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Series: Study Group on the Transitions between Juvenile Delinquency
and Adult Crime

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Series: Study Group on the Transitions between Juvenile Delinquency and Adult Crime

BULLETIN 1: FROM JUVENILE DELINQUENCY TO YOUNG ADULT OFFENDING

Rolf Loeber, David P. Farrington and David Petechuk

This is the first of six bulletins reporting on findings from the National Institute of Justice Study Group on the Transitions from Juvenile Delinquency and Adult Crime. The series presents the latest research findings and information about criminal career patterns, special categories of serious and violent offenders, explanations for offending, contextual influences, and prediction and risk/needs assessments. In addition, the series of bulletins considers legal boundaries between the U.S. juvenile and criminal justice systems, young offenders and an effective justice system response to young offenders, approaches to prevention and intervention, and research and policy recommendations. The present bulletin presents an overview of the main findings. More detailed information concerning the study group's findings can be found in Rolf Loeber and David P. Farrington (eds.) (2012), *From Juvenile Delinquency to Adult Crime: Criminal Careers, Justice Policy and Prevention*. New York: Oxford University Press.

Scholars, professionals and lay people debate what causes young people to commit crimes. Some argue that there are “bad” individuals who already are out of control from childhood and that many of them become life-course persistent delinquents. Others argue that juvenile delinquents are to a high degree a product of their environment: the worse their environment, the worse their behavior over time. The National Institute of Justice (NIJ) Study

Group on Transitions from Juvenile Delinquency to Adult Crime examined the differences between juvenile offenders who tend to persist in offending between adolescence and early adulthood and those who tend to desist from offending, as well as individuals who have an early adult-onset of offending. In addition, Study Group members reported on explanations of persistence in and desistance from offending, and how the justice system deals with offenders in the adolescent to early adulthood period.

Research shows that a small percentage of out-of-control children become life-course delinquents. However, the Study Group also found evidence that many juvenile delinquents tend to stop offending in late adolescence and early adulthood and that this decrease is accompanied by a decrease in juveniles' impulsive behavior and an increase in their self-control.

Although in most U.S. states the legal transition between adolescence and adulthood takes place at age 18 (and less frequently at ages 16 or 17), it is debatable whether young people have full control over their behavior by age 18 and whether their brain maturation is complete at that age. If so, does this mean that from age 18 onwards we can attribute the causes of offending and culpability to persisting individual difference factors rather than immaturity and disadvantages in families, schools, and the social environment?

This bulletin draws on studies in both North America and Europe and includes contributions from thirty-two scholars. We focus on the age period between mid adolescence and early adulthood (roughly ages 15-29). Figure 1 summarizes the four key groups that we are interested in: Juveniles/adults whose offending persists from adolescence into early adulthood (and perhaps later); adults who were juvenile offenders who desisted during adolescence and do not continue to offend into early adulthood; adult-onset offenders who did not offend during adolescence but who became offenders during early adulthood; and, lastly, non-offenders who do

not offend in either adolescence or early adulthood. The four groups are examined in general population samples, with an additional focus on special offender groups, such as drug dealers, gang members, homicide offenders, and sex offenders.

The Age-Crime Curve

The relationship between offending and age is bell-shaped (see Figure 2): The prevalence of offending (the percentage of offenders in a population) tends to increase from late childhood, peaks in the teenage years (around ages 15-19), and then declines in the early 20s. This bell-shaped age trend is called the age-crime curve, which is universal in all Western populations (Farrington, 1986; Piquero, Farrington, & Blumstein, 2007).

However, age-crime curves may vary in significant ways. For example, the age-crime curve for violence tends to peak later than that for property crime (Blokland & Palmen, 2012; Piquero et al., 2012). Studies also show that the age-crime curve for girls peaks earlier than boys (Blokland & Palmen, 2012; Farrington, 1986; Elliott et al., 2004). The curve is also higher and wider for young males (especially those of a minority status) growing up in the most disadvantaged compared to advantaged neighborhoods (Fabio et al., 2011; Elliott, Pampel, & Huizinga, 2004).

Important for our understanding of the transition between adolescence and adulthood is the right-hand tail of the age-crime curve. The higher and longer that tail, the more this indicates that there is a population of youth who may not have outgrown delinquency or who may have started offending during adulthood (see below). It should be understood, however, that the typical age-crime curve imperfectly reflects individuals' persistence or desistance in offending.

Information about persistence and desistance derives from longitudinal follow-up data and is the key for understanding age-normative vs. delayed outgrowing of delinquency (see below).

There are several other caveats about the age-crime curve that may influence conclusions drawn from it. For example, self-reported delinquency shows an earlier peak than official records (Piquero et al., 2012). This may reflect the fact that juvenile offending at a young age (as evident from self-reports) may be undetected or not officially processed by the police (Piquero et al., 2012). Another important methodological caveat is that most published age-crime curves based on official records consist of aggregate cross-sectional data from different age cohorts. Only the follow-up of the same participants in longitudinal data can provide us with an estimation of the age-crime curve independent of cohort effects (see e.g., Loeber, Farrington, Stouthamer-Loeber, & White, 2008).

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The age-crime curve hides different individual curves with some increasing over the first three decades of life, and others increasing and then decreasing. However, research shows that, irrespective of the age of onset of offending, most desistance from juvenile delinquency takes place in the right-hand down-slope tail of the age crime curve, i.e. in early adulthood. In other words, most group offenders naturally desist during the young adult years. The majority of serious forms of crime – including violence – take place in the down-slope of the age-crime curve, thus during the period of desistance.

Persistence, Desistance and Onset

The key questions addressed in this bulletin concerning criminal careers are: How common is persistence in and desistance from offending between adolescence and early adulthood, and how

common is the onset of offending during early adulthood? Research shows that there is strong continuity in offending from adolescence to adulthood. Studies also show large variations in persistence, which may differ depending on the type of data (official records or self-reported delinquency) and the population of youth studied (general populations vs. offender populations). Continuity of offending from the juvenile into the early adult years is higher for those youth who start offending at a young age, for chronic juvenile delinquents, and for violent compared to nonviolent offenders. Le Blanc and Fréchette (1989) found that “from 30 to 60% of adolescents arrested by the police or convicted by a court will have a criminal record as adults” (p. 83). They also warned that criminal activity during adolescence does not mean “the seeds of an assured stability” of offending into adulthood (p. 85). Using best-estimate methods of self-report and official records, Stouthamer-Loeber (2010) found that in the Pittsburgh Youth Study (PYS), 52% to 57% of juvenile delinquents continued to offend during early adulthood (ages 20-25), but that this dropped by two-thirds to 16% to 19% in the next five years.

However, there are large individual differences in a juvenile offender’s likelihood of persisting into adulthood. For example, those juveniles who start offending prior to age 12, compared to those who start at a later age, are more likely to persist into early adulthood (Loeber & Farrington, 2001).

Not all offense types have the same years of persistence. Rosenfeld and colleagues (2012) reported that among the drug offenses, marijuana use had the longest duration, two to four times longer than serious theft and violence. They also showed that drug dealing (and possessing weapons) had the highest likelihood of persistence into early adulthood, while gang membership had a shorter duration, which is in line with Le Blanc and Fréchette’s finding (1989) that the median age of termination of offending was the highest (age 21.6) for drug trafficking. They also

found that minor offenses (such as vandalism, shoplifting, and motor vehicle theft) tended to cease before age 18. The data described above show that knowledge about different offense characteristics and about the residual length of criminal careers is relevant for justice personnel to make decisions about length and types of sentences, treatment, parole, and incarceration.

Yet another issue is how the frequency of offending (by active offenders) varies over an age range. Piquero and colleagues (2012) concluded that the annual frequency of offending is higher for nonviolent forms of delinquency than for violence. The frequency of offending usually peaks round ages 17-19, and remains stable only among a small number of offenders over time (this is because most criminal careers are only 5-10 years in duration). However, Blokland and Palmer (2012) found that the average frequency of offending was stable over time, as Blumstein et al. (1986) argued.

Studies agree that a proportion of juvenile delinquents desist from offending by early adulthood (typically about 40-60%). The period between late adolescence and early adulthood is characterized by an increasing severity of offending (including violence) by a minority of delinquents, and a decreasing severity of offending by others. For example, the transition between adolescence and adulthood denotes a period of increasing severity of offenses and an increase in lethal violence (e.g., Farrington, 2003; Le Blanc & Fréchette, 1989; Loeber & Farrington, 1998). Serious offenses include violence and homicide, drug dealing, and gun or weapon carrying (Loeber et al., 2008). Since most of the violence is directed at same-age victims, it is not surprising that the age period 16 to 24 is also a high-risk period for violent victimization (e.g., Kershaw, Nicholas, & Walker, 2008; Truman & Rand, 2010). The process of escalation for some young males and de-escalation for others is usually not complete for all juvenile delinquents by age 18 but extends into early adulthood.

It is important to point out that the results of the Stouthamer-Loeber (2010) and the Le Blanc and Fréchette (1989) studies indicate the irrelevance of the legal age of adulthood at age 18 for desistance processes. The findings imply that many youthful offenders, including those already in contact with the court, cease offending in the years after age 18. Thus, many young people who offend at ages 18 to 20 and who are now fed into the adult justice system (and are more likely to receive longer sentences than in the juvenile justice system), would have been likely to desist naturally in the next few years. It seems likely that justice system processing makes them worse rather than better.

According to Piquero et al. (2012), there is a consensus among studies that a proportion of individuals (typically about 10-30% of offenders, but estimates vary greatly) start offending during early adulthood. Zara and Farrington (2010) found that 23% of offenders up to age 50 were first convicted at age 21 or later. In general, there is a considerable range of estimates of how common is the prevalence of adult-onset offending. The proportion of adult-onset offenders varies considerably in different studies (depending on the criterion age of adulthood) and is higher in official records than in self-reports of delinquency, which may be caused by the fact that many juvenile self-reported offenses do not appear in official records of offending.

In summary, developmental studies of the persistence in and desistance from offending between adolescence and early adulthood do not support the notion that there is any kind of naturally occurring break in the prevalence of offending at age 18. Persistence in offending is not immutable; interventions outside of the justice system (discussed below) can improve a young person's desistance from offending between adolescence and early adulthood.

Special Categories of Offenders

The Study Group considered several categories of young offenders (drug dealers, gang members, homicide offenders, and sex offenders). Research shows differences in the criminal careers for some, but not all, types of special offenders. For instance, findings reported by Rosenfeld and colleagues (2012) on special categories of offenders (homicide offenders, gang members, drug dealers and those carrying weapons) revealed that on average the age of onset of gang membership, drug use, weapon carrying and drug dealing occurred during adolescence (ages 13 to 17). Rosenfeld et al. (2012) also summarized the sequences of the average ages of onset among major categories of offenses. The average age of onset sequence was, first, gang membership (average 15.9), followed by marijuana use (16.5), drug dealing (17.0), gun carrying (17.3) and hard drug use (17.5).

Although drug dealers are uncommon, drug use is wide-spread among nearly all types of offenders. Research findings are consistent in showing that criminal offenders report higher rates of substance use, and substance users and abusers report higher rates of offending compared to nonusers (Rosenfeld et al., 2012). Of all categories of offenses, drug dealing and gun carrying had the highest persistence from adolescence into adulthood. Also, about one quarter of the onset of drug dealing in the PYS took place during early adulthood (ages 18 to 25).

Joining a gang increases the rate of offending but gang involvement is often a transient experience. Joining a gang often takes place in early adolescence, peaks in mid-adolescence, and precedes the onset of other criminal activities. For example, one study found that a large majority of youths who join gangs do so at very early ages, typically between 11 and 15, and ages 14-16 are the peak ages for gang involvement (Howell, 2011). In contrast, most homicides are single events and are committed in the 19 to 24 age-window. However, gang killings mostly take place during adolescence.

Rosenfeld et al. (2012), using U.S. data, found that child abusers start at an older age compared to peer and adult abusers, but this group persisted for a longer period in adulthood. Bijleveld and colleagues (2012) distinguished between ‘hands-on’ young sex offenders (thus, excluding exhibitionists), those who abused children and those who abused peers. The authors concluded that child abusers offended less often and less frequently than peer abusers.

Explanations

We identified ten explanatory processes related to desistance from offending:

1. Early individual differences in self-control.
2. Brain maturation.
3. Cognitive changes (e.g., decision making to change behavior)
4. Behavioral risk factors (disruptive behavior and delinquency) and behavioral protective factors (nervousness and social isolation).
5. Social risk and protective factors (family, peers, school).
6. Mental illnesses and substance use/abuse.
7. Life circumstances (e.g., getting married; becoming employed).
8. Situational context of specific criminal events, including crime places and routine activities.
9. Neighborhood (e.g., living in a disadvantaged neighborhood, and the concentration of impulsive and delinquent individuals in disadvantaged neighborhoods).
10. Justice response (e.g., transfer to adult court, longer sentences).

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Gender and Ethnicity

Gender. A substantial minority of offenders are girls and women with problems and needs that often are different from those of boys and men. In addition, it is debatable to what extent delinquency careers and causes of delinquency are the same for each gender, and whether programs for males and females are equally effective. For example, research has shown that gender specific interventions are rare and that studies on the effectiveness of regular interventions with females are scarce (Hipwell & Loeber, 2006; Zahn, Day, Mihalic, & Tichavsky, 2009). However, a recent meta-analysis concluded that generic types of program services (e.g., cognitive-behavior therapy, individual counseling, and the like) are about equally effective with boys and girls (Lipsey, 2009). Hipwell and Loeber (2006) show that there is some evidence to suggest that interventions specifically designed to address female delinquency and multi-modal interventions can be effective for female adolescents.

Ethnicity. There are many agreements and some misunderstandings about the importance of race/ethnicity in the transition from adolescence to early adulthood. For example, studies show that African-American males show an earlier and higher peak in the age-crime curve than either African-American females or Caucasian males and females. Homicide offending and homicide victimization are much higher among African-American than Caucasian young males (Anderson & Smith, 2002; Fox & Zawitz, 2001). Race/ethnicity differences in offending might be explained by race/ethnicity differences in risk factors. Loeber and Farrington (2011) showed that African-American boys were more deprived than Caucasian boys on socioeconomic/demographic factors, such as a broken home, the family on welfare, a bad neighborhood, and a young mother. Other analyses of the PYS data have shown that, once other social and structural factors are taken into account, race does not predict violence (Loeber&

Farrington, 2011; see also Huizinga et al., 2006) or homicide offending (Loeber & Farrington, 2011). Once again, issues of race/ethnicity are explored in more detailed in another bulletin.

The Study Group posed three key questions: (a) Does each of the processes explain persistence in offending from adolescence into adulthood? (b) Does each process also explain desistance during that period? (c) Does each process explain the onset of offending during early adulthood?

We found that there are multiple explanatory (“causal”) processes influencing offending from early childhood to early adulthood. Persistence in offending from adolescence into adulthood is explained by several of these, including early individual differences, behavioral risk factors, individuals’ exposure to social risk factors, delayed brain maturation, and the justice response.

Only some processes are implicated in desistance from offending, for example, favorable individual differences and exposure to few behavioral risk factors. In addition, early brain maturation and the presence of cognitive changes encourage desistance. There is also strong evidence that, for males, getting married and holding a stable job foster desistance from offending, whereas unstructured activities with peers are associated with persistence. For example, Horney et al. (2012) showed that for males, marriage on average is linked to a reduction in criminal behavior and substance use, but the evidence for females is less clear. Findings on employment and its possible impact on offending are less consistent than those of marriage. Specifically, not all studies support the notion that employment fosters desistance from offending and/or substance use. More consistent is the finding that periods of unemployment are associated with higher delinquency in juvenile and adults alike (e.g., Farrington, 1986). While

risk factors tend to predict a lower probability of desistance during the period between adolescence and early adulthood, the evidence for protective factors encouraging desistance is far from clear.

Unfortunately, the sparse research on adult-onset offending provides little guidance on which factors explain why some individuals who were not delinquent during adolescence become adult offenders. However, there is some evidence that some factors inhibit offending during adolescence, but not during adulthood. Zara and Farrington (2009) found that characteristics such as nervousness, anxiousness, social isolation and social inhibition were associated with adult-onset offending.

The explanatory frameworks reviewed tend to take place at different age periods from childhood to early adulthood and, consequently, may influence different but interrelated outcomes (Figure 3). For example, early individual differences become manifest after birth and evolve subsequently, exposure to new risk factors increases from childhood through adolescence, while changes in desirable life circumstances – such as marriage and employment - typically accelerate from late adolescence into early adulthood.

None of the published longitudinal studies has ascertained the relative contribution to offending of each of these processes from childhood through early adulthood. In those instances in which the explanatory processes are malleable (for example, good supervision by parents, self-control, employment of young people), we do not know which explanatory processes, once changed, will be most effective in lowering the persistence of juveniles' offending into adulthood. A subsequent bulletin reviews in depth the effectiveness of preventive and remedial interventions.

Importantly, none of the aforementioned processes that operate during the transition between adolescence and early adulthood clearly map onto the age 18 dividing line, which is the most widely accepted distinction between adolescence and adulthood and between the operation of the juvenile and the adult criminal justice systems. Instead, such an arbitrary age distinction is irrelevant in respect to most of the above processes that are ongoing around that age, including brain maturation and moving from external to internal behavior control.

There are major individual timing differences among youth in their maturation. For that reason, the Study Group addressed the question: Which categories of youth are likely to mature more slowly in their cognitive ability to control their behavior and take longer than others to desist from delinquency? Bijleveld et al. (2012) reviewed new research findings on vulnerable groups, including youth formerly in juvenile institutions and low intelligence youth. The authors showed that both groups had longer criminal careers and were convicted more often than comparison youth. Youth of low intelligence require special attention, not just because they are often less competent to understand court proceedings, but also because, compared to more intelligent youth, they tend to score higher on cognitive impulsivity and are more often charged with delinquent offenses (Koolhof, Loeber, Wei, Pardini, & Collot d'Escury, 2007).

Risk and Needs Assessments

Risk assessments are often carried out to aid juvenile judges in making decisions about young offenders. This is consistent with the more individualized, rehabilitative approach of the juvenile court. Risk assessment instruments are also used with juveniles and adults in institutional settings (including mental health settings) to inform release decisions. Consequently, the main objective of many instruments is to predict the probability of reoffending. However, to our knowledge, no

instruments have been designed to predict persistence in offending from the juvenile to the early adult years, and none have been designed to predict offending in the young adult years. In most screening studies, the follow-up period for reoffending has been very short (often one year). Risk assessment is rarely used to inform sentencing in the adult criminal court, because of the court's more punitive retributive approach. Yet, risk assessment for young adult offenders would be useful, because for some offenders the probability of recidivism is low due to a decrease in offending as part of the down-slope of the age-crime curve.

Well-researched screening instruments are available to assess juveniles' competence to stand trial, and for sentencing and release, but relatively little is known about what are the most optimal instruments for young adults. Risk assessments are often administered in conjunction with needs assessments to measure offenders' competence to stand trial, intelligence, and mental health problems. The basic notion is that vulnerable youth should be treated individually in court and should receive more specialized services such as, for example, treatment for mental disorders. Reliable and valid assessment instruments to assess young people's cognitive (and brain) maturation still need to be developed.

Preventive Interventions and Interventions with Known Delinquents

A crucial question is whether programs outside of the justice system reduce the probability of delinquency and particularly the persistence of offending between adolescence and early adulthood. How effective are family-based programs during toddlerhood in reducing offending during the young adult years? There is good evidence that early interventions in childhood (e.g., nurse home visiting, preschool intellectual enrichment programs, and parent management training) are effective in preventing delinquency. For example, Welsh et al. (2012) reviewed

early childhood education in the context of home visits during pregnancy and infancy, including randomized experiment by Olds and colleagues to evaluate the Elmira (NY) Nurse Family Partnership program. At age 15, children of the higher risk mothers who received home visits incurred significantly fewer arrests than controls. A further follow-up at age 19 found that the daughters of mothers (but not their sons) who had received home visits incurred fewer arrests and convictions. Nevertheless, it is not always clear whether children who received early intervention committed fewer offenses during the young adult years.

How effective are individually-based programs during childhood in reducing offending during the young adult years? The best evaluations of early childhood intervention programs with no-treatment controls have demonstrated reductions in offending that extended into adulthood. Welsh and colleagues (2012) highlighted results from one such early intervention program called the Seattle Social Development Project (SSDP), which combined parent training, teacher training and skills training for children, beginning at age six. At age 27, the intervention group scored significantly better on educational and economic attainment, mental health, and sexual health, but not on substance abuse or offending (Hawkins et al., 2008).

How effective are community and school-based interventions in reducing young adult offending? Some but not all of the school-based interventions have led to a reduction in offending during the transition between adolescence and early adulthood. More research on of the best programs (e.g., Communities That Care, mentoring) is much needed. Employment programs such as Job Corps generally are effective in reducing offending by young adults.

Importantly, a meta-analysis of thirty-four programs focusing on improving self-control in children up to age 10 reported enhanced self-control and reductions in offending (Piquero et al., 2010). Thus, self-control is malleable and improved self-control has long-term benefits. It is

less clear, however, to what extent improved self-control is associated with accelerated brain maturation, a faster outgrowing of impulsive and sensation seeking behaviors during adolescence, a lowering of the age-crime curve for individuals, and a curtailing of the age-crime curve into early adulthood.

How effective are interventions with older juvenile delinquents (ages 14-17) in preventing continuation into young adult offending? Multisystemic Therapy (MST), Treatment Foster Care (TFC), and Functional Family Therapy (FFT) have been shown to reduce recidivism into early adulthood. For example, Welsh and colleagues (2012) pointed out that there is good evidence that MST is effective in preventing later offending. In a long-term of a randomized experiment follow-up between ages 14 and 28, Schaeffer and Borduin (2005) found that MST participants had lower recidivism rates (50% versus 81%), including lower rates of rearrest for violent offenses (14% versus 30%). MST participants also had 57% fewer days of confinement in adult detention facilities.

Do early interventions lower the age-crime curve? One of the limitations of evaluation studies is the absence of yearly follow-ups of treated and nontreated individuals during adolescence and early adulthood. For that reason, published evaluation studies have not shown the degree to which interventions lowered the age-crime curve. To resolve this, Loeber and Stallings (2011) used longitudinal data from the Pittsburgh Youth Study to simulate the impact of an intervention on offending by at-risk youths. The modeled intervention showed substantial benefits of lowering the age-crime curve during adolescence and early adulthood by reducing the prevalence of self-reported serious offenders, officially recorded homicide offenders and homicide victims, and thus benefitting the justice system by greatly reducing arrests and convictions, and reducing offending in early adulthood.

In conclusion, there are many intervention programs outside the justice system that reduce recidivism and prevent persistence of offending from adolescence into early adulthood. Preliminary results indicate that such interventions may lower the age-crime curve and reduce offending during the young adult years.

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Financial Benefits and Costs of Interventions

What is known about the financial benefits and costs of different interventions that might reduce offending in the young adult years? A review of cost-benefit studies by Welsh and colleagues (2012) concluded that the financial benefits of programs often outweigh their financial costs. This was true, for example, of multidimensional treatment foster care (MTFC) (\$8 saved per \$1 expended), functional family therapy (FFT) (\$10 saved per \$1 expended), multisystemic therapy (MST) (\$3 saved per \$1 expended), vocational education in prison (\$12 saved per \$1 expended), cognitive-behavioral therapy in prison (\$22 saved per \$1 expended), drug treatment in prison (\$6 saved per \$1 expended), and employment training in the community (\$12 saved per \$1 expended). Thus, it is clear that many programs not only reduce offending in the young adult years but also save taxpayers a lot of money in the long run.

Research and Policy Recommendations

Research Priorities. The Study Group concluded that there are significant gaps in knowledge about the development of offending careers between ages 15 and 29. Little is known (especially

from self-reports) about prevalence, frequency, types of crimes, co-offending, motives for offending, specialization, escalation, persistence as opposed to desistance, intermittency and adult-onset offending. Surprisingly little is known even about the most basic questions of how many juvenile offenders (ages 15-17) persist into adult offending (at ages 18 or later), and what factors in the juvenile years predict persistence into the adult years. More needs to be known about processes that may influence offending between ages 15 and 29, especially individual factors (including those that tend to develop with age, such as psychosocial maturity, impulse control, cognitive decision-making, executive functioning, risk taking, emotion regulation, and other factors that tend to emerge with age such as mental health problems). More needs to be known about how life circumstances, such as education, employment, romantic relationships and cohabitation, substance use, and peer relationships) influence the development of offending. In addition, there is a need to better understand how individuals' routine activities and their neighborhood and situational contexts influence offending.

We recommend two ways to advance knowledge about the development of offending careers and influencing factors. First, it is desirable to undertake secondary data analyses on existing longitudinal data sets and/or to investigate to what extent within-individual changes in influencing factors are followed by within-individual changes in offending. Few studies have carried out within-individual analyses, which require repeated assessments (see Farrington et al., 2002).

Not all secondary data analyses, however, can address all of the key questions posed in these bulletins, and deal with the full range of putative processes from psychosocial maturity to neighborhood and situational influences. Therefore, our second recommendation is to start two longitudinal studies, one of a community sample and the other of a sample of offenders (this dual

method has previously been used by Marc Le Blanc in Quebec). The two studies have complementary advantages and disadvantages. The community study makes it possible to generalize results to the whole population but may have a low yield of serious offenders. The offender study provides a lot of information about existing offenders but it is not clear to what extent the results can be generalized to the whole population or what are the characteristics of late-onset offenders over the age range. By carrying out both studies in the same location during the same time period with similarly aged youth, valid conclusions can be drawn about both juvenile offenders and the whole population. This research would be inspired by and build on the Pittsburgh Youth Study, which is a community study, and the Pathways to Desistance Study, which is the most important longitudinal study of juvenile offenders.

It is proposed that the two studies should be carried out in the same large city (with a legal age of adulthood of 18) with low rates of migration in and out, to facilitate high retention rates and the study of neighborhood, situational, and other contextual factors. Ideally, studies should be carried out in more than one city, as in the case of the OJJDP Program of Research on the Causes and Correlates of Delinquency, but we will outline both more ambitious and perhaps more realistic projects. Ideally, large numbers of males and females and persons from different racial/ethnic backgrounds should be followed up, but more realistically perhaps about 500 males and 1,000 females could be followed up in each study (at least initially). There could be oversampling of high risk youth in the community study (to increase the yield of offenders while still permitting generalization to the population), and the offender study could begin with persons petitioned to or adjudicated in the juvenile court. Ideally, youth should be followed up in annual face-to-face interviews from age 15 to age 29, but more realistically interviews (6) could be carried out every two years from age 15 to age 25. Repeated self-reports and official records of

offending should be collected, so the cooperation of official agencies in the city would be crucial.

The main aims of these studies are summarized in Box 1. Some of these aims can be addressed more effectively in the community sample, and some in the offender sample.

Policy recommendations. Several of the following recommendations are relevant for reducing prison populations, particularly by curtailing the flow of juveniles from the juvenile justice system into the adult prison system.

There are many good reasons why juvenile offenders are treated differently from adult offenders in courts and correctional facilities. In particular, compared with adults, Box 2 summarizes some distinguishing features of juveniles. We conclude that young adult offenders aged 18-24 are more similar to juveniles than to adults with respect to their offending, maturation, and life circumstances. Therefore, we make the following policy recommendations (some of which are alternatives):

1. Changes in legislation should be considered to deal with large numbers of juvenile offenders becoming adult criminals. One possibility is to raise the minimum age for referral of young people to the adult court to age 21 or 24 so that fewer young offenders are dealt with in the adult criminal justice system. There are several advantages: fewer young offenders will be incarcerated, fewer of them will be exposed to the criminogenic influences of incarceration, more of them can receive alternative, noncustodial sanctions, and more can participate in alternative, positive skill-building programs. We expect that, consequently, the number of adult prisoners will be reduced and considerable savings for taxpayers will accrue. We recommend carrying out cost-benefit analyses in the U.S. to quantify the benefits of legally

raising the age of juvenile jurisdiction to age 21 or 24. Such cost-benefit analyses have been executed abroad (in the U.K.) but not yet in the U.S.

2. Alternatively, special courts for young adult offenders aged 18-24 could be established on an experimental basis in a small number of areas (building on the experience of the U.K. Transition to Adulthood initiative: see www.t2a.org.uk). Three reasons support creating special courts for young adult offenders: (i) preventing excessive punishment of young people who land in the adult justice system; (ii) youthfulness or immaturity as a mitigating factor; and (iii) the developmental needs of young people. Along that line, several European countries (e.g., Sweden, Germany and Austria) have long had separate young adult sentencing options and separate institutions for offenders aged 18-21. The focus should be on rehabilitation rather than retribution. Since juveniles who are transferred to adult courts tend to receive more severe sentences and tend to have higher recidivism rates than those in juvenile courts, we expect that these special courts would decrease recidivism and decrease incarceration, and consequently save taxpayer money. In addition, they should be designed to have fewer ongoing stigmatizing effects than the adult criminal courts.
3. Most research shows that there is no evidence that either longer sentences or lengthening the period of incarceration, common for adult offenders, provide practical benefits in terms of reducing the recidivism of serious offenders. For that reason, we suggest a third option to set up special correctional facilities for young adult offenders and include programs such as cognitive-behavioral therapy, drug treatment, restorative justice, mentoring, education and vocational training, and work release. Special facilities for young adults already exist in some states (e.g., Pennsylvania).

4. There could be an ‘immaturity discount’ for young adult offenders: a decrease in the severity of penalties that takes into account young persons’ lesser maturity, culpability and diminished responsibility. Along that line, death sentences and life without parole sentences should be abolished for young adult offenders.
5. There should be risk/needs assessments and screening of young adult offenders to guide the selection of appropriate disposals and interventions. This screening should assess the topics listed in (a)-(j) in Box 2, in addition to risk factors such as low intelligence. Young adult offenders with substance use problems should be diverted to drug courts, and those with mental health problems should be dealt with by mental health professionals.
6. There should be evidence-based programs for young adult offenders in the community and after release, including multisystemic therapy, cognitive-behavioral therapy, drug treatment, restorative justice, mentoring, educational and vocational training programs, and programs such as Communities That Care. Employment and relationship programs should be offered to encourage desistance, as well as other programs aimed at reducing disorderly transitions such as not graduating from high school and single teenage parenthood. Other useful programs are those aiming to reduce opportunities for offending, such as ‘hot spots policing’ and situational crime prevention, and reducing gang membership and drug dealing (especially targeted on high-crime neighborhoods). In addition, in light of the long-term positive effects of early nurse home visiting, parent training, and family-based programs, these also should be more widely implemented and followed up to assess their effects on young adult offending.

All of these initiatives should be rigorously evaluated and cost-benefit analyses should be carried out. Age, gender, and racial/ethnic differences in the effectiveness of programs should be studied.

We urge the U.S. federal government to develop an action plan to implement the key recommendations of this report to assist states in changing their statutes and practices so that justice is applied more fairly and with more knowledge of how youth develop into mature adults. We believe that, in order to improve the safety of citizens and communities, our recommendations offer more hope of crime reduction and less burden on the taxpayer than does the implementation of longer prison sentences for young adults or the referral of more juvenile offenders to the adult criminal justice system.

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Box 1: Aims of the proposed longitudinal studies focusing on the transition between juvenile offending and adult crime

1. To study the development of offending careers between ages 15 and 25: prevalence, frequency, types of crimes, co-offending, motives for offending, specialization, escalation, persistence as opposed to desistance, intermittency and adult-onset offending.
2. To compare self-report and official record information about offending careers.
3. To obtain information about key predictive relationships in offending careers, such as how the probability of persistence or desistance at each age, and the residual length of criminal careers, varies according to previous criminal career features (e.g., age of onset, time since the last offense); and especially the extent to which future adult criminal careers can be predicted at age 17.
4. To study the relationship between offending and individual factors such as executive functioning, neurobiological and brain development, cognitive factors, decision-making, impulsiveness, self-control, psychosocial maturity, emotion regulation, and adjudicative competence.
5. To assess the strength of relationships between risk factors (individual, family, peers, school, neighborhood, and community), life events and life transitions (e.g., employment, marriage, drug selling, and gang membership) and later criminal career features.
6. To assess development in different communities and neighborhoods.
7. To assess situational factors, routine activities, and opportunities that influence whether a person with a certain degree of antisocial potential commits a crime in a particular time and place.

8. To study what factors influence successful transitions to adult roles such as employment, good accommodation, marriage or cohabitation, and parenthood.
9. To assess the effects of different types of official processing (e.g., juvenile versus criminal court, different disposals) at different ages, using quasi-experimental comparisons and propensity score matching to deal with selection effects.
10. To assess the accuracy of risk/needs assessment instruments in predicting persistence versus desistance.
11. To assess the effectiveness of different types of interventions inside and outside of the juvenile and adult justice system at different ages.
12. To assess the financial benefits and financial costs of different types of interventions and court processing.
13. To study how offending careers and other results vary according to race/ethnicity and (if possible) gender.

Box 2: Some features of juveniles which are relevant for justice processing:

1. Less mature judgment.
2. Poorer decision making in offending opportunities.
3. Poorer executive functioning, reasoning, abstract thinking, planning.
4. More influenced by immediate desirable consequences than longer-term possible undesirable consequences.
5. Poorer impulse control, more likely to take risks and commit crimes for excitement rather than according to a rational choice.
6. Less set in their offending habits, more changeable, more redeemable.
7. Less culpable or blameworthy, diminished responsibility, less deserving of punishment.
8. Poorer emotion regulation and self-regulation.
9. Less avoidance of self-harm.
10. Lower adjudicative competence to communicate with lawyers, make legal decisions, understand and participate in legal procedures, stand trial.
11. More susceptible to peer influences.

Figure 1: Offending in the juvenile and early adult years

	Adult Non-Offender	Adult Offender
Juvenile Non-Offender	Non-Offender	Adult-onset Offender
Juvenile Offender	Adult Desister	Juvenile/Adult Persister

Figure 2: An example of an age-crime curve (Loeber & Stallings, 2011)

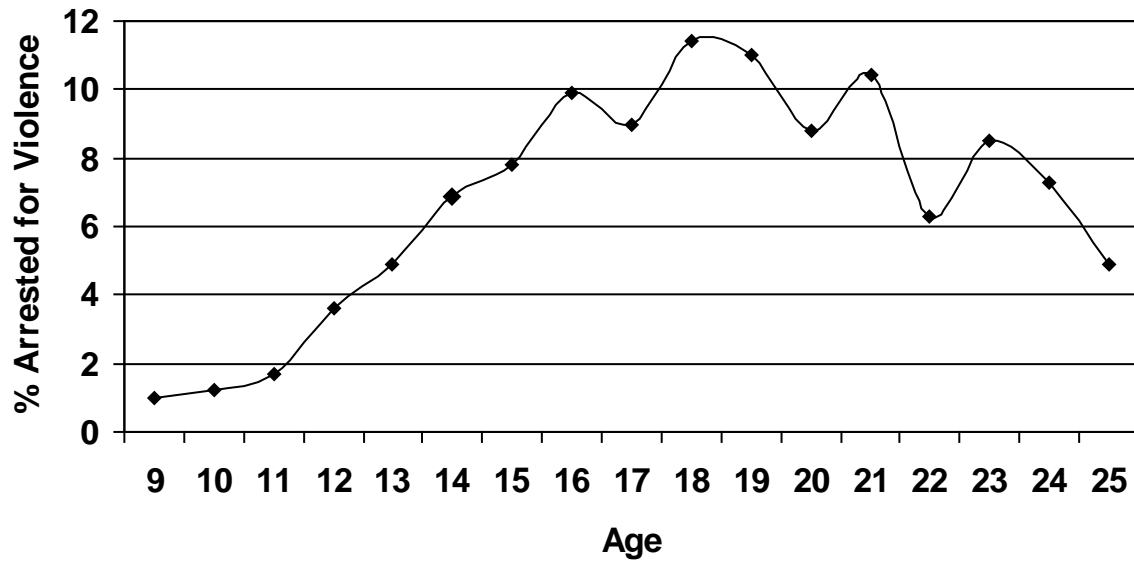


Figure 3: Approximate temporal ordering of explanatory processes investigated for persistence in, desistance from, and adult-onset of offending

	Childhood			Adolescence			Early adulthood
	Early	Middle	Late	Early	Middle	Late	
1. Early individual differences	—————→						
2. Brain maturation	—————→						
4. Behavioral risk and protective factors	—————→						
3. Cognitive changes	—————→						
5. Social risk and protective factors	—————→						
8. Situational context	—————→						
9. Neighborhood	—————→						
6. Mental illness and substance use/abuse	—————→						
10. Justice response	—————→						
7. Life circumstances	—————→						

Note: Numbers refer to the order in which the explanatory processes are discussed in Chapters 1 and 11

