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Pathways to Desistance

How and why do many serious adolescent offenders stop offending while others continue to commit crimes? This series of bulletins presents findings from the Pathways to Desistance study, a multidisciplinary investigation that attempts to answer this question.

Investigators interviewed 1,354 young offenders from Philadelphia and Phoenix for 7 years after their convictions to learn what factors (e.g., individual maturation, life changes, and involvement with the criminal justice system) lead youth who have committed serious offenses to persist in or desist from offending.

As a result of these interviews and a review of official records, researchers have collected the most comprehensive dataset available about serious adolescent offenders and their lives in late adolescence and early adulthood.

These data provide an unprecedented look at how young people mature out of offending and what the justice system can do to promote positive changes in the lives of these youth.

Psychosocial Maturity and Desistance From Crime in a Sample of Serious Juvenile Offenders

Laurence Steinberg, Elizabeth Cauffman, and Kathryn C. Monahan

Highlights

The Pathways to Desistance study followed more than 1,300 serious juvenile offenders for 7 years after their conviction. In this bulletin, the authors present key findings on the link between psychosocial maturity and desistance from crime in the males in the Pathways sample as they transition from midadolescence to early adulthood (ages 14–25):

- Recent research indicates that youth experience protracted maturation, into their midtwenties, of brain systems responsible for self-regulation. This has stimulated interest in measuring young offenders' psychosocial maturity into early adulthood.
- Youth whose antisocial behavior persisted into early adulthood were found to have lower levels of psychosocial maturity in adolescence and deficits in their development of maturity (i.e., arrested development) compared with other antisocial youth.
- The vast majority of juvenile offenders, even those who commit serious crimes, grow out of antisocial activity as they transition to adulthood. Most juvenile offending is, in fact, limited to adolescence.
- This study suggests that the process of maturing out of crime is linked to the process of maturing more generally, including the development of impulse control and future orientation.



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Involvement in delinquent and criminal behavior increases through adolescence, peaking at about age 16 (in cases of property crime) or age 17 (in cases of violent crime) and declining thereafter (Farrington, 1986; Piquero, 2007; Piquero et al., 2001). Although a small number of youth persist in antisocial behavior across this developmental period, the vast majority of antisocial adolescents desist from criminal behavior as they enter adulthood (Laub and Sampson, 2001; Piquero, 2007; Sampson and Laub, 2003). Understanding why most juvenile offenders desist from antisocial activity as a part of the normative transition into adulthood may provide important insights into the design of interventions aimed at encouraging desistance. This bulletin describes findings from the Pathways to Desistance study, a multisite, longitudinal sample of adolescent (primarily felony) offenders (see “About the Pathways to Desistance Study”).¹ This study explores the processes through which juvenile offenders desist from crime and delinquency.

Theories of the Psychosocial Maturation Process

Both sociological and psychological theories suggest that one reason most adolescents desist from crime is that they mature out of antisocial behavior, but sociologists and psychologists have different ideas about the nature of this maturation. A traditional sociological view is grounded in the notion that the activities individuals typically enter into during early adulthood—such as full-time employment, marriage, and parenthood—are largely incompatible with criminal activity (Sampson and Laub, 2003). Thus, according to this view, individuals desist from antisocial behavior as a consequence of taking on more mature social roles, either because the time and energy demands of these activities make it difficult to maintain a criminal lifestyle or because embracing the socially approved roles

of adulthood leads individuals to adopt more conventional values and attitudes.

The conventional psychological view describes a different scenario. According to this view, desistance from antisocial behavior is the product of psychosocial maturation (Cauffman and Steinberg, 2000; Steinberg and Cauffman, 1996; Monahan et al., 2009), which includes the ability to:

- Control one’s impulses.
- Consider the implications of one’s actions on others.
- Delay gratification in the service of longer term goals.
- Resist the influences of peers.

Thus, psychologists see that much juvenile offending reflects psychological immaturity and, accordingly, they view desistance from antisocial behavior as a natural consequence of growing up—emotionally, socially, and intellectually. As individuals become better able to regulate their behavior, they become less likely to engage in impulsive, ill-considered acts.

Although the sociological and psychological explanations of desistance from antisocial behavior during the transition to adulthood are not incompatible, there has been much more research in the sociological tradition, largely because psychological maturation during young adulthood has received relatively little attention from psychologists. Indeed, most research on psychological development during adolescence has focused on the first half of the adolescent decade rather than on the transition from adolescence to adulthood (Institute of Medicine, 2013), perhaps because social scientists widely assumed that there was little systematic development after midadolescence (Steinberg, 2014). However, recent research indicating protracted maturation (into the midtwenties) of brain

systems responsible for self-regulation has stimulated interest in charting the course of psychosocial maturity beyond adolescence (Steinberg, 2010). Because juvenile offending is likely to wane during late adolescence and young adulthood (age 16 through age 25), it is important to ask whether desistance from crime and delinquency is linked to normative processes of psychological maturation.

Psychologist Terrie Moffitt (1993, 2003) has advanced the most widely cited theory regarding psychological contributors to desistance from antisocial behavior during the transition to adulthood. She distinguished between the vast majority of individuals (90 percent or more, depending on the study) whose antisocial behavior stopped in adolescence (adolescence-limited offenders) and the small proportion of individuals whose antisocial behavior persisted into adulthood (life-course persistent offenders). Moffitt suggested that different etiological factors explained these groups' involvement in antisocial behavior. Moffitt hypothesizes that adolescence-limited offenders' involvement in antisocial behavior is a normative consequence of their desire to feel more mature, and their antisocial activity is often the result of peer pressure or the emulation of higher status agemates, especially during midadolescence, when opposition to adult authority may confer special prestige with peers. In contrast, she thinks that antisocial behavior that persists into adulthood is rooted in early neurological and cognitive deficits that, combined with environmental risk, lead to early conduct problems and lifelong antisocial behavior. Although the identification of variations in these broad patterns of antisocial behavior has led Moffitt to refine her framework (Moffitt, 2006; Moffitt et al., 2002), the scientific consensus is that the distinction between adolescence-limited and life-course persistent offenders is a useful one.

Although Moffitt never explicitly outlined the role of normative psychosocial maturation in her framework, it follows from this perspective that growth in psychosocial maturity underlies adolescence-limited offenders' desistance from antisocial behavior. That is, if adolescence-limited offenders engage in antisocial behavior to appear and feel more mature, the genuine process of maturation should lessen their need to engage in antisocial behavior to achieve this end, thereby contributing to desistance from crime and delinquency. Moreover, juvenile offenders who are relatively more mature for their age, or who mature faster than their peers, should "age out" of offending sooner than others. Indeed, there is some evidence to suggest that this is the case. In a previous analysis of earlier waves of data from the Pathways study, the researchers found that youth whose antisocial behavior persisted into their early twenties were significantly less psychosocially mature than youth who desisted from antisocial behavior (Monahan et al., 2009). In this bulletin, the researchers

explore whether this pattern characterizes trajectories of antisocial behavior through age 25.

Models of Psychosocial Maturity

Many psychologists have proposed theoretical models of psychosocial maturity (e.g., Greenberger et al., 1974). The researchers' approach to measuring psychosocial maturity is based on a model advanced in the 1990s (Steinberg and Cauffman, 1996), which suggested that during adolescence and early adulthood, three aspects of psychosocial maturity develop:

- **Temperance.** The ability to control impulses, including aggressive impulses.
- **Perspective.** The ability to consider other points of view, including those that take into account longer term consequences or that take the vantage point of others.
- **Responsibility.** The ability to take personal responsibility for one's behavior and resist the coercive influences of others.

Previous studies have demonstrated that youth with lower temperance, perspective, and responsibility report greater antisocial behavior (Cauffman and Steinberg, 2000) and that, over time, deficiencies in developing these aspects of psychosocial maturity are associated with more chronic patterns of antisocial behavior (Monahan et al., 2009).

The researchers' model of psychosocial maturation maps nicely onto one of the most widely cited criminological theories of antisocial behavior: Gottfredson and Hirschi's (1990) General Theory of Crime, which posits that deficits in self-control are the cause of criminal behavior. Gottfredson and Hirschi's definition of self-control, like the definition of maturity, includes components such as orientation toward the future (rather than immediate gratification), planning ahead (rather than impulsive decisionmaking), physical restraint (rather than the use of aggression when frustrated), and concern for others (rather than self-centered or indifferent behavior) (Gottfredson and Hirschi, 1990). Although the General Theory of Crime is useful in explaining which adolescents are more likely to engage in antisocial behavior (i.e., the ones with poor self-control), it does not explain why most antisocial adolescents desist as they mature into adulthood. From a developmental perspective, it may be variability in both individuals' level of maturity during adolescence and their degree of change in maturity over time that distinguishes between those whose antisocial behavior wanes and those whose antisocial behavior persists during the transition to adulthood. The General Theory of Crime predicts that, at any point in time, individuals who are less mature than their peers would be more likely to engage

ABOUT THE PATHWAYS TO DESISTANCE STUDY

The Pathways to Desistance study is a multidisciplinary, multisite longitudinal investigation of how serious juvenile offenders make the transition from adolescence to adulthood. It follows 1,354 young offenders from Philadelphia County, PA, and Maricopa County, AZ (metropolitan Phoenix), for 7 years after their court involvement. This study has collected the most comprehensive dataset currently available about serious adolescent offenders and their lives in late adolescence and early adulthood. It looks at the factors that lead youth who have committed serious offenses to persist in or desist from offending. Among the aims of the study are to:

- Identify initial patterns of how serious adolescent offenders stop antisocial activity.
- Describe the role of social context and developmental changes in promoting these positive changes.
- Compare the effects of sanctions and interventions in promoting these changes.

Characteristics of Study Participants

Enrollment took place between November 2000 and March 2003, and the research team concluded data collection in 2010. In general, participating youth were at least 14 years old and younger than 18 years old at the time of their study index petition; 8 youth were 13 years old, and 16 youth were older than age 18 but younger than age 19 at the time of their index petition. The youth in the sample were adjudicated delinquent or found guilty of a serious (overwhelmingly felony-level) violent crime, property offense, or drug offense at their current court appearance. Although felony drug offenses are among the eligible charges, the study limited the proportion of male drug offenders to no more than 15 percent; this limit ensures a heterogeneous sample of serious offenders. Because investigators wanted to include a large enough sample of female offenders—a group neglected in previous research—this limit did not apply to female drug offenders. In addition, youth whose cases were considered for trial in the adult criminal justice system were enrolled regardless of the offense committed.

At the time of enrollment, participants were an average of 16.2 years old. The sample is 84 percent male and 80 percent minority (41 percent black, 34 percent Hispanic, and 5 percent American Indian/other). For approximately one-quarter (25.5 percent) of study participants, the study index petition was their first petition to court. Of the remaining participants (those with a petition before the study index petition), 69 percent had 2 or more prior petitions; the average was 3 in Maricopa County and 2.8 in Philadelphia County (exclusive of the study index offense). At both sites, more than 40 percent of the adolescents enrolled were adjudicated of felony crimes against persons (i.e., murder, robbery, aggravated assault, sex offenses, and kidnapping). At the time of the baseline

interview for the study, 50 percent of these adolescents were in an institutional setting (usually a residential treatment center); during the 7 years after study enrollment, 87 percent of the sample spent some time in an institutional setting.

Interview Methodology

Immediately after enrollment, researchers conducted a structured 4-hour baseline interview (in two sessions) with each adolescent. This interview included a thorough assessment of the adolescent's self-reported social background, developmental history, psychological functioning, psychosocial maturity, attitudes about illegal behavior, intelligence, school achievement and engagement, work experience, mental health, current and previous substance use and abuse, family and peer relationships, use of social services, and antisocial behavior.

After the baseline interview, researchers interviewed study participants every 6 months for the first 3 years and annually thereafter. At each followup interview, researchers gathered information on the adolescent's self-reported behavior and experiences during the previous 6-month or 1-year reporting period, including any illegal activity, drug or alcohol use, and involvement with treatment or other services. Youth's self-reports about illegal activities included information about the range, the number, and other circumstances of those activities (e.g., whether or not others took part). In addition, the followup interviews collected a wide range of information about changes in life situations (e.g., living arrangements, employment), developmental factors (e.g., likelihood of thinking about and planning for the future, relationships with parents), and functional capacities (e.g., mental health symptoms).

Researchers also asked participants to report monthly about certain variables (e.g., school attendance, work performance, and involvement in interventions and sanctions) to maximize the amount of information obtained and to detect activity cycles shorter than the reporting period.

In addition to the interviews of study participants, for the first 3 years of the study, researchers annually interviewed a family member or friend about the study participant to validate the participants' responses. Each year, researchers also reviewed official records (local juvenile and adult court records and FBI nationwide arrest records) for each adolescent.

Investigators have now completed the last (84-month) set of followup interviews, and the research team is analyzing interview data. The study maintained the adolescents' participation throughout the project: At each followup interview point, researchers found and interviewed approximately 90 percent of the enrolled sample. Researchers have completed more than 21,000 interviews in all.

in antisocial behavior. In this bulletin, the researchers examine this proposition but also ask whether individuals who mature more quickly over time compared to their peers are more likely to desist from crime as they get older.

To investigate whether and to what extent changes in psychosocial maturity across adolescence and young adulthood account for desistance from antisocial behavior, it is necessary to study a sample of individuals who are known to be involved in antisocial behavior. The Pathways study affords an ideal opportunity to do this because it is the first longitudinal study that examined psychosocial development among serious adolescent offenders during their transition to adulthood. As a result, the researchers examined whether the majority of juvenile offenders demonstrate significant growth in psychosocial maturity over time, as the psychological theories of desistance predict, and whether individual variability in the development of psychosocial maturity accounts for variability in patterns of desistance. They also examined whether differential development of psychosocial maturity over time is linked to differential timing in desistance; presumably, those who mature faster should desist earlier. Because individuals generally cease criminal activity by their midtwenties (Piquero, 2007), this extension of a previous analysis through age 25 allows greater confidence in any conclusions drawn about the connection between psychosocial maturation and desistance from antisocial behavior.

Measuring Psychosocial Maturity

As noted earlier, in the researchers' theoretical model, psychosocial maturity consists of three separate components: temperance, perspective, and responsibility (Steinberg and Cauffman, 1996). Each of these components was indexed by two different measures. For more detail on the psychometric properties of the measures, see Monahan and colleagues (2009).

Temperance

The measures were self-reported impulse control (e.g., "I say the first thing that comes into my mind without thinking enough about it") and suppression of aggression (e.g., "People who get me angry better watch out"), both of which are subscales of the Weinberger Adjustment Inventory (Weinberger and Schwartz, 1990).

Perspective

The measures were self-reported consideration of others (e.g., "Doing things to help other people is more important to me than almost anything else," also from the Weinberger Adjustment Inventory; Weinberger and Schwartz, 1990) and future orientation (e.g., "I will keep

working at difficult, boring tasks if I know they will help me get ahead later") (Cauffman and Woolard, 1999).

Responsibility

The measures were self-reported personal responsibility (e.g., "If something more interesting comes along, I will usually stop any work I'm doing," reverse scored) from the Psychosocial Maturity Inventory (Greenberger et al., 1974), and resistance to peer influence (e.g., "Some people go along with their friends just to keep their friends happy, but other people refuse to go along with what their friends want to do, even though they know it will make their friends unhappy") (Steinberg and Monahan, 2007).

In addition to examining each indicator of psychosocial maturity independently, the researchers also standardized each measure across the age distribution and then calculated the average to create a global measure of psychosocial maturity.

Measuring Antisocial Behavior

Involvement in antisocial behavior was assessed using the Self-Report of Offending, a widely used instrument in delinquency research (Huizinga, Esbensen, and Weiher, 1991). Participants reported if they had been involved in any of 22 aggressive or income-generating antisocial acts (e.g., taking something from another person by force, using a weapon, carrying a weapon, stealing a car or motorcycle to keep or sell, or using checks or credit cards illegally). At the baseline interview and the 48- through 84-month annual interviews, these questions were asked with the qualifying phrase, "In the past 12 months have you ... ?" At the 6- through 36-month biannual interviews, these questions were asked with the qualifying phrase, "In the past 6 months, have you ... ?" The researchers counted the number of different types of antisocial acts that an individual reported having committed since the previous interview to derive the measure of antisocial activity. So-called "variety scores"² are widely used in criminological research because they are highly correlated with measures of seriousness of antisocial behavior yet are less prone to recall errors than self-reported frequency scores, especially when the antisocial act is committed frequently (such as selling drugs). In the Pathways sample, self-reported variety scores also were significantly correlated with official arrest records (Brame et al., 2004).

Identifying Trajectories of Antisocial Behavior

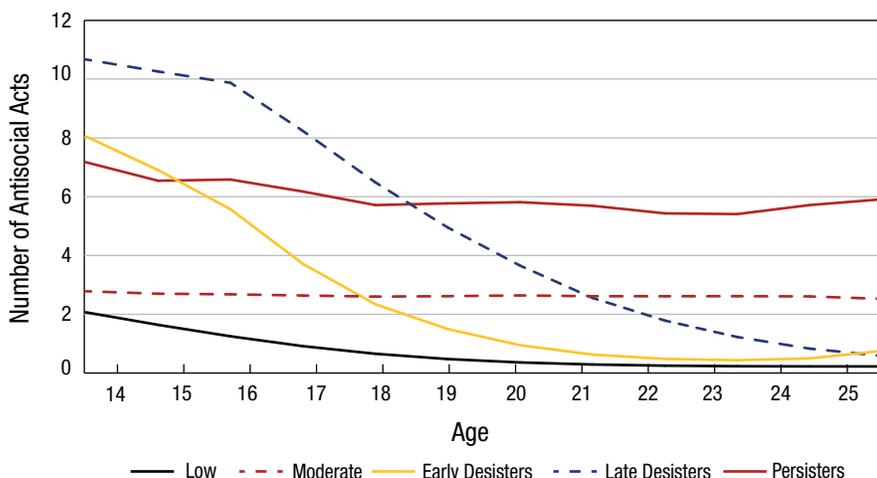
The first task was to see whether individuals followed different patterns of antisocial behavior over time. The



research team used a type of analysis called group-based trajectory modeling (Nagin, 2005; Nagin and Land, 1993) to determine whether they could reliably divide the participants into distinct subgroups, each composed of individuals who demonstrated a common pattern of antisocial behavior. This analysis indicated that there were five different patterns, which are shown in figure 1.

The first group (low, 37.2 percent of the sample) consisted of individuals who reported low levels of offending at every time point. The second group (moderate, 13.5 percent) showed consistently moderate levels of antisocial behavior. The third group (early desisters, 31.3 percent) engaged in high levels of antisocial behavior in early adolescence, but their antisocial behavior declined steadily and rapidly thereafter. The fourth group (late desisters, 10.5 percent) engaged in high levels of antisocial behavior through midadolescence, which peaked at about age 15 and then declined during the transition to adulthood. The fifth group (persistent offenders, 7.5 percent) reported high levels of antisocial behavior consistently from ages 14 to 25.

Figure 1. Five Trajectories of Antisocial Behavior



Several points about these patterns are noteworthy:

- As expected—and consistent with other studies—the vast majority of serious juvenile offenders desisted from antisocial activity by the time they were in their early twenties. Less than 10 percent of the sample could be characterized as chronic offenders. This statistic is similar to that reported in other studies.
- More than one-third of the sample were infrequent offenders for the entire 7-year study period. Although all of these individuals were arrested for a very serious crime during midadolescence, their antisocial behavior did not continue.
- Even among the subgroup of juveniles who were high-frequency offenders at the beginning of the study (about 40 percent of the sample), the majority stopped offending by the time they reached young adulthood. Indeed, at age 25, most of the individuals who had been high-frequency offenders when they were in midadolescence were no longer committing crimes. This, too, is consistent with previous research showing that very few individuals—even those with a history of involvement in serious crime—were engaging in criminal activity after their midtwenties.

Patterns of Change in Psychosocial Maturity Over Time

The researchers next examined patterns of change in psychosocial maturity. Was adolescence a time of psychosocial maturation for these juveniles? Was it a period of continued growth in temperance, perspective, and responsibility? To answer these questions, they used an approach called growth curve modeling. This statistical technique examines whether, on average, individuals matured over the course of the study and whether there was significant variability within the sample

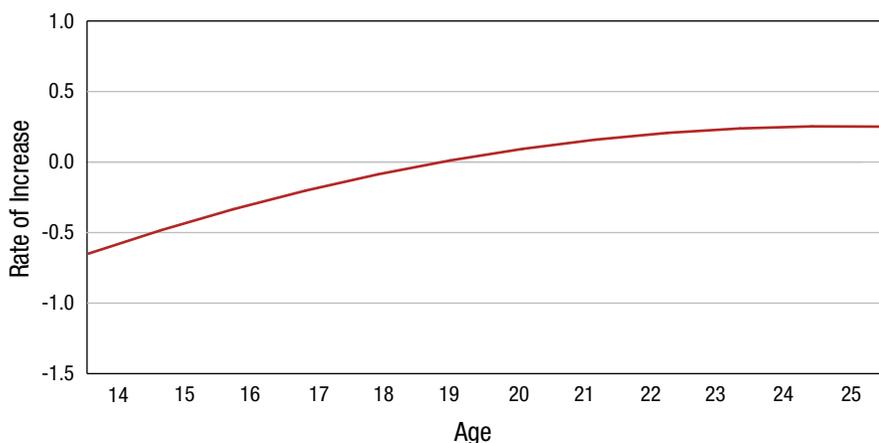
“As expected—and consistent with other studies—the vast majority of serious juvenile offenders desisted from antisocial activity by the time they were in their early twenties.”

in the level, degree, and rate of change in psychosocial maturation.

Across each of the six individual indicators of psychosocial maturity—impulse control, suppression of aggression, consideration of others, future orientation, personal responsibility, and resistance to peer influence—and the global index of psychosocial maturity, the pattern of results was identical. Individuals showed increases in all aspects of psychosocial maturity over time, but the rate of increase slowed in early adulthood.

Figure 2 illustrates this pattern; it shows the growth curve for the composite psychosocial maturity variable and steady psychosocial maturation from age 14 to about age 22, and then maturation begins to slow down. The researchers investigated whether psychosocial maturation actually stopped by the end of adolescence and found that it did not. Rather, they found that, across each of the six indicators of psychosocial maturity and the global measure of psychosocial maturity, individuals in the Pathways sample were still maturing psychosocially at age 25. At this age, individuals in the sample continued to increase in impulse control, suppression of aggression, consideration of others, future orientation, personal responsibility, and resistance to peer influence—indicating that psychosocial

Figure 2. Rates of Psychosocial Maturity Across Adolescence and Early Adulthood



development continues beyond adolescence. This finding is consistent with new research on brain development, which shows that there is continued maturation of brain systems that support self-regulation—well into the midtwenties. It is important to note that this pattern of growth was seen in a sample of serious juvenile offenders, a population that is often portrayed as “deviant.”

Although these analyses indicate that, on average, adolescence and (to a lesser extent) early adulthood are times of psychosocial maturation, the analyses also indicated—not surprisingly—that individuals differ in their level of psychosocial maturity (i.e., some are more mature than others of the same chronological age) and in the way they develop psychosocial maturity during adolescence and early adulthood (i.e., some mature to a greater degree or faster than others) (see Monahan et al., 2009, for a fuller discussion). These results confirm that the population of juvenile offenders—even serious offenders—is quite heterogeneous, at least with respect to their psychosocial maturation. This variability also leads to the question of whether differences in patterns of offending are linked to differences in patterns of psychosocial development.

Psychosocial Maturation and Patterns of Offending

If it is true that desistance from crime during the transition to adulthood is due, at least in part, to normative psychosocial maturation, then there should be a connection between patterns of offending and patterns of psychosocial growth. Juvenile offenders vary in their patterns of offending and their patterns of psychosocial development. Are the two connected? More specifically, is psychosocial maturation linked to desistance from antisocial behavior? To explore this question, the researchers compared patterns of development in psychosocial maturity within each of the

antisocial trajectory groups (figure 3). They selected age 16, the average age of participants when first enrolled in the study, to compare analyses that examined absolute levels of maturity with those that examined changes in maturity over time across the entire age range (ages 14–25).

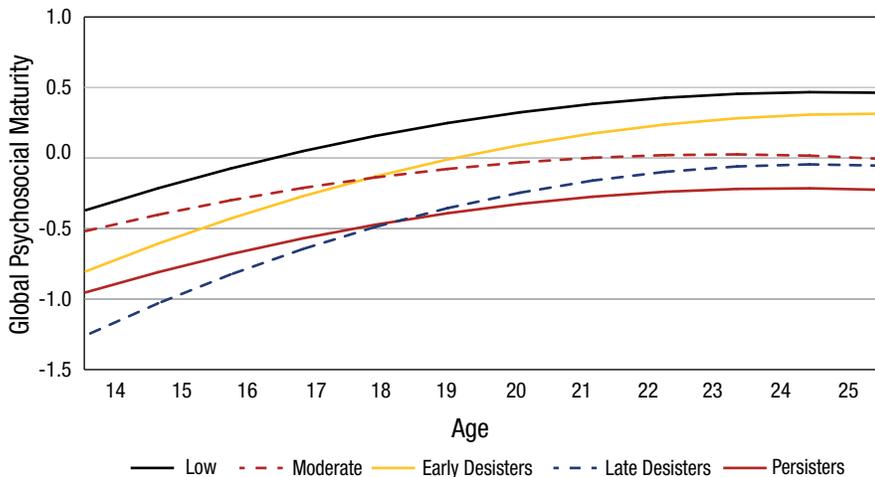
As hypothesized, individuals in different antisocial trajectory groups differed in their absolute levels of psychosocial maturity and the extent to which their psychosocial maturity increased with age. The pattern of group differences was similar for the different psychosocial maturity subscales and for the composite psychosocial maturity index. At age 16, persistent offenders were significantly less mature than individuals in the low, moderate, and early desister groups and were not significantly different from those in the late desister group. Moreover, at age 16, late desisters, who did not start desisting from crime until about age 17, were significantly less mature than early desisters, whose desistance from crime was evident before they turned 16. The findings regarding changes in maturity over time were consistent with the concept that desistance from antisocial activity is linked to the process of psychosocial maturation. As expected, offenders who desisted from antisocial activity

during adolescence showed significantly greater growth in psychosocial maturity than those who persisted into adulthood.

These findings are important for several reasons:

- Even in a population of serious juvenile offenders, there were significant gains in psychosocial maturity during adolescence and early adulthood. Between ages 14 and 25, youth continue to develop an increasing ability to control impulses, suppress aggression, consider the impact of their behavior on others, consider the future consequences of their behavior, take personal responsibility for their actions, and resist the influence of peers. Psychosocial development is far from over at age 18.
- Although the rate of maturation slows as individuals reach early adulthood (about age 22), it does not come to a standstill. Individuals are still maturing socially and emotionally when they are in their midtwenties; much of this maturation is probably linked to the maturation of brain systems that support self-control.
- There is significant variability in psychosocial maturity within the offender population with respect to both how mature individuals are in midadolescence and to what extent they continue to mature as they transition to adulthood.
- This variability in psychosocial maturity is linked to patterns of antisocial activity. Less mature individuals are more likely to be persistent offenders, and high-frequency offenders who desist from antisocial activity are likely to become more mature psychosocially than those who continue to commit crimes as adults. The association between immature impulse control and continued offending is consistent with Gottfredson and Hirschi’s General Theory of Crime, which posits that poor self-control is the root cause of antisocial behavior

Figure 3. Trajectories of Antisocial Behavior and Global Psychosocial Maturity



“New research on brain development ... shows that there is continued maturation of brain systems that support self-regulation—well into the midtwenties.”

(Gottfredson and Hirschi, 1990), and with Moffitt's theory of "adolescence-limited offending," which suggests that most antisocial behavior in adolescence is the product of transient immaturity (Moffitt, 1993, 2003, 2006; Moffitt et al., 2002).

Summary

Far more is known about the factors that cause young people to commit crimes than about the factors that cause them to stop committing crimes. The Pathways to Desistance study provides evidence that, just as immaturity is an important contributor to the emergence of much adolescent misbehavior, maturity is an important contributor to its cessation. This observation provides an important complement to models of desistance from crime that emphasize individuals' entrance into adult roles and the fact that the demands of these roles are incompatible with a criminal lifestyle (Laub and Sampson, 2001; Sampson and Laub, 2003).

The results of the analyses suggest that the transition to adulthood involves the acquisition of more adultlike psychosocial capabilities and more adult responsibilities; however, not all adolescents mature to the same degree. Youth whose antisocial behavior persists into early adulthood exhibit lower levels of psychosocial maturity in adolescence and also demonstrate deficits in the development of psychosocial maturity compared with other antisocial youth. In a sense, these chronic offenders show a lack of psychosocial maturation that might be characterized as arrested development. Although it is reasonable to assume that this factor contributed to persistent involvement in criminal activity, researchers do not know the extent to which continued involvement in crime impeded the development of these individuals. To the extent that chronic offending leads to placement in institutional settings that do not facilitate positive development, the latter is certainly a strong possibility. In all likelihood, the connection between psychosocial immaturity and offending is bidirectional; that is, each factor affects the other factor. One important implication for practitioners is that interventions for juvenile offenders

should be aimed explicitly at facilitating the development of psychosocial maturity and that special care should be taken to avoid exposing young offenders to environments that might inadvertently derail this developmental process. More research is needed that examines outcomes of interventions for antisocial youth that go beyond standard measures of recidivism.

Perhaps the most important lesson learned from these analyses is that the vast majority of juvenile offenders grow out of antisocial activity as they make the transition to adulthood; most juvenile offending is, in fact, limited to adolescence (i.e., these offenders do not persist into adulthood). Although this is well documented, the researchers believe that the Pathways study is the first investigation to show that the process of maturing out of crime is linked to the process of maturing more generally. It is therefore important to ask whether the types of sanctions and interventions that serious offenders are exposed to are likely to facilitate this process or are likely to impede it (Steinberg, Chung, and Little, 2004). When the former is the case, the result may well be desistance from crime. However, if responses to juvenile offenders slow the process of psychosocial maturation, in the long run these responses may do more harm than good.

Endnotes

1. OJJDP is sponsoring the Pathways to Desistance study (project number 2007-MU-FX-0002) in partnership with the National Institute of Justice (project number 2008-IJ-CX-0023), the John D. and Catherine T. MacArthur Foundation, the William T. Grant Foundation, the Robert Wood Johnson Foundation, the William Penn Foundation, the National Institute on Drug Abuse (grant number





R01DA019697), the Centers for Disease Control and Prevention, the Pennsylvania Commission on Crime and Delinquency, and the Arizona State Governor's Justice Commission. Investigators for this study are Edward P. Mulvey, Ph.D. (University of Pittsburgh), Robert Brame, Ph.D. (University of North Carolina–Charlotte), Elizabeth Cauffman, Ph.D. (University of California–Irvine), Laurie Chassin, Ph.D. (Arizona State University), Sonia Cota-Robles, Ph.D. (Temple University), Jeffrey Fagan, Ph.D. (Columbia University), George Knight, Ph.D. (Arizona State University), Sandra Losoya, Ph.D. (Arizona State University), Alex Piquero, Ph.D. (University of Texas–Dallas), Carol A. Schubert, M.P.H. (University of Pittsburgh), and Laurence Steinberg, Ph.D. (Temple University). More details about the study can be found in a previous OJJDP fact sheet (Mulvey, 2011) and at the study website (www.pathwaysstudy.pitt.edu), which includes a list of publications from the study.

2. The variety score is calculated as the number of different types of antisocial acts that the participant reported during the period that the interview covered, divided by the number of different antisocial acts the participant was asked about.

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Acknowledgments

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