

The Social Reproduction of a Criminal Class in Working-Class London, circa 1950–1980¹

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The historical concept of a criminal class includes a sociological reference to the concentration and recurrence of crime within groups and across generations. Two family-linked processes may lead to the social reproduction of a criminal class: a cultural/characterological process involving child-raising conditions and practices, and a structural/imputational process involving official labeling. Mead's concern about the perpetuation of a "permanent class of criminals" is discussed, and special attention is given to an intergenerational interaction effect of parent and son labeling on subsequent delinquent and criminal behavior. This intergenerational interaction effect is explored, net of the acknowledged role of cultural/characterological influences, which are modeled in several ways using data collected in a well-known London panel study. The article addresses implications of the neglect of labeling effects in contemporary longitudinal research initiatives directed to the formation of crime policy.

Although sociologists who study classes emphasize the occupational sphere and work relations, class terminology sometimes is used more broadly, for example, with reference to divisions of age, gender, and ethnicity. The concept of class is linked also to crime in historical discussions of the emergence and persistence of "the dangerous classes" in 18th-

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and 19th-century France and England (Gillis 1989; Tombs 1980; Ignatieff 1978) and 19th- and 20th-century Canada and the United States (Boritch and Hagan 1987; Monkenen 1981). These dangerous classes increasingly were identified as criminal classes of low social origin and in need of police constraint (Silver 1967, p. 3). Used in this way, the concept of a criminal class refers to the concentration and recurrence of crime within groups and across generations. Yet we know little of the processes by which criminal classes once were or still might be concentrated and reproduced through successive generations.

Two quite different reproductive processes linked to the family could be involved. The first is a cultural or characterological process by which parents, through child-raising conditions and practices, reproduce in their children the characteristics that lead to crime; the second is a structural or imputational process in which crime-control agents reproduce criminal behavior through their official treatment of the children of criminal parents.

The former process is at the heart of the more traditional theories of crime and deviance, including social disorganization and subcultural theories. The latter process is more consistent with a labeling theory of deviance. However, little attention has been given to the intergenerational reproduction of crime in labeling theory. The purposes of this paper are to (1) add this intergenerational dimension to labeling theory, (2) examine this extension of labeling theory with data collected in a well-known London panel study, (3) address earlier methodological problems in tests of labeling theory, and (4) articulate the implications of this structural/imputational perspective for current research initiatives in the United States and elsewhere.

CLASS AND CRIME REPRODUCTION

There are analogues in the literature on occupational stratification to the cultural/characterological and structural/imputational processes outlined above. They are found in respective analyses of intergenerational mobility (e.g., Blau and Duncan 1967) and class trajectories (e.g., Robinson and Garnier 1985). Both of these research literatures include a focus on schooling, for example, with Blau and Duncan attending to the role of schooling in fostering abilities and attitudes that facilitate intergenerational mobility, and Robinson and Garnier considering the ascriptive role of educational credentials in maintaining, reinforcing, and perpetuating class trajectories. The latter focus on schooling anticipates the role of crime-control agencies in the class-based elaboration of labeling theory we develop below.

Howard Becker's (1963) classic formulation of a labeling theory of

deviance begins with the structural premise that deviant behavior is the outcome of interactions between actors and reactors. This premise is developed with a cross-classification of actors' behaviors as obedient or deviant and reactors' perceptions of these behaviors as deviant or non-deviant (p. 20). The implication is that actors' behaviors interact with reactors' responses in producing deviant outcomes; for example, those instances that involve *both* deviant behavior and labeling responses will produce unique patterns of subsequent "pure deviant" behavior. Lemert (1967) makes a related point in distinguishing between primary and secondary deviance. Secondary deviance is unique in that it is the hardened product of the interaction of deviant behavior on the part of the actor and the labeling responses of reactors. Tannenbaum (1938) goes further in temporally specifying this labeling process, arguing that initial occurrences of these interactions are particularly important and constitute "dramatizations of evil" that establish enduring deviant behavioral tendencies.

Note that these formulations involve interaction in both its statistical and social meanings. Indeed, these formulations imply higher-order statistical interactions that make full-blown deviant careers contingent on the joint occurrence of deviant activities and labeling responses at early points in the sequence of behavioral careers. Higher-order interactions of this kind are rarely predicted by sociological theories.

Nonetheless, modern formulations of labeling theory are oddly silent on a further contingency: the occurrence of labeling across generations. This silence is surprising because George Herbert Mead (1918) anticipated a focus on not only intergenerational labeling but also the notion of class reproduction in his early article "The Psychology of Punitive Justice." Mead called attention to the inconsistency of what we today call labeling and deterrence theories and to the potential consequences of the indiscriminate use of legal sanctions. In doing so, the father of symbolic interactionism encouraged a structural perspective on the intergenerational effects of legal sanctioning, writing that "a system of punishments assessed with reference to their deterrent powers not only works very inadequately in repressing crime but also preserves a criminal class" (p. 583). Mead was concerned that our system of legal sanctions provides few if any mechanisms for the revocation of the stigma involved in criminal proceedings. The implication of Mead's analysis is that crime is concentrated across generations in a permanent class of criminals.

Mead's concern about a permanent criminal class focuses attention on processes of intergenerational labeling and suggests the possibility of a further contingency in labeling theory, namely, that deviant behaviors that meet labeling responses early in a behavioral career may be most likely to lead to subsequent deviant behavior when the actor is the child

of parents who are also labeled deviant. Said more simply, labels may be most likely to affect the behavior of adolescents when they are imposed in the context of a family that has previously been labeled deviant. In the test of labeling theory we present below, we use this intergenerational interaction effect of parent and child labeling as a focal point in our analysis.

THE LONDON DATA

The data base we reanalyze below was developed and analyzed originally by West and Farrington (1977; see ICPSR 1987). It consists of prospective longitudinal data collected on boys through surveys and interviews and from official records, beginning in 1961–62 when the boys were eight to nine years old and living within a one-mile radius of a research office in a working-class area of London. Additional retrospective data were collected on the parents. The boys were interviewed at ages of about 8, 10, 14, 16, 18, 21, and 24. The study began with 411 boys and maintained 389 of this sample until about age 18. An approximately equal number of convicted and randomly selected unconvicted youths were interviewed at age 21, yielding a wave of 218 respondents. The sampling strategy became more restrictive beyond this point, and our analysis therefore stops at age 21.

West and Farrington analyzed many of these data, and the results are widely cited in policy proposals that affect government responses to crime and criminological research, in the United States as well as in Great Britain (see, e.g., Farrington, Ohlin, and Wilson 1986; Program on Human Development and Criminal Behavior 1988). Yet the results of West and Farrington's early research vary from the interpretation most frequently given the data today.

Early in their research, West and Farrington (1977, p. 118) utilized a three-variable cross-tabulation to identify an interaction between adolescent self-reported delinquency and parental conviction on the conviction of adolescents. West and Farrington subsequently were concerned not only about the possible labeling effects of adolescent conviction but also with the possibility that such effects might be spurious, so they matched convicted and unconvicted adolescents on past self-reported delinquency and other variables (including parents' convictions) in a post-factum fashion to see whether there was a labeling effect of adolescent conviction that subsequently resulted in increased self-reported delinquent behavior (see West and Farrington 1977, chap. 7; see also Farrington 1977). Since the post-factum matching used by West and Farrington is a foundation for further discussion below, we report their own detailed description of their

procedures. The matching analysis described is the most extensive of several they report. They write that

convicted youths were matched with others, not only on self-reported delinquency rankings at fourteen, but also according to two other independent indices of delinquency potential. They were matched according to whether or not they fell into the quarter of the sample who were rated most troublesome in behavior on the combined opinions of teachers and peers, and also according to whether or not they were in the group identified as having a high risk of delinquency on the basis of a combination of five predictive background factors isolated in previous work (see West and Farrington 1973, p. 131). These five factors were large families, low income, criminal parents, low IQ and poor parental behavior. Only 48 youths, out of the original 53 [matched previously], could be matched on both of these new criteria as well as on the self-reported delinquency score at fourteen (within 10 points of difference). . . . At age eighteen, the difference in average percentile rankings [of self-reported delinquency] of these 48 pairs of youths, who had been more meticulously matched at fourteen, was even more obvious than before, the unconvicted youths scoring an average of 48.4 and the convicted youths scoring 69.1. [West and Farrington 1977, p. 130]

These results seemed to provide preliminary evidence for a labeling theory of deviance.

However, West and Farrington's mode of analysis left key issues that we pursue below unexplored and/or unsettled, and in the end West and Farrington seem doubtful of their results, favoring instead a cultural/characterological explanation of their findings. They write in the final chapter of their book *The Delinquent Way of Life* that their findings "vindicate the concept of delinquent character" (p. 160) and conclude that

evidently, a constellation of adverse features of family background (including poverty, too many children, marital disharmony and inappropriate child rearing methods) among which parental criminality is likely to be one element, leads to a constellation of antisocial features when sons reach the age of eighteen, among which criminality is again likely to be one element. Young delinquent adults, by their irresponsibly hedonistic attitudes and ineffectual methods of coping with social demands, tend to recreate for their own children the same undesirable family environments, thus perpetuating from one generation to the next a range of social problems of which delinquency is but one symptom. [West and Farrington 1977, p. 161]²

² West and Farrington's conclusions echo the observations Henry Mayhew made more than a century earlier, in *London Labor and the London Poor*, that, "thousands of our felons are trained from their infancy in the bosom of crime; a large portion of them are born in the homes of habitual thieves and other persons of bad character, and are familiarized with vice from their earliest years" (1862, p. 272). This conception of a dangerous, criminal class that is concentrated and reproduced across generations is highly durable.

This cultural/characterological interpretation of the original findings from the London study sets a base for Farrington's more recent work on the prediction of individual crime rates (1987) and age and crime (1986a). This work uses official measures of delinquency without correction for labeling effects, and cultural/characterological premises form a backdrop for Farrington's collaboration in highly influential proposals for the future of public and private funding of crime research in America (see, e.g., Farrington et al. 1986). These proposals subordinate labeling issues to other elements in an evolving research agenda.

For example, Blumstein, Farrington, and Moitra (1985) introduce a recent analysis of "Delinquency Careers" by acknowledging the early findings of Farrington (1977) that delinquent behavior increases after official processing. However, they then suggest that "the rise in the recidivism probability could reflect the weeding out at the early stages of those individuals with a low propensity for involvement in crime, leaving a residue more richly populated by those with an appreciably higher crime-committing propensity" (Blumstein et al. 1985, p. 207). This cultural/characterological interpretation then becomes the premise for an analysis of "desisters" and "persisters" in delinquency, using official convictions as outcome measures. This modeling exercise provides no means for distinguishing cultural/characterological from structural/imputational sources of subsequent delinquent behavior, and the results of this exercise are linked to a research and policy agenda that focuses on changing families and adolescents, while ignoring the role that agents of the state may play in creating a criminal class.

UNRAVELING THE RESEARCH PROBLEM

It is worthwhile reconsidering, then, West and Farrington's (1977) earlier analysis of the London data. The initial movement from cross-tabulations to matching procedures had a limiting effect on subsequent work. Farrington (1983, pp. 263-65) himself notes that such matching procedures can control only a limited subset of potentially extraneous variables, that they are inefficient in relying on subsamples of matched cases, that they therefore can produce problems of sample selection, and that they are generally not useful in exploring interaction effects and other multivariate causal processes. This may be the source of West and Farrington's ambivalence about their early findings because the problems listed above are all present in the original analysis of the London data. Only a limited number of variables can be accommodated in the post-factum matching, and only a selected subsample of unknown representativeness can be matched on these variables. In addition, the matching procedure masks the interaction of parental and child labeling (by matching adolescents on

parental convictions) that is central to an elaborated version of labeling theory. Similarly, this matching procedure prevents consideration of the relative main effects of cultural/characterological and structural/imputational factors (i.e., by matching on some of the former factors and allowing only one of the latter factors to vary).

We use Poisson models and ordinary least squares (OLS) regressions to conservatively estimate the effects of structural/imputational factors relative to cultural/characterological factors in producing delinquency in three waves of the London data. The intergenerational interaction effect emphasized in our elaboration of labeling theory above is a key component of these models. A factoring procedure proposed by Hayduk and Wonnacott (1980) is used to provide a meaningful interpretation of this intergenerational interaction. This interaction is of particular importance because it establishes a clear mechanism by which a criminal class can become an increasingly restricted group across generations, a process that particularly concerned Mead.

The methods of analysis described above and below, the unique longitudinal properties of West and Farrington's London panel, and the range of variables available in this data set also provide an important opportunity to address long-standing uncertainties about labeling theory. While some studies have reported increases in delinquent behavior after labeling experiences of charging or conviction (e.g., Gold and Williams 1969; Gold 1970; Ageton and Elliot 1974; Klein 1974), others have questioned the causal linkage implied by this correlation and proposed by labeling theory (e.g., Hagan 1973; Gove 1980; Wellford 1975). The common concern in this research literature is with the quality of controls for preexisting background differences and/or propensities.

The conventional response to this issue, of course, is to measure and control potentially extraneous variables with, for example, an OLS estimation procedure. The London data permit measurement and control of more of these variables with an OLS strategy than was possible with data from past research. However, there are further issues that must be addressed to convincingly advance labeling theory. First, we will show that the distribution of delinquent/criminal behavior in some waves of the London panel departs sufficiently from the normality assumed in OLS analyses to call into question the robustness of this approach. Second, there may be unmeasured as well as measured differences in backgrounds and/or propensities that could either jeopardize inferences about the effects of labeling experiences such as conviction or, at least, weaken the fit of the model to the data. Third, analyses of censored populations, such as those who are known to be delinquent (e.g., through self-reports), may be undermined by problems of sample selection bias. The first problem is addressed below by estimating Poisson models. We also suggest a proce-

ture to deal with the second problem and illustrate its application and some of its implications. The third problem is addressed by introducing a correction procedure for sample selection bias that may result from the operation of measured variables in determining the formation of subgroups of known delinquents. These procedures provide new means of addressing perennial issues in the labeling literature.

CONCEPTS AND INDICATORS

The London panel is particularly well suited to address inter- as well as intragenerational issues because it combines data collected retrospectively on parents with data collected prospectively on their sons. More specifically, this panel includes data on the backgrounds and labeling experiences of parents and sons and, in the case of sons, on their behaviors from an early age to adulthood. These measures are necessary to meaningfully estimate the intra- and intergenerational effects of labeling experiences on subsequent behaviors, including juvenile delinquency and adult criminality, net of differences in backgrounds and/or propensities. The measures of these variables we discuss next are summarized in table 1.

Conviction and self-report delinquency/crime (depending on age of subject at the time of interview) measures are available for four waves of the survey that concern us, with subjects at ages 14–15, 16–17, 18–19, and 21–22. These measures are crucial to our estimation of the intra- and intergenerational labeling effects that are the structural/imputational sources of the reproduction of a criminal class described above. The conviction measures are binary (0, 1 or more), with the measure of parents' convictions temporally fixed in terms of whether either parent was convicted before the son was 10, and with the measure of son's convictions time dependent and cumulative to ages 14–15, 16–17, and 17–18.³ These are our respective measures of the labeling of parents and sons. Our interest is in whether these conviction measures of labeling experiences have effects on future delinquency and crime net of cultural/characterological measures of background differences and/or propensities. Since some of the measures of these differences may be the result of labeling experiences prior to those measured in this panel, our approach to the control of cultural/characterological influences in estimating structural/

³ The conviction and self-report delinquency measures discussed here and below were keyed to age at time of interview to assure that they were contemporaneous and that the integrity of time sequences was preserved. The conviction data for sons and parents derive from searches at the central Criminal Record Office in London (see ICPSR 1987).

TABLE 1
DESCRIPTIVE STATISTICS FOR LONDON SAMPLE

	X	SD
Parents' labeling:		
Parent convicted before son 10 (1 = parent convicted as juvenile or adult) .....	.25	.44
Parents' background:		
Father lost parent before 16 (2 = father lost parent)	1.23	.42
Mother lost parent before 16 (2 = mother lost parent)	1.33	.47
Father impoverished in childhood (2 = father was impoverished) ...	1.25	.44
Mother impoverished in childhood (2 = mother was impoverished) .	1.16	.37
Son's labeling, son convicted at:		
14-15 (1 = convicted) .....	.12	.32
16-17 (1 = convicted) .....	.20	.40
18-19 (1 = convicted) .....	.39	.49
Son's background/behavior:		
Family size at 8-9 (0-5 or more)	3.33	1.57
Family income at 8-9 (1 = comfortable; 2 = adequate; 3 = inadequate)	1.91	.72
IQ on progressive matrices at 8-9 (raw scores)	97.15	13.93
Father parenting score at 8-9 (1-4, good to poor)	2.03	1.15
Mother parenting score at 8-9 (1-4, good to poor)	2.13	1.01
Rating by teacher at 8-9 (1 = good; 2 = average; 3 = naughty) ...	2.02	.67
Conduct rating at 8-9 (1-3, well behaved to very badly behaved) ...	1.42	.73
Broken home before 10 (1 = intact; 2 = broken by death; 3 = broken otherwise)	1.19	.55
Parental supervision at 10-11 (1-3, good to poor)	1.96	.63
Rating as troublesome by peers at 10-11 (1-4, least to most troublesome)	2.42	1.01
Housing dilapidated at 14-15 (1 = dilapidated)	1.11	.32
Friends delinquent at 14-15 (1-4, least to most delinquent)	2.55	1.09
Self-reported cumulated delinquency at:		
14-15 (1 = delinquent) .....	.53	.50
16-17 (1 = delinquent) .....	.65	.48
18-19 (1 = delinquent) .....	.85	.35
Self-reported cumulated delinquent acts at:		
14-15 (number of different delinquent acts)	1.05	1.38
16-17 (number of different delinquent acts)	1.35	1.52
18-19 (number of different delinquent acts)	2.74	2.25
Self-reported delinquent acts at:		
16-17 (number of different delinquent acts reported to 16-17, within wave number thereafter)	1.39	1.51
18-19 .....	.70	1.00
21-22 .....	.85	1.12

imputational effects necessarily is conservative. This estimation is also conservative because our measures of cultural/characterological factors are quite extensive—more extensive than any previous test of labeling theory that we can find. These measures also have the advantage of being temporally marked within the panel. For example, the London data include binary measures of whether the fathers or mothers themselves lost parents before age 16 and of whether the fathers or mothers were impoverished in childhood. These measures could capture the inheritance of the culture of poverty. A number of measures are also included that mark the sons' nuclear family experiences, including family size, income, and mother and father parenting scores that were assessed when the sons' ages were between eight and nine. Measures are also included that show whether the family's home was broken before age 10 and the amount of parental supervision at ages 10 through 11. There is a measure as well that indicates whether the housing in which the family resided when the son was 14–15 was "dilapidated."

We move next to what could be regarded as characterological as distinct from cultural measures, although we are not committed to this distinction. These include progressive matrices test scores of IQ taken at eight to nine years of age. Ratings by teachers and ratings of conduct from this period are also included. Peer ratings of the sons in terms of troublesomeness and measures of the son's friends as delinquent were taken at ages 14–15. Finally, we come to the self-report delinquency and crime measures.

Many different self-report delinquency/crime measures were included in the waves of subjects from 14 to 22 years of age. However, seven nearly identical items are found in each of these waves. They include shoplifting, breaking and entering, stealing from cars, stealing cars for joyriding, damaging property, stealing from machines, and involvement in fights.⁴ Beginning at ages 14–15 when these measures were first applied, we include a binary, cumulative measure of whether any delinquent acts included in this scale occurred. Next we include a cumulative measure of how many different forms of these scale behaviors occurred. (These measures reflect participation in and incidence of self-reported delinquency, respectively [see Blumstein, Cohen, and Farrington 1988], which together capture any nonlinearity in the effects of past behavior that may accompany this distinction.) Varying the content of the self-reported measures across waves makes little difference in the estimation of labeling effects reported below. This is demonstrated below when a self-report measure based on 38 different kinds of acts is included.

⁴ These measures can be located easily in ICPSR (1987, pp. xvii–xxxv).

Our dependent variable consists of the number of different delinquent/criminal acts reported for subjects up to 16–17, between 16–17 and 18–19, and between 18–19 and 21–22 years of age. The same seven items indicated above are included as measures of self-reported delinquency/crime across the waves of the panel. Values of this variable range from 1 to 7, indicating how many of the seven kinds of delinquency were committed one or more times.

ANALYTIC STRATEGY

Our analysis first assesses the effects on the three wave-specific dependent measures of self-reported delinquency/crime (as described above) of (1) self-reported delinquency/crime measured cumulatively in binary and discrete form through the respective preceding waves, (2) the binary parent and son labeling measures through the same preceding waves, and (3) the cultural/characterological measures described above. These wave-specific analyses provide estimates of the *main* effects of the structural/imputational and cultural/characterological variables we have considered.

Above, however, we emphasized the theoretical importance of the intergenerational interaction effect that involves the labeling of parents and sons. This interaction effect is operationalized in each of the three waves of subjects from 14 through 19 years of age by multiplying the binary measures of parent and son conviction. As noted above, the existence of this interaction is important as a reflection of the kind of intergenerational process that Mead (1918) describes as resulting in a permanent class of criminals. Partial derivatives (Stolzenberg 1980) and equally rigorous (but computationally simpler) grouped effect coefficients (Hayduk and Wonnacott 1980) can be used to further the interpretation of interaction effects within a multiple-regression framework.

The grouped-effects approach is diagrammed in figure 1 as a causal model of the intergenerational interaction of parent and son's labels on self-reported acts of delinquency (for purposes of simplicity, the additional main effects considered in the structural equation models we estimate below are not included in this diagram). This diagram illustrates the main and interaction effects of parent and son's labeling on self-reported delinquency, with the notations indicating how the effect, for example, of son's labeling operates through *both* the effect coefficient for son's labeling *and* the effect coefficient for the interaction of parent and son labeling times the value of parents' labeling assumed for the purpose of estimation. Put differently, this diagram illustrates that the magnitude of the effect of whether sons have been labeled on self-reported delinquency is conditional on whether a parent has been similarly labeled. (This of

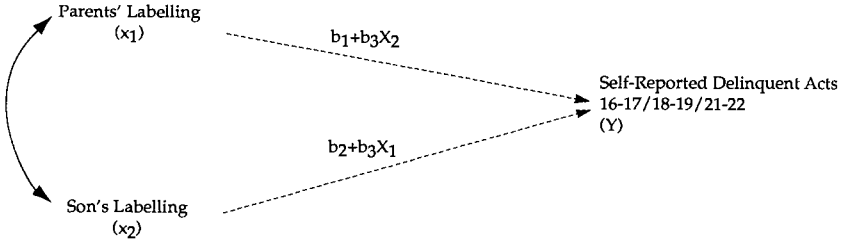


FIG. 1.—Causal model of intergenerational interaction effect on self-reported delinquency in three waves.

course assumes that a statistically significant interaction is being observed.)

In many instances, the grouped-effects approach can simply be incorporated within an OLS regression approach. However, we warned above that our dependent variable violates the distributional assumptions of OLS regressions. The distribution of self-reported delinquency is non-negative, discrete, and strongly asymmetric. Although the robustness of OLS procedures may overcome this problem, an alternative to OLS regression is to assume the existence of a Poisson process. The Poisson model includes a testable assumption that is important in the context of the labeling debate, namely, that the rate of self-reported delinquency is the same across the population considered. This assumption of population homogeneity violates cultural/characterological premises. If, as the cultural/characterological perspective suggests, there are substantial differences within adolescent populations in propensities for self-reported delinquency, this should be reflected in models showing a poor fit when the Poisson distribution is used. In particular, the expected distribution should be too thin in the upper tail, underestimating the proportions of individuals with higher numbers of self-reported offenses. If this is the case, the assumption of population homogeneity can be removed. In its place we can assume the existence of measured and unmeasured population heterogeneity that follows a known, fully parametric distribution; we can then explicitly estimate the parameters of this distribution. Nested models can be compared, assuming homogeneity and measured and unmeasured heterogeneity, with important implications for cultural/characterological premises. These models also can be compared informally with those based on OLS estimates so that we may determine the extent of misrepresentation in the OLS approach. A more detailed rendering of the Poisson model and our use of it is provided in the Appendix.

Finally, we noted above that higher-order interactions are predicted by labeling theory, including interactions of labeling experiences with stage

of career and involvement in deviant behavior. These higher-order interactions are explored below by comparing labeling effects across waves of the study and by splitting the sample within waves into respondents who previously did and did not self-report delinquency on the seven-item scale. Self-reported delinquents may well be different from those adolescents who report no delinquency, making comparisons across these groupings liable to problems of sample selection bias. To address this problem, we incorporate below a sample selection procedure (see Heckman 1979; Berk 1983) to model first the process of becoming a self-reported delinquent (i.e., the issue of participation in delinquency; see Blumstein et al. [1988]) and second the effects of variables of interest on discretely measured involvement in self-reported delinquency (i.e., the issue of incidence). This correction for sample selection provides one more means of testing the premise that labeling effects estimated below are not simply the product of differences that predate the application of the labels of interest through selection into a pool of active delinquents.

THE ANALYSIS

The first wave at which we estimate labeling and other effects involves self-reports of delinquency at 16–17 years of age and earlier. This is the first wave of the panel in which both conviction and self-reports of past behaviors are available for an analysis of self-reported delinquency as the outcome measure. The OLS regression models are estimated first, followed by the Poisson models. Two models are estimated in each case: the first includes all the main effects of the structural/imputational and cultural/characterological variables described above; the second adds the intergenerational interaction effect emphasized above. We have a particular interest in determining the main and interaction effects of parents' and sons' labeling experiences on current self-reported delinquency, net of the 18 cultural/characterological variables specified in these equations, including prior measures of self-reported delinquency and behavioral problems at school and elsewhere.

The results of estimating the OLS equations at 16–17 years of age are presented in table 2. The first column in table 2 reports the simple bivariate correlations between the structural/imputational and cultural/characterological variables and self-reported delinquency at 16–17. These results reveal that past parent and son convictions as well as many of the cultural/characterological variables (family size, income, IQ, ratings by teachers, conduct ratings, broken home, parental supervision, peer ratings, friends' delinquency, and self-reported delinquency) are correlated significantly with self-reported delinquency. The strongest of these correlations is between the number of different delinquent acts

TABLE 2

REGRESSION OF SELF-REPORTED DELINQUENT ACTS AT 16-17 ON MEASURES OF PARENTS' LABELING AND BACKGROUND,
SON'S LABELING AND BACKGROUND, AND INTERGENERATIONAL LABELING

VARIABLE	r	EQUATION (1)			EQUATION (2)		
		b	SE	B	b	SE	B
Parents' labeling:							
Parent convicted before son 10 .....	.22**	.37	.16	.11*	.10	.17	.03
Parents' background:							
Father lost parent before 16	-.01	.00	.16	.00	.04	.16	.01
Mother lost parent before 16 .....	.05	.11	.14	.03	.09	.14	.03
Father impoverished in childhood	-.03	-.09	.15	-.03	-.10	.15	-.03
Mother impoverished in childhood	-.02	.19	.18	.05	.20	.18	.05
Son's labeling:							
Son convicted at 14-15 .....	.32**	.79	.22	.17**	.13	.26	.03
Son's background and behavior:							
Family size at 8-9 .....	.12**	-.02	.05	-.02	-.02	.05	-.02
Family income at 8-9 .....	.11**	.12	.10	.06	.08	.10	.04
IQ on progressive matrices at 8-9 .....	.14**	.00	.01	-.03	.00	.01	-.02

Father parenting score at 8-9	.03	.06	.02	.00	.06	.00
Mother parenting score at 8-9	.03	.07	-.02	-.02	.07	-.02
Rating by teacher at 8-9	.12**	.11	.01	.08	.11	.04
Conduct rating at 8-9	.10*	.10	.03	.07	.10	.03
Broken home before 10	.07+	.12	.00	.04	.12	.01
Parental supervision at 10-11	.12**	.11	.02	.04	.11	.02
Rating as troublesome by peers at 10-11	.19**	.07	.05	.08	.07	.06
Housing dilapidated at 14-15	.03	.21	-.05	-.27	.21	-.06
Friends delinquent at 14-15	.38**	.08	.08	.16	.08	.11*
Self-reported delinquency at 14-15	.42**	.20	.08	.20	.19	.06
Self-reported cumulated delinquent acts at 14-15	.52**	.07	.34**	.35	.07	.32**
Intergenerational labeling:						
Parents' labeling × son's labeling at 14-15	...	...	...	1.83	.42	.25**
Intercept	.13	...	...	.03		
R ²	.33	...	...	.36		

+ $P < .10$ (.05 one-tailed).

* $P < .05$.

** $P < .01$.

reported at ages 14–15 and the number reported at ages 16–17. The latter variable overlaps the first in coverage, so even though they are measured independently in successive waves, the strong correlation is unsurprising. We eliminate the effect of past behavior on current behavior and estimate the effects of other variables of interest by regressing self-reported delinquency measured at wave 2 on self-reported delinquency measured at wave 1 along with the other variables of interest (see Bohrnstedt 1969). The results of doing so are reported in the next three columns of table 2, where we see that, when all these variables are included in the same structural equation, the effects of all the cultural/characterological variables become nonsignificant, except for the number of self-reported delinquent acts recorded in the first wave and the structural/imputational measures of parent and son labeling. So past labeling of parents and sons affects future delinquency, above and beyond both the effects of past delinquency and all the other cultural/characterological measures included in this equation. However, it should also be noted that including the cultural/characterological variables in the first equation does reduce the effects of both parent (from $b = .22$ to $b = .11$) and son (from $b = .32$ to $b = .17$) labeling by approximately half. Given the temporal ordering of the variables involved, this suggests that cultural/characterological variables transmit a substantial part of the effect of parental conviction on the delinquency of sons, thereby also rendering spurious a substantial part of the effect of the conviction on a son's subsequent delinquency. There is evidence here of both structural/imputational and cultural/characterological reproductive processes.

The final columns of table 2 report the results of taking this analysis one step further by including the intergenerational interaction effect of parent and son labeling that we emphasized above. This interaction effect is highly significant, and past delinquency remains significant in this equation. Our interpretation of this interaction is assisted by table 3 and the kinds of grouped-effect equations outlined above. The results of applying these equations (with all the cultural/characterological variables also included) are presented in column 1 of this table. They reveal that the effects of the labeling of parents and sons, net of the other included variables, are highly contingent. When a son and parent are both previously labeled, the effect on delinquency at ages 16–17 is increased by nearly two points on a scale of seven. When only the parent or son is labeled, the increase in delinquency is negligible (.10 and .13, respectively).

However, we emphasized above that unmeasured differences of background and/or propensity as well as departures from OLS distributional assumptions could lead to misleading conclusions. We therefore turn now to the estimation of the Poisson models and to an illustration of the effects

TABLE 3
EFFECTS OF INTERGENERATIONAL INTERACTIONS WITHIN WAVES*

	With Sample Undivided on Prior Self-reported Delinquency	When Son Is Self-reported Delinquent at 14-15	When Son Is Not Self-reported Delinquent at 14-15
Total effect of labeled parent when son is unlabeled . . . . .	.10	.25	.03
Total effect of labeled parent when son also is labeled	1.93	1.80	.47
Total effect of labeled son when parent is unlabeled . . . . .	.13	.56	.04
Total effect of labeled son when parent also is labeled	1.96	2.11	.48

* With cultural/characterological variables included in the equation. The variables in this table are all 0/1 binary variables. Values in each row are calculated by adding the estimated effect of the first specified variable, plus the product of the interaction effect and the value of the corresponding interaction term. Values calculated at 16-17 years of age.

of the introduction of unmeasured heterogeneity (see the Appendix for a detailed explanation of these models). Results from Poisson models analogous to the OLS models just considered are presented in table 4. This table displays the estimated parameters for Poisson models with and without controls for unmeasured heterogeneity (parts A and B, respectively). The estimates appear in their original scale, so they represent relative changes in a baseline rate attributable to a unit change of the independent variables; for example, in the first column of part A in table 4, the effect of parental labeling is .24; this implies that an adolescent whose father was convicted is characterized by a mean number of self-reported offenses that is 24% larger than the offenses self-reported by an adolescent whose father was not convicted.

The most revealing way to compare the OLS and Poisson results is with the display of the observed and expected distributions of self-reported delinquent acts at ages 16-17. These are presented in table 5 for the linear and Poisson models we have estimated. As noted earlier, the observed proportions reported first in table 5 reveal a nonnegative, discrete, and strongly asymmetric distribution. This distribution is substantially different from that expected under the normal (OLS) linear model. In particular, note that the expected distribution under the linear model does not capture the asymmetry of the observed distribution and is also too thin in the upper tail. This is as the cultural/characterological perspective predicts: the linear model underestimates the proportions of individuals self-reporting the higher numbers of delinquent acts; that is, it underestimates the effects of unmeasured heterogeneity in producing

TABLE 4

POISSON MODELS OF SELF-REPORTED DELINQUENT ACTS AT 16-17 ON MEASURES OF PARENTS' LABELING AND BACKGROUND, SON'S LABELING AND BACKGROUND, AND INTERGENERATIONAL LABELING, WITH AND WITHOUT CONTROL FOR UNMEASURED HETEROGENEITY^a

VARIABLE	EQUATION (1)		EQUATION (2)	
	<i>b</i>	SE	<i>b</i>	SE
A. Without control for unmeasured heterogeneity:				
Parents' labeling:				
Parent convicted before son 10 . . . . .	.24**	.10	.10	.88
Son's labeling:				
Son convicted at 14-15 . . . . .	.36**	.12	.09	.17
Intergenerational labeling:				
Parents' labeling × son's labeling . . . . .	...	...	.58**	.24
Constant	-.87	.50	-.93	.50
-2 Log likelihood	1,118		1,111	
<i>df</i>	369		368	
B. With control for unmeasured heterogeneity:				
Parents' labeling:				
Parent convicted before son 10 . . . . .	.23**	.11	.10	.12
Son's labeling:				
Son convicted at 14-15 . . . . .	.36**	.14	.09	.18
Intergenerational labeling:				
Parents' labeling × son's labeling at 14-15 . . . . .	...	...	.58**	.28
γ	2.86**	1.13	3.22**	1.65
Constant . . . . .	.42	.55	.40	.53
-2 Log likelihood	1,117		1,111	
<i>df</i>	368		367	

^a Effects of measured covariates are not presented but are included in these models, as in table 2, as controls.

** *P* < .01.

individuals with high rates of delinquency. The Poisson model with no control for unmeasured heterogeneity better reflects the asymmetry of the observed distribution but still underestimates the high-rate offenders, while the Poisson model with a control for unmeasured heterogeneity best reflects this asymmetry and more accurately reproduces the upper tail of the observed distribution. An index of dissimilarity is calculated in each case to compare the expected distributions with the observed distributions. These dissimilarity scores are reported at the bottom of table 5, indicating that while only 7% of the cases under the Poisson model with

TABLE 5

OBSERVED AND EXPECTED DISTRIBUTIONS OF SELF-REPORTED DELINQUENT ACTS AT 16-17 FOR LINEAR AND POISSON MODELS

Number of Self-reported Delinquent Acts	Observed Proportion	Normal Linear Model	Poisson Model with Heterogeneity Uncontrolled	Poisson Model with Heterogeneity Controlled
0	.36	.18	.25	.35
1	.31	.24	.35	.29
2	.12	.24	.24	.18
3	.11	.21	.11	.10
4	.05	.10	.04	.10
5	.04	.03	.01	.02
6	.02	.00	.00	.01
Index of dissimilarity ..	...	.27	.16	.07

heterogeneity controlled would have to be redistributed to match the observed distribution, 16% of the cases under the Poisson model with heterogeneity uncontrolled and 27% of the cases under the linear model would have to be redistributed to achieve this match.

These findings offer some preliminary support for using the Poisson model and the connected cultural/characterological suggestion that unmeasured heterogeneity accounts for labeling effects. However, results in the first and second parts of table 4 indicate that the introductions of the Poisson model and the parametric distribution to model unmeasured heterogeneity are inconsequential in the first wave. The effects of parental and son labeling in equation (1) are still significant, and, when the interaction effect is added in equation (2), this interaction effect is significant and the main effects are reduced below significance, just as they were in the OLS estimation presented in table 2. The implication is that the OLS procedures are robust enough to overcome the violation of distributional assumptions, at least in the first wave, and it is advantageous to use OLS regressions in the estimation of selection bias for the first wave below. However, Poisson models provide parallel but slightly different results from OLS models in subsequent waves, and therefore only Poisson results are presented for these later waves. Meanwhile, all the models estimated thus far have confirmed the central point that there is indeed an intergenerational interaction effect of parental and son labeling on subsequent delinquent behavior; this is consistent with a Meadian version of labeling theory and with a structural/imputational explanation of the

reproduction of what Mead was concerned could become a permanent criminal class.⁵

Recall, however, that the intergenerational version of labeling theory we have proposed also does not assume passive innocence on the part of these sons. We have seen that past delinquency has a strong main effect on future delinquency, and in table 6 and the last two columns of table 3, we pursue this effect further by making self-reported delinquency on the seven-item scale at ages 14–15 a source of a higher-order interaction in the effect of intergenerational labeling on self-reported delinquency at ages 16–17. Table 6 and the last two columns of table 3 make clear that such a higher-order interaction does indeed occur, in that the intergenerational interaction effect of parent and son convictions is almost entirely contingent on a son's having previously been delinquent: in table 6 we see that this interaction effect is strong and significant among prior self-reported delinquents ($b = 1.55$, $P < .01$) and nonsignificant among those not previously self-reported delinquent on the seven-item scale ($b = .44$, $P > .10$). A t -test reveals that this difference is statistically significant. Further, we see in the last two columns of table 3 that this intergenerational effect reaches its highest level among those with a history of delinquency, as transmitted by labeled sons when their parents are also labeled. Under these conditions, self-reported delinquency is increased by more than two points (2.11) on the seven-point scale.

Before offering further interpretation of these effects, we turn to the Poisson models of the later two waves of the panel study that take us to adulthood and therefore to adult criminality. These results are presented in tables 7 and 8 at 18–19 and 21–22 years of age, respectively. As Tannenbaum's (1938) early statement of labeling theory predicted, the intergenerational interaction effect of parent and son convictions is weaker in these later waves: it is weak and nonsignificant at ages 18–19 and only slightly stronger and marginally significant at ages 21–22. The main effect of son's convictions is more substantial and statistically significant at 18–19, and the effects of self-reported past delinquency are significant in binary and cumulative form at 18–19 and 21–22 years of age,

⁵ As explained in the Appendix, the nature of our dependent variable (number of different self-reported delinquent behaviors) limits the range of choices available to model unmeasured heterogeneity. The implication of this is that, although our use of Poisson models can and in fact does change the magnitude of some estimated coefficients, the strategy that we follow and report to incorporate unmeasured heterogeneity cannot markedly alter the sign or magnitude of the estimated coefficients, even when it increases the goodness of fit of the expected distribution. This means that our findings cannot completely rule out the possible existence of effects produced by unmeasured propensities that are related to some or all of our measured covariates, even though the burden of evidence makes this possibility unlikely. This point is discussed further in the Appendix.

respectively. These findings are consistent with a process by which the intergenerational effects of labeling are passed across generations and cumulate in the form of continuing delinquent and criminal behavior within a concentrated group.

The final part of our analysis addresses the possibility that the intergenerational labeling effect found above for the wave of adolescents who, at 16–17 years of age, were previously delinquent was the product of the selection of particular kinds of adolescents into the previously delinquent population. To address this possibility we incorporate a correction for sample selection bias proposed by Heckman (1979) that first involves modeling participation in delinquency using a probit procedure and, second, includes information in the form of a correction term (λ) from this model to reestimate incidence of different kinds of delinquency among those who have committed at least one delinquent act. The results of applying this procedure in tables 9 and 10 indicate that the effect of the intergenerational interaction of parent and son convictions on subsequent delinquency is not the product of sample selection bias. This effect is robust in withstanding the controls for 18 cultural/characterological variables, a self-report delinquency measure based on 38 different kinds of prior delinquent acts, and the correction for sample selection just noted. We are now in a position to discuss these results and to offer some conclusions.

DISCUSSION AND CONCLUSIONS

There is a risk that we have come full circle in the last half-century of crime research without taking full benefit of the lessons of this research and reactions to it. Among the most ambitious American undertakings in the postwar study of crime and delinquency were the longitudinal studies conducted at Harvard University in the 1940s and 1950s by the Gluecks (e.g., Glueck and Glueck 1950). This research pioneered the study of delinquent and criminal “careers,” using what was often called a multifactor approach. Although this work was eclectic, it emphasized the family and its role in the causation of delinquency and subsequent crime. A central thesis of this work was that failures in parenting produced character problems in children that led ultimately to delinquency and crime. An implication of this work was that there was a class of criminals that was the product of what we have called a cultural/characterological process of crime reproduction.

Among the reactions to this work was the emergence of a labeling theory of deviance and what often is called the “neo-Chicagoan school” (see Matza 1969). Although this theory was anticipated early in this century in the writings of George Herbert Mead (1918), it received its most

TABLE 6

REGRESSION WITHIN PREVIOUSLY DELINQUENT AND NONDELINQUENT SUBSAMPLES OF SELF-REPORTED DELINQUENT ACTS AT 16-17 ON MEASURES OF PARENTS' LABELING AND BACKGROUND, SON'S LABELING, SON'S BACKGROUND AND BEHAVIOR, AND INTERGENERATIONAL LABELING

VARIABLE	SELF-REPORTED DELINQUENTS AT 14-15 (7-ITEM MEASURE)			SELF-REPORTED NONDELINQUENTS AT 14-15 (7-ITEM MEASURE)		
	r	b	SE	r	b	SE
Parents' labeling:						
Parent convicted before son 10 .....	.25**	.25	.27	.07	.03	.21
Parents' background:						
Father lost parent before 16 .....	.04	.12	.26	.03	-.15	.18
Mother lost parent before 16 .....	.08	.15	.23	.04	.17	.16
Father impoverished in childhood	-.02	.06	.25	.02	...	...
Mother impoverished in childhood	-.02	.16	.29	.03	.16	.21
Son's labeling:						
Son convicted at 14-15 .....	.34**	.56	.38	.13	.04	.37
Son's background and behavior:						
Family size at 8-9 .....	.07	-.09	.08	-.08	.04	.05

Family income at 8-9	.08	-.00	.17	-.00	.15*	.23	.12	.16+
IQ on progressive matrices at 8-9	.09+	.00	.01	.03	.05	-.00	.01	-.02
Father parenting score at 8-9	.17*	.14	.11	.10	-.14*	-.14	.07	-.17*
Mother parenting score at 8-9	.08	.00	.11	.00	-.05	-.06	.08	-.06
Rating by teacher at 8-9	.07	-.02	.18	-.01	-.11+	.12	.14	.08
Conduct rating at 8-9	.07	.03	.16	.01	.08	.17	.12	.12
Broken home before 10	.05	.08	.19	.03	.02	-.03	.16	-.02
Parental supervision at 10-11	.12*	-.04	.19	-.01	.03	-.16	.13	-.10
Rating as troublesome by peers at 10-11	.12*	.06	.11	.04	.11+	.10	.08	.10
Housing dilapidated at 14-15	.03	-.06	.34	-.01	-.04	-.36	.26	-.11
Friends delinquent at 14-15	.24**	.08	.14	.05	.14*	.09	.10	.08
Self-reported cumulative acts at 14-15 (38 items)	.37**	.50	.15	.26**	.23**	.28	.11	.22**
Intergenerational labeling:								
Parents' labeling X son's labeling	.42**	1.55	.59	.25**	.08	.44	.82	.05
Intercept		-1.10				-.00		
R ²		.29				.16		

* $P < .10$ (.05 one-tailed).

** $P < .05$.

*** $P < .01$.

TABLE 7

POISSON MODELS OF SELF-REPORTED DELINQUENT ACTS AT 18-19 OF PARENTS' LABELING AND BACKGROUND, SON'S LABELING AND BACKGROUND, AND INTERGENERATIONAL LABELING

VARIABLE	EQUATION (1)		EQUATION (2)	
	<i>b</i>	SE	<i>b</i>	SE
Parents' labeling:				
Parent convicted before son 10 . . . . .	.25	.15	.10	.20
Parents' background:				
Father lost parent before 16 . . . . .	.14	.15	.14	.15
Mother lost parent before 16	-.04	.13	-.01	.13
Father impoverished in childhood . . . . .	.19	.14	.18	.14
Mother impoverished in childhood	-.18	.19	-.17	.19
Son's labeling:				
Son convicted at 14-15 . . . . .	.70**	.16	.56**	.20
Son's background:				
Family size at 8-9 . . . . .	.06	.05	.06	.05
Family income at 8-9 . . . . .	.10	.10	.10	.10
IQ on progressive matrices at 8-9 . . . . .	.00	.01	.00	.01
Father parenting score at 8-9 . . . . .	.04	.06	.04	.06
Mother parenting score at 8-9	-.02	.06	-.02	.06
Rating by teacher at 8-9	-.08	.11	-.07	.11
Conduct rating at 8-9	-.18*	.09	-.19*	.10
Broken home before 10 . . . . .	.15	.10	.16	.11
Parental supervision at 10-11	-.03	.11	-.02	.11
Rating as troublesome by peers at 10-11 . . .	-.03	.07	-.03	.07
Housing dilapidated at 14-15 . . . . .	.24	.19	.21	.19
Friends delinquent at 14-15 . . . . .	.12*	.07	.14*	.07
Self-reported delinquency at 16-17 . . . . .	.59*	.20	.63*	.20
Self-reported cumulative delinquent acts at 16-17	-.02	.05	-.04	.06
Intergenerational labeling:				
Parents' labeling × son's labeling at 16-17 . . .	. . .	. . .	.36	.30
Intercept	-2.07		-2.06	
Log likelihood	-227.61		-226.90	

+ *P* < .10 (.05 one-tailed).
 * *P* < .05.
 ** *P* < .01.

articulate and systematic statement during the 1960s, for example, in the work of Howard Becker (1963) and others. This work called attention to the role of the state in producing delinquent and criminal behavior by focusing on reactions to deviance by the police, courts, and others. Mead was concerned that the process of convicting offenders in the interests of deterrence could actually perpetuate what he called a "permanent class of criminals." Mead noted that once individuals are convicted there is a

TABLE 8

POISSON MODELS OF SELF-REPORTED DELINQUENT ACTS AT 21-22 OF PARENTS' LABELING AND BACKGROUND, SON'S LABELING AND BACKGROUND, AND INTERGENERATIONAL LABELING

VARIABLE	EQUATION (1)		EQUATION (2)	
	<i>b</i>	SE	<i>b</i>	SE
Parents' labeling:				
Parent convicted before son 10 .....	.23	.18	-.16	.31
Parents' background:				
Father lost parent before 16 .....	.33*	.17	.35*	.17
Mother lost parent before 16	-.02	.16	-.02	.16
Father impoverished in childhood	-.16	.18	-.15	.18
Mother impoverished in childhood	-.03	.24	-.03	.24
Son's labeling:				
Son convicted at 14-15 .....	.45*	.20	.25	.24
Son's background:				
Family size at 8-9 .....	.06	.06	.06	.06
Family income at 8-9	-.05	.13	-.08	.13
IQ on progressive matrices at 8-9 .....	.01	.01	.01	.01
Father parenting score at 8-9	-.03	.07	-.04	.07
Mother parenting score at 8-9 .....	.01	.08	.00	.08
Rating by teacher at 8-9	-.04	.15	-.01	.15
Conduct rating at 8-9 .....	.10	.11	.09	.12
Broken home before 10 .....	.05	.14	.09	.15
Parental supervision at 10-11 .....	.09	.14	.10	.14
Rating as troublesome by peers at 10-11	-.15	.10 ⁺	-.16	.09
Housing dilapidated at 14-15	-.15	.24	-.18	.24
Friends delinquent at 14-15 .....	.02	.08	.04	.08
Self-reported delinquency at 16-17	-.05	.32	-.02	.32
Self-reported cumulative delinquent acts				
at 16-17 .....	.12*	.04	.11*	.04
Intergenerational labeling:				
Parents' labeling × son's labeling at				
16-17 .....	...	...	.62 ⁺	.39
Intercept	-1.75		-1.73	
Log likelihood	-109.57		-108.22	

⁺ $P < .10$ (.05 one-tailed).

* $P < .05$.

shortage of mechanisms by which they can rid themselves of this stigma. When Mead's thoughts are combined with those of contemporary labeling theorists, they imply the emergence of a class of criminals that is the product of what we have called a structural/imputational process of crime reproduction.

The two processes of crime reproduction that we describe need not be mutually exclusive; they may even be complementary. The early longitu-

TABLE 9

PROBIT-REGRESSION OF SELF-REPORTED DELINQUENCY AT 14-15 ON MEASURES
OF PARENTS' LABELING AND BACKGROUND AND SON'S LABELING,
BACKGROUND, AND BEHAVIOR

Variable	<i>b</i>	SE
Parents' labeling:		
Parent convicted before son 10 .....	.05	.20
Parents' background:		
Father lost parent before 16	-.03	.18
Mother lost parent before 16	-.38*	.17
Father impoverished in childhood .....	.00	.18
Mother impoverished in childhood .....	.21	.21
Son's labeling:		
Son convicted	-.22	.33
Son's background and behavior:		
Family size at 8-9 .....	.03	.05
Family income at 8-9	-.06	.12
IQ on progressive matrices at 8-9 .....	.01*	.00
Father parenting score at 8-9	-.11	.07
Mother parenting score at 8-9	-.04	.08
Rating by teacher at 8-9 .....	.04	.13
Conduct rating at 8-9 .....	.08	.12
Broken home before 10 .....	.21	.16
Parental supervision at 10-11	-.08	.13
Rating as troublesome by peers at 10-11 .....	.15 ⁺	.08
Housing dilapidated at 14-15 .....	.04	.25
Friends delinquent at 14-15 .....	.81**	.08
Intergenerational labeling:		
Parents' labeling × son's labeling	1.12 ⁺	.60
Intercept	-3.25	.80

⁺ $P < .10$ (.05 one-tailed).

* $P < .05$.

** $P < .01$.

dinal data sets assembled by the Gluecks did not permit an examination of this possibility because they contained no self-report measures that could be used to separate the effects of convictions from actual behaviors—the two were assumed to be identical. However, the London panel developed by West and Farrington allows examination of the possibility that cultural/characterological and structural/imputational processes combine in reproducing a criminal class. West and Farrington began by considering aspects of both processes, but their use of cross-tabulations and post-factum matching procedures limited their analyses and left consideration of the two processes unjoined. In the end, this disjunction was resolved by emphasizing a cultural/characterological interpretation of their findings. For example, in a recent effort to provide a theoretical

TABLE 10
 CORRECTED REGRESSION AMONG SELF-REPORTED DELINQUENTS AT 14-15 OF
 SELF-REPORTED DELINQUENT ACTS AT 16-17 ON MEASURES OF PARENTS'
 LABELING AND BACKGROUND, SON'S LABELING, BACKGROUND, AND
 BEHAVIOR, AND INTERGENERATIONAL LABELING

VARIABLE	EQUATION (1)	
	<i>b</i>	SE
Parents' labeling:		
Parent convicted before son 10 .....	.26	.26
Parents' background:		
Father lost parent before 16 .....	.11	.25
Mother lost parent before 16	-.03	.26
Father impoverished in childhood .....	.08	.23
Mother impoverished in childhood .....	.27	.29
Son's labeling:		
Son convicted at 14-15 .....	.44	.38
Son's background and behavior:		
Family size at 8-9	-.06	.08
Family income at 8-9	-.04	.16
IQ on progressive matrices at 8-9 .....	.01	.01
Father parenting score at 8-9 .....	.08	.11
Mother parenting score at 8-9	-.03	.11
Rating by teacher at 8-9	-.01	.17
Conduct rating at 8-9 .....	.06	.16
Broken home before 10 .....	.18	.20
Parental supervision at 10-11	-.10	.18
Rating as troublesome by peers at 10-11 .....	.15	.13
Housing dilapidated at 14-15	-.09	.32
Friends delinquent at 14-15 .....	.58	.42
Self-reported cumulated delinquent acts at 14-15 .....	.53**	.15
Intergenerational labeling:		
Parents' labeling × son's labeling	2.01**	.70
Lambda	1.25	.96
Intercept	-4.08	1.29
<i>R</i> ² .....	.30	

** *P* < .01 (.05 one-tailed).

interpretation of the London study, Farrington (1986*b*; also Farrington et al. 1986, pp. 58-59) draws on many contemporary viewpoints but *not* on labeling theory.

This neglect of labeling theory is today sustained in one of the most far-reaching research initiatives on crime yet undertaken, the funding of the Program on Human Development and Criminal Behavior (1988) by the John D. and Catherine T. MacArthur Foundation and the U.S. National Institute of Justice. This initiative has much in common with the earlier

undertakings of the Gluecks, in that little attention is given to labeling processes that derive from state involvement in the punishment of crime. The program is designed to act as a clearinghouse for what is acknowledged to be extraordinarily expensive longitudinal research on the study of crime and delinquency. The program's *Prospectus* notes that "projects undertaken under the Program's aegis will be conditioned upon the principal investigator's agreement to use a common core of standard measures to ensure comparability of findings" (1988, p. 7). The characterological focus of this research is reflected in the premise of the *Prospectus* that "an enquiry into the causes of crime is at the same time an inquiry into the causes of general defects in character and behavior. Lessons learned about how to prevent crime will be lessons learned about how to encourage good citizenship" (pp. 1-2).

There is no indication in this *Prospectus* of interest in the principal theme of the labeling tradition and of the findings that derive from our reanalysis of West and Farrington's panel data: namely, that part of the crime problem involves criminal punishments. The findings reported above indicate that there is an intergenerational interaction effect of the labeling of parents and sons on subsequent delinquent and criminal behavior. This effect is concentrated among younger adolescent males who previously have been delinquent. Such higher-order interactions are consistent with the writings of labeling theorists—including Mead (1918), Tannenbaum (1938), Becker (1963), and Lemert (1967)—and the fact that these interactions are observed among working-class males, a group that is probably most liable to encounter stigmatizing labeling experiences.

We have given special emphasis to the intergenerational interaction effect of parent and son labeling because it highlights a reproductive process by which criminality may be increasingly concentrated in a criminal class from which escape is difficult; this was the process that most concerned Mead and that forms a basis for the social reproduction of a kind of criminal class that is much discussed by historians.⁶

This intergenerational labeling process of social reproduction can es-

⁶ More specifically, we have consistently interpreted the intergenerational interaction effect observed as indicating that the effect of labeling sons is contingent on the labeling of parents. Although less theoretically germane, we might also have interpreted this interaction effect as indicating that the effect of labeling parents is contingent on the labeling of sons. However, when we estimated separate Poisson models in subsamples of labeled vs. unlabeled parents, and labeled vs. unlabeled sons, comparisons of the subsample results revealed that the former interpretation was sustained while the latter was not. This approach to the identification of interaction effects is more general in the sense that it allows variation in the other coefficients estimated, and, of course, it is even more specifically supportive of the theoretical prediction derived from Mead's work.

establish a family class trajectory (cf. Wright 1985). By definition, trajectories have momentum and direction, and adolescents convicted in the context of such backgrounds may have too few opportunities to alter the course of their lives through school, work, or other institutions in the community. This was precisely Mead's concern: that, following conviction, exclusionary mechanisms, rather than opportunities for reintegration, are set in motion. Our analysis has moved in the direction of establishing the antecedent conditions of such trajectories, which are neither more nor less important than mechanisms that mediate the momentum of these trajectories within families. However, the latter mechanisms may simply extend the former. For example, in a "stable and traditionally English working-class area" (West 1973, p. 1), where intergenerational labeling is likely to be noticed, the convicted sons of convicted parents are unlikely to encounter or initiate many opportunities to change the trajectories of their lives. Becker (1963, pp. 34-35) writes that "the deviant identification becomes the controlling one" and that in structurally integrated communities the treatment of deviants can restrict and complicate the ordinary means of carrying on "the routines of everyday life," making illegitimate routines more likely. No more may be required in such communities to explain sustained trajectories of delinquency and crime. And as West (1973, p. 1) notes, findings from this English community "are likely to be true for many other similar places."

Meanwhile, this paper also accepts the possibility that cultural/characterological processes are at work in the social reproduction of criminal classes. Indeed, we found evidence that this is the case in the reduction of main effects of labeling variables when cultural/characterological processes are included in estimated equations. So there is no assumption here that labeled delinquents are passive innocents. We also have noted that our estimates of labeling effects remain substantial and significant when cultural/characterological variables are held constant and when different distributional assumptions are introduced through the estimation of Poisson models. Our procedures may still leave room for some confounding of propensities and labeling effects; however, the net labeling effects that we estimate may also be conservative in the sense that some of the cultural/characterological variables entered into our equations may be influenced by earlier and unmeasured labeling processes. Our interpretation of the intergenerational interaction effect as a labeling effect is bolstered further by our controls for 18 cultural/characterological variables, in one instance by including a control for 38 different kinds of self-reported delinquency, and by a further correction for possible sample selection bias. To our knowledge, these controls are more extensive than those used in any

previous tests of labeling theory, and it is not immediately clear how these controls might be improved.

A research initiative with the purpose of establishing uniformity in the form and content of research designs raises the prospect that only specific kinds of research questions will be asked and, therefore, answered. Charles Tittle (1988) recently has noted that the above longitudinal research paradigm has generated findings that could be the result of labeling processes that are not considered in this paradigm. One of these findings is that some kinds of (labeled) offenders seem not to decline, or to decline more slowly, in their offending with age (see Blumstein et al. 1988). Tittle suggests that this result may be an artifact of labeling processes that are uncontrolled in these designs and that amplify criminal behavior among particular offenders. Our findings are consistent with this suggestion, and they therefore call into question research that does not make explicit the potential role of labeling processes in the reproduction of criminal classes in contemporary as well as historical settings. The longitudinal research paradigm, as presently conceived, runs the risk of rediscovering the existence of a criminal class and attributing its presence to "defects of character" when structural/imputational processes involving the state are involved in fundamental ways. There was evidence of this role of state-based sanctions in the early work of Farrington (1977; Farrington, Osborn, and West 1978), but this evidence was largely set aside and is lost from view in the evolution of the larger longitudinal research paradigm.

As we have demonstrated with the London panel, longitudinal data sets offer unique opportunities to study labeling processes. Farrington et al. (1986, chap. 5) discuss these possibilities, but, when it comes to doing the research or to offering comprehensive theoretical statements about the results of this research, labeling theory loses its place in this enterprise. Labeling theorists such as Becker (1963) have long emphasized the sequential, processual aspects of labeling, and longitudinal data sets are, of course, unique in the temporal possibilities they provide for modeling labeling experiences. Such data sets are also characteristically rich in the kinds of behavioral controls that are necessary to effectively identify the existence and size of labeling effects.

Meanwhile, the potential policy returns of learning more about labeling processes are also considerable because, in the language of the current longitudinal policy and research initiative, our problems may not only be those of good citizenship but also those of good government. If state-based punishments are indeed part of the crime problem, it will make no sense to leave these punishments out of the policy and research equation.

APPENDIX

Use of the Poisson Model

1. *A Wave-specific Model*

The alternative to the conventional OLS regression model pursued in this paper involves assuming the existence of a Poisson process. This latter method is wave specific in the sense that all assumptions associated with a Poisson model hold within but not necessarily between waves. This Poisson model assumes that the probability of the occurrence of n events within the small time interval is given by

$$P_i(n) = \frac{\exp(-k_i) \times (k_i)^n}{n!}, \quad (\text{A1})$$

where k_i is the rate parameter and the mean (and variance) of the distribution for wave i . A Poisson process assumes that the rate k_i is constant or that the probabilities of occurrence during a small interval do not depend on the prior history of the process. Although this assumption is too strong if applied to the three waves considered simultaneously, it is a better approximation for each wave considered separately. In fact, the occurrences of offenses within the short period of time covered by each wave are unlikely to be chained systematically by an underlying process or to be dependent on each other. We do not pursue it here, but it is possible to remove this time homogeneity assumption and formulate a Poisson model with self-excitement or with a random mechanism affecting the rates (Cox and Isham 1980).

As noted in the text, a second and more limiting assumption involved in the Poisson model is that the rate of occurrences is the same across the population considered. However, we also note in the text that we can, and for theoretical reasons should, remove and thereby test this assumption of population homogeneity. One way of removing this assumption is to make k_i dependent on population characteristics. In this paper we adopt the assumption of proportionality of effects of covariates so that

$$P(n|Z_j) = [\exp(B \times Z_j) \times k_0]^n \times \exp[-k_0 \times \exp(B \times Z_j)] \times (n!)^{-1}. \quad (\text{A2})$$

For simplicity we have dropped the subscript i that indexes the wave. In this formula, B is a row vector of effects, Z_j is the vector of covariates for individual j , and k_0 is a "baseline" rate. If all covariates in Z_j are discrete, it is readily seen that the ratio of the rates for any two individuals differing in only one covariate will depend on the corresponding effects and not on k_0 . Note that the effects in B are measures of the *relative* change in the baseline rate k_0 induced by a unit change in the corresponding covariates.

This nonhomogeneous Poisson model assumes, of course, that the heterogeneity in the population is completely exhausted by Z and that all elements in Z are measurable. However, the most likely situation is one in which Z contains both measured and unmeasured components. Neglecting unmeasured components can lead to biases in much the same way as it does in OLS methods.

As noted in the text, one way of evaluating the possible effects of unmeasured heterogeneity is to assume the existence of unmeasured components following a known, fully parametric distribution, and then to explicitly estimate the parameters of such a distribution. To do this we first postulate a nonhomogeneous Poisson process dependent on Z_{1j} and Z_{2j} , the measured and unmeasured components of the vector of covariates. The probabilities of n occurrences (self-reported delinquent acts) conditional on Z_{1j} and Z_{2j} are given by

$$P(n|Z_{1j}, Z_{2j}) = (k_0 \times H_j \times I_j)^n \times \exp(-k_0 \times H_j \times I_j) \times (n!)^{-1}, \quad (A3)$$

where $H_j = \exp(B_j \times Z_{1j})$, and $I_j = \exp(Z_{2j})$.

We next assume that the component I_j is distributed as a gamma distribution with parameters U and W . Without loss of generality one may also assume that U and W are equal and that consequently the mean of the gamma distribution is unity. It follows that the marginal probability (conditional only on the measured characteristics, Z_{1j}) of n occurrences (self-reported acts) is given by

$$P(n) = [U/(k_0 \times H_j)]^w \times \{(k_0 \times H_j)/(k_0 \times H_j) + U\}^n \times W \times (W - 1) \dots (W + n - 1) \times (n!)^{-1}. \quad (A4)$$

Parameters (and their SDs) are estimated with maximum-likelihood procedures, and the goodness of fit of nested models can be assessed with likelihood ratio statistics.

The estimates from the model in (A4) were presented in tables 4 and 5 and discussed in the text. Although the introduction of heterogeneity does improve the fit of the model, it does not lead to important changes in the estimated effects of other variables. This is expected because, by assumption, the random variable reflecting heterogeneity is entered as if it were unrelated to any of the measured covariates. If the model is wave specific or, as we explain below, if it jointly represents all waves but the sample of individuals exposed to the risk of criminal behavior measured by self-reports does not change over time (as is the case in the Farrington-West data set), there is insufficient information to estimate the effects of unmeasured heterogeneity that operates through measured covariates. So limitations of these data make it impossible to rule out completely the

confounding effects of background propensities, even though the burden of evidence presented in this paper makes this possibility unlikely.

2. *Simultaneous Modeling of Waves*

Instead of modeling each wave separately, it is also possible to formulate a model for the *joint occurrence* of self-reports in each of the three waves. When we condition on past history, the following expression represents the probability that an individual will report (n_1, n_2, \dots, n_k) delinquencies in k waves.

$$\text{prob}(n_1, n_2, \dots, n_k | X_1, X_2, \dots, X_k) = \prod_{i=1}^k \text{prob}(n_i | X_i), \quad (\text{A5})$$

where X_i is a wave-specific vector consisting of time-invariant and time-varying covariates, among which we include those measuring past behavioral activities.

We estimated model (A5), including the three waves considered in this paper and introducing the same variables defined before. We allowed each wave to have its own rate, and we introduced all the pertinent interaction effects between waves and covariates. The results, however, indicate that model (A5), although more parsimonious, leads to the same inferences as does a wave-specific model (e.g., [A1]).

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