THEORY AND RESEARCH ON DESISTANCE FROM ANTISOCIAL ACTIVITY AMONG SERIOUS ADOLESCENT OFFENDERS

Edward P. Mulvey University of Pittsburgh Laurence Steinberg Temple University Jeffrey Fagan Columbia University Elizabeth Cauffman University of Pittsburgh Alex R. Piquero University of Florida Laurie Chassin George P. Knight Arizona State University Robert Brame University of South Carolina Carol A. Schubert University of Pittsburgh Thomas Hecker Temple University Sandra H. Losoya University of Florida

Improving juvenile court decision making requires information about how serious adolescent offenders desist from antisocial activity. A systematic research agenda on this topic requires consideration of several processes, including normative development in late adolescence, what constitutes desistance, and the factors likely to promote the end of involvement in antisocial behavior and successful adjustment in early adulthood. This article presents an overview of the major points to consider in pursuing this research agenda.

Keywords: desistance from crime; juvenile delinquency careers; stopping antisocial behavior

Authors' Note: Preparation of this article was supported by the Office of Juvenile Justice and Delinquency Prevention (grant #2000-MU-MU-0007), the National Institute of Justice (grant #1999-IJ-CX-0053), the John D. and Catherine T. MacArthur Foundation, the William T. Grant Foundation, the Robert Wood Johnson Foundation, the Centers for Disease Control, the William Penn Foundation, the Arizona Governor's Justice Commission, and the Pennsylvania Commission on Crime and Delinquency.

We have always expected a great deal from the juvenile justice system. On one hand, the system is charged with keeping communities safe, using theories and approaches—such as deterrence or incapacitation—that are common to the criminal justice system. In recent years, juvenile courts have the added responsibility to ensure that its responses are proportional, making sure that punishments match the crime, in their length and harshness. At the same time, the juvenile justice system is expected to consider the best interests of the child and to realize the human potential of young offenders. The juvenile justice system is expected to have the knowledge and insight to make thoughtful, individualized judgments that will keep us safe and promote positive development for adolescents.

Unfortunately, juvenile justice professionals have very limited knowledge to draw on to meet these demands, especially regarding serious adolescent offenders. As a result, adolescent offenders generally are sorted and handled using commonsense guidelines that have developed through years of practice. So, serious offenders are generally given some form of sanction to demonstrate that the court is serious about controlling crime. Younger serious offenders are likely to be given some opportunity for rehabilitation, with specific placement decisions driven by available space as well as individual need. Less serious offenders are processed with minimal involvement by the court and are often enrolled in whatever short-term programs are popular with the court at the time. If they keep coming back to the court, or have obvious unmet needs or problems, they are given more intense services. These patterns have persisted for decades (e.g., Cicourel, 1968; Emerson, 1969); however, the recurring popular and political unrest about the juvenile court suggests that this algebra may not be working well (Feld, 1999).

Refining and improving court actions with serious offenders requires more than just the smart application of existing knowledge. It also requires new information beyond what is known presently. Specifically, predictions of when juvenile offenders will desist from crime, and what mix of sanctions and interventions will hasten that process, are needed. Juvenile courts need to know which adolescents are good bets and what to reasonably expect from adolescents, families, and the service providers working with them.

Researchers can provide this sort of information to courts to assist in their continuing efforts to improve. Studies of the natural history of delinquent careers from court involvement forward are essential, as is systematic work on the effects of sanctions and the dimensions of effective treatment. Such contributions, however, require that researchers shift their focus from the causes of juvenile crime to the factors that lead juvenile offenders to desist from crime. This strategic shift also requires that researchers integrate the theories and concepts from developmental psychology into the study of serious juvenile offenders. This article reviews the contributions of existing research to our understanding of the process of desistance from antisocial activity, identifies important areas warranting further research, and then presents a framework in which such research can be developed and pursued.

Existing Longitudinal Research on Delinquency

Over the past 20 years, longitudinal studies have provided a large amount of information to the courts about the development of antisocial behavior. Studies have, for example, provided a clearer picture of the course of particular behavioral patterns over different periods of development (e.g., the stability of aggressive behavior; Coie & Dodge, 1997). Because these studies provide information on change within individuals over time,

they have also yielded findings about the strength of certain factors in promoting the onset or maintenance of antisocial or disordered behavior (e.g., the role of lax parental supervision in the onset in antisocial behavior and antisocial peer influence in the maintenance of offending; Henry, Tolan, & Gorman-Smith, 2001; Loeber & Stouthamer-Loeber, 1986.). Finally, extant longitudinal studies have produced information about patterns of behavior or offending over the course of development that might distinguish certain subtypes of disordered adolescents (e.g., early onset, chronic vs. adolescent-limited antisocial children; Broidy et al., 2003; Moffitt, 1993; Moffitt & Caspi, 2002).

This map of the development of antisocial and disordered behavior has been helpful for juvenile justice and child welfare professionals in efforts to formulate informed policy approaches to the prevention of crime and delinquency (Mulvey & Woolard, 1997). First, these findings help with the task of targeting at-risk children. Knowing which children are likely to have continuing problems allows for more focused screening and identification for program participation. Second, these studies provide useful leads about the appropriate focus to take in preventive interventions. Identification of the risk factors that precede the onset of certain problem behaviors provides valuable information about where to concentrate particular programming efforts with children of different ages (e.g., curtailing early drug or alcohol use as a method for reducing involvement in delinquency; Van Kammen, Loeber, & Stouthamer-Loeber, 1991). Finally, these studies have focused the argument for early intervention by demonstrating that it is difficult to alter a child's trajectory when "launched" and that small adjustments in a child's initial trajectory might make large changes in the later developmental path toward delinquency (Karoly et al., 1998; Yoshikawa, 1994; Zigler & Styfco, 1994). This line of research has increased the efficiency, effectiveness, and attractiveness of prevention efforts.

Existing longitudinal research has not been particularly useful, however, in providing clear guidance about what should be done with adolescents already in the juvenile justice system, especially those in the "deep end" of the system. Social scientists know far more about the factors that lead adolescents into antisocial activity than about the factors that lead antisocial adolescents out of it. As a rule, longitudinal studies of antisocial behavior have followed cohorts of children and adolescents sampled from schools or communities, often overrepresenting those from high-risk schools or communities to provide an adequate split between participants who will and will not display problem behaviors. Juvenile court professionals, however, see a filtered set of these adolescents: those who are the most seriously antisocial or those who have already shown that they do not have the necessary skills or resources to stay out of trouble. Thus, given that most longitudinal studies, by design, do not have large numbers of serious adolescent offenders, they are often limited in what can be said conclusively about the effects of involvement with the courts or court-related services, or about the natural course of desistance from crime among antisocial individuals.

Existing longitudinal studies are also usually limited in their utility to the courts because of their weak characterizations of sanctions and interventions. These studies rarely have detailed measures of the type, intensity, or duration of interventions or sanctions that adolescent offenders experience (National Research Council and Institute of Medicine, 2001), much less adequate information about the fit, or lack of fit, between offenders and the interventions or sanctions they receive. Evidence is rather sketchy, therefore, regarding the relative influences of interventions, sanctions, and developmental events on outcomes for serious adolescent offenders. Meta-analyses of intervention studies have identified certain aspects of programming that appear to produce better results (see Andrews et al., 1990; Lipsey & Wilson, 1998); however, the variability in the types of interventions reviewed and the necessarily broad characterization of programming in these overviews provides only limited guidance for program and policy debates about serious adolescent offenders (Mulvey, 1999). Unfortunately, the most challenging problems for practitioners and policy makers in the juvenile justice system involve the very adolescents about whom the least is known. In the absence of well-conducted studies, it is not surprising that the public's opinion of programming for serious offenders is that "nothing works."

This paucity of information takes a toll. It has often left judges, juvenile justice professionals, social service providers, and the public relying on (and perpetuating) numerous myths about the existence of different "types" of serious adolescent offenders who vary in their likely responsiveness to treatment (e.g., "superpredators"; see Bennett, Dilullio, & Walters, 1996, for the proposition; and Zimring, 1998, for an analysis of the actual trends; "juvenile psychopaths"; see Steinberg, 2002) and on misinformation about the effectiveness of certain sanctions or interventions (e.g., that boot camps can teach kids a lesson; see Aos, Phipps, Barnoski, & Leib, 1999, and Styve, MacKenzie, Gover, & Mitchell, 2000, regarding their ineffectiveness). The poor quality of information on the effective classification and treatment of serious offenders also has had a broad effect on the development of law and policy in juvenile justice. Because there is little differentiation among serious adolescent offenders, legal policy has typically embraced "wholesale" reforms to deal with serious juvenile crime, relying primarily on legal, rather than social or developmental, factors to set policy guidelines (Zimring & Fagan, 2000). Statutes making waiver to adult court more inclusive and presumptive for adolescents charged with certain offenses are the newest examples of such reform. Without more solid information about the lives of serious adolescent offenders, these swings from one poorly substantiated position to another are destined to continue.

Literature on Desistance From Delinquency

A number of commentators and researchers have noted that what we need to know is how adolescents in the system get out of trouble (Farrington, Ohlin, & Wilson, 1986; Loeber & LeBlanc, 1990), or how they desist from antisocial activities. It would be valuable for courts and social service systems to know what pushes serious adolescent offenders toward productive lifestyles because their goal is to support and promote such influences (Uggen & Piliavin, 1998). Although there exist a few studies of factors that influence adult criminals' desistance from crime (e.g., Farrington, 2003; Laub, Nagin, & Sampson, 1998; Sampson & Laub, 1993), there, unfortunately, is no substantial body of literature about psychological or life changes among serious adolescent offenders that promote positive adjustment to early adulthood and a cessation of antisocial activity (Laub & Sampson, 2001; Losel & Bliesener, 1990). Although a majority of adolescents stop or decrease antisocial activity in late adolescence, we are far from understanding how such desistance occurs in serious adolescent offenders or what factors substantially influence this process.

There is little doubt that something important happens that leads serious adolescent offenders to change their behavior during the transition to early adulthood. One of the most consistently documented, although only partially understood, findings in criminology is the existence of an age-crime curve, showing that the likelihood of official and self-reported criminal activity within a cohort decreases during late adolescence and early adulthood (Blumstein, Cohen, Roth, & Visher, 1986; Piquero, Farrington, & Blumstein, 2003). More interesting, similar age curves are seen for alcohol and drug use as well as substance abuse

diagnoses (Chen & Kandel, 1995; Schulenberg, Maggs, & Hurrelman, 1997). Whether this general, macrolevel decrease is the result of there being fewer individuals in any given cohort engaging in antisocial behaviors at particular ages or, alternatively, the consequence of individual offenders decreasing their frequency of antisocial acts as they age is a contested issue.

Either way, there must exist one or more processes during late adolescence and early adulthood that cause some individuals who engaged in crime when they were younger even very serious offenders—to stop offending altogether or to slow down their rate of offending if they remain criminally active (Piquero et al., 2001). Numerous analyses of longitudinal data indicate that this pattern of change appears to occur differentially within subgroups of any cohort, with some individuals more likely to continue at a high rate of antisocial behavior and others more likely to drop off at different rates of decline (Nagin, Farrington, & Moffitt, 1995). Understanding the processes behind these turning points (Abbott, 1997) in offending among different groups of offenders is essential for designing sanctioning and intervention policies (LeBlanc & Loeber, 1998). If we can identify those factors that contribute to the naturally occurring pattern of desistance from crime that takes place during individuals' early 20s, we may be able to structure policies and practices that promote this process.

There are several general theories about factors that might promote desistance from antisocial activity. One possibility is that developmental change in late adolescence and early adulthood facilitates the acquisition or refinement of competencies and values that make criminal behavior less attractive or less acceptable. As individuals become more mature socially, emotionally, and intellectually, changes in their moral reasoning, future orientation, impulse control, or susceptibility to peer influence may steer them away from antisocial, risky, and dangerous behavior and toward more socially desirable and safer activities (Gardner, 1993; Keating, 1990; Steinberg & Cauffman, 1996). Fatigue may also be a factor, as individuals gradually lose strength, tolerance for physical exertion, the ability to recover from injury, and the ability to function on limited sleep.

A different, but related, possibility is that the transition into adult roles of work, family, and citizenship promotes new behavioral patterns and demands that make involvement in antisocial activity less acceptable and useful (Cernkovich & Giordano, 2001). Increased capacities and expectations to work, engage in more serious romantic relationships, start a family, and fulfill community roles result in reduced exposure to settings where antisocial activities are the norm. In concrete terms, individuals who spend their daytime hours in a supervised workplace, their evening hours with their spouse and children, and their nighttime hours sleeping to rest for the next workday have little opportunity to engage in criminal activity. Evidence in the area of substance abuse clearly shows that adult role transitions are related to decreases in alcohol and drug use (Kandel & Yamaguchi, 1993; Schulenberg et al., 1997), and it is likely that regular fulfillment of activities related to adult roles also moves individuals out of the circles where criminal involvement is more prevalent and normative.

A significant corollary of this general, developmental view adds the dimension of social investment as an important factor to consider in this process (Laub et al., 1998; Laub & Sampson, 2001). In this formulation, the developmental demands and rewards of early adulthood form the backdrop of opportunity that a young offender faces during this period. The commitment to a law-abiding lifestyle, however, is not an inevitable outcome of these changes in capacities, demands, and social contexts. The strength of attachment and commitment to these new roles and opportunities plays a large part in whether antisocial

activities continue. If these new roles and opportunities create valued experiences (e.g., a loving relationship, respect as part of a work group) that are important to the individual offender, then that individual may reach a point where the new lifestyle becomes a reality that is worth protecting. When commitment to work and family have been formed, there is something to lose, and therefore to be guarded. This investment in new social roles is believed to develop over an extended period, as an individual builds a social base that is maintained by eschewing opportunities for criminal involvement.

Many contend, however, that changes in psychological capabilities, social context, and societal investment are only part of the picture of positive change. Of equal importance is an internal psychological realignment of one's self-conceptions (Kiecolt, 1994; Giordano, Cernkovich, & Rudolph, 2002). Several researchers point out that changes in behavior patterns can only survive over time if an individual takes a proactive role in creating new opportunities for positive social involvement and if that individual processes experiences and opportunities in light of their newfound, "reformed" self (Shover, 1996). In this view of the desistance process, negative experiences bring about a resolve to change, and subsequent positive experiences get integrated over time into a new formulation of a law-abiding self-identity. As a result of psychosocial maturation, entrance into legitimate and socially sanctioned roles, and increased attachment to conventional institutions and values, individuals come to see themselves in a new light.

Qualitative work with those who have given up crime, substance use, or violence (e.g., Baskin & Sommers, 1998; Maruna, 2001; Mulvey & LaRosa, 1986; Shover, 1996) indicates that individuals regularly report some identifiable event (e.g., the death of a friend) that promoted an internal reorientation about the potential costs or benefits of antisocial or harmful behavior. Whether these accounts represent the actual cognitive changes that accompany dramatic shifts away from antisocial activities or whether they reflect the retrospective reconstruction of the factors that led to these changes is an open question. Nonetheless, it is reasonable to posit that any long-term reorientation away from antisocial activity toward more socially acceptable behaviors requires an enduring shift in how one sees oneself.

Stages of this reorientation may include being ready and motivated for change as a result of a period of self-examination or bad luck, experiencing a powerful event that prompts the change, and successive periods of trying to make the new lifestyle or identity work (Fagan, 1989). Changes in social context or events can trigger a psychological reorientation or vice versa, with each set of factors reinforcing each other, creating a more permanent pattern of altered behavior. The idea of a fluid, internal reorientation interacting repeatedly with opportunities and demands has certainly been a useful framework for other areas of research, such as the study of addictions (see the transtheoretical model used in this area; Prochaska, DiClemente, & Norcross, 1992; Prochaska & Velicer, 1997). Recognizing the importance of people's readiness to change and the need to integrate a new persona through successive positive actions acknowledges the dynamic nature of ceasing antisocial behavior.

Based on the literature to date, there is a need for research clarifying how this process might unfold among serious juvenile offenders. It appears that the desistance process involves interactions among dynamic changes in offenders' psychological states, developmental capacities, and social contexts. Expanding the rich leads from qualitative work and the initial quantitative analyses of existing longitudinal data sets, therefore, will require a sustained and coordinated research agenda. It will require a series of systematic investigations, each illuminating another aspect of the larger desistance process.

Building a General Framework for Desistance Research

Three things need to be sorted out to pursue a directed research agenda on desistance from crime among serious adolescent offenders. First, a sensible, measurable, and meaningful operational definition of desistance must be developed. Second, the factors most likely to be influential in promoting desistance need to be identified and specified in exact terms, to permit their reliable measurement and their ultimate translation into practice. Finally, meaningful and useful ways to characterize sanctions and interventions, and to build them into research designs, must be found. Much of the value of investigating desistance lies in the utility of results to inform the court about how to allocate resources most effectively. The sections that follow address these three tasks in further detail.

Defining Desistance

Defining desistance is not as easy as it seems at first blush. Broadly speaking, desistance is a decline over time in some behavior of interest. Two definitional considerations in the study of desistance are critical, however. First, and most fundamentally, it is important to distinguish between desistance as an end state versus desistance as a process (Laub & Sampson, 2001). Second, one must determine the most appropriate criteria by which to judge whether desistance has occurred. Different research questions will require different resolutions of these issues.

Desistance as an end state versus desistance as a process. One way to define desistance is to say it is when an individual who has been engaging in antisocial activity reaches a state of either greatly reduced antisocial activity or a negligibly low level of that activity for an extended time period. In Laub and Sampson's (2001) terms, an individual would have reached "termination." Desistance as not doing something is a commonsense definition; drinkers who have not had a drink for years say they stopped drinking, smokers who only have a few cigarettes a year say they stopped smoking. By determining whether someone has "desisted," factors can be identified that differentiate those who have desisted from those who have not. Laub and Sampson (2001) also pointed out the necessity to distinguish this end state of no longer engaging in a behavior from the process of desistance, the series of events that produce termination. In considering the process of desistance, the question of interest is what happens along the way to reducing the behavior. Identifying the points and influences that reduced the level of antisocial behavior dramatically are of primary concern.

The methodological demands inherent in studying desistance as a process differ from those inherent in studying desistance as an end state (Bushway, Piquero, Broidy, Cauffman, & Mazerolle, 2001). Studying desistance as a process does not necessarily require a lengthy time frame; however, it does require relatively more frequent assessments of individual behavior over the course of a time period to accurately model the process of change over time. Thus, for example, to understand the process through which individuals stop smoking, it would be necessary to do more than assess individuals one time when they are smokers and once again at some later point in time. This design would be informative if one were interested in knowing which individuals were more or less likely to quit; however, it would tell us nothing definitive about what influenced them to quit.

In contrast, studying desistance as an end state does not require frequent assessment; however, it does require adopting a long enough time frame to follow individuals until an

age, or over a long enough time period, for a substantial number of individuals to change their patterns of behavior in a relatively enduring fashion. Individuals who are on a trajectory of desistance may show temporary increases in the behavior in question during longer periods of overall decline. If the time frame adopted is too short, one will underidentify those who desist, even if individuals are assessed frequently. Of course, the obvious solution to this problem is to follow a sample indefinitely; however, this is seldom feasible. Instead, the duration of the study should be informed by cross-sectional findings concerning when (marked either by age or a temporal period after a particular event) by which the antisocial behaviors of interest seem to have declined dramatically. Thus, a study designed to understand desistance from crime as both a process and an end state must (a) employ frequent assessment and (b) follow individuals until they have passed the chronological age (in the case at hand, derived from age-crime curves) at which a large number would be expected to have desisted from criminal activity.

Criteria for determining desistance. As pointed out above, desistance is a process of change over time that results in the nonoccurrence of events, and deciding how one defines change over time and nonoccurrence can get rather involved. It is important to distinguish among desistance as the complete termination of the activity in question, desistance as the movement from a relatively higher rate of the activity to a relatively lower rate, or as the movement from relatively more serious or harmful form of the activity (e.g., armed robbery) to relatively less serious form of the activity (e.g., car theft). Within the last two of these definitions (i.e., desistance as diminished frequency vs. desistance as diminished seriousness), it is possible to make further distinctions (e.g., a decline in absolute frequency vs. a decline in the rate of the behavior; a drop in the seriousness of the most serious form of the activity reported during a prespecified time interval vs. a drop in the average seriousness of the activity during the prespecified time interval).

It is important to note that the definition of desistance as simply the absence or decline of a particular form of antisocial behavior does not allow for the possibility that other behaviors might be replacing the antisocial behavior of interest. We often do not have diverse enough data to allow for rich theorizing about different possible limits to the definition of desisting. If a young man, for instance, stops selling stolen merchandise but then starts living off his girlfriend's illegally obtained welfare checks, he may be categorized as desisting but might be more accurately categorized as simply changing his form of obtaining illegal funds. Thus, defining desistance as the achievement of a defined level of low or absent antisocial behavior presents only a limited picture of what might be an involved phenomenon.

Desistance can also be thought of as a marked decrease in antisocial behavior, rather than complete cessation. Rather than reaching a specified low value, desistance could be thought of as a large alteration in the frequency of engaging in antisocial behavior. A steep decline in the rate of offending indicates desistance, and desistance is therefore a period of decelerating offending over a reasonably long period rather than the achievement of a particular reduced state. In this way of thinking, desistance is a process in a series of events rather than a state achieved by an individual. This approach conceptualizes desistance as a sharp reduction in the slope of the rate of offending over time rather than as a change in the level of offending to a specified point near zero.

With desistance seen as a shift in the rate of behavior, questions can be asked about what dynamic factors in the person's life contributed to that shift. In the first formulation of desistance as the achievement of a defined lower level of antisocial activity, the motivating

question is primarily the identification of the characteristics that distinguish the desisting cases from the nondesisting cases, basing this categorization on the entire pattern of observations. In this alternative formulation, a person might not reach an extremely low level of antisocial behavior; however, the process of desistance can be said to have occurred in that person's career. The logic here is that the phenomenon of interest regarding desistance is the confluence of events or changes that produces a turnaround in patterns of offending, rather than an absolute reduction to an arbitrarily low level of involvement in antisocial activity.

One attraction of this perspective on the process of desistance is that it recognizes the intermittency of antisocial behavior noted above (Piquero, 2004). People may well move in and out of repeated states of stopping a behavior as they progress toward total, extended cessation (Matza, 1964; Vaillant, 1995). Thus, during an extended period of observation, an individual might undergo a process of desisting from antisocial behavior multiple times. If desistance is seen as sharp reduction in antisocial behavior, this intermittency is no longer a problem for achieving case categorization but is instead a repeated display of the phenomenon of interest.

The obvious problem with this definition is that it depends on intraindividual variability rather than a standard that can be applied uniformly across all cases. Defining a period of desistance is relative to each person's series of observations. One individual's 50% reduction in antisocial behavior over a given time period may be considerably less in absolute terms (e.g., number of incidents) than another individual's equivalent reduction. In addition, statistical decision rules for determining what distinguishes random fluctuation in a series of observations from "true" desistance are required.

Each of these definitions serves different purposes. The first definition (calling for achievement of a uniform low level of antisocial behavior) would seem most useful when attempting to sort cases at a particular processing point (e.g., disposition). Adolescents who are likely to desist over a given time period might not require as many resources as those who are less likely to do so; adolescents who are likely to keep offending at a high rate might be more reasonable candidates for incarceration. The second and third definitions (viewing desistance as a change in the seriousness of behavior and viewing desistance as a sharp reduction in the rate of antisocial activity) may be most useful for investigating what makes a difference in reducing antisocial activities in high-risk groups. Sorting out what factors (either interindividual differences or intraindividual changes) contribute heavily to marked reductions in the seriousness and/or volume of antisocial activity could be very useful for focusing the activities of interventions or sanctions more effectively. Using declines (rather than complete desistance) could reveal intervention successes that would be masked by more stringent definitions.

Integrating different definitions of desistance. It is important to note the simple fact that what promotes desistance operationalized in one of these fashions may not be the same as what promotes desistance operationalized in a different (although equally reasonable) fashion. Thus, wedding oneself to the superiority of one conceptualization over another when designing research in this area seems shortsighted. Instead, a well-designed study of desistance of antisocial behavior in late adolescence should, in our view, have a richenough measurement of antisocial behavior to allow for exploration of a variety of explanatory models for different conceptualizations of desistance. Based on the above discussion, it seems that any measurement of desistance should be able to demonstrate three things.

First, any measurement of desistance should be able to demonstrate whether an individual's antisocial behavior has remained below a certain low level for some reasonably long period. Adoption of this standard for investigating desistance makes sense in light of the need to determine which adolescents are likely to follow a pattern of decelerating involvement in antisocial activities and which are not. A serious adolescent offender whose antisocial behavior dramatically drops off, but still remains well above the level of that activity observed in the rest of a cohort of offenders, or at a level that is unacceptably high, is still a concern from a policy and practice perspective. Similarly, a serious adolescent offender whose antisocial behavior drops off but then accelerates again to a new, higher level certainly should not be considered a "true desister." An interesting process of change may have occurred; however, saying that this offender has desisted does little to help the courts figure out who might still be a public safety concern.

Second, a sensible measurement of desistance from crime must also be able to demonstrate a significant, within-individual decline in the frequency or rate of antisocial behavior. The achievement of any arbitrarily set low level of antisocial activity, in the absence of a significant decline in the activity over time, may not indicate a theoretically significant degree of change to warrant a label of desistance. One important implication of this is that desistance can be studied only among individuals who have demonstrated a frequency or rate of offending great enough to allow for a significant decline in the activity. Accordingly, not all serious adolescent offenders in a given sample are potential desisters. An individual who has committed a serious crime once, and only once, is not an appropriate subject for a study of the process of desistance.

Finally, a comprehensive view of desistance should allow for differentiation between the observed reduction in one type of antisocial behavior versus a more generalized decline in antisocial activity across several types of antisocial behavior. From the perspective of policy or practice, limiting the study of desistance to the study of change in only one particular behavior or set of behaviors would be of limited usefulness because it would not take into account the process of crime substitution (e.g., where a rapist desists from committing rape but increases his involvement in armed robbery). Desistance might occur in different ways or at different ages for specific behaviors (LeBlanc & Loeber, 1998; Warr, 1998), or it might be a broader process or reorientation to a whole set of activities (Kerner, Weitekamp, Stelly, & Thomas, 1997), and investigating this question is essential to the development of comprehensive theory in this area. Thus, measuring change over time across several different types of antisocial behavior and relating these patterns of change to each other is necessary to make the distinction between behavior specific and more global desistance.

Identification of the Processes of Change

Describing patterns of desistance in serious adolescent offenders, even without necessarily being able to predict which offenders follow which patterns, would be a valuable social scientific contribution. Because so little is currently known, it would be useful to have a richer picture of how heterogeneous the change process is for these adolescents during this critical developmental period. This information would bear directly on the validity of policy arguments that portray serious adolescent offenders as a relatively homogeneous group who follow the same general path toward future criminality.

It would be even more useful, however, to know what factors prompt positive change among these adolescents during this period. Unfortunately, current research on this topic is also sparse. A limited number of studies have identified a few factors, such as a positive marriage or steady employment, as likely candidates for promoting positive change (Laub et al., 1998). These studies, however, have focused on adults, and it is not known whether the same, or even comparable, factors affect juveniles similarly.

The factors related to the initiation and continuation of serious offending are not necessarily the same as those that might be most influential in promoting desistance (Rutter, 1990). Some of these might be important for understanding desistance, whereas others may not, and new factors related to the developmental challenges of late adolescence and early adulthood certainly have to be considered. A conceptual overview of factors potentially relevant for promoting or inhibiting desistance is needed to focus research efforts in this area. These factors include changes in one's sense of personal agency, psychological capacities, attitudes and beliefs, or social context. These factors may change as a result of maturation, as individuals develop into young adulthood, or as a consequence of exposure to various types of sanctions and interventions.

Sense of personal agency. Studies of desistance from harmful activities, such as alcohol abuse or smoking, indicate that any lasting change toward positive behavior requires conscious commitment to avoid old habits and to maintain new ones. In the case of serious adolescent offenders, this might mean the continued resolve to avoid certain peers and places or to regularly attend vocational training classes. Lasting change for these adolescents would likely require, at some point, an affirmative choice to rearrange one's daily patterns of activities or goals to achieve a better overall outcome. To accomplish this, individuals must have a sense of personal agency—the confidence that they have control over the activities in which they engage and the people with whom they associate.

The pivotal role of this positive choice to rearrange one's life has been documented in numerous qualitative studies of the process of personal reformation. Several models of this process posit that individuals go through different stages of resolve to change, usually starting with aversive events that trigger repeated efforts to maintain new behaviors (Fagan, 1989; Kiecolt, 1994; Maruna, 2001; Shover, 1996). Several investigators contend that a variety of life events may initiate the desistance process but that the ultimate outcome of these changes rests on the person's cognitive shifts about who they are as the desistance process unfolds (Giordano et al., 2002). In the case of serious adolescent offenders, it would seem particularly important to examine how personal resolve to change one's life might translate into changing one's routine activities and patterns of association because greater amounts of unstructured time in the community (Horney, Osgood, & Marshall, 1995; Warr, 1998) and association with antisocial peers have been shown to be related to increased likelihood of involvement in crime during adolescence.

A comprehensive study of desistance from crime among juvenile offenders should therefore examine how changes in individuals' sense of personal agency affect the process of making the commitment to refrain from antisocial activity, the factors that contribute to the development of the discipline to carry out such commitment, and the development of a new and more supportive social network. As documented in other investigations of efforts to stop undesirable behaviors, these new associations may have to be built repeatedly before they can withstand the pressures to return to old ways. Documenting these continued interactions between personal resolve and the restructuring of social ties could provide a rich view of how personal agency, carried out through conscious alterations of social context and daily activities, may prompt desistance.

Changes in capacities. Individuals are still developing intellectually and psychosocially in late adolescence, and the types of changes that occur during this period have considerable relevance for the process of desistance. Adolescents are not fully formed beings, with recent research showing that even basic cognitive processes related to brain development continue well into late adolescence (Keating, 2004). It is clear that individuals gain psychosocial and technical skills throughout the adolescent period, and these could set the stage for successful transition into early adulthood roles.

During late adolescence, individuals change in their abilities to interpret and handle social situations. Certain psychosocial characteristics such as responsibility (i.e., autonomy, self-reliance, sense of identity), perspective (i.e., future orientation, the ability to consider alternative viewpoints), and temperance (i.e., capacity for self-regulation, emotional reactivity, impulsivity) all increase over the course of adolescence (Steinberg & Cauffman, 1996; Steinberg, Chung, & Little, 2004). It is reasonable to assume that these skills affect how adolescents make decisions about involvement in crime, their goals and aspirations, and their adjustment to new social roles and responsibilities. Mapping out how the development of these capacities affects choices and opportunities regarding antisocial behavior in late adolescence could provide valuable information about the cognitive and emotional capacities critical to engagement in the desistance process.

Finally, adolescents may acquire other, more technical skills during adolescence that could affect their choices and opportunities. Completion of a job training program or working with an elder in the community might give an adolescent a marketable skill that he or she did not have before. Some such experiences may be accessible to certain youths only through institutional placements or court-ordered services. Yet acquisition of these skills might be a prerequisite for continued, fulfilling employment or a changed view of oneself.

Changes in attitudes and beliefs. Adolescents' attitudes and beliefs can evolve considerably between adolescence and adulthood, particularly regarding criminal offending and the legal system. As adolescents develop a stronger sense of identity and increased psychosocial maturity, their attitudes about personal responsibility, altruism, consideration of the viewpoints of others, and the value of risk-taking and sensationseeking behavior may change. Such shifts are common between adolescence and adulthood, and logically related to involvement in antisocial behavior (Cauffman & Steinberg, 2000). In addition, it seems particularly important to consider how adolescents' perceptions of, and attitudes about, the legal system and the acceptability of involvement in criminal activity change over this developmental period. Research on adults indicates that perceptions regarding procedural justice (Tyler & Lind, 2000) play an influential role in decisions to obey the law (Tyler, 1990, 1997). Perceptions of the legitimacy of law and the fairness of the legal system may be shaped by the ongoing encounters that offenders have with police and court personnel. These legal socialization experiences may be critical components of later legal compliance.

Research on processes of desistance among serious offenders must directly measure changes in how individuals view the costs and benefits of crime. This would include an assessment of juveniles' perceptions of the interpersonal (e.g., social approval or disapproval) as well as instrumental (e.g., financial, lifestyle) consequences of antisocial activity and of exposure to sanctions. Presumably, as adolescents mature into adulthood, their appraisal of the relative costs and benefits of offending changes in ways that promote desistance.

For serious offenders, attitudes about the benefits or costs of offending will probably be affected by punishments received or imagined as likely. Views of deterrence may change dramatically during late adolescence as the legal, social, personal, and moral costs of offending are raised (Grasmick & Bursik, 1990). At the same time, attitudes about the benefits of living a law-abiding life may shift as well, with the currency offered by this alternative suddenly having real value. Desistance can certainly be triggered or supported by beliefs and attitudes related to deterrence, and these can, in turn, become vivid and fluid for adolescent offenders as the result of a punishment experience.

Changes in social contexts. Not all the changes that take place in late adolescence are endogenous; some equally powerful ones are exogenous. Late adolescence is usually marked by some basic, predictable shifts in whom individuals associate with, how they invest their energy, and where they spend their time. These changes in social context may alter opportunities and incentives for prosocial and antisocial activity. As noted above, some of these changes in social context may be deliberate attempts by adolescents to alter their opportunities (e.g., conscious choices to avoid antisocial peers or stay off the streets during times when others are engaged in crime). Others, however, may be related to changes in social roles that accompany late adolescence and young adulthood (e.g., changes in patterns of affiliation as a result of enrollment in school, employment, or marriage).

Late adolescence is also often a period of change in family context, with youths departing to live on their own or otherwise becoming more autonomous and less subject to parental control. Given the importance of parental monitoring as a risk marker for continued delinquency (Gorman-Smith, Tolan, & Henry, 2000; Loeber, Farrington, Stouthamer-Loeber, Moffitt, & Caspi, 1998) and the centrality of parental involvement in some of the more successful interventions for delinquents (see, e.g., Cunningham & Henggeler, 1999), it certainly seems reasonable to explore how normative changes in relationships with parents in late adolescence might affect desistance. One of the major goals of adolescent development is to develop autonomy from parents while maintaining a healthy attachment (Allen, Aber, & Leadbeater, 1990; Steinberg & Morris, 2001). How families provide scaffolding to assist this task positively or continue detrimental patterns of relationships that undermine this critical developmental transition seem to be important questions to explore regarding desistance.

Studies of desistance should also examine the ways in which social relationships change during late adolescence and what impact these changes have on offenders' behavior. The universe of potential friends expands as individuals leave high school and venture into settings beyond the familiar neighborhood. In general, as individuals move into late adolescence, they enjoy greater choice of friends and increased opportunity to exercise control over patterns of affiliation and social activity. Some types of relationships may wane in influence (e.g., relationships with school friends) whereas others (e.g., with romantic partners or work mates) may become more important. New roles in the community also open up during late adolescence and early adulthood, often connected to work environments or more mainstream institutions such as churches. Finally, if an adolescent has social service needs after he or she becomes age 18, that adolescent finds himself or herself negotiating a whole new system of care and agency settings as well as possibly coming into contact with new individuals (Clark & Davis, 2000).

Each of these shifts in social context brings redefined or new social relationships and expectations regarding the acceptability of antisocial behavior. Successful adjustment to new demands in some of these contexts may promote desistance (e.g., marriage,

parenthood, and employment), whereas changes in other social contexts (e.g., moving out of one's parents' household) may promote continued antisocial activity. These changes provide naturally occurring turning points for young adolescents, and failure to capitalize on them can limit future, linked opportunities.

The broader view: Accumulating capital. Desistance from antisocial activity requires a supporting structure for positive activities, and this can exist only if the adolescent has the necessary building blocks for its construction. One way to think about how the individual and contextual changes outlined above might promote desistance is to see them as generating assets that facilitate the successful transition to young adulthood. In other words, it is the accumulation of human and social capital during late adolescence that makes the successful transition to young adulthood, and desistance from antisocial activity, possible.

Human capital (see Becker, 1993) can be thought of as the basic capacities, skills, and individual propensities that an adolescent has to work with as he or she takes on the challenges of young adulthood. The amount and type of human capital that a young person has, although possibly limited by factors such as basic intelligence or mental illness, is far from set during late adolescence. Significant shifts in human capital can be expected to result from changes in personal agency, psychosocial development, or skill acquisition.

Social capital (see Lin, 2001; Portes, 1998; Putnam, 2000) can be thought of as the total value that an adolescent derives from his or her social network. People in an adolescent offender's life (e.g., friends, extended family members, parents, people in community groups, coworkers) all engage in some level of instrumental and emotional exchange with that individual that can promote (or prevent) positive development. Adolescent offenders may expand or reduce their social capital in late adolescence through changes in their psychosocial skills or their exposure to new social contexts. These adolescents may become more involved in positive social relationships as they mature and their abilities to relate to others in a more positive manner emerge. Similarly, experiences in new social contexts, such as a supportive workplace rather than a school setting associated with past failures, may create a new network of friends who can be relied on for consistent, prosocial feedback. Alternatively, time spent in an adult correctional facility may introduce an adolescent offender to a more mature, criminally active network with limited potential to provide positive resources or support. As social capital increases, one would expect desistance from antisocial activity to be more likely because the adolescent now has more investment in maintaining the supports around him or her.

The notions of human and social capital can be useful "metaconstructs" for thinking about the processes behind desistance from antisocial activity. These two aspects of an adolescent's life encompass the opportunities and limits for meeting the developmental challenges connected with successful young adulthood. Maintaining a job, staying out of trouble, fitting into a community, and having healthy relationships all require adolescent offenders to build considerable human and social capital (Morrow, 1999). Identifying the types of resources that are most essential for young offenders to make a positive adjustment and learning how these components of human and social capital build on each other are ambitious but vital research goals.

The Role of Interventions and Sanctions in the Desistance Process

Thus far, we have emphasized the utility of a developmental perspective for understanding desistance in serious adolescent offenders. All adolescents, offenders

included, face changes, challenges, and opportunities in late adolescence. Desistance from antisocial activity among adolescents cannot be considered separately from the concurrent developmental shifts that occur during this period. However, there is one additional wrinkle when considering serious adolescent offenders: Most of these adolescents experience sanctions or interventions in addition to whatever normative developmental influences might accompany the transition to young adulthood. Sorting out the influences of these experiences, and understanding how they interact with the developmental processes outlined above, is the third critical component of constructing a research agenda on desistance.

The literature on the effectiveness of sanctions and interventions does not definitively indicate which approaches are most effective in reducing continued criminal offending or antisocial behavior. Meta-analyses of interventions for adolescent offenders (e.g., Andrews et al., 1990; Aos et al., 1999; Lipsey & Wilson, 1998) comparing the effectiveness of different modalities, or substantive treatments, have concluded that programs focusing on human capital development (jobs and job skills) are relatively more effective than punitive interventions designed to scare juveniles away from antisocial activity. Meanwhile, other detailed reviews (Gendreau & Ross, 1987; Sherman et al., 1997; Tolan & Guerra, 1994) emphasize the importance of increasing psychosocial capacities, finding consistent support for behavioral-cognitive approaches that emphasize perspective taking, moral reasoning, or problem-solving skills to resolve interpersonal disputes. Meanwhile, others place a heavy emphasis on the importance of addressing issues related to social context, citing experimental evidence that comprehensive, individualized, community-based approaches (especially those with a clear orientation toward community integration) are more effective than standard correctional intervention for reducing recidivism (Fagan, 1990; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998; Tate, Reppucci, & Mulvey, 1995). In contrast to evidence in support of efforts to increase offenders' human capital, improve social skills, or alter their social context, research on sanctioning effects (see Bishop & Frazier, 2000) indicates that more punitive sanctions in adult court actually may increase the rate and seriousness of subsequent offending among adolescents.

Assessing intervention and sanction effects in light of their role in the desistance process offers the possibility of elucidating some of the mechanisms by which these programs affect subsequent patterns of offending. Assessing how these experiences influence the desistance process is not the same as determining whether certain programs "work," however. This latter question is almost always framed in terms of a relative assessment of how many adolescents exposed to particular sanctions or interventions do illegal or antisocial activities within a given follow-up period. In thinking about how interventions and sanctions affect desistance, however, the primary task is to identify what it is that an adolescent gained from a sanctioning or intervention experience that either promoted or slowed the desistance process. The global question of how well a particular type of sanction (e.g., incarceration) or intervention (e.g., vocational training) reduces or increases the likelihood of reoffending is certainly a valid one to consider. However, a more differentiated look at how a sanctioning experience or program involvement affects an adolescent's sense of agency, psychological capabilities, attitudes, or social context, and, in turn, his or her human and social capital, would provide even more useful information.

Interventions vary with respect to the mediating mechanisms through which they might affect desistance. Some interventions, for example, might alter certain aspects of the offender's psychological functioning in ways that increase or decrease the likelihood of desistance from crime. Mental health symptoms, for example, may limit an adolescent offender's ability to adjust to the demands of living independently. In this situation, psychiatric or psychological treatment may reduce mental health symptoms, allowing for improved school or work performance. Periods of long confinement connected with certain sanctions, on the other hand, might exacerbate mental health symptoms, decreasing the likelihood of successful community functioning. Alternatively, interventions might provide new, critical skills that increase or decrease the likelihood of successful adjustment. The acquisition of specific job skills during an institutional stay, for example, may open up vocational opportunities on return to the community. Investigation of the effects of interventions and sanctions for their impact on identified skills or aspects of functioning that are posited to have a mediating relationship to desistance would be one valuable way to consider these events in the lives of adolescent serious offenders.

A similar approach would be to investigate whether interventions and sanctions affect attitudes in the expected manner, and whether these changes are related to desistance. Most interventions or sanctions intend that adolescent offenders see the world differently after their involvement. Sanctioning experiences are aimed at giving adolescents a different perspective about the costs or benefits of engaging in particular antisocial activities. Residential treatment facilities often promote changes in attitudes about community involvement or peer associations. Identifying whether adolescents alter their basic attitudes about relationships or involvement in criminal activities as presumed, and measuring the relation between such attitudinal changes and desistance, are critical steps in determining the value of these strategies for shaping behavior among serious adolescent offenders.

Finally, sanctions or interventions can have an impact on desistance by altering the offender's social contexts. Interventions such as multisystemic therapy (Henggeler et al., 1998) or functional family therapy (Alexander et al., 1998) are specifically aimed at changing the juvenile's family context. Placements in treatment facilities often remove adolescents from the settings that promote antisocial activity and provide them with alternative peer networks and opportunities for involvement in activities that did not exist in their home environment. Sanctions can also operate negatively, however, when potentially positive activities are missed as a result of being out of the community for an extended period. Long terms of incarceration can remove an individual from involvement in the job market, for instance, increasing the likelihood of a downward spiral of events making crime a more reasonable activity (Fagan & Freeman, 1999; Sampson & Laub, 1995). Whether the shifts in social context brought about by interventions and sanctions provide more opportunities for resources that promote desistance, regardless of functional or attitudinal changes, or whether they prevent positive involvement in the types of activities needed to succeed as a young adult are critical questions.

In the end, assessing the effects of sanctions and interventions in promoting desistance can provide a wealth of information to help improve programs, policies, and practice. The potential contribution here, however, probably does not rest with determining which interventions have the largest effects on subsequent offending. This is a task fraught with methodological problems related to how interventions and offenses are categorized and how the selection process into specific environments is modeled for statistical analysis (Nagin & Manski, 1998). The contribution here probably rests much more on a careful delineation of why particular interventions might be expected to have an effect on the patterns of desistance through their effects on specific mediating variables related to desistance. Demonstration of these effects could provide guidance for programs striving to redirect serious adolescent offenders toward more positive outcomes.

Conclusion

The general framework presented here for conceptualizing the desistance process in serious adolescent offenders during late adolescence and early adulthood can be useful for guiding future research efforts. It is not a clear blueprint for research but is instead a broad outline of how research in this area might evolve. It provides a way to formulate constructs and proposed relationships that can be tested for their roles in promoting desistance. Still, there are a vast number of methodological and analytical issues, not addressed here, that need to be resolved before the potential of research in this area can be realized.

The importance of taking a developmental perspective in future research on this topic deserves special emphasis. The basic logic for investigating the process of desistance in tandem with that of normative development is rooted in the simple observation that a large proportion of serious adolescent offenders end up doing reasonably well in early adulthood. These individuals may not be model citizens or ideal neighbors; however, they are also not the incorrigible criminals that some thought they would inevitably become. Investigating how this rather consistent shift can occur during a specific period in someone's life is fundamentally a developmental question. Unraveling this regularity requires asking questions about how "normal" change occurs during this period of development—how people's views of themselves change, what new social demands are placed on them—and how these changes might be the same or different from those that occur in serious adolescent offenders. This perspective offers the chance to see how the process of development in serious adolescent offenders can be made more "normal."

We laid out a vast array of mechanisms by which desistance can occur and emphasized the potential utility of exploring those tied to normative development in late adolescence. It is important to remember, however, that the overall goal is to explain how desistance occurs in a select group of adolescents, ones who for a variety of reasons end up being in the juvenile or adult justice systems. For these adolescents, the process of change might follow a calculus with factors not commonly found in "normal" development. Desistance can be sparked by an external shock, such as a sanctioning experience, a life event, or a personal turning point. Turning points can come about from an accumulation of influences (e.g., pressure from family or friends, sudden change in circumstances or contexts), and these may prompt a movement away from frequent criminal activity. Internal changes in the calculation of the costs and benefits of crime can accompany development experiences or opportunities, or natural developmental increases in capacities might promote positive change. The larger task for researchers is to identify the common mechanisms for changes in offending that occur in serious offenders, and to flesh out this theoretical framework into a useful body of knowledge.

Figure 1 summarizes the key elements of the desistance framework that we presented. Outcomes (positive and negative) are determined by characteristics of the individual, which, in turn, are shaped by the influences of life events, normative development, contextual factors, and sanctions and interventions that may be assigned over time. Not depicted in the figure are the complex interrelations between the various domains. An individual's beliefs can, for example, lead to decisions to alter one's environment or seek treatment, which can further increase human and social capital, reinforcing prosocial values and resulting in desistance from antisocial behavior. Filling in the numerous possible connections in this general framework is the formidable challenge of researchers in this area.

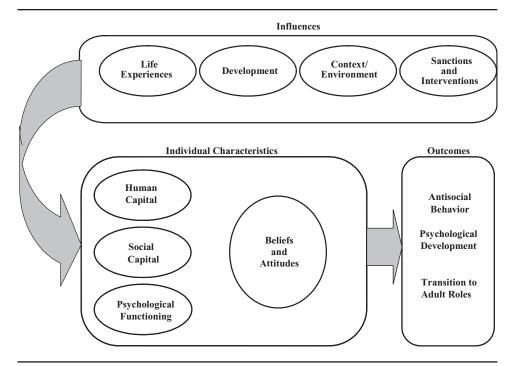


Figure 1. A General Framework for Research on Desistance From Antisocial Activity by Serious Adolescent Offenders

Any future research agenda should not, however, lose sight of the potential practical payoff of this line of inquiry. Investigation of desistance can provide sound theoretical guidance for difficult decisions facing the courts dealing with serious adolescent offenders. As such, a few basic questions should remain touchstones for this agenda as it moves forward.

Are there different trajectories out of offending within samples of serious adolescent offenders, and what do these pathways look like? What are the identifiable influences that alter the trajectories of antisocial behavior? What opportunities or shifts in thinking are pivotal in the desistance process?

Do sanctions and interventions change the attitudes, social capital, and human capital of adolescents who receive them? If they do, is this change related to more positive functioning in different areas of life? Are there ways that the court can be using sanctions more effectively with certain types of adolescents to promote the desistance process?

Answering questions such as these with systematic research on desistance holds promise for improving policy and practice regarding serious adolescent offenders. Courts currently make their best allocation of resources based on beliefs that may or may not be well grounded. More refined information about how the most difficult adolescents in the system succeed could focus these efforts on the most effective strategies for encouraging positive change.

REFERENCES

- Abbott, A. (1997). On the concept of the turning point. Comparative Social Research, 16, 85-105.
- Alexander, J. F., Barton, C., Gordon, D., Grotpeter, J., Hansson, K., & Harrison, R. (1998). Blueprints for violence prevention, book three: Functional family therapy. Boulder: University of Colorado, Center for the Study and Prevention of Violence.
- Allen, J., Aber, J., & Leadbeater, B. (1990). Adolescent problem behaviors: The influence of attachment and autonomy. Psychiatric Clinics of North America, 13, 455-467.
- Andrews, D. A., Zinger, I., Hoge, R., Bonta, J., Gendreau, P. & Cullen, F. (1990). Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. Criminology, 28, 369-404.
- Aos, S., Phipps, P. V., Barnoski, R., & Leib, R. (1999). The comparative costs and benefits of programs to reduce crime: A review of national research findings with implications for Washington State (Report No. 99-05-1202). Olympia: Washington State Institute for Public Policy. Retrieved from www.wsipp.wa.gov/crime/costben.html
- Baskin, D., & Sommers, I. (1998). Casualties of community disorder: Women's careers in violent crime. Boulder, CO: Westview.
- Becker, G. (1993). Human capital (3rd ed.). New York: Columbia University Press.
- Bennett, W., DiIulio, J., & Walters, J. (1996). Body count: Moral poverty and how to win America's war against crime and drugs. New York: Simon & Schuster
- Bishop, D., & Frazier, C. (2000). Consequences of transfer. In J. Fagan & F. Zimring (Eds.), The changing borders of juvenile justice. Transfer of adolescents to the criminal court (pp. 227-277). Chicago: University of Chicago Press.
- Blumstein, A., Cohen, J., Roth, J., & Visher, C. (1986). Criminal careers and "career criminals." Washington, DC: National Academy Press.
- Broidy, L. M., Nagin, D. S., Tremblay, R. E., Brame, B., Dodge, K. A., Fergusson, D., et al. (2003). Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six-site, cross-national study. Developmental Psychology, 39(2), 222-245.
- Bushway, S., Piquero, A., Broidy, L., Cauffman, E., & Mazerolle, P. (2001). An empirical framework for studying desistance as a process. Criminology, 39, 491-515.
- Cauffman, E., & Steinberg, L. (2000). (Im)maturity of judgment in adolescence: Why adolescent may be less culpable than adults. Behavioral Sciences and the Law, 18, 1-21.
- Cernkovich, S. A., & Giordano, P. C. (2001). Stability and change in antisocial behavior: The transition from adolescence to early adulthood. Criminology, 39, 371-410.
- Chen, K., & Kandel, D. (1995). The natural history of drug use from adolescence to the mid-thirties in a general population sample. American Journal of Public Health, 85, 41-47.
- Cicourel, A. (1968). The social organization of juvenile justice. New York: John Wiley.
- Clark, H., & Davis, M. (Eds.). (2000). Transitions to adulthood: A resource for assisting young people with emotional or behavioral difficulties. Baltimore: Paul H. Brookes.
- Coie, J., & Dodge, K. (1997). Aggression and antisocial behavior. In W. Damon (Ed.) (N. Eisenberg, Vol. Ed.), Handbook of child psychology, Vol. 3: Social, emotional, and personality development (5th ed., pp. 779-862). New York: John Wiley.
- Cunningham, P., & Henggeler, S. (1999). Engaging multiproblem families in treatment: Lessons learned throughout the development of multisystemic therapy. Family Process, 38, 265-281.
- Emerson, R. (1969). Judging delinquents. Chicago: Aldine.
- Fagan, J. (1989). Cessation of family violence: Deterrence and dissuasion. In L. Ohlin & M. Tonry (Eds.), Family violence. Crime and justice: A review of the research (pp. 377-425). Chicago: University of Chicago Press.

- Fagan, J. (1990). Treatment and reintegration of violent delinquents: Experimental results. Justice Quarterly, 7, 233-263.
- Fagan, J., & Freeman, R. (1999). Crime, work, and unemployment. In M. Tonry (Ed.), Crime and justice: A review of research (pp. 225-290). Chicago: University of Chicago Press.
- Farrington, D. (2003). Key results from the first forty years of the Cambridge study in delinquent development. In T. Thornberry & M. Krohn (Eds.), Taking stock of delinquency: An overview of findings from contemporary longitudinal studies (pp. 137-183). New York: Kluwer/Plenum.
- Farrington, D., Ohlin, L., & Wilson, J. (1986). Understanding and controlling crime: Toward a new research strategy. New York: Springer-Verlag.
- Feld, B. (1999). Bad kids: Race and the transformation of the juvenile court. New York: Oxford University Press.
- Gardner, W. (1993). A life-span rational choice theory of risk taking. In N. Bell & R. Bell (Eds.), Adolescent risk taking (pp. 66-83). Newbury Park, CA: Sage.
- Gendreau, P., & Ross, R. (1987). Revivification of rehabilitation: Evidence for the 1980s. Justice Quarterly, 4, 349-407.
- Giordano, P. C., Cernkovich, S. A., & Rudolph, J. L. (2002). Gender, crime, and desistance: Toward a theory of cognitive transformation. American Journal of Sociology, 107, 990-1064.
- Gorman-Smith, D., Tolan, P. H., & Henry, D. B. (2000). A developmental-ecological model of the relation of family functioning to patterns of delinquency. Journal of Quantitative Criminology, 16(2), 169-198.
- Grasmick, H., & Bursik, R. (1990). Conscience, significant others, and rational choice: Extending the deterrence model. Law and Society Review, 24, 837-861.
- Henggeler, S., Schoenwald, S., Borduin, C., Rowland, M., & Cunningham, P. (1998). Multisystemic treatment of antisocial behavior in children and adolescents. New York: Guilford.
- Henry, D., Tolan, P., & Gorman-Smith, D. (2001). Longitudinal family and peer group effects on violence and nonviolent delinquency. Journal of Clinical Child Psychology, 30, 172-186.
- Horney, J. Osgood, D. W., & Marshall, I. H. (1995). Criminal careers in the short term: Intraindividual variability in crime and its relation to local life. American Sociological Review, 60, 655-673.
- Kandel, D., & Yamaguchi, K. (1993). From beer to crack: Developmental patterns of drug involvement. American Journal of Public Health, 83, 851-855.
- Karoly, L., Greenwood, P., Everinham, S., Hoube, J., Kilburn, M., Rydell, C., et al. (1998). Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions. Santa Monica, CA: RAND.
- Keating, D. (1990). Adolescent thinking. In S. Feldman & G. Elliot (Eds.), At the threshold: The developing adolescent (pp. 54-89). Cambridge, MA: Harvard University Press.
- Keating, D. (2004). Cognitive and brain development. In R. Lerner & L. Steinberg (Eds.), Handbook of adolescent psychology (2nd ed., pp. 45-84). New York: John Wiley.
- Kerner, H., Weitekamp, E., Stelly, W., & Thomas, J. (1997). Patterns of criminality and alcohol abuse: Results of the Tuebingen Criminal Behaviour Development Study. Criminal Behaviour and Mental Health, 7, 401-420.
- Kiecolt, K. (1994). Stress and the decision to change oneself: A theoretical model. Social Psychology Quarterly, 57, 49-63.
- Laub, J., Nagin, D., & Sampson, R. (1998). Trajectories of change in criminal offending: Good marriages and the desistance process. American Sociological Review, 63, 225-238.
- Laub, J., & Sampson, R. (2001). Understanding desistance from crime. In M. Tonry (Ed.), Crime and justice: A review of research (Vol. 28, pp. 1-69). Chicago: University of Chicago Press.

- LeBlanc, M., & Loeber, R. (1998). Developmental criminology updated. In M. Tonry (Ed.), Crime and justice: A review of research (Vol. 23, pp. 115-197). Chicago: University of Chicago Press.
- Lin, N. (2001). Social capital: A theory of social structure and action. New York: Cambridge University Press.
- Lipsey, M., & Wilson, D. (1998). Effective intervention for serious juvenile offenders: A synthesis of research. In R. Loeber & D. Farrington (Eds.), Serious and violent juvenile offenders: Risk factors and successful interventions (pp. 313-345). Thousand Oaks, CA: Sage.
- Loeber, R., Farrington, D., Stouthamer-Loeber, M., Moffitt, T., & Caspi, A. (1998). The development of male offending: Key findings from the first decade of the Pittsburgh Youth Study. Studies on Crime and Crime Prevention, 7, 141-171.
- Loeber, R., & LeBlanc, M. (1990). Toward a developmental criminology. In M. Tonry & N. Morris (Eds.), Crime and justice: An annual review of research (Vol. 12, pp. 375-473). Chicago: University of Chicago Press.
- Loeber, R., & Stouthamer-Loeber, M. (1986). Family factors as correlates and predictors of juvenile conduct problems and delinquency. In M. Tonry & N. Morris (Eds.), Crime and justice: An annual review of research (Vol. 7, pp. 29-149). Chicago: University of Chicago Press.
- Losel, F., & Bliesener, T. (1990). Resilience in adolescence: A study on generalizability of protective factors. In K. Hurrelman & F. Lozel (Eds.), Health hazards in adolescence (pp. 299-320). New York: de Gruvter.
- Maruna, S. (2001). Making good: How ex-convicts reform and rebuild their lives. Washington, DC: American Psychological Association.
- Matza, D. (1964). Delinquency and drift. New York: John Wiley.
- Moffitt, T. (1993). Adolescence limited and life course persistent antisocial behavior: A developmental taxonomy. Psychological Review, 4, 671-701.
- Moffitt, T., & Caspi, A. (2002). Males on the life-course-persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. Developmental Psychology, 14, 179-207.
- Morrow, V. (1999). Conceptualising social capital in relation to the well-being of children and young people: A critical review. Sociological Review, 47, 744-765.
- Mulvey, E. (1999). Comments on "Can social programs reduce juvenile crime?" by Mark Lipsey. *Virginia Journal of Social Policy and the Law*, 6, 643-653.
- Mulvey, E., & LaRosa, J. (1986). Delinquency cessation and adolescent development: Preliminary data. American Journal of Orthopsychiatry, 56, 212-224.
- Mulvey, E., & Woolard, J. (1997). Themes for consideration in future research on prevention and intervention with antisocial behaviors. In D. M. Stoff, J. Brieling, & J. D. Maser (Eds.), Handbook of antisocial behavior (pp. 454-460). New York: John Wiley.
- Nagin, D., Farrington, D., & Moffitt, T. (1995). Life course trajectories of different types of offenders. Criminology, 33, 111-139.
- Nagin, D., & Manski, C. (1998). Bounding disagreements about treatment effects: A case study of sentencing and recidivism. Sociological Methodology, 28, 99-138.
- National Research Council and Institute of Medicine (2001). Juvenile crime, juvenile justice. Panel on Juvenile crime: Prevention, treatment, and control. In J. McCord, C. Widom, & N. Crowell (Eds.), Committee on Law & Justice and Board on Children, Youth, and Families. Washington, DC: National Academies Press.
- Piquero, A. (2004). Somewhere between persistence and desistance: The intermittency of criminal careers. In R. Immarigeon & S. Maruna (Eds.), Offender re-entry and desistance (pp. 118-139). London: Willan.

- Piquero, A., Blumstein, A., Brame, R., Haapanen, R., Mulvey, E. & Nagin, D. S. (2001). Assessing the impact of exposure time and incapacitation on longitudinal trajectories of criminal offending. *Journal of Adolescent Research*, 16, 54-74.
- Piquero, A., Farrington, D., & Blumstein, A. (2003). The criminal career paradigm. In M. Tonry (Ed.), *Crime and justice: A review of research* (Vol. 30, pp. 359-506). Chicago: University of Chicago Press.
- Portes, A. (1998). Social capital: Its origins and application in modern sociology. Annual Review of Sociology, 24(1), 1-24.
- Prochaska, J., DiClemente, C., & Norcross, J. (1992). In search of how people change: Applications to addictive behavior. *American Psychologist*, 47, 1102-1114.
- Prochaska, J., & Velicer, W. (1997). The transtheoretical model of health behavior change. American Journal of Health Promotion, 12, 38-48.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.
- Rutter, M. (1990). Psychosocial reliance and protective mechanisms. In J. Rolf, A. Masten, D. Cicchetti, K. Nuechterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology* (pp. 181-214). New York: Cambridge University Press.
- Sampson, R., & Laub, J. (1993). *Crime in the making: Pathways and turning points through life*. Cambridge, MA: Harvard University Press.
- Sampson, R., & Laub, J. (1995). Understanding variability in lives through time: Contributions of life-course criminology. Studies on Crime and Crime Prevention, 4, 143-158.
- Schulenberg, J., Maggs, J., & Hurrelman, K. (1997). *Health risks and developmental transitions during adolescence*. Cambridge, UK: Cambridge University Press.
- Sherman, L., Gottfredson, D., MacKenzie, D., Eck, J., Reuter, P., & Bushway, S. (1997). *Preventing crime: What works, what doesn't, what's promising. Report to the United States Congress.*Washington, DC: U.S. Department of Justice.
- Shover, N. (1996). Great pretenders: Pursuits and careers of persistent thieves. Boulder, CO: Westview.
- Steinberg, L. (2002). The juvenile psychopath: Fads, fictions, and facts. *National Institute of Justice Perspectives on Crime and Justice*: 2001 Lecture Series, 5, 35-64.
- Steinberg, L., & Cauffman, E. (1996). Maturity of judgment in adolescence: Psychosocial factors in adolescent decision making. *Law and Human Behavior*, 20, 249-272.
- Steinberg, L., Chung, H. L., & Little, M. (2004). Reentry of young offenders from the justice system: A developmental perspective. *Youth Violence and Juvenile Justice*, *1*, 21-38.
- Steinberg, L., & Morris, A. (2001). Adolescent development. Annual Review of Psychology, 52, 83-110.
- Styve, G., MacKenzie, D., Gover, A., & Mitchell, O. (2000). Perceived conditions of confinement: A national evaluation of juvenile boot camps and traditional facilities. *Law and Human Behavior*, 24, 297-308.
- Tate, D. C., Reppucci, N. D., & Mulvey, E. P. (1995). Violent juvenile delinquents: Treatment effectiveness and implications for future action. American Psychologist, 50(9), 777-781.
- Tolan, P., & Guerra, N. (1994). What works in reducing adolescent violence: An empirical review of the field. Boulder, CO: University of Colorado, Center for the Study and Prevention of Youth Violence.
- Tyler, T. (1990). Why people obey the law. New Haven, CT: Yale University Press.
- Tyler, T. (1997). Procedural fairness and compliance with the law. *Swiss Journal of Economics and Statistics*, 133, 219-240.

- Tyler, T. R., & Lind, E. A. (2000). Procedural justice. In J. Sanders & V. L. Hamilton (Eds.), Handbook of justice research in law (pp. 65-92). New York: Plenum.
- Uggen, C., & Piliavin, I. (1998). Asymmetrical causation and criminal desistance. Journal of Criminal Law and Criminology, 88, 1399-1422.
- Vaillant, G. (1995). The natural history of alcoholism revisited. Cambridge, MA: Harvard University Press.
- Van Kammen, W., Loeber, R., & Stouthamer-Loeber, M. (1991). Substance use and its relationship to antisocial and delinquent behavior in young boys. Journal of Youth and Adolescence, 20, 399-414.
- Warr, M. (1998). Life course transitions and desistance from crime. Criminology, 36, 183-216.
- Yoshikawa, H. (1994). Prevention as a cumulative protection: Effects of early family support and education on chronic delinquency and its risks. Psychological Bulletin, 115, 28-54.
- Zigler, E., & Styfco, S. (1994). Head start: Criticisms in a constructive context. American Psychologist, 49, 127-132.
- Zimring, F., & Fagan, J. (Eds.). (2000). The changing borders of juvenile justice: Transfer of adolescents to the criminal court. Chicago: University of Chicago Press.
- Zimring, F. E. (1998). American youth violence. New York: Oxford University Press.

Edward P. Mulvey is a professor of psychiatry and director of the Law and Psychiatry Program at Western Psychiatric Institute and Clinic, University of Pittsburgh School of Medicine. His research has centered on issues related to the use of social service treatment as a method of social control, with an emphasis on the prediction of violence in individuals with mental illness and on treatment systems for serious adolescent offenders.

Laurence Steinberg is the Distinguished University Professor of Psychology at Temple University and the director of the MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice. His research concerns normative and atypical development during adolescence and the influence of parents and peers on psychosocial development.

Jeffrey Fagan is a professor of law and public health at Columbia University. His research and scholarship focuses on crime, law, and social policy. He is a member of the Committee on Law and Justice of the National Research Council, the MacArthur Research Network on Adolescent Development and Juvenile Justice, and the Incarceration Working Group of the Russell Sage Foundation. He is past editor of the Journal of Research in Crime and Delinquency. He is a Fellow of the American Society of Criminology.

Elizabeth Cauffman is an assistant professor in the Psychiatry Department at Western Psychiatric Institute and Clinic, University of Pittsburgh. She is a developmental psychologist interested in the assessment of mental health and psychosocial maturity among juvenile offenders, the exploration of factors associated with female delinquency, juvenile psychopathy, and the study of maturity of judgment as it develops during the course of adolescence.

Alex R. Piquero is an associate professor of criminology and law at the University of Florida, Member of the National Consortium on Violence Research, and Network Associate with the MacArthur Foundation's Research Network on Adolescent

Development and Juvenile Justice. His research interests include criminal careers, criminological theory, and quantitative research methods.

Laurie Chassin is a clinical psychologist, and professor of psychology at Arizona State University. Her research interests are in the area of substance use disorders, including their natural history over the life course, familial intergenerational transmission, and etiological models of risk and resilience.

George P. Knight is a professor in the Department of Psychology at Arizona State University. He received his Ph.D. in social psychology, specializing in social development, from the University of California at Riverside. His research interests include the acculturation/enculturation of Mexican American children and families, cross-ethnic/race measurement equivalence, and prosocial development.

Robert Brame is an associate professor in the Department of Criminology and Criminal Justice at the University of South Carolina. His research emphasizes the development of criminal behavior, methodological issues related to the study of crime and criminal justice, and capital punishment.

Carol A. Schubert is a research program administrator for the Law and Psychiatry Program at Western Psychiatric Institute and Clinic at the University of Pittsburgh School of Medicine. She has managed several large-scale research projects (funded by the National Institute of Mental Health and the MacArthur Foundation) that followed individuals who were violent and mentally ill in the community. She is currently the director and a member of the working group for the Pathways to Desistance Project, a longitudinal study of serious adolescent offenders.

Thomas Hecker is a licensed clinical psychologist in Pennsylvania and currently assistant dean for Administration and Planning in the College of Liberal Arts at Temple University.

Sandra H. Losoya is a research assistant professor at Arizona State University. She received her Ph.D. in developmental psychology at the University of Oregon. Her interests include emotional development and individual differences in emotional responding, emotional coping, and other sources of resilience in high-risk children.