who were physically and mentally capable of being interviewed (Elliott, Huizinga & Ageton 1985). As it turns out, 73% (1,725) of the youths in this sample con-
presented to participate. Elliott, Knowles, and Cantor (1981) demonstrate that, based on figures from the U.S. Census Bureau, the participating youths are reasonably representative of 11- to 17-year-olds in the U.S. in 1976, in terms of age, sex, and racial composition.

The participating youths were interviewed in their homes for the first time in 1977. In addition, one parent per youth was interviewed in 1977. Subsequent interviews with the youths occurred annually. The analyses that follow use the first three annual waves of data for the 918 male respondents in the sample. The attrition rates are remarkably low for these waves — 4% in 1978 and 6% in 1979. In addition, attrition from the sample is not influenced by the age, sex, race, social class, or residence of respondents (Elliott, Knowles & Cantor 1981).

**Specification of Models**

The theoretical constructs of interest here are not directly observable but rather are measured indirectly from responses to the interview questions. The responses may contain errors in measurement, introducing unreliability in indicators that can bias the substantive parameter estimates. The present analysis corrects for measurement error by adding a measurement model to the substantive model.

The substantive model is diagramed in Figure 1 and the survey items are in Appendix A. The model consists of the following blocks of variables: (1) a vector of exogenous background variables tapping socioeconomic status and other demographic characteristics that may be associated with violent delinquency; (2) self-reported violent delinquency during the year prior to the 1977 interview; (3) parenting variables, including discipline strategy, supervision of children’s friendships, and disapproval of hitting; (4) self-reported violent delinquency and association with aggressive friends during the year between the 1977 and 1978 interviews; (5) youths’ definitions favorable to violence at the 1978 interview; and (6) self-reported violent delinquency between the 1978 and 1979 interviews. Capitalizing on the longitudinal nature of the NYS, this model specifies a causal ordering that corresponds both to the theoretical arguments above and to the temporal ordering of the data. The model specifies violent delinquency (1979) as the outcome of acquiring violent definitions, which is itself a product (directly or indirectly) of association with aggressive peers, parenting practices, socioeconomic status, and prior violence. The model allows these determinants of violent definitions to affect violence (1979) directly also, to permit a fair test of the mediation hypothesis.

Socioeconomic status (SES) is an exogenous, latent construct, measured by three observable indicators — principal wage earner’s occupation, head of household’s education, and annual family income — following the work of Kohn and his colleagues (e.g., Kohn & Schooler 1983; Slomczynski, Miller & Kohn 1981). More specifically, each observable variable is specified to be a linear combination of the latent construct of SES plus a meas-
measurement error component. Exogenous variables also include factors known to be related to delinquency, such as black racial status, residence in a nonintact home, age, urban residence, and neighborhood crime (measured by questions about vandalism, burglaries, and assaults in respondents' neighborhoods). These may represent resources or cultural milieus not discussed previously that may shape the learning of violent definitions.

The parenting constructs, measured by questions asked of parents at the 1977 interview, are power-assertive discipline, supervision of youths' friendships, and disapproval of aggression. The latent construct tapping power-assertive discipline is measured by two interview items that ask parents to report the disciplinary strategies used by themselves and their spouses. The interviewer presented parents with a scenario describing a discipline problem and asked which of a set of alternative strategies the respondent was most likely to employ. The interviewer then asked the respondent to report on the discipline strategies of their spouses. These variables are coded so that higher values correspond to more power-assertive discipline, including use of threats, removal of privileges, and physical punishment. The supervision latent construct is measured by parents' reports of how well they know their children's friends and friends' families, and whether they invite these friends to join in their family activities. The third parenting construct is measured by an item that asks parents how strongly they disapprove of people hitting one another; it thus targets the
TABLE 1: Hypotheses

Hypothesis 1. Accepting definitions favorable to violence will increase the likelihood of subsequent violent delinquency (1979) and will mediate the effects on violent delinquency (1979) of SES, parenting variables, and association with aggressive friends.

Hypothesis 2. Lower-SES parents will be more likely than higher-SES parents to use power-assertive discipline, which in turn will increase the chances that their children will accept definitions favorable to violence.

Hypothesis 3. Lower-SES parents will be less likely than higher-SES parents to supervise their children's friendships closely, which will increase the chances that their children will associate with aggressive peers and thus increase the chances that their children will learn definitions favorable to violence.

Hypothesis 4. Lower-SES parents are less likely than higher-SES parents to disapprove of aggression, which in turn will increase the chances that their children will accept definitions favorable to violence.

Hypothesis 5. Youths from lower-SES backgrounds will be more likely than youths from more advantaged backgrounds to encounter and associate with aggressive peer groups and thus will be more likely to learn definitions favorable to violence.

Hypothesis 6. Prior violent delinquency (1977 and 1978) will increase the chances that youths accept definitions favorable to violence directly and also indirectly, by increasing the chances of power-assertive discipline and association with aggressive peers.

behavior that is common to most violent delinquency — hitting, slapping, and punching.

Association with aggressive friends is measured by youths' reports of how many of their friends hit others within the previous year. The latent construct of definitions favorable to violence is measured by questionnaire items that ask youths whether beating up or hitting others is appropriate under the following circumstances: when called a dirty name; when hit first; to gain respect from other youths; and to get others to do what the youth wants. These are common justifications for violent delinquency, as discussed previously, and include beliefs about self-defense, retribution, and controlling others by hitting. Consequently, they reasonably reflect the domain of attitudes, motives, and justifications that are relevant for violent delinquency.

Violent delinquency (1979) is measured by taking the average of respondents' self-reports on a ten-item scale of rates of violent acts during the year prior to the interview. The scale includes the following violent
acts: hitting parents, teachers, or others; using physical force on or strong-arming parents, teachers, or others; physically attacking others; carrying weapons; gang fighting; and sexual assault. The model also includes prior violent delinquency, measured at the first two waves. These variables are averages of scales of the same ten interview items asked in 1977 and 1978. Note that violence at 1977 affects the variables endogenous to violent delinquency (1978) only indirectly, as the model assumes a first-order lag process.

Given that the measurement model adjusts for unreliability in multiple-indicator constructs, failure to correct for unreliability in single-indicator constructs (i.e., fixing the measurement error to 0, which sets the reliability equal to 1.0) could bias the results in favor of the multiple-indicator constructs. The most conservative and careful approach is to correct for unreliability in all measures in the model by fixing measurement errors associated with single-indicator constructs (which cannot be estimated empirically) to be nonzero values that produce reliabilities that are reasonable given other empirical analyses in the literature. This is the strategy adopted in the present analyses. Specifically, the reliabilities of single-indicator exogenous variables (age, black racial status, residence in a nonintact home, urban residence) are fixed to .81, based on estimates from other research. The reliabilities of all single-indicator endogenous variables in the model (violent delinquency 1977, 1978, and 1979, parents’ disapproval of aggression, and friends’ aggression) are fixed to .75 because we expect more measurement error in social psychological and behavioral reports than in demographic variables (Alwin 1973), and because the best research on the reliability of self-reported delinquency and friends’ delinquency suggests that .75 is a reasonable and conservative estimate (Hindelang, Hirschi & Weis 1981). Empirical estimates with the present data also yield similar internal consistency coefficients. A series of sensitivity analyses demonstrate that varying the single-indicator reliabilities between .64 and 1.00 does not appreciably alter the substantive parameter estimates. Consequently, the present results offer the most appropriate estimates of the effects of interest in the model and are reasonably robust when reliabilities of single-indicator are varied.

Hypotheses

The hypotheses in Table 1 are derived from the foregoing arguments. Based on research on the relationship between social class and violent delinquency (e.g., Brownfield 1986; Farnworth et al. 1994), we can expect that violent delinquency (1979) will vary inversely with family’s SES. The present analysis examines whether this relationship holds when the other variables in the model are controlled. Such a relationship is consistent with a purely structural theory of social class and violence. The formal hypotheses in Table 1 specify the intervening links between SES and violent delin-
TABLE 2: Unstandardized and Standardized Structural Parameter Estimates for Model of Socioeconomic Status, Definitions, and Violent Delinquency

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>(1)</th>
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<th>(5)</th>
<th>(6)</th>
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<td>Viol. Delinqu. 1977</td>
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<td>-.054**</td>
<td>.031**</td>
<td>.068*</td>
<td>-.016</td>
<td>-.024</td>
<td>-.029</td>
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<td>(.012)</td>
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<td>(.010)</td>
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<td>-.088</td>
<td>-.016</td>
</tr>
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<td>.002</td>
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<td>.010</td>
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<td>.008</td>
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<td>(.011)</td>
<td>(.009)</td>
<td>(.023)</td>
<td>(.007)</td>
<td>(.023)</td>
<td>(.012)</td>
<td>(.006)</td>
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<td>(.030)</td>
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<td>(.038)</td>
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<td>3. Black</td>
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<td>.064</td>
<td>-.056</td>
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<td>(.034)</td>
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<td>(.034)</td>
<td>(.105)</td>
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<td>-.078</td>
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<td>.149</td>
<td>-.196**</td>
<td>.074*</td>
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<td>(.075)</td>
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<td>(.049)</td>
<td>(.150)</td>
<td>(.078)</td>
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<td>7. Violent delinquency, 1977</td>
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<td>.069</td>
<td>-.170**</td>
<td>.114*</td>
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<td>(.073)</td>
<td>(.068)</td>
<td>(.370**</td>
<td>(.309**</td>
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In terms of the arguments about the interplay between socioeconomic and cultural factors, as discussed above. The most important of these, hypothesis 1, specifies that violent delinquency (1979) is determined by definitions favorable to violence, which are learned largely in interaction with parents and peers. Moreover, definitions mediate the effects on violent delinquency (1979) of SES, parenting, and peer associations, as well as some of the effects of prior violence. This hypothesis follows directly from differential association theory.
TABLE 2: Unstandardized and Standardized Structural Parameter Estimates for Model of Socioeconomic Status, Definitions, and Violent Delinquency* (Continued)

<table>
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<tr>
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<td>-0.024</td>
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<td>-0.281**</td>
<td>-0.353**</td>
<td>-0.324**</td>
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<td>friends, 1978</td>
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<td>(.049)</td>
<td>(.049)</td>
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<td>13. Definitions</td>
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<td>favoring violence, 1978</td>
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<tr>
<td>D.f.</td>
<td>164</td>
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</tbody>
</table>

(N = 870)

*This table includes unstandardized parameter estimates, associated standard errors in parentheses below, and standardized parameter estimates in italics below the standard errors.

* p < .05 (two-tailed test)  ** p < .01 (two-tailed test)
The next four hypotheses focus on the pathways linking SES and definitions of violence through the cultural contexts of parenting and peer relationships. Hypothesis 2 specifies that lower-SES parents are more likely than higher-SES parents to use power-assertive discipline, which increases the chances that their children learn definitions favorable to violence. Hypothesis 3 proposes that lower-SES parents are less likely than higher-SES parents to supervise their children’s friendships closely, which increases the chances that their youngsters associate with aggressive peers who can teach and reinforce violent definitions. This is counter to the prediction of control theories, that supervision will directly reduce violence independent of the learning of violent definitions. Hypothesis 4 proposes that lower-SES parents are less likely than higher-SES parents to disapprove strongly of aggression; thus, their children are more likely to accept definitions favorable to violence. This hypothesis is based on the argument that lower-SES people are less likely to have access to legal conflict-resolution methods and thus are less likely to disapprove of using aggression to solve problems. Hypothesis 5 predicts that lower-SES youths are more likely than higher-SES youths to encounter aggressive peer groups in their neighborhoods and thus are more likely to learn violent definitions.

Hypothesis 6 proposes that regardless of SES, youths who have a history of violent delinquency are more likely to accept violent definitions in the future. The effect of previous violence on definitions occurs directly as well as indirectly, because violent youths are more likely to evoke power-assertive discipline from parents and more likely to associate with aggressive peers, which together increase the learning of definitions favorable to violence. Note that if prior violence is more common among lower SES youths, as the literature suggests, then these indirect and direct effects offer another set of pathways by which SES affects subsequent violent delinquency.

Estimation of the Model

The substantive and measurement models were estimated simultaneously using LISREL 8 (Jöreskog & Sörbom 1993a). Overall, the model fits the data well, given the large number of overidentifying restrictions ($L^2 = 380.83$, d.f. = 164, AGFI = .94, Root Mean Square Error of Approximation [RMSEA] = .039). The unstandardized ($b$) and standardized ($\beta$) structural parameter estimates are in Table 2.

The results of the measurement model are in Appendix B. In general, the results show that the indicators of the latent constructs are reasonably valid and reliable and contain enough error in measurement to warrant the inclusion of a measurement model to adjust for potential bias in substantive parameter estimates.

I also conducted a series of analyses to assess the robustness of the results reported here. The analyses focused on three issues: (1) potential bias
in estimates from influential outliers in the data; (2) departures from distributional assumptions of normality; and (3) possible bias in estimates from the specification of a nonrecursive rather than a recursive model. These analyses, which are discussed in Appendix C, show that the reported results are robust.

**THE TOTAL EFFECT OF SES ON VIOLENT DELINQUENCY**

As we might expect from other studies, SES is significantly associated with violent delinquency. Youths from lower-SES families are more likely to engage in violence in 1977 than are youths from more advantaged families (Table 2, row 1, column 1). Lower-SES youths also are more likely to engage in violent delinquency in the future; the total effect of SES on violence (1979) is statistically significant ($\beta = -0.11, p < .05$, two-tailed test), although modest in magnitude. Moreover, the total effect of SES on violence is greater than the total effects of age ($\beta = 0.02$), nonintact family ($\beta = 0.08$), and neighborhood crime ($\beta = 0.07$). In short, SES is consequential for violent delinquency.

**VIOLENT DEFINITIONS**

The total effect of SES on violence (1979) is explained, however, by the present arguments about the interplay between socioeconomic and cultural factors. Consistent with hypothesis 1, a substantial part of the relationship between SES and violent delinquency occurs through a cultural process in which youths acquire attitudes, values, and rationalizations favoring violence. Specifically, youths who have learned definitions favorable to violence are more likely to engage in subsequent violent delinquency (Table 2, row 13, column 8). The definitions variable is, in fact, the most important determinant of violent delinquency (1979) after prior violent delinquency is controlled (compare standardized estimates in column 8). And violent definitions vary significantly with SES (total effect $\beta = -0.17, p < .01$), with lower-SES youths being most likely to hold attitudes, values, and rationalizations favoring violence.

**DISCIPLINE, DISAPPROVAL, AND SUPERVISION**

The relationship between definitions and SES occurs largely via the hypothesized pathways. (See Figure 2 for schematic representation of selected pathways from Table 2.) As predicted in hypothesis 2, lower-SES parents are more likely to select power-assertive discipline tactics (Table 2, row 1, column 2); presumably, this is because their work experiences expose them to coercive controls, which they generalize to their parenting practices. Power-assertive discipline, in turn, directly increases the chances that youths accept definitions favorable to violence (row 8, column 7). I ar-
gue that this occurs because power-assertive discipline implicitly teaches youths that coercion and physical force are acceptable ways to deal with problems, and youths then modify this principle to fit situations that they frequently encounter — such as saving face with peers, controlling the behavior of others, or defending oneself — and in the process form definitions favorable to aggression and violence. Note that a pure imitation hypothesis is inconsistent with these findings, as discipline does not directly affect violent delinquency measured in either 1978 or 1979.

It is interesting to note that parents’ use of power-assertive discipline is not influenced by boys’ previous violent delinquency (1977) once the other variables are controlled (Table 2, row 7, column 2), counter to other research (e.g., Patterson, Reid & Dishion 1992). Rather, the strongest predictor of power-assertive discipline is SES, followed by black racial status, age, and urban residence (compare standardized estimates in column 2). One could view the effect of race on power-assertive discipline as generally consistent with the present theoretical arguments — if blacks are more likely than whites to be subject to coercive controls in the workplace regardless of job category, then they also would be more likely to generalize from these experiences and use more power-assertive discipline with their children, which in turn fosters definitions favorable to violence.*

Hypothesis 4 proposes that the link between SES and definitions also should be mediated by parents’ disapproval of aggression. In support of the first part of this hypothesis, higher-SES parents are more likely than lower-SES parents to disapprove of hitting others (Table 2, row 1, col-
umn 3). Yet parents' disapproval is inconsequential for the acquisition of violent definitions and delinquency (row 9). Discipline, therefore, has greater influence on the learning of violent definitions than does parents' disapproval of violence (compare standardized estimates in column 7). Actions apparently speak louder than words in this case.

Consistent with this observation, supervision of boys' friendships also influences the learning of violent definitions. When parents monitor their sons' friendships closely, boys are less likely to have aggressive friends (Table 2, row 10, column 6) and, therefore, are less likely to learn violent definitions (row 12, column 7). Moreover, these relationships help to explain why lower-SES boys are more likely than higher-SES boys to engage in violent delinquency. As predicted by hypothesis 3, lower-SES parents supervise their sons less closely than do higher-SES parents (Table 2, row 1, column 4), and thus have less influence in curbing their sons' associations with aggressive peers and learning of violent definitions.

**AGGRESSIVE FRIENDS**

In addition, lower-SES youths are more likely than higher-SES youths to have aggressive friends because they experience higher levels of power-assertive discipline at home (see Table 2, row 1, column 2 and row 8, column 6). Perhaps boys who experience coercive discipline are more comfortable with peers who use physical force to solve problems.

The fact that both supervision and discipline influence association with aggressive friends is key because this peer context variable is the strongest predictor of youths' violent definitions (compare standardized estimates in column 7 of Table 2). Reduced-form models indicate that the indirect effects of power-assertive discipline and supervision of friendships on violence (1979), through aggressive friends and violent definitions, are significant. In short, association with an aggressive peer group is a primary cultural context in which youths learn violent definitions, but this association is shaped by parenting practices, which in turn are influenced by SES. Moreover, associations with aggressive peers influence violence only indirectly, through their impact on the learning of definitions (Table 2, row 12). Again, this is counter to a direct imitation explanation, and consistent with the mediation hypothesis.

Beyond these relationships, SES affects aggressive peer associations indirectly, by determining youths' histories of violence. Contrary to hypothesis 5, SES does not influence aggressive peer associations directly but does encourage such associations by increasing the chances that youths in one's peer group have engaged in violent delinquency (1977) in the past (Table 2, row 1, columns 1 and 5).
VIOLENT HISTORIES

Finally, prior violence is consequential for subsequent violent delinquency, consistent with hypothesis 6. Table 2 shows that the stability in violent behavior reflects a large direct effect as well as sizable indirect effects via the learning of violent definitions. Indeed, boys with violent histories are more likely than other boys to acquire definitions favorable to violence. This is due in part to the fact that boys with violent histories in 1977 are more likely to select aggressive friends in the future and thus are more likely to learn violent definitions ($\beta = .21$). This is consistent with other research (Dishion et al. 1991). But boys who have behaved violently in the past also are more likely to learn definitions favorable to violence apart from their associations with aggressive peers ($\beta = .35$, Table 2, row 11, column 7). Perhaps this direct effect of prior violent delinquency (1978) on definitions occurs because youths rationalize past behavior and subsequently are more receptive to learning definitions that justify violence.

SUMMARY

The model accounts for almost 30% of the variance in violent delinquency (1979), although part of this is due to the effect of prior violence on subsequent violence. The model also explains the learning of violent definitions quite well, accounting for 48% of its variance. And the results show that accepting violent definitions greatly increases the likelihood of future violence. Moreover, the learning of violent definitions mediates the effects of other variables, including SES, parenting, peer associations, and some of the effects of prior violence. Indeed, only urban residence and prior violence exert unmediated effects on violent delinquency (1979). In sum, the process of acquiring cultural definitions of violence — which occurs in large part through interactions with parents and peers — explains the relationship between SES and violent delinquency.

Conclusions

The results show that violent delinquency is explained by the confluence of socioeconomic and cultural factors in a dynamic social process. Indeed, the SES of families has a modest but significant total effect on violent delinquency (1979), which is explained by the learning process examined here. Specifically, lower-SES youths are more likely than higher-SES youth to engage in violent delinquency because they have learned definitions favorable to violence through interactions with parents and peers. Parents of lower SES are more likely to use power-assertive discipline, which increases the chances that their sons accept definitions favorable to using force, coercion, and even violence to solve problems. Parents who use power-assertive discipline also are more likely to raise sons who select ag-
gressive friends, who further teach and reinforce violent definitions. Furthermore, parents of lower SES are less likely to monitor their sons' friendships closely, which increases the chances that boys associate with aggressive peers from whom they can learn violent definitions. Finally, coming from a disadvantaged socioeconomic background directly increases the chances that youths have violent histories, which in turn encourages the learning of violent definitions and violent delinquency in the future. The direct effect of SES on prior violence might arise because disadvantaged youths are less likely to have access to legal recourse for resolving conflicts and thus come to value other ways of achieving control over situations, such as through coercion and physical force (Black 1983; Messerschmidt 1986). In short, these findings show that violent delinquency cannot be understood apart from SES, the cultural product of violent definitions, or the cultural contexts in which these definitions are acquired.

According to the present perspective, the socioeconomic and cultural factors identified here are linked via the social-psychological mechanism of learning generalization, by which experiences in one domain of life are extended to other domains.7 For instance, the foregoing article argues that parents in lower socioeconomic positions, who are more likely than higher-SES parents to encounter coercive control structures at work, generalize from these experiences and thus are more apt to use power-assertive discipline with children. Children who experience power-assertive discipline, in turn, generalize from these experiences and are more likely to form definitions favorable to using force, coercion, and ultimately violence. This learning-generalization argument is consistent with Sewell’s (1992) arguments about the duality of social structure and the transposition of schemas across situations, as well as with Bandura’s (1986) social cognitive theory in psychology. The present findings support the learning-generalization link between parents’ discipline practices and children’s violent definitions. Yet the data permit examination of only the link between parents’ SES and their discipline practices rather than the more direct link between coercive work structures and parents’ discipline practices. Although other research consistently supports links between SES, coercive work structures, and generalization to other life domains, like parenting (e.g., Kohn 1977; Kohn & Schooler 1983; Slomczynski, Miller & Kohn 1981), further research is needed to examine more directly the links between coercive work structures, parenting practices, and violent delinquency.

In sum, the present study makes several contributions. First, it extends Kohn and Schooler’s research on social class, personality, and parenting to examine the implications for children’s (violent) behavior. Second, it demonstrates that learning theories can explain violent delinquency, and that cultural definitions of violence mediate the effects on violent behavior of SES, parenting practices, and peer associations. The present study, therefore, goes beyond tests of differential association-social learning theories that have examined global measures of delinquency, minor offending and
deviance, and intentions to break the law. Third, this work further pushes forward the differential association-social learning tradition in criminology by specifying more precisely the role of parenting practices and socioeconomic resources in the process leading to adolescent lawbreaking. But what is perhaps most important is that the present study builds on conceptualizations of social structure as duality (e.g., Giddens 1984; Sewell 1992) to clearly articulate and empirically assess the joint influence of socioeconomic factors, cultural practices, and cultural products in the process leading to delinquency. Consequently, the present work begins to answer Kornhauser's (1978) criticism that the differential association tradition has subsumed structure under culture and thus reduces to a cultural determinism of sorts. Future work should go even further to distinguish other aspects of structure and culture that merge in the social process to produce crime and delinquency.

This research suggests, then, that the debate in criminology over subcultures of violence versus economic inequality is moot, and future work would do well to develop and test explanations of the interplay between the two. This points criminologists toward work on social structure and culture in other areas of sociology, which can provide theoretical templates to guide studies of violence in particular and crime and delinquency more generally (see Hagan 1991, 1993). Such a tack concretely links studies of crime with theoretical and empirical issues that are at the heart of contemporary debates in sociology more generally. Indeed, recognition that cultures and resources operate in tandem is coming to the fore in current sociological work on other social problems. As in research on violence, theory and research on poverty and the underclass often have pitted macrostructural arguments (e.g., Wilson 1987) against culture-of-poverty explanations (e.g., Lewis 1966), emphasizing differences rather than confluence. Jencks (1992) has argued that we must move beyond arguments over the relative importance of resource structures and cultural elements and recognize that both play a role in urban poverty (see also Greenstone 1991). The present results show that addressing violent delinquency similarly requires attention to cultural practices and definitions of violence, as well as to socioeconomic factors.
Notes

1. A potential link between neo-Marxist class categories, discipline, and serious delinquency has been proposed by Colvin and Pauly (1983). Yet an empirical test of their arguments finds neo-Marxist class categories to be unrelated to coercive discipline, although coercive discipline does increase delinquency (Messner & Krohn 1990). The lack of support for a neo-Marxist hypothesis does not invalidate a link between SES, parenting, and violence, however. It is possible that discipline is unrelated to Marxist measures of social class yet correlated with more traditional measures of SES, like education, occupation, and income.

2. These analyses use pairwise present covariance matrices with a sample size of 870, which is the median sample size of pairwise covariances. An examination of patterns of missing values shows that they are missing approximately at random.

3. A sensitivity analysis including second-order lag effects reveals similar substantive findings. The model with first-order lags is reported here because they are most consistent with the theoretical arguments.

4. The RMSEA assesses the error of approximation in terms of discrepancy per degree of freedom. According to Browne and Cudeck (1993), values of .05 and smaller represent a close fit.

5. This model specifies thirteen correlations between measurement errors that are expected to be nonzero for substantive reasons, such as close proximity in the interview or similar item wordings. Five of these correlations cannot be estimated empirically and are fixed at .15. These include three correlations among single-indicator exogenous variables (age, race, and nonintact family) and two first-order autoregressive error correlations associated with self-reported violent delinquency at the three time points. Failure to include such correlations — especially the autoregressive error process, which is likely to be nonzero — can introduce bias into substantive parameter estimates. Consequently, the most conservative and appropriate approach is to include fixed correlations in the measurement model. Sensitivity analyses demonstrated that the substantive parameter estimates do not vary greatly when these correlations are varied between 0 and .25. The inclusion of the eight freely estimated correlations along with the five fixed correlations among measurement errors significantly improves the overall fit of the model, according to a test of nested models (L^2 = 154.45; d.f. = 8; p < .001).

6. Note that despite the finding that black parents use more power-assertive discipline, black racial status does not have a significant total effect on violent definitions (b = -.002, s.e. = .075, p = .98) nor a significant total indirect effect on violent definitions (b = -.076, s.e. = .049, p = .12). This results largely because of counterbalancing negative indirect effects of black racial status on definitions through prior violent delinquency (1977) and association with aggressive friends (1978).

7. Other theoretical perspectives on class, parenting, and crime are not internally consistent because they integrate theories based on competing assumptions, such as social control, learning, and labeling theories (e.g., Colvin & Pauly 1983).

8. For example, in other work we are developing an explanation of gender ratios of delinquency as a product of economic inequality, gender socialization practices, and cultural definitions of femininity and masculinity (Heimer & De Coster 1996).
APPENDIX A: Description of Observable Variables

From the Parent Interview, 1977

Father's occupation

Hollingshead occupational codes, as follows:

7: executives and proprietors of large concerns, major professionals
6: managers and proprietors of medium-sized businesses and lesser professionals
5: administrative personnel of large concerns, owners of small independent businesses, and semiprofessionals
4: owners of little businesses, clerical and sales workers, and technicians
3: skilled workers
2: semiskilled workers
1: unskilled workers

Head of household education

Educational attainment of the head of household based on Hollingshead educational codes, as follows:

1: some grade school
2: completed grade school
3: some high school
4: completed high school (12th grade or GED)
5: some college, completed specialized training or education
6: completed college
7: postgraduate degree

Family income

Coded as follows:

1: $6,000 or less 6: $22,001-26,000
2: $6,001-10,000 7: $26,001-30,000
3: $10,001-14,000 8: $30,001-34,000
4: $14,001-18,000 9: $34,001-38,000
5: $18,001-22,000 10: $38,001 or more

Neighborhood crime

Coded as 3 = big problem, 2 = somewhat of a problem, 1 = not a problem

"How big a problem in your neighborhood is vandalism, buildings and personal belongings broken and torn up?"
"How big a problem in your neighborhood are burglaries and thefts?"
"How big a problem in your neighborhood are assaults and muggings?"

Nonintact home

A dummy variable coded 0 if both biological parents are present in the household, and 1 otherwise

Urbanicity

A dummy variable coded 1 if respondent lives in an SMSA, 0 otherwise
APPENDIX A: Description of Observable Variables (Continued)

Power-assertive discipline

Question asked parents how they react when their child does something wrong. The interviewer hands the parent respondent cards with different sets of behaviors on each (sequentially) and asks the parent which of the behaviors on each card she or he would choose first when disciplining her or his child. The interviewer then asks the parent to report on her or his spouse's choices of discipline. Behaviors are coded 1 for power-assertive discipline and 0 for discipline that is not power-assertive. By adding the scores for the responses identified below, I computed a scale of power-assertive-discipline style for mothers and one for fathers. This scale ranges from 0 to 2, with 2 representing the most power-assertive style of discipline and 0 representing the least power-assertive discipline style.

Set 1 behaviors
- Point out the hurtful consequences of his behavior = 0
- Take away privileges = 1
- Never accuse him unfairly, even if I am angry = 0
- Demand that he correct the damage he has done = 1

Set 2 behaviors
- Hit or threaten to hit him = 1
- Explain that he should accept responsibility for his or her behavior and request that he or she make up for it = 0
- Discuss his behavior with him, as well as my reasons for being upset with it = 0
- Send him to his room = 1

Disapproval of aggression
Coded as 1 = very wrong, 2 = wrong, 3 = a little bit wrong, 4 = not at all wrong

"How wrong is it for an adult like you to hit or threaten to hit someone without any reason?"

Supervision of friendships
Coded as 1 = none of them, 2 = few of them, 3 = some of them, 4 = most of them, 5 = all of them

"How many of your child's friends do you know?"

"How many of your child's friends' parents do you know personally?"

"How many of your child's friends have you invited to your home or on family activities?"

From the Youth Interviews, 1977 to 1979

Age (1977) This variable is the age of youth, 11 to 17
Black (1977) Dummy variable coded 1 if black, 0 if nonblack

Definitions favorable to violence
The following questions from the 1978 interview, coded as 1 = strongly disagree, 2 = disagree, 3 = neither agree or disagree, 4 = agree, 5 = strongly agree

"In order to gain respect from your friends, it is sometimes necessary to beat up on other kids."

"It is all right to beat up another person if he/she called you a dirty name."

"It is all right to beat up another person if he/she started the fight."

"Hitting another person is an acceptable way to get him/her to do what you want."
APPENDIX A: Description of Observable Variables (Continued)

Friends' aggression

The following question from the 1978 interview, coded as 1 = none of them, 2 = very few of them, 3 = some of them, 4 = most of them, 5 = all of them

"During the previous year, how many of your friends have hit or threatened to hit someone?"

Rates of violent delinquency

Self-reported involvement in the following types of violence, measured at three time points and referring to the annual period preceding the 1977, 1978, and 1979 interviews. Responses are coded

1: never
2: once or twice a year
3: once or twice every 2-3 months
4: once a month
5: once every 2-3 weeks
6: once a week
7: 2-3 times a week
8: once a day
9: 2-3 times a day

"How many times in the past year have you

— "carried a hidden weapon other than a plain pocket knife?"
— "attacked someone with the idea of seriously hurting or killing them?"
— "been involved in gang fights?"
— "hit or threatened to hit a teacher or other adult at school?"
— "hit or threatened to hit your parents?"
— "hit or threatened to hit other students?"
— "had or tried to have sexual relations with someone against their will?"
— "used force (strong-arm methods) to get money or things from other students?"
— "used force (strong-arm methods) to get money or things from a teacher or adult at school?"
— "used force (strong-arm methods) to get money or things from other people (not teachers or students)?"
## APPENDIX B: Parameter Estimates for Measurement Model of Socioeconomic Status, Violent Definitions, and Violent Delinquency

<table>
<thead>
<tr>
<th>Unobserved Variable</th>
<th>Observed Variable</th>
<th>Metric Slope</th>
<th>Validity Coefficient</th>
<th>Observed Variance</th>
<th>Error Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SES</td>
<td>Annual fam. income</td>
<td>1.00\textsuperscript{f}</td>
<td>.61</td>
<td>5.22</td>
<td>3.28</td>
</tr>
<tr>
<td></td>
<td>Head of household's education</td>
<td>.78*</td>
<td>.79</td>
<td>1.80</td>
<td>.67</td>
</tr>
<tr>
<td></td>
<td>Prin. earner's occup.</td>
<td>.99*</td>
<td>.79</td>
<td>2.96</td>
<td>1.10</td>
</tr>
<tr>
<td>2. Youth's age</td>
<td>Youth's age</td>
<td>1.00\textsuperscript{f}</td>
<td>.90\textsuperscript{f}</td>
<td>3.76</td>
<td>.72\textsuperscript{f}</td>
</tr>
<tr>
<td>3. Black</td>
<td>Black racial status</td>
<td>1.00\textsuperscript{f}</td>
<td>.90\textsuperscript{f}</td>
<td>.14</td>
<td>.03\textsuperscript{f}</td>
</tr>
<tr>
<td>4. Nonintact home</td>
<td>Residence in a nonintact home</td>
<td>1.00\textsuperscript{f}</td>
<td>.90\textsuperscript{f}</td>
<td>.21</td>
<td>.04\textsuperscript{f}</td>
</tr>
<tr>
<td>5. Neighborhood crime</td>
<td>Vandalism in neighborhood</td>
<td>1.00\textsuperscript{f}</td>
<td>.46</td>
<td>.37</td>
<td>.29</td>
</tr>
<tr>
<td></td>
<td>Burglaries in neighborhood</td>
<td>1.06*</td>
<td>.49</td>
<td>.36</td>
<td>.27</td>
</tr>
<tr>
<td></td>
<td>Assaults in neighborhood</td>
<td>.88*</td>
<td>.79</td>
<td>.10</td>
<td>.04</td>
</tr>
<tr>
<td>6. Urban res.</td>
<td>Urban residence</td>
<td>1.00\textsuperscript{f}</td>
<td>.90\textsuperscript{f}</td>
<td>.19</td>
<td>.04\textsuperscript{f}</td>
</tr>
<tr>
<td>7. Violent delinqu. 1977</td>
<td>Violent delinquency scale 1977</td>
<td>1.00\textsuperscript{f}</td>
<td>.86\textsuperscript{f}</td>
<td>.09</td>
<td>.02\textsuperscript{f}</td>
</tr>
<tr>
<td>8. Power-assert. discipline</td>
<td>Mother's</td>
<td>1.00\textsuperscript{f}</td>
<td>.62</td>
<td>.36</td>
<td>.22</td>
</tr>
<tr>
<td></td>
<td>Father's</td>
<td>1.27*</td>
<td>.67</td>
<td>.51</td>
<td>.28</td>
</tr>
<tr>
<td>9. Disapproval of aggression</td>
<td>Parent's disapproval of hitting</td>
<td>1.00\textsuperscript{f}</td>
<td>.86\textsuperscript{f}</td>
<td>.16</td>
<td>.04\textsuperscript{f}</td>
</tr>
<tr>
<td>10. Supervision of friendships</td>
<td>Family invites friends</td>
<td>1.00\textsuperscript{f}</td>
<td>.67</td>
<td>1.60</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>Parents know youth's friends</td>
<td>.86*</td>
<td>.80</td>
<td>.84</td>
<td>.31</td>
</tr>
<tr>
<td></td>
<td>Parents know friends' parents</td>
<td>1.08*</td>
<td>.73</td>
<td>1.58</td>
<td>.74</td>
</tr>
<tr>
<td>11. Friends' aggression</td>
<td>Proportion of friends who hit</td>
<td>1.00\textsuperscript{f}</td>
<td>.86\textsuperscript{f}</td>
<td>.95</td>
<td>.24\textsuperscript{f}</td>
</tr>
<tr>
<td>12. Violent delinqu. 1978</td>
<td>Violent delinquency scale 1978</td>
<td>1.00\textsuperscript{f}</td>
<td>.86\textsuperscript{f}</td>
<td>.11</td>
<td>.03\textsuperscript{f}</td>
</tr>
<tr>
<td>13. Def. fav. to violence</td>
<td>ok to beat up kids to gain respect</td>
<td>1.00\textsuperscript{f}</td>
<td>.64</td>
<td>.50</td>
<td>.29</td>
</tr>
<tr>
<td></td>
<td>ok if you are hit first</td>
<td>.97*</td>
<td>.44</td>
<td>.98</td>
<td>.79</td>
</tr>
<tr>
<td></td>
<td>beat if called dirty name</td>
<td>1.26*</td>
<td>.62</td>
<td>.84</td>
<td>.51</td>
</tr>
<tr>
<td></td>
<td>ok to gain compliance</td>
<td>.95*</td>
<td>.60</td>
<td>.51</td>
<td>.33</td>
</tr>
<tr>
<td>14. Violent delinqu. 1979</td>
<td>Violent delinquency scale 1979</td>
<td>1.00\textsuperscript{f}</td>
<td>.86\textsuperscript{f}</td>
<td>.08</td>
<td>.02\textsuperscript{f}</td>
</tr>
</tbody>
</table>

\textsuperscript{f} fixed parameter
\textsuperscript{*} p < .001
To assess whether departures from the assumptions underlying my analysis may have consequences for the findings reported here, I performed a series of additional analyses. These analyses focused on three issues: (1) potential bias in estimates due to influential outliers in the data; (2) departures from assumptions of normality; and (3) possible bias in estimates due to the specification of a recursive, rather than nonrecursive, model.

A thorough analysis of residuals in the equation predicting violent delinquency (1979) showed that although 26 cases were extreme or outlying in the dependent variable observations (using studentized deleted residuals), no cases turned out to be strongly influential based on the calculation of Cook's D statistic. Cook's D gives an indication of the impact exerted by the ith case on all coefficients combined; it detects cases that are influential because of a large residual (outliers in y), a large leverage value ($h_{ii}$) (outliers in x), or both (Belsley, Kuh & Welsch 1980; Cook 1977). Neter, Wasserman, and Kutner (1990) recommend that in comparing Cook's D to the F distribution, values that approach the 50th percentile (.95 for this analysis) should be considered large. For this analysis, all the Cook's D values are smaller than the 5th percentile. Nevertheless, I followed an extremely conservative approach and deleted from the data the six cases corresponding to the largest Cook's D values—the values ranged from .06 to .27. I then reestimated the model in LISREL 8. The results of the model with these six cases purged are virtually identical to the results reported above. I also estimated a model purged of twenty cases that produced large DFBETAS (greater than 2n$^{1/2}$, as recommended by Neter, Wasserman & Kutner 1990), which identifies cases that may exert a large influence on individual parameter estimates. Again, the model purged of influential cases produced almost identical results to the model estimated using the full sample. In short, the results reported above do not appear to be influenced by extreme values in the data. Given that outlying influential cases can accurately represent rare or unlikely events that should be covered by the model, simply discarding these cases can increase the variance of parameter estimates (Neter, Wasserman & Kutner 1990). This fact, combined with the robustness of results when outliers are deleted, led to my decision to present in this article the findings from the total sample.

I also assessed the robustness of the findings to the assumptions that the dependent variables are measured on interval scales and the observed variables are distributed multivariate-normal. Although Monte Carlo studies have demonstrated that the maximum likelihood estimator in LISREL is robust to these assumptions, even with samples much smaller than 870 (Boomsma 1983), I estimated a model in LISREL 8 using the logarithm of the rates of violent delinquency at all three waves, which ameliorates any potential right skewness. The results are virtually identical to those reported. I also examined the robustness of the model to assumptions using an asymptotically distribution-free weighted least-squares estimator on models for nonnormal and ordinal variables, using PRELIS 2 (Jöreskog & Sörbom 1993b). This procedure is limited to relatively small models, even with the current sample size of 870, so I estimated several smaller models using various combinations of the latent constructs. The patterns of results were consistent with the results reported in this article. Consequently, the maximum likelihood results reported in this article seem robust in the face of departures from assumptions. In addition, using the maximum likelihood procedures in LISREL 8 allows for estimation of the full model, thereby reducing the risk of omitted variable bias, which was increased when I analyzed the separate, smaller models that assumed ordinal data.

Finally, I examined the possibility that the results reported here might be biased by exclusion of reciprocal effects in the model. First, I estimated a model that included reciprocal effects between aggressive friends (1978) and violent delinquency (1978), using 1977 measures of aggressive friends and violent delinquency as instruments. The substantive story remains the same as that reported in the text. In fact, the equation predicting aggressive friends (1978) — which is where we would expect the greatest bias if omitting reciprocal effects did create specification error — produces a similar pattern of findings in both the recursive and nonrecursive models, except that the effects of prior violence on friends is attenuated somewhat under the nonrecursive specification.
I also assessed a second possible source of specification error — the omission of potential nonrecursive effects between the three parenting variables and violent delinquency. The most conservative test of this relationship — specifying no causal relation between the parenting variables (1977) and violent delinquency (1977), but allowing their structural disturbances to correlate — showed that the variables were not significantly associated after controlling for the effects of exogenous variables. This suggests that reciprocal effects will be nonsignificant, except in the implausible case in which effects are opposite in sign or the disturbances are negatively correlated. Nevertheless, I also estimated a model that included reciprocal effects between the parenting variables (1977) and violent delinquency (1978), which captures violence between the 1977 and 1978 interviews. This model used other questions asked of parents at the 1977 interview as instruments for discipline, parent disapproval, and supervision and used violent delinquency (1977) as an instrument for violent delinquency (1978). (Note that because parents were interviewed only in 1977 by the NYS, previous measures for parents are unavailable.) Estimation of this model revealed the same substantive story as the recursive model reported in this article. These analyses indicate that the recursive model is robust and stable. In addition, identifying these nonrecursive models requires strong assumptions, which are questionable in the absence of previous, independent measures of parenting. Moreover, if reciprocal effects between parenting (1977) and violence (1977) could be included, the major change in the substantive story reported likely would be an increase in the effects of SES and other exogenous variables on parenting practices. This means that, in the worst case, the highly significant effects of SES on parenting reported here would be a conservative estimate, further bolstering the article’s arguments about the relationships between social class, discipline, and supervision.

References


