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CRIME AND DEVIANCE IN THE LIFE COURSE

Robert J. Sampson

Department of Sociology, University of Chicago, Chicago, Illinois 60637

John H. Laub

College of Criminal Justice, Northeastern University, Boston, Massachusetts 02115, and Murray Research Center, Radcliffe College, Cambridge, Massachusetts 02138

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Abstract

Criminological research has emphasized the strong relationship between age and crime, with involvement in most crimes peaking in adolescence and then declining. However, there is also evidence of the early onset of delinquency and of the stability of criminal and deviant behavior over the life course. In this essay we reconcile these findings by synthesizing and integrating longitudinal research on childhood antisocial behavior, adolescent delinquency, and adult crime with theory and research on the life course. Consistent with a life-course perspective, we focus on continuities and discontinuities in deviant behavior over time and on the social influences of age-graded transitions and salient life events. Furthermore, we critically assess the implications of stability and change for longitudinal research. We conclude with an emerging research agenda for studying the relationship of crime and deviance with a broad range of social phenomena (e.g. occupational attainment, opportunity structures, marital attachment) over the life course.

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INTRODUCTION

Accepted wisdom holds that crime is committed disproportionately by adolescents. According to data from the United States and other industrialized countries, property and violent crime rise rapidly in the teenage years to a peak at about ages 16 and 18, respectively, with a decline thereafter until old age (Hirschi & Gottfredson 1983, Farrington 1986, Flanagan & Maguire 1990). The overrepresentation of youth in crime has been demonstrated using multiple sources of measurement—whether official arrest reports (Federal Bureau of Investigation 1990), self-reports of offending (Rowe & Tittle 1977), or victim reports of the ages of offenders (Hindelang 1981). It is thus generally accepted that, in the aggregate, age-specific crime rates peak in the late teenage years and then decline with age.

The age-crime curve has had a profound impact on the organization and content of sociological studies of crime by channeling research to a focus on adolescents. As a result sociological criminology has traditionally neglected the theoretical significance of childhood characteristics and the link between early childhood behaviors and later adult outcomes (see Robins 1966, Caspi et al 1989, McCord 1979, Farrington 1989, Gottfredson & Hirschi 1990, Loeber & LeBlanc 1990, Sampson & Laub 1990). Although criminal behavior does peak in the teenage years, evidence reviewed below indicates an early onset of delinquency as well as continuity of criminal behavior over the life course. By concentrating on the teenage years, sociological perspectives on crime have thus failed to address the life-span implications of childhood behavior.

At the same time, criminologists have not devoted much attention to the other end of the spectrum—desistance from crime and the transitions from criminal to noncriminal behavior in adulthood (Cusson & Pinsonneault 1986, Shover 1985, Gartner & Piliavin 1988). As Rutter (1988a: 3) argues, we know little about "escape from the risk process" and whether predictors of desistance are unique or simply the opposite of criminogenic factors. Therefore, not only has the early life course been neglected, but so has the relevance of social transitions in young adulthood and the factors explaining desistance from crime as people age.

In this paper we confront these issues by bringing both childhood and adulthood back into the criminological picture of age and crime. To accomplish this goal we synthesize and integrate the research literature on the life course and crime. As described below, the life-course perspective highlights continuities and discontinuities in behavior over time and the social influences of age-graded transitions and life events. Hence, the life course is concerned not only with early childhood experiences but also with salient events and socialization in adulthood. To the extent that the adult life course does explain variation in adult crime unaccounted for by childhood development, change

must be considered part of the explanatory framework in criminology, along with the stability of early individual differences.

The life-course perspective also bears on recent controversies that have embroiled criminology. While all agree that the issue of age and crime is important, conflicting views have emerged on the implications of age for the study of crime and deviance. Hirschi & Gottfredson (1983) argue that the age-crime curve is invariant over different times, places, crime types, and demographic subgroups. Moreover, they believe that age has a direct effect on crime that cannot be explained by social factors, that the causes of crime are the same at every age, and hence that longitudinal research is not needed to study the causes of crime (see also Gottfredson & Hirschi 1987, 1988, 1990). By contrast, Farrington (1986) argues that the age-crime curve reflects variations in prevalence rather than incidence and that incidence does not vary consistently with age. He also presents evidence to suggest that the relation between age and crime varies over time and by offense type, location, and gender. Blumstein & Cohen (1979) argue further that individual crime rates are constant during a criminal career, implying that arrest rates do not always decrease with age for all offenders (see also Blumstein et al 1988).

Accordingly, even fundamental "facts" about the age-crime relationship and their implications for research design are subject to much debate. This predicament provides yet another motivation to link the study of age and crime to the life-course perspective. Indeed, the data on age and crime lend themselves naturally to a concern with how criminal behavior changes as individuals pass through different stages of the life course. By integrating knowledge on crime with age-graded transitions in the life course, our review attempts to shed further light on the age-crime debate.

This paper is organized in the following manner. Before assessing the criminological literature directly, we first highlight major ideas in life-course research and theory. In subsequent sections we then examine the research on continuity (stability) and discontinuities (change) in crime over the life course. In the final sections, we outline a research agenda on age and crime that stems from a reconceptualization of stability and change.

THE LIFE COURSE PERSPECTIVE

The life course has been defined as "pathways through the age differentiated life span," where age differentiation "is manifested in expectations and options that impinge on decision processes and the course of events that give shape to life stages, transitions, and turning points" (Elder 1985: 17). Similarly, Caspi et al (1990: 15) conceive of the life course as a "sequence of culturally defined age-graded roles and social transitions that are enacted over

time." Age-graded transitions are embedded in social institutions and are subject to historical change (Elder 1975, 1991).

Two central concepts underlie the analysis of life-course dynamics. A trajectory is a pathway or line of development over the life span such as worklife, marriage, parenthood, self-esteem, and criminal behavior. Trajectories refer to long-term patterns and sequences of behavior. Transitions are marked by specific life events (e.g. first job or first marriage) that are embedded in trajectories and evolve over shorter time spans—"changes in state that are more or less abrupt" (Elder 1985: 31–32). Some transitions are age-graded and some are not; hence, what is often assumed to be important is the normative timing and sequencing of changes in roles, statuses, or other socially defined positions along some consensual dimension (Jessor et al 1991). For example, Hogan (1980) emphasizes the duration of time (spells) between a change in state and the ordering of events, such as first job or first marriage, on occupational status and earnings in adulthood. Caspi et al (1990: 25) argue that delays in social transitions (e.g. being "off-time") produce conflicting obligations that enhance later difficulties (see also Rindfuss et al 1987). As a result, life-course analyses are often characterized by a focus on the duration, timing, and ordering of major life events and their consequences for later social development.

The interlocking nature of trajectories and transitions may generate turning points or a change in the life course (Elder 1985: 32). Adaptation to life events is crucial because the same event or transition followed by different adaptations can lead to different trajectories (Elder 1985: 35). The long-term view embodied by the life-course focus on trajectories implies a strong connection between childhood events and experiences in adulthood. However, the simultaneous shorter-term view also implies that transitions or turning points can modify life trajectories—they can "redirect paths." Social institutions and triggering life events that may modify trajectories include school, work, the military, marriage, and parenthood (see e.g. Elder 1986, Rutter et al 1990, Sampson & Laub 1990).

In addition to the study of trajectories of change and the continuity between childhood behavior and later adulthood outcomes, the life-course framework encompasses at least three other themes: (i) a concern with the social meanings of age throughout the life course, (ii) intergenerational transmission of social patterns, and (iii) the effects of macrolevel events (e.g. Great Depression, World War II) and structural location (e.g. class and gender) on individual life histories (see Elder 1974, 1985). As Elder (1991) notes, a major objective of the study of the life course is to link social history and social structure to the unfolding of human lives. To address these themes individual lives are studied through time, with particular attention devoted to aging, cohort effects, historical context, and the social influence of age-

graded transitions. Naturally, prospective longitudinal research designs form the heart of life-course research.

Of all the themes emphasized in life-course research, the extent of stability and change in both behavior and personality attributes over time is perhaps the most complex. Stability versus change in behavior is also one of the most hotly debated and controversial issues in the social sciences (Brim & Kagan 1980a, Dannefer 1984, Baltes & Nesselroade 1984). Given its pivotal role we thus turn to an assessment of the research literature as it bears on stability and change in criminal behavior. Although personality development is obviously an important topic (see Block 1971, Caspi 1987), space considerations demand that we focus primarily on behavior. As we shall see, the research literature contains evidence for both continuity and change in deviant behavior over the life course.

STABILITY OF CRIME AND DEVIANCE

Unlike sociological criminology, the field of developmental psychology has long been concerned with the continuity of maladaptive behaviors (Brim & Kagan 1980a, Caspi & Bem 1990). As such, a large portion of the longitudinal evidence on stability comes from psychologists and others who study "antisocial behavior" generally, where the legal concept of crime may or may not be a component. An example is the study of aggression in psychology (Olweus 1979). In exploring this research tradition, our purpose is to highlight the extent to which deviant childhood behaviors have important ramifications, whether criminal or noncriminal, in later adult life.

Our point of departure is the widely reported claim that individual differences in antisocial behavior are stable across the life course (Olweus 1979, Caspi et al 1987, Loeber 1982, Robins 1966, Huesmann et al 1984, Gottfredson & Hirschi 1990, Jessor et al 1977, 1991). The stability of crime and antisocial behavior over time is often defined as homotypic continuity, which refers to the continuity of similar behaviors or phenotypic attributes over time (Caspi & Bem 1990: 553). For example, in an influential study of the aggressiveness of 600 subjects, their parents, and their children over a 22-year period, Huesmann et al (1984) found that early aggressiveness predicted later aggression and criminal violence. They concluded that "aggression can be viewed as a persistent trait that. . . possesses substantial cross-situational constancy" (1984: 1120). An earlier study by Robins (1966) also found a high level of stability in crime and aggression over time.

More generally, Olweus's (1979) comprehensive review of over 16 studies on aggressive behavior revealed "substantial" stability—the correlation between early aggressive behavior and later criminality averaged .68 for the studies reviewed (1979: 854–55). Loeber (1982) completed a similar review

of the extant literature in many disciplines and concluded that a "consensus" has been reached in favor of the stability hypothesis: "children who initially display high rates of antisocial behavior are more likely to persist in this behavior than children who initially show lower rates of antisocial behavior" (1982: 1433). Recent empirical studies documenting stability in criminal and deviant behavior across time include West & Farrington (1977), Wolfgang et al (1987), Shannon (1988), Elliott et al (1985), and Jessor et al (1991).

Although more comprehensive, these findings are not new. Over 50 years ago the Gluecks found that virtually all of the 510 reformatory inmates in their study of criminal careers "had experience in serious antisocial conduct" (Glueck & Glueck 1930: 142). Their data also confirmed "the early genesis of antisocial careers" (1930: 143). In addition, the Gluecks' follow-up of 1000 males originally studied in *Unraveling Juvenile Delinquency* (1950) revealed remarkable continuities. As they argued in *Delinquents and Non-Delinquents in Perspective:* "while the majority of boys originally included in the nondelinquent control group continued, down the years, to remain essentially law-abiding, the greatest majority of those originally included in the delinquent group continued to commit all sorts of crimes in the 17–25 age-span" (1968: 170). Findings regarding behavioral or homotypic continuity are thus supported by a rich body of empirical research that spans several decades (for more extensive discussion see Robins 1966, 1978, West & Farrington 1977, Gottfredson & Hirschi 1990). In fact, much as the Gluecks reported earlier, Robins (1978) summarized results from her studies of four male cohorts by stating that "adult antisocial behavior virtually requires childhood antisocial behavior" (1978: 611).

Perhaps more intriguing, the linkage between childhood misbehavior and adult outcomes is found across life domains that go well beyond the legal concept of crime. This phenomenon is usually defined as heterotypic continuity—continuity of an inferred genotypic attribute presumed to underlie diverse phenotypic behaviors (Caspi & Bem 1990: 553). For instance, a specific behavior in childhood might not be predictive of the exact same behavior in later adulthood but might still be associated with behaviors that are conceptually consistent with that earlier behavior (Caspi & Moffitt 1991: 4). Although not always criminal per se, adult behaviors falling in this category might include excessive drinking, traffic violations, marital conflict or abuse, and harsh discipline of children. Gottfredson & Hirschi (1990: 91) invoke a similar idea when they refer to adult behaviors "analogous" to crime such as accidents, smoking, and sexual promiscuity.

Evidence for the behavioral coherence implied by heterotypic continuity is found in the Huesmann et al (1984) study, where they report that aggression in childhood was related not just to adult crime but to spouse abuse, drunk driving, moving violations, and severe punishment of offspring. Other studies

reporting a similar coalescence of deviant and criminal acts over time include West & Farrington (1977), Robins (1966), and Jessor et al (1991). It is interesting that the findings of heterotypic continuity generated largely by psychologists are quite consistent with criminological research, showing little or no specialization in crime as people age (Wolfgang et al 1972, Blumstein et al 1986, Elliott et al 1989, Osgood et al 1988).

Invoking another dimension of heterotypic continuity, Caspi (1987) has argued that personality characteristics in childhood (e.g. ill tempered behavior) will not only appear across time but will be manifested in a number of diverse situations. Specifically, Caspi (1987: 1211) found that the tendency toward explosive, undercontrolled behavior in childhood was recreated over time, especially in problems with subordination (e.g. in education, military, and work settings) and in situations that required negotiating interpersonal conflicts (e.g. marriage and parenting). For example, children who display temper tantrums in childhood are more likely to abort their involvement with education, which in turn is related to a wide range of adult outcomes such as unemployment, job instability, and low income. In *Deviant Children Grown Up,* Lee Robins also found strong relations between childhood antisocial behavior and adult employment status, occupational status, job stability, income, and mobility (1966: 95–102). Robins went so far as to conclude that "antisocial behavior [in childhood] predicts class status more efficiently than class status predicts antisocial behavior" (1966: 305). In a similar vein, Sampson & Laub's (1990) reanalysis of longitudinal data from the Gluecks' archives found that childhood antisocial behavior strongly predicted not just adult criminality but outcomes as diverse as joblessness, divorce, welfare dependence, and educational failure— independent of childhood economic status and IQ.

Implications for Social Theories of Crime

There is ample evidence that antisocial behavior is relatively stable across stages of the life course, regardless of traditional sociological variables like stratification. As Caspi & Moffitt (1991: 2) conclude, robust continuities in antisocial behavior have been revealed over the past 50 years in different nations (e.g. Canada, England, Finland, New Zealand, Sweden, and the United States,) and with multiple methods of assessment (e.g. official records, teacher ratings, parent reports, and peer nominations of aggressive behavior). These replications across time and space yield an impressive generalization that is rare in the social sciences.

Antisocial behavior in childhood also predicts a wide range of troublesome adult outcomes, supporting Hagan & Palloni's (1988) observation that delinquent and criminal events "are linked into life trajectories of broader significance, whether those trajectories are criminal or noncriminal in form"

(1988: 90, see also Hagan 1991). Because most research by criminologists has focused either on the teenage years or adult behavior limited to crime, this idea has not been well integrated into the criminological literature.

As a result of this dual neglect, sociological approaches to crime have been vulnerable to attack for not coming to grips with the implications of behavioral stability. Not surprisingly, developmental psychologists have long seized on stability to argue for the primacy of early childhood and the irrelevance of the adult life course. But even recent social theories of crime take much the same tack, denying that adult life-course transitions can have any real effect on adult criminal behavior. For example, Gottfredson & Hirschi (1990: 238) argue that ordinary life events (e.g. jobs, getting married, becoming a parent) have little effect on criminal behavior because crime rates decline with age "whether or not these events occur." They go on to argue that the life-course assumption that such events are important neglects its own evidence on the stability of personal characteristics (1990: 237, see also Gottfredson & Hirschi 1987). And, since crime emerges early in the life course, traditional sociological variables (e.g. peers, labor market, marriage) are again presumed impotent. The reasoning is that since crime emerges before sociological variables appear, the latter cannot be important, even in modifying known trajectories.

A dominant viewpoint in criminology is therefore that stability in crime over the life course is generated by population heterogeneity in an underlying criminal propensity that is established early in life and remains stable over time (Wilson & Herrnstein 1985, Gottfredson & Hirschi 1990, Nagin & Paternoster 1991). Precisely because individual differences in the predisposition to commit crime emerge early and are stable, childhood and adult crime will be positively correlated. The hypothesized causes of early propensity cover a number of factors, including lack of self control (Gottfredson & Hirschi 1990), parental criminality (Farrington et al 1975), impulsivity (Wilson & Herrnstein 1985), and even heredity (Rowe & Osgood 1984). Although primarily methodological in nature, the heterogeneity argument has import for theoretical understanding, implying that the correlation between past and future delinquency is not causal. Rather, the correlation is spurious because of the heterogeneity of the population in its propensity to crime.

It is clear that traditional approaches to stability leave little room for the relevance of sociological theories of age-graded transitions. As it turns out, however, whether the glass of stability appears half empty or half full seems to result at least as much from theoretical predilections as from empirical reality. Moreover, not only are there important discontinuities in crime that need to be explained, a reconsideration of the evidence suggests that stability itself may be explained by sociological influences over the life course. To assess these alternative conceptions we first review the evidence on change, followed by a revisionist look at the explanation of stability.

CHANGE AND THE ADULT LIFE COURSE

In an important paper Dannefer (1984) sharply critiques existing models of adult development, drawn primarily from the fields of biology and psychology, for their exclusive "ontogenetic" focus and their failure to recognize the "profoundly interactive nature of self-society relations" and the "variability of social environments" (1984: 100). He further argues that "the contributions of sociological research and theory provide the basis for understanding human development as socially organized and socially produced, not only by what happens in early life, but also by the effects of social structure, social interaction, and their effects on life chances throughout the life course" (1984:106). Is there evidence in the criminological literature to support Dannefer's (1984) general observations regarding change over the life course and the importance of social structure and interaction?

We begin to answer this question with a seeming paradox — while studies reviewed earlier do show that antisocial behavior in children is one of the best predictors of antisocial behavior in adults, "most antisocial children do not become antisocial as adults" (Gove 1985: 123). Robins (1978) found identical results in her review of four longitudinal studies, stating that most antisocial children do not become antisocial adults (1978: 611). A follow-up of the Cambridge-Somerville Youth study found that "a majority of adult criminals had no history as juvenile delinquents" (McCord 1980: 158). Cline (1980: 665) states that although there is "more constancy than change ... there is sufficient change in all the data to preclude simple conclusions concerning criminal career progressions." He concludes that there is far more heterogeneity in criminal behavior than previous work has suggested, and that many juvenile offenders do not become career offenders (Cline 1980: 669–70). Loeber & LeBlanc make a similar point: "Against the backdrop of continuity, studies also show large within-individual changes in offending, a point understressed by Gottfredson & Hirschi" (1990: 390).

Caspi & Moffitt's (1991) review reaches a similar conclusion when they discover large variations in the stability of antisocial behavior over time. In particular, antisocial behavior appears to be highly stable and consistent only in a relatively small number of males whose behavior problems are quite extreme. Loeber's (1982) review also found that extremes in antisocial conduct were linked to the magnitude of stability. Moffitt (1991) builds on this information to argue that stability is a trait among those she terms "life-course persistent" delinquents. In other words, whereas change is the norm for most adolescents, stability characterizes those at the tail of the antisocial-conduct distribution. This conceptualization points to the dangers of relying on measures of central tendency that mask divergent subgroups.

Moffitt's (1991) review further suggests that social factors may work to modify childhood trajectories for the majority of youth who are not "life-

course persistent." In support of this idea recent criminological research suggests that salient life events influence behavior and modify trajectories—a key thesis of the life course model. A follow-up of 200 Borstal boys found that marriage led to "increasing social stability" (Gibbens 1984: 61). Knight et al (1977) discovered that while marriage did not reduce criminality, it reduced antisocial behavior such as drinking and drug use (see also Osborn & West 1979, West 1982, Rand 1987). Osborn (1980) examined the effect of leaving London on delinquency and found that subjects who moved had a lower risk of reoffending when compared with a similar group who stayed in London (see also West 1982). Rand (1987) found mixed results of going into the armed forces on later offending, but for some subgroups criminal behavior declined after serving in the military. And, there is some evidence that episodes of unemployment lead to higher crime rates (Farrington et al 1986).

In the context of personality characteristics, Caspi (1987) found that although the tendency toward explosive, under-controlled behavior in childhood was evident in adulthood, "invariant action patterns did not emerge across the age-graded life course" (1987: 1211). Similarly, using a prospective longitudinal design to study poverty, Long & Vaillant (1984) found both discontinuity and continuity across three generations of subjects. The transmission of "underclass" or dependent life styles was not inevitable or even very likely, refuting the hypothesis that the chances of escape from poverty are minimal. "The transmission of disorganization and alienation that seems inevitable when a disadvantaged cohort is studied retrospectively appears to be the exception rather than the norm in a prospective study that locates the successes as well as the failures" (Long & Vaillant 1984: 344).

This is an important methodological point that applies to the stability of crime. Looking back over the careers of adult criminals exaggerates the prevalence of stability. Looking forward from youth reveals the successes and failures, including antisocial adolescents who go on to be normal functioning adults. This is the paradox noted earlier—adult criminality seems to be always preceded by childhood misconduct, but most conduct-disordered children do not become antisocial or criminal adults (Robins 1978).

Two recent studies of crime support a dual concern with stability and change, using a prospective approach to life histories. First, Rutter et al (1990) analyzed follow-up data from two groups of youth. One was a sample of youth institutionalized in group homes because of family dysfunctions (e.g. parental criminality, abuse, desertion). The other was a quasi-random sample of the population of noninstitutionalized individuals of the same age living in inner-city London. Both groups were thus similar in composition but varied on childhood adversity. Consistent with the stability literature, Rutter et al (1990) found that the high-risk institutionalized youth went on to experience a diversity of troublesome outcomes in adulthood, including crime. By comparison, the control group was relatively well adjusted in later life.

Yet Rutter et al (1990) found in both groups considerable heterogeneity in outcomes that was associated with later adult experiences. In particular, marital support in early adult life provided a protective mechanism that inhibited deviance. Positive school experience among females was another factor that promoted desistance from crime, especially indirectly through its effect on planning and stable marriage choices. These results maintained despite controls for numerous measures of childhood deviance (1990: 152), leading Rutter et al to rule out individual self-selection bias as an explanation (cf Nagin & Paternoster 1991). As they concluded: "the data showed substantial heterogeneity in outcomes, indicating the need to account for major discontinuities as well as continuities in development. In that connection marital support from a nondeviant spouse stood out as a factor associated with a powerful protective effect" (1990: 152). Adult transitions in the life course can thus "modify the effect of adversities experienced in childhood" (Rutter et al 1990: 152). They also pointed out a key reason why change is possible—because the chain of stability "relied on multiple links, each one dependent on the presence of some particular set of features, there were many opportunities for the chain of adversity to be broken" (Rutter et al 1990: 137).

In a second study along similar lines, Sampson & Laub (1990) theorized that social ties to the adult institutions of informal social control (e.g. family, community, work) influence criminal behavior over the life course despite delinquent and antisocial background. Their organizing principle derived from the central idea of social control theory—crime and deviance result when an individual's bond to society is weak or broken. Their theoretical model focused on the transition to adulthood and, in turn, the new role demands from higher education, full-time employment, military service, and marriage. Unlike much life-course research, however, Sampson & Laub (1990) emphasized the quality or strength of social ties more than the occurrence or timing of discrete life events (cf Hogan 1978, Loeber & LeBlanc 1990: 430–32). For example, while Gottfredson & Hirschi (1990: 140–41) argue that marriage per se does not increase social control, a strong attachment to one's spouse and close emotional ties increase the social bond between individuals and, all else equal, should lead to a reduction in criminal behavior (cf Shover 1985: 94). Similarly, employment alone does not increase social control. It is employment coupled with job stability, job commitment, and ties to work that should increase social control and, all else equal, lead to a reduction in criminal behavior. It was thus the social capital in the institutional relationship that was hypothesized to dictate the salience of informal social control at the individual level.

Sampson & Laub's theory of informal social control found support in an analysis of the natural histories of two groups of boys that differed dramatically in childhood antisocial behavior. More specifically, they reexamined the life histories originally gathered by Glueck & Glueck (1968) of 500 de-

linquents and 500 control subjects matched on age, IQ, SES, and ethnicity and followed from ages 14 to 32. Consistent with the Gluecks' earlier reports, the results showed marked differences in adolescent delinquency that were relatively stable over the life course. For example, as adults the former delinquents were much more likely to be arrested and report excessive drinking compared with the control-group men (1990: 615).

Consistent with a theory of adult development and informal social control, however, Sampson & Laub (1990: 616–24) found that job stability and marital attachment in adulthood were significantly related to changes in adult crime—the stronger the adult ties to work and family, the less crime and deviance among both delinquents and controls. The results were consistent over a wide variety of outcome measures, control variables for childhood antisocial behavior, and analytical techniques, and the effect estimates were largely invariant across the two groups that varied on childhood delinquency. Hence, much like Rutter et al (1990), the Sampson & Laub study suggests that social ties embedded in adult transitions (e.g. marital attachment, job stability) explain variations in crime unaccounted for by childhood deviance.

RETHINKING STABILITY AND CHANGE

Taken as a whole, the foregoing review suggests that conclusions about the inevitability of antisocial continuities have either been overstated or misinterpreted. In terms of the former, stability coefficients are far from perfect and leave considerable room for the emergence of discontinuities. In retrospect, criminologists should have been forewarned about making sweeping generalizations of stability in light of the lengthy history of prediction that shows childhood variables to be quite modest prognostic devices. Known as the false positive problem, childhood prediction scales invariably result in the substantial over-prediction of future criminality (Loeber & Stouthamer-Loeber 1987, Farrington & Tarling 1985). Likewise, prediction attempts often fail to identify accurately those who will become criminal even though past behavior suggests otherwise (false negatives).

In probably the best recent study on this topic, White et al (1990: 521) document that, consistent with past research, "early antisocial behavior is the best predictor of later antisocial behavior." Nevertheless, their data clearly show the limitations of relying only on childhood information to understand behavior over time. As White et al (1990: 521) argue, a high false positive rate precludes the use of early antisocial behavior alone as a predictor of later crime. They go on to note the general inaccuracy of specific predictions and how the heterogeneous nature of delinquency in later adolescence (and by implication, adulthood) thwarts accurate prediction.

The prediction literature again reinforces the need to look at both stability

and change, and hence the futility of either/or conceptions of human development. Namely, while there is longitudinal consistency, research has established large variations in later adolescent and adult criminal behavior that are not simply accounted for by childhood propensities. Furthermore, these changes in adult criminality appear to be structured by social transitions and adult life events in the life course (Rutter et al 1990, Sampson & Laub 1990), underscoring the utility of a life-course perspective.

Equally important, however, is the fact that the conception of stability traditionally used in criminology is quite narrow and has been frequently misinterpreted. Rank-order correlations and other measures of stability refer to the consistency of between-individual differences over time and consequently rely on an aggregate picture of relative standing. As Huesmann et al (1984) note, what remains stable over time is the aggressiveness of an individual relative to the population (1984: 1131). Stability coefficients do not measure the consistency or heterogeneity of individual behaviors over time (i.e. individual change). Consider Gottfredson & Hirschi's (1990) argument that "If there is continuity over the life course in criminal activity, it is unnecessary to follow people over time" (1990: 230). The continuity to which they refer is relative stability, which does not mean that individuals remain constant in their behavior over time. In conjunction with a conceptualization of the adult life course as a probabilistic linkage or chain of events and transitions (Rutter et al 1990), it becomes clearer how change is possible—if not likely—despite the stability of relative rank orderings. The following sections elaborate on the implications for the study of crime of a revised conceptualization of both change and stability.

Assessing Individual Change

A promising direction for future research is the analysis of individual pathways of crime and deviance. That is, rather than relying on stability coefficients or aggregate age-crime curves, an alternative conception of change is to map individual trajectories embedded in the life course. One approach entails grouping subjects according to their individual patterns of change. In his study *Lives Through Time,* Block (1971) compared "changers and nonchangers" with respect to personality. He then developed a more detailed typology that permitted an assessment of personality change over time. Similarly, Crouter & McHale (1990) recently developed a three-fold typology of parental monitoring whereby children were grouped by important individual differences in development. Block (1971) and Crouter & McHale (1990: 20–21) argue that such individual trajectories are the best way to assess developmental change and its antecedents, concomitants, and consequences.

A similar strategy is to use growth curves that measure the direction and amount of systematic change in behavior over multiple time points (Jessor et

al 1991, Rogosa 1988, Rogosa et al 1982). Like criminology, longitudinal research in the behavioral sciences at large has focused almost exclusively on the consistency of individual differences over time rather than the consistency of individual behavior. But as Rogosa (1988: 172) argues, research questions about growth and development "center on the systematic change in an attribute over time, and thus the individual growth curves are the natural foundation for modeling the longitudinal data." Similarly, Caspi & Bem (1990: 569) argue that when the term "change" appears in the literature, it frequently refers to the absence of continuity. Caspi & Bem call for the development of theory to begin to account for "systematic" change as opposed to the mere absence of continuity. Accounting for developmental trajectories in crime and deviance will help to distinguish between true systematic change fostered by life transitions and the absence of continuity.

Focusing on growth curves and systematic change parallels Farrington's (1988) argument that criminology has neglected the study of changes within individuals in favor of between-individual analyses. As one example, it is quite common to study whether unemployed persons have higher crime rates than the employed. It is rare that we investigate whether an individual moving from employment to a state of unemployment increases criminal activities, a methodology where each person acts as his or her own control (Farrington 1988: 180). Only by studying both individual change trajectories and between-individual differences in stability are we likely to resolve some of the current controversies on age and crime. This seems especially true with respect to Gottfredson & Hirschi's claim that the causes of crime are the same at each age, a claim rooted in prior between-individual analyses (1990: 123–144).

In short, the conceptualization, measurement, and analysis of change have not had the same attention as stability. Given this imbalance, a focus on change ought to take center stage in future research, alongside stability. This orientation recognizes that the two concepts are not mutually exclusive as is often thought (Jessor 1983). To the contrary, intra-individual change and inter-individual differences in intra-individual change are both concerns of developmental study and are uniquely reserved to research that is longitudinal in design and that undertakes repeated measurements and analysis of the same individuals over time (Jessor et al 1991 VII–1). Rather than being irreconcilable, continuity and change "are best seen as two aspects of a single dialectical process in which even major transformations of individuality emerge consequentially from the interaction of prior characteristics and circumstances" (Jessor et al 1991: VII-2).

Explaining Continuity

Perhaps ironically, even the stability of individual differences in crime over time is amenable to a sociological life-course perspective. This point is often

overlooked because the mere empirical documentation of stability has begged the important theoretical question of why continuity exists. In particular, given the negative consequences that much antisocial behavior generates, why should it persist? Is "early propensity" the only conceptual tool we need to understand stability over time? Efforts to understand the structural and interactional processes underlying stability over the life course have been given rather short shrift, primarily because research on stability and continuities in deviant behavior has stopped at the point of prediction. Recent thinking has attempted to move beyond mere prediction in an effort to address issues of explanation.

One explanation consistent with a life-course perspective is that the relationship of past to future crime is generated by state dependence. This hypothesis implies that committing a crime has a genuine behavioral influence on the probability of committing future crimes. In other words, crime itself—whether directly or indirectly—causally modifies the future probability of engaging in crime (Nagin & Paternoster 1991: 166). In this regard Caspi (1987) has argued that antisocial children replicate their antisocial behavior in a variety of adult realms in large part because of the differing reactions that antisocial behavior brings forth. Maladaptive behaviors are "found in interactional styles that are sustained both by the progressive accumulation of their own consequences (cumulative continuity) and by evoking maintaining responses from others during reciprocal social interaction (interactional continuity)" (Caspi et al 1987: 313, emphasis added). As an example of the latter, interactional continuity might be sustained when the child with temper tantrums provokes angry and hostile reactions in parents and teachers, which in turn feed back to trigger further antisocial behavior by the child.

Extending the idea of cumulative continuity, Moffitt (1991) argues that social reactions to delinquency generate negative consequences that further diminish life chances. Official labeling, incarceration, school failure, and other negative life events associated with delinquency may lead to the "closing of doors" as far as opportunities go. Official mechanisms of delinquency control may thus interfere with successful adult development through the cumulative continuity of lost opportunity, above and beyond that generated by early propensity to antisocial conduct and what Caspi et al (1987) refer to as interactional continuity.

The notion of cumulative continuity is consistent with the original contentions of labeling theory that reactions to primary deviance may create problems of adjustment that foster additional crime in the form of secondary deviance (Lemert 1951). A good example is the negative effects of arrest and incarceration on future employment chances (Bondeson 1989). Here the connection between official childhood misbehavior and adult outcomes may be accounted for in large part by the structural disadvantages and diminished life chances accorded institutionalized and stigmatized youth. Institutionaliza-

tion may also weaken informal social bonds to school, friends, and family, in turn enhancing the risk of future crime (see e.g. Wheeler 1961). The stigma of conviction may even extend across generations, explaining the effects of parental conviction on sons' delinquency regardless of family background and early propensity to crime (Hagan & Palloni 1990).

Clearly, then, the idea that official labels, incarceration experiences, and rejection by institutions of informal social control are criminogenic is a classic state-dependence interpretation of the link between past and future crime. Parenthetically, it should be noted that state dependence effects do not have to be positive. Deterrence theory suggests that reactions by the criminal justice system (e.g. arrest, imprisonment) have a deterrent effect on future offending (Nagin & Paternoster 1991). Either way, the essential point according to the state dependence argument is that the relationship between past and future crime is causal in nature.

As noted earlier, traditional accounts of continuity rest on population heterogeneity in an underlying propensity for crime that is established early in life and remains stable over time (see Nagin & Paternoster 1991). From this alternative viewpoint the diverse outcomes correlated with childhood antisocial behavior are all expressions of the same underlying trait. However, population heterogeneity is still consistent with the life-course framework because the changing manifestations of the same construct over time are structured by social opportunities to commit crime, differential reactions by the criminal justice system, and constraints imposed by aging (Shover 1985: 77–125, Gottfredson & Hirschi 1990: 177–178). The observed stability in crime and deviance may even be underestimated by the failure to conceptualize life-course transitions in social opportunities. For example, in asking whether crime declines with age, we do not know whether adults are disproportionately involved in crimes typically not counted in official statistics, especially white collar offenses (see Braithwaite 1989: 46). It is conceivable that while street crime declines with age, white collar offending and other "hidden" deviance (family violence, alcohol abuse) take up the slack (see also Moffitt 1991). This concern highlights the need to link age and crime with the life-course framework by explicating how age-graded transitions (e.g. work and family careers) create both opportunities for crime and differential probabilities of detection and labeling by official agents of social control.

It is fair to say, then, that even if individual propensity remains relatively constant, explanations of continuity across the life course require that we account for the structure of social opportunities and the differing labels attached to behaviors as people age. Moreover, it is also important to recognize that ecological constancy (e.g. community constraints) and continuities in the interpersonal environment may underlie individual-level stability. Indeed, behavioral patterns may show stability simply because the contextual environment remains stable. Although further discussion of environmental

stability is beyond the scope of our review, the key point is that behavioral stability does not necessarily imply causal forces operating solely at the level of the individual. Therefore, whether derived from heterogeneity among individuals in an early propensity that manifests itself differently across time, state dependence fostered by social reactions to crime and interactional styles, or constancy in ecological context, the fact remains that explanations of stability are inextricably tied to a sociological perspective on the life-course.

FURTHER RESEARCH NEEDS

Advances in knowledge on crime and delinquency over the life course require not only rethinking what we mean by stability and change, but a fresh infusion of data we can use to address key limitations of past research. The first step is to counterbalance the dominance in criminological research of cross-sectional designs, and, to a lesser extent, short-term panel studies. Indeed, there have been surprisingly few longitudinal data sets that prospectively follow individuals over extended periods of the life course (see also Farrington 1979, Blumstein et al 1986, Tonry et al 1991). Combined with the tendency of researchers to analyze longitudinal data cross-sectionally, it is understandable that information gleaned from the typical panel study in criminology often simply reaffirms the results of cross-sectional research. But, rather than dismissing longitudinal research as Gottfredson & Hirschi (1987 1990) advocate, we believe a more productive strategy is to collect or analyze longitudinal data in ways that permit proper inferences on individual trajectories of stability and change (Rutter 1988a, Rogosa 1988). Note that the need for fresh data does not necessarily imply new and potentially expensive data (cf Tonry et al 1991), for there are excellent data archives capable of sustaining research on the life course in different historical and macrolevel contexts (see e.g. Elder 1974, McCord 1979, Vaillant 1983, Caspi et al 1987, Featherman et al 1984, Elliott et al 1989, Sampson & Laub 1990).

Second, longitudinal studies of crime have often failed to measure the timing and sequencing of changes in salient life events over the life course. In fact, longitudinal data sets in criminology frequently focus on unchanging demographic characteristics that have little bearing on theories of the life course (see Tonry et al 1991, Blumstein et al 1986). To establish influences on individual development one must account not only for background factors but the changing nature of important life events (e.g. work, family, and military ties), especially during the late adolescence to young adulthood transition. Quantitative measurement of the timing, duration, and ordering of life transitions has the further advantage of permitting substantive applications of event-history analyses (see Featherman & Lerner 1985), growth curve trajectories (Rogosa et al 1982), and recent methods for detecting resemblance in career sequence data (Abbott & Hyrack 1990).

A third limitation of prior research in criminology is the narrow focus on legally defined categories of crime. As we have documented, one of the staples of developmental research is the heterotypic continuity of antisocial behaviors. Consequently there is a need to measure a wide spectrum of behaviors both legal and illegal that are relevant to the study of crime. This strategy permits addressing the question of whether there are individuals for whom antisocial behavior, regardless of the actual sphere in which the activity occurs, does not decline with age (e.g. absenteeism at work as an adult might be conceptualized as the theoretical equivalent of truancy in childhood). Other life-domains ripe for inquiry include occupational mobility, educational attainment, poverty, physical health, mental health, and homelessness, especially as they interact with class of origin. For example, Hagan's (1991) recent research suggests that the effect of adolescent deviance on adult stratification outcomes is contingent on social class background (see also Jessor et al 1991). More generally, we need to broaden our conceptualization to investigate the impact of childhood delinquency and structural location on a wide range of non-crime outcomes that nonetheless have significance for adult development.

A fourth and related limitation is that explanations of the age-crime curve have focused mostly on official accounts of crime. Reliance on arrest data may exaggerate age differences and stability—the former because of differential recording by age and the latter because official reaction may "close doors" in ways that reinforce tendencies to later crime. One interpretation of continuity offered above relied on state dependence, whereby official labeling in adolescence mortgages the future in terms of employment, marriage, and other social bonds, in turn leading to increased criminality as an adult. The continuity between official juvenile crime and adult outcomes may thus reflect much more than simple propensities in childhood (Hagan & Palloni 1990). Societal reactions to crime may also interact with age (Gartner & Piliavin 1988: 302, Shover 1985). Research should thus examine the extent to which labeling, particularly formal labeling by the criminal justice system, affects life-course development relating to crime and non-crime outcomes.

Fifth, the research questions demand that data collection efforts include qualitative as well as quantitative data on variables and persons (Magnusson & Bergman 1990, Cairns 1986). Qualitative data derived from systematic open-ended questions or narrative life histories can help uncover underlying social processes of stability and change. They can also help to confirm the results derived from quantitative analyses. Using prospective natural histories, we further need to identify subjective transitions in the life course independently of behavioral transitions in understanding desistance from crime (Gartner & Piliavin 1988: 302). For example, Sampson & Laub (1990) and Rutter et al (1990) provide evidence that the assumption of social roles and the subsequent effects of informal social controls around these roles may

help account for the age-crime relation. Qualitative data would be especially useful here because social transitions (e.g. marriage, parenthood, work) probably do not have the same meaning for everyone (Rutter 1989: 20). Our point is not that one approach is better than the other; rather, both are needed to understand development in the life course.

Finally, in implementing all the above strategies we need research that better "unpacks" the meaning of age. Rutter (1989) argues that in order to understand age changes in behavior, chronological age must be broken down into its component parts. Without this separation, "age is devoid of meaning" (1989: 3). According to Rutter (1989), from a developmental perspective age reflects at least four components: cognitive level, biological maturity, duration of experiences, and types of experiences. Separating these and other components of age (e.g. biological vs chronological age) surely will help to resolve conflicts over the direct and indirect effects of age on crime.

CONCLUSION

The traditional hostility among sociologists toward research establishing early childhood differences in delinquency and antisocial behavior that remain stable over time is unwarranted. Not only can stability be studied sociologically, its flip side is change, and the latter appears to be systematically structured by adult bonds to social institutions. The unique advantage of a sociological perspective on the life course is that it brings the formative period of childhood back into the picture yet recognizes that individuals can change through interaction with key social institutions as they age. With improvements in measurement and conceptualization, the prospects appear bright for future research to uncover the interlocking trajectories of crime, deviance, and human development.

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