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

BULLETIN 2: CRIMINAL CAREER PATTERNS

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A central feature of criminology has been the empirical study of criminal activity and its longitudinal patterns. Beginning with the pioneering descriptive work of Quetelet (1842), continuing onto Shaw's (1931) classic *The Jack Roller*, and culminating in Wolfgang et al.'s (1972) pioneering *Delinquency in a Birth Cohort* study, such basic, descriptive accounts about the nature of criminal offending have generated important information regarding the proportion of individuals who offend, the volume of their offending, their participation within and across crime types, patterns of escalation and de-escalation, and the cessation of criminal activity (see reviews in Blumstein et al., 1986; Piquero et al., 2003). Moreover, evidence regarding the nature of criminal careers has also served as an organizing feature of several criminological and especially developmental theories of crime (Farrington, 2005). This information has also served as an important basis for important methodological and statistical advances for studying within- and between-individual changes in criminal activity over the life course (Nagin, 2005).

At the same time, much of the knowledge base regarding criminal careers has emerged from a few select studies, limited in scope by their sample composition, data

source, and time observation period. Moreover, even fewer studies have dealt with specific criminal career dimensions that link the important theoretical and policy-oriented transition between juvenile and adult years, a period of the life course when many criminal careers end and a small, select few continue.

This bulletin focuses on several key criminal career dimensions linking offending patterns in adolescence to those in adulthood, including: prevalence, frequency, continuity, adult-onset, specialization, diversification, escalation and de-escalation, stability and change, and co-offending. The bulletin concludes with an overall summary statement, an identification of key research priorities, and provides some recommendations for practitioners and policymakers.

Prevalence

As one of the two key dimensions of criminal careers, prevalence is the proportion of individuals who participate in crime at any given time period. Many empirical studies have documented the prevalence of offending in criminal careers. The seminal Philadelphia Birth Cohort Study indicated that about one-third of Philadelphia males born in 1945 had experienced a police contact by age 18 (Wolfgang et al., 1972), a finding which has generally been replicated across most longitudinal studies examining official records. Most studies tend to indicate that prevalence peaks in the teenage years (around ages 15-19), and then declines in the early 20s (Blumstein et al., 1986; Piquero et al., 2003). These figures tend to peak earlier in self-reports and later when using official measures, such as police contacts, arrests, and then convictions (Moffitt et al., 2001).

Moreover, these findings hold across different samples, time periods, and cultural locations.

Piquero et al. (2007) examined offending prevalence using conviction records for more than 400 South London males participating in the Cambridge Study in Delinquent Development. Analyses showed that: (1) the early to mid-teenage years saw a steady increase in prevalence from 2% to just over 10% at the peak age of 17 (10.7%), only to be followed by a small degree of stability amidst a general decline through age 40; (2) cumulative-prevalence of convictions through age 40 evinced a rapid rise until about age 18 at which point it became asymptotic by age 40 (39.9% had at least one conviction); (3) few differences were found in offending prevalence across offense types, as involvement across most offense types decreased over time; and (4) offending prevalence assessed using self-report surveys among the South London males approached 100% by age 40 (Farrington, et al. 2001).

Using data from two Pittsburgh Youth Study cohorts, Loeber et al. (2008) examined the prevalence of violence and theft from ages 7-25. Generally, about 25% of study participants in the youngest cohort had been arrested for serious violence at age 19, and about 10% had been convicted for serious violent offending by age 19, while almost 20% had been arrested for serious theft and 20% convicted for serious theft. However, 33% of subjects in the oldest cohort had been arrested for serious violent offending by age 25, and 1 in 6 had been convicted of such offenses. Further, 33% had been arrested for serious theft, and 20% had been convicted of these offenses.

The self-reported prevalence of moderate and serious violence in the youngest Pittsburgh cohort peaked (at 5-6%) in early adolescence (ages 13-16) and then declined

soon thereafter to relatively modest to low levels. In the oldest cohort, serious violent offending peaked at ages 18-19 (at 11%), and then declined dramatically thereafter, whereas moderate violence was high at ages 14-15 (17%) and then declined. Still, the oldest sample, likely because of the historical time-period in which they entered adolescence, showed more (serious) violent offending compared to the youngest cohort.

With respect to theft prevalence, findings for the youngest cohort indicated that the prevalence of moderate theft peaked at ages 14-15 (19%) and then declined, while for serious theft (breaking and entering or auto theft), prevalence was low in middle childhood (1% at ages 7-10), peaked at ages 14-17 (4-6%), and then declined thereafter. For the oldest cohort (ages 13-25), minor theft decreased from 42% (age 13) to 1% (age 25). For moderate theft a peak was observed at age 15 (32%), and this reached a low of 4% by age 25, and for serious theft prevalence ranged from 8 to 11% at ages 13-15 and decreased to zero by age 25. As was evident for violence, the oldest cohort showed a higher theft level throughout the time period. In both cohorts then, the (self-reported) theft prevalence was much higher than the prevalence of violence (p.100), such that by age 19 about 75% of the youngest cohort had engaged in minor theft compared to about 50% who had engaged in moderate theft and just less than 20% who had engaged in serious theft. Violence was much less common: 33% of the youngest cohort had engaged in moderate violence and 20% had engaged in serious violence.

It is also useful to assess whether or not the substantive conclusions just discussed hold when using official arrests as the outcome criteria. Among the youngest cohort, the (arrest-based) prevalence of serious violence peaked at age 16 (7%) and declined thereafter, while the peak for moderate violence was observed at ages 14 and 18 (both

4%). Among the oldest cohort (first studied at age 13), the prevalence of moderate violent offending peaked at ages 18 and 21 (7%), while it peaked by age 19 (10%) for serious violent offending. Turning to theft, the prevalence of arrest for moderate theft peaked at ages 16 (10%) and 18 (9%), while the peak for serious theft was age 16 (5%) for the youngest cohort. Moderate and serious theft arrests peaked at age 16 (moderate 15%, serious 12%) for the oldest cohort (p.109).¹

In a final analysis, Loeber et al. (2008) developed and examined an all-source measure of serious violence and theft combining self-reported delinquency and official record data (p.235). For violence, the oldest cohort showed higher levels at all ages but with a slightly earlier peak for the youngest (ages 13-16) compared to the oldest (ages 18-19) cohort. For theft, there was a higher prevalence at all ages in the oldest cohort, with a peak about ages 14-16 for both cohorts, but with a much more rapid decline in annual prevalence among the youngest cohort.

Moffitt et al. (2001) undertook comprehensive analyses of sex differences in antisocial behavior within a cohort of 1,000 New Zealand males and females followed to age 21. In the Dunedin Multidisciplinary Health and Human Development Study there were self-report surveys, data from the subjects' parents regarding offspring antisocial behavior and arrests, and conviction records from New Zealand agencies. A remarkable consistency in study results across age and data sources showed that, through age 21,

¹ One of the key features of the PYS is its incorporation of both self-reported and official measures of offending. In general, the findings indicate that a larger proportion of subjects engage in serious offenses during early adolescence (via self-reports) without being arrested than during later adolescence (p.121), and conviction records show even lower prevalence than arrest-based official measures because of the filtering process of the criminal justice system. In general, subsequent analyses by Loeber et al. (2008:124-125) lead to the conclusion that some misclassification may occur if serious violent offenders and serious theft offenders are identified solely via official records, for as many as 70% of the serious violent offenders in the two cohorts were not convicted for their violence. Longitudinal data containing repeated self-report and official measures are the exception and not the norm in criminology.

males were more antisocial than females. However, the sexes were most similar in their antisocial behavior during middle adolescence and in their drug- and alcohol-related offenses. Males also tended to engage in more serious offenses than females and to be over-represented in official criminal records. The most active females offended at a much lower rate than the most active males. Finally, prevalence rose through late childhood into adolescence, peaking in the mid-to-late teens and declining soon thereafter.

Summary. Although most individuals self-report involvement in some form of delinquent or criminal behavior by early adulthood, official records from police contacts, arrests, and convictions yield a much smaller prevalence estimate (about 20-40% depending on data source, follow-up period, etc.), largely because most offenders are not caught. Analyses indicate a peak in self-reported crime in the early teens and in later adolescence using official records. These figures also vary somewhat according to the crime type, with more minor crimes peaking earlier and more serious crimes peaking later. In studies containing information on offending across race and gender, the evidence tends to show that males and minorities (especially African-Americans) show an earlier and higher prevalence peak than females and whites, but data on Hispanics is virtually absent in criminal career research (though see Maldonado-Molina et al., 2009).

Frequency

The second key criminal career dimension, frequency, measures the number of crimes committed. The evidence on individual offending frequency (the number of crimes committed per offender per year) is more mixed than the more conclusive and agreed-upon findings emerging from prevalence estimates.

Using official conviction records, Piquero et al. (2007) examined the number of offenses for the South London males through age 40. By age 40, the men had accumulated 760 total convictions, with peaks at ages 17 (69 convictions) and 18 (67 convictions), followed by declines through and into adulthood. When the authors examined individual offending frequency across age groups (10-15, 16-20, 21-25, 26-30, 31-35, 36-40), an early increase was followed by a steady decline over time. This was also true when the authors focused on violence, which revealed much smaller frequency estimates because of its rarity in conviction records among the South London males.

Loeber et al. (2008) provided an in-depth analysis of violence and theft frequency in the two PYS cohorts in different age blocks. Their analysis indicated that the average annual frequency of moderate and serious violence increased over three age blocks (10-12, 13-16, 17-19) among the youngest cohort (peaking around two offenses per offender at ages 17-19 for both moderate and serious violence). The annual reported violence frequency peaked at about four offenses per offender per year during late adolescence (ages 17-19) before dropping off in early adulthood (ages 20-25).

Turning to theft frequency, results for the youngest cohort indicated that the annual frequency of self-reported theft increased up to early adolescence (ages 13-16), and then remained stable or decreased in late adolescence. For all three types of theft among the oldest cohort, frequency was highest in late adolescence (ages 17-19, 3.5-5.4 offenses per offender), with a much lower frequency of serious theft during early adulthood (ages 20-25, about 2 offenses per offender).

To summarize, the annual self-reported frequencies of all thefts were higher among the oldest PYS cohort and theft frequency tended to be higher in most

comparisons than violence frequency. Frequent theft was more common in the early part of criminal careers for the oldest cohort while frequent violence was more common in the later part of their careers (Loeber et al., 2008).

Turning to arrest frequency, the annual frequency of arrests for moderate violence in the youngest cohort (age blocks 10-12, 13-16, 17-19) was stable from late childhood to late adolescence (at 0.4-0.5 per year), while the annual frequency of arrests for serious violence was similar to that of moderate violence and stable from late childhood to late adolescence (at 0.5-0.6 per year). Among the oldest cohort (age blocks 13-16, 17-19, 20-25), results for both moderate and serious violence annual arrest frequency was highest during late compared to early adolescence, while both moderate and serious violence decreased during early adulthood (ages 20-25).

With respect to theft arrest frequency, among the youngest cohort, the frequency of moderate theft increased from late childhood to late adolescence (to 0.87 arrests per year in late adolescence) but showed less of a trend for serious theft (to 0.57 arrests per year in late adolescence) (Loeber et al., 2008). For the oldest cohort, the frequency of theft arrests was highest for moderate theft during early and late adolescence (at about 0.9-1.0 arrests per offender), and serious theft also peaked during early and late adolescence (at about 0.8-0.9 arrests per offender) decreasing significantly from adolescence to early adulthood.

Summary. Unlike prevalence trends, which show relatively consistent evidence of peaks in early to late adolescence and a gradual decrease after age 18, the individual offending frequency appears to vary according to several characteristics including sample composition, measures of offending, and time periods observed. However, the annual

individual offending frequency appears to peak in late adolescence, and only among a very small and highly select few offenders does it remain stable for a relatively long time (because criminal careers are relatively short, on the order of 5-10 years). Furthermore, individual frequencies appear to be higher for non-violent compared to violent offenses, but both decline over time. Finally, frequency of offending estimates are higher for self-reports compared to official records, largely because most offenses do not lead to an official record.

Continuity

A strong continuity has been found in antisocial behavior from childhood to adolescence to adulthood. As Robins (1978) noted “adult antisocial behavior virtually requires childhood antisocial behavior” (p. 611). Yet, most antisocial children and adolescents do not go on to become antisocial adults (Loeber and LeBlanc, 1990; LeBlanc and Loeber, 1998), and even fewer individuals escape adolescence without criminal involvement only to begin criminal involvement during adulthood.

Where persistence is conceptualized as offending both before and after adolescence, Blumstein et al. (1986) provided consistent evidence that 30-60 percent of juvenile delinquents known to the police or juvenile courts persisted as adult offenders with at least one arrest or conviction as an adult for an index or felony offense (see also McCord, 1978; Wolfgang et al., 1987). Using official records collected on more than 27,000 individuals from the 1958 Philadelphia Birth Cohort followed from birth to age 26, Tracy and Kempf-Leonard (1996) found more continuity than discontinuity in offending. Among those who were previously recorded as delinquent, 32.5% were also arrested as adults, compared to just 7.6% of the cohort subjects who were arrested as

adults but had not been officially processed for delinquency as juveniles. These figures simultaneously indicate that 67.5% of the cohort juvenile delinquents did not continue their offending as adults, and over 92.4% of the juvenile non-delinquents were non-delinquents as adults (Table 5.1).

Tracy and Kempf-Leonard also found that Blacks were the most likely to have an adult arrest (17.4%) followed by Hispanics (13.1%) and then Whites (9.1%). As the frequency of officially recorded juvenile delinquency increased from non-offender to one-time offender to recidivist (2-4 offenses) offender to chronic offender (5+ offenses), the probability of an adult criminal record increased substantially regardless of race and ethnicity group. The smallest percentage of adult offenders was always observed among juvenile non-delinquents, and the highest proportion occurred for juvenile chronic offenders, regardless of race (Table 5.6).

In summary, knowledge of official juvenile delinquency status helps to predict the prevalence of officially recorded crime in adulthood. Delinquency status was associated with adult offending status among all race groups for males, though, perhaps because of smaller cell sizes, to a lesser extent among females. Those arrested for the first time as adults were considerably more likely than their delinquent counterparts to be arrested less frequently and were very likely to be arrested only once in adulthood. Those arrested only as adults had a very low frequency of officially recorded offenses in adulthood by age 26. These findings suggest a considerable degree of continuity in arrests between adolescence and adulthood.

Loeber et al. (2008) examined the persistence of offending based on self-reports and official conviction records, and found that: (1) almost one in five of young serious

offenders became persistent serious offenders over a period of 6 or more years; (2) a higher level of persistence of serious offending (71%) was found for those with an onset during late childhood (ages 10-12, youngest cohort), compared to those with an onset during early adolescence (ages 13-15) (32%); and (3) 40-50% of the moderate-to-serious offenders early in life persisted in their offending over a period of about 7-9 years. In short, a very small group of persistent offenders offended at a high rate over time.

In order to assess continuity in offending, Piquero et al. (2007) examined convictions between different age periods, from 10-15 through 36-40, in the Cambridge Study in Delinquent Development data from males in South London. Excluding the two males who died prior to age 20, they found that 46 of the 69 recorded offenders at 10-15 were recorded offenders at 16-20 (67%), whereas 58 out of 340 who were not convicted at 10-15 were recorded offenders at 16-20 (17%). The odds ratio revealed that being convicted at 10-15 increased the odds of being convicted for a crime at 16-20 by more than 9 times.

Summary. Most studies reveal strong continuity in offending, particularly in adjacent time periods. The strength of this continuity increases linearly with the number of offenses previously committed; that is, the most frequent offenders tend to show the strongest and longest continuity in their offending behavior. At the same time, a pattern of discontinuity exists such that not all offenders have continuous and persistent criminal careers, a finding that is in a large part a function of the number of offenses committed (i.e., less frequent offenders are less likely to continue offending). In general, these findings hold across samples, demographic characteristics (race and gender), time periods, and the length of observations.

Still, some evidence suggests that the measurement of offending continuity may lead to some bias in conclusions. For example, not all offenders who commit a crime or crimes are detected and subsequently punished by the criminal justice system. To the extent that high-rate offenders engage in a high frequency of offending without detection, this has the effect of under-estimating the level of continuity. On the other hand, it is possible that official crime data overestimates continuity. If police think someone is an offender, they may be more likely to arrest that person. They are more likely to think those who have been previously arrested when they were teenagers are criminals, so they are more likely to suspect them as adults and to try to build cases that lead to arrest.

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Adult Onset

Perhaps because scholars noted the rarity of adult onset (Moffitt et al., 2001; LeBlanc, 1998), only a handful of empirical studies have examined adult-onset offending. This is somewhat surprising given that, in an important review of criminal careers, Blumstein et al. (1986) concluded that “40-50 percent of adult offenders do not have records of juvenile police contacts” (p. 88). One overall conclusion is that there is a notable amount of adult onset, but that there do not appear to be many unique predictors of adult-onset offending.

Still, only a very small knowledge base exists regarding the empirical study of adult-onset, and a number of issues limit the conclusions that can be drawn from these prior studies. First, there has been little investigation of adult-onset among females. Second, most studies do not generally contain variables drawn from the early-adult time

period that may be more proximate to the juvenile years are likely to measure more situationally-based variables that consider the likelihood of crime as a problem-solving tactic (i.e., theft to make ends meet). Third, few studies have been able to compare official records and self-reports in adulthood, with most adult-onset studies using official records to measure crime. Finally, a specific accounting of offense types serving as adult onset appears important largely because some crime types appear more often, likely because of opportunity factors in adulthood, including tax evasion, spousal assault, and white-collar and corporate crimes.

Trends in Specialization, Diversification, Escalation

The notion that there are “specialists-in-crime,” especially corporate and sex offenders, has been a consistent source of debate. In general, two large-scale literature reviews converge on three overall conclusions (Blumstein et al., 1986; Piquero et al., 2003). First, most studies indicate that frequent offenders engage in a wide variety of crimes over their criminal career, with only a few concentrating on a limited range of crime types. Second, those offenders who show some evidence of specialization appear to concentrate their offending within a larger category of offenses (i.e., property crimes) and appear to switch within these larger categories, e.g., from theft to burglary to fencing. Third, minimal evidence exists regarding a slight trend toward increasing specialization with age, but it is premature to draw any definitive conclusion about this.

A handful of studies have examined the nature of offense patterning between the juvenile and adult periods. Piquero et al. (1999) used data from the 1958 Philadelphia

Birth Cohort, covering the period from ages 8 to 26, and found a relationship between onset age and officially recorded offending versatility (i.e., earlier onset related to less specialization). However, the association disappeared after controlling for age, suggesting that offenders tend to become somewhat more specialized in crimes over time regardless of the age at which they initiated offending.

In a long-term analysis of specialization using conviction records from the South London male cohort through age 40, Piquero et al. (2007) found little evidence of specialization in violence and concluded that the strongest predictor of a violent conviction over the course of a criminal career was the number of convictions. More frequent offenders had a higher likelihood of conviction for a violent crime.

In another investigation, Loeber et al. (2008) examined specialization in serious, violent offending using data from two (youngest and oldest) cohorts from the Pittsburgh Youth Study. They found that, while most offenders were versatile in committing theft and violence, a notable proportion committed only theft or only violence. Second, they found mixed evidence regarding changes in specialization across age. Offense specialization for theft and violence in the youngest cohort was highest at ages 10-12 and 17-19, but lowest at ages 13-16; however, for the oldest cohort specialization in violence increased with age from 53% in early adolescence (ages 13-16) to 83% in early adulthood (ages 20-25), whereas theft specialization was lowest during late adolescence (ages 17-19) and increased during early adulthood. Third, boys who followed a specific trajectory in one form of serious delinquency also tended to follow a similar trajectory in the other forms of serious delinquency. Serious theft offenders were also in most cases violent offenders.

Aside from the specialization question, the issue of escalation and de-escalation is also important. Escalation refers to an increase in the severity of offenses committed over time while de-escalation is a progression from serious to minor offending over time. Using self-report data from the Pittsburgh Youth Study, Loeber et al. (2008) found that, in general, theft preceded violence but the pattern was more common for the youngest cohort. Further, they found that the probability of progression to the next level of seriousness decreased with increasing seriousness and that there was little escalation to the most serious forms of violence. Finally, among the oldest cohort, the movement toward a higher prevalence of serious offending appears to have been due to a higher prevalence of the precursors of minor and moderate offending.

Summary. The analyses of specialization in criminal careers suggest that there is little specific concentration within offense types among most offenders. This overall conclusion holds with respect to different samples, measures of offending (including the incorrect presumption of specialization among sex offenders; Zimring et al., 2008, 2009), and time periods. However, because few specialization studies have linked the juvenile and early adult periods, and across the full life-course in particular, it is premature to draw any firm conclusion regarding the nature of specialization over age and time.

Stability and Change

An important and well-documented criminological fact is the strong correlation between prior and future criminal activity. Two prominent explanations have been put forth to account for this strong relationship: population heterogeneity and state dependence (Nagin and Paternoster, 1991, 2000). The former explanation suggests that

the correlation is due to time-stable population differences in the underlying proclivity to crime: Individuals are believed to vary in their propensity to commit crime and this (typically unobserved) propensity explains the strong link between past and future criminal conduct. The latter explanation suggests that crime exerts an undesirable effect on social bonds, conventional attachments, and so forth. In this context, the experience of crime materially influences the individual and engenders more crime. A third explanation suggests that both processes relate to future criminal activity in varying respects and magnitude over the life course.

Studies have demonstrated that offending patterns are characterized by both stability and change in offending, and there is some evidence regarding the degree of continuity between juvenile delinquency and criminal behavior in early adulthood. One noteworthy descriptive account was published by Stattin and Magnusson (1991), who studied the stability and change relationship between childhood (up to age 14), adolescence (ages 15-20), and early adulthood (ages 21-30) using longitudinal data on 709 Swedish males. They found modest stability of officially recorded criminal activity. However, there was little evidence of specialization in crime across the time periods and into adulthood, even among those individuals who offended across time periods. A small number of males who offended in all three time periods were responsible for most of the crime in the sample and showed little specialization. In another study, Nagin and Paternoster (1991) used a sample of South Carolina high school students and found that self-report data indicated that, even after accounting for unobserved heterogeneity, there still remained a significant correlation between prior and future criminal activity.

Sampson and Laub (1993; Laub et al., 1998; Laub and Sampson, 2003; Sampson et al., 2006) examined the linkages between prior and future arrests across time periods, especially those between the second and third decade of life. The authors consistently found evidence in favor of a mixed perspective combining aspects of population heterogeneity and state dependence. Key findings from their combined studies show that life events such as (a good) marriage—especially one’s attachment and investment associated with the marriage—relate to a discontinuation of crime over the life course.

Several studies have found support for a mixed model of population heterogeneity and state dependence using both self-report and officially recorded crime. For example, Horney et al. (1995), using self-reported life calendar data from Nebraska felons, Piquero et al. (2002), using a longitudinal cohort of California parolees followed into their 20s, and Theobald and Farrington (2009), using the South London male cohort followed to age-48, all report findings of a crime-inhibiting effect of marriage over and above observed and unobserved heterogeneity. Also, Paternoster and Brame (1997), using self-report data from the National Youth Survey (NYS), found that both prior delinquency and exposure to delinquent peers were significantly related to crime, even after controlling for unobserved heterogeneity. Cernkovich and Giordano (2001) used data from individuals in Ohio households and institutionalized offenders to investigate stability and change patterns between adolescence and early adulthood. Their analysis indicated a strong linkage between prior and future crime in both samples. However, social bonding levels were associated with adult crime only in the household sample (supporting a combined population heterogeneity and state dependence explanation),

perhaps because little change occurred in the bonding measures among the serious, institutionalized offenders.

Summary. The issue of stability versus change strikes at the core of several important theoretical debates in criminology regarding the relationship between past and future crime. Across most studies, using different types of samples, measures of criminal activity, and time periods, there is strong evidence regarding a population heterogeneity explanation linking past to future crime. Furthermore, most studies report evidence of a state dependence effect linking a series of different life events to subsequent criminal activity, even after controlling for observed and unobserved population heterogeneity. Taken together, these findings offer strong evidence of a mixed population heterogeneity and state dependence perspective linking prior and future crime.

Co-Offending

The state of knowledge on co-offending patterns remains underdeveloped in criminology, in large part because of the lack of individual-level longitudinal data necessary to study offending and co-offending patterns within persons over time (Sarnecki, 2001; McCord and Conway, 2002; McGloin and Piquero, 2009; Goldweber et al., 2011). Moreover, most information that exists on co-offending has been available for the juvenile period only, and very few studies have linked offending and co-offending patterns from the juvenile to the adult years.

Extending previous co-offending analyses by Reiss and Farrington (1991), Piquero et al. (2007) used data from the Cambridge Study of South London males through age 40 to examine the nature and extent of co-offending. They found that the age

and co-offending curve peaked in the late teenage years and that the incidence of co-offending decreased with age. Co-offending appeared more common for some crimes (burglary, robbery) than others and a relationship was found between the total number of co-offenders in a person's career and career length. Individuals with short career lengths (<5 years) tended to associate with fewer co-offenders, and individuals with very lengthy careers (20+) had many co-offenders throughout their criminal careers (averaging over ten co-offenders).

Piquero et al. (2007) also found a strong relationship between age at first conviction and the mean total number of co-offenders in a person's career. In other words, offenders with an early age at first conviction tended to have, on average, a higher total mean number of co-offenders throughout their careers while individuals with a later age at first conviction tended to have, on average, fewer co-offenders. When examining persistent offenders (those 24 males who had each committed at least ten offenses by age 40), the analyses indicated that 53% of the total crimes committed by persistent offenders were committed alone. Overall, exclusive solo offending was rare and exclusive co-offending was uncommon at all ages, though there appeared to be a tendency for offenders to remain in the same category at different ages.

In another study, van Mastrigt & Farrington (2009) used the universe of officially recorded offenses (105,348 offenses, 61,646 offenders, 120,274 offense-offender continuation) that were cleared by a large metropolitan police force located in the North of England between 2002 and 2005. They examined the inter-relationships between co-offending, age, gender, and crime type. Several important results emerged. First, a minority of detected official crime involved multiple offenders. Second, much like the

age-crime relationship, co-offending decreased with age. Third, co-offending was greater for females than for males. Fourth, co-offending varied by crime type, and was most common for burglary and robbery.

Summary. There is a paucity of empirical studies regarding co-offending generally and co-offending patterns between the juvenile and adult periods in particular. The lack of co-offending studies is directly a function of the lack of data on the characteristics of individual offenses. For example, very few longitudinal offending data sources in criminology contain detailed information about each individual offense committed by each individual offender. Moreover, the extent to which such data is available in official record sources is highly variable across police and correctional departments. A key priority for further research is to collect self-report data at the individual level with respect to the nature and characteristics of each criminal event over time. This will provide much needed information on co-offending in relation to shifts in peer relationships and peer contexts from adolescence to adulthood (Moffitt, 1993; Laub and Sampson, 2003).

CONCLUSIONS AND RECOMMENDATIONS

This bulletin provided an overview of some of the main findings from criminal career research, with a particular emphasis on changes observed in criminal career dimensions between adolescence and adulthood. These findings have been an important source of background information regarding the nature of offending, with respect to the modification and formulation of developmental and life-course criminology theories, and for consideration in public policy decision-making regarding system responses to child

and adolescent offenders, including decisions associated with sentence selection and prevention and intervention efforts. The review of extant research presented in this bulletin has led to the formulation of some key recommendations for future research as well as to provide some recommendations for practitioners and policymakers.

Research Priorities

First, there is a need to study criminal careers with more comprehensive data that include long follow-ups that (1) extend well into adulthood, and (2) include both self-reports and official records in order to distinguish individuals who commit crimes are or are not apprehended (Brame et al., 2004; Blumstein et al., 2010), (3) include additional measures of changes in life circumstances such as living with children or moving to a different neighborhood, and (4) are appropriate for studying within-individual change in criminal behavior. These data are indispensable for studying changes in criminal career trends during the transition between adolescence and adulthood, namely patterns of stability and change in offending behavior generally and the stops and starts (i.e., intermittency) that characterize many criminal careers (Laub and Sampson, 2003; Piquero, 2004).

Second, research is needed on the criminal career trends of different demographic groups. For example, there is a need for comparisons of offending patterns over time across gender and race (Farrington et al., 2007; Piquero and Brame, 2008).

Third, it is essential to acquire a better understanding of the processes underlying changing criminal career patterns (specialization, de-escalation, deceleration, etc.) in order to better grasp the structure of criminal careers, in terms of length, intensity and

seriousness. This knowledge is particularly crucial in the transition from adolescence to adulthood, as this coincides with the peak in the age-crime curve and would offer some valuable insights for incapacitation and reentry policies (Blumstein & Piquero, 2007).

Fourth, it is also important to advance knowledge about early adult onset to examine the predictors of adult onset based on individual and social measures in adulthood and to identify the dimensions of the transition from adolescence to adulthood that may contribute to early adult onset.

Fifth, most data has been garnered via official or self-report records, with very few efforts combining both sources of information (Lidz et al., 2007). An understanding of the probability of an official record given a self-reported offense is important not only for the relationship between age and crime (Kirk, 2006) but also with respect to policy because it provides an estimate of the amount of antisocial behavior that does not get officially processed (Babinski et al., 2001; Blumstein et al., 2010). Additionally, other reports of offending from sources other than the main respondent, including parent, teacher, and peer informants, may also be beneficial in providing a more complete account of the nature of offending.

Finally, very little is known about changes in patterns of co-offending over time. More research is needed on changes in co-offending trends between adolescence and adulthood, a topic that is likely to inform both theory and policy.

Policy Recommendations

The study of criminal careers has the potential to provide useful information to practitioners and policymakers in order to make better decisions regarding prediction, punishment, and prevention or intervention efforts.

With respect to prediction about which offenders will be the most serious and long-term and how best to punish such offenders, studying the continuity of offending from adolescence to adulthood is critical because this is the period when many policy officials will make decisions regarding the incarceration of offenders—some of whom will curtail their offending naturally and some of whom will persist into adulthood. Because continuity in offending behavior across periods of the life course is so strong, a natural question is the extent to which adult offending can be predicted by juvenile offending (Robins, 1978).

Recently, Blumstein and Nakamura (2009) studied the issue of “how long does it take for an individual with a prior criminal record and no subsequent criminal involvement to be of no greater risk than persons of the same age in the general population, and whether this varies by crime type and age at the prior arrest.” Using data from a sample of individuals arrested for the first time as adults in New York State in 1980 (allowing for a 27-year follow-up) and focusing on 16, 18, and 20 year-olds arrested for robbery, burglary, and aggravated assault, the authors found that the risk of recidivism decreased with time clean, and there is some point at which one can be confident that redemption has occurred, where the risk of re-offending has subsided to the level of a reasonable comparison group. Knowledge about the continuity of offending from the adolescent to early adult years generally can provide important information regarding the ability of criminal justice personnel to make effective decisions in using scarce resources.

Knowledge about (average) criminal career length also offers useful information to assist decision-makers when planning and meting out sentences. To the extent that criminal careers are short on average, then this would call for shorter sentences, whereas if knowledge indicates longer average career lengths then longer sentences may be necessary (Blumstein and Piquero, 2007). The few career length studies that exist have found that criminal careers tend to be of a short duration (typically under ten years), which calls into question many long-term sentences that have characterized American penal policy.

Aside from prediction or punishment policy decisions, other policy options focus on preventing criminal career onset and persistence. Two recent meta-analyses have provided strong evidence that very early child prevention programming offers an effective tactic in preventing delinquency and crime. In the first study, Piquero et al. (2009) conducted a meta-analysis of fifty-five early-family and parent training studies in the US and abroad and showed that such programs were an effective intervention for reducing behavior problems among young children. In the second study, Piquero et al. (2010) conducted a meta-analyses of thirty-four programs designed to improve self-control up to age 10 among children and adolescents and found that the programs improved childhood and adolescent self-control and also reduced delinquency.

Practitioners and policymakers have a range of options when deciding what to do with current and future (serious) offenders and these options include both short-term and long-term decisions and investments. Criminal career data can provide useful information about the longitudinal patterning of criminal activity so as to make informed and

competent decisions given the limited resources available to the various systems that have to deal with delinquent and criminal offending and its consequences.

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