

Zeroing in on early arrest onset: Results from a population of extreme career criminals

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Abstract

Although the negative relationship between age of first arrest and subsequent criminal career severity is well known, it lacks empirical specificity. Using a population of five hundred adult career criminals, descriptive, OLS regression, and negative binomial regression analyses produced six key findings. Offenders first arrested at age fourteen were among the most chronic, versatile, and dangerous offenders and were justifiably the threshold in differentiating early from late starters. Those arrested in middle childhood were rare, yet accumulated hundreds of career arrests. Persons first arrested at ages sixteen or seventeen were most likely to be convicted of felonies and sentenced to prison. The most violent offenders were first arrested at ages fourteen or fifteen. While early onset was undoubtedly important, 62 percent of offenders with extensive criminal careers were not initially arrested until adulthood. In sum, these findings added empirical specificity to the theoretical and empirical significance of experiencing an early arrest.

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Introduction

It seems unnatural for a child to engage in criminal behavior that is serious enough to warrant an arrest, however, each year thousands of children initiate their criminal careers and come into contact with the juvenile or criminal justice system. Children under the age of thirteen account for nearly 10 percent of the violent index arrests annually, including 12 percent of rapes and 19 percent of other sexual offenses, 10 percent of aggravated assaults, 6 percent of robberies, and 1 percent of murders (Snyder, 2001). The precocious onset of adult behaviors generally portends similar future behaviors; therefore, persons who manifest criminal behavior during childhood or early adolescence risk becoming

chronic offenders. The young child who defies adults, hits peers, steals, and aggresses without provocation is in trouble. What age of onset is most likely to result in a lengthy criminal career? Are children who are arrested doomed for a life of crime? Are adolescents similarly in trouble if they are arrested at age thirteen or fourteen? Are predatory offenders first arrested at a particular age? Is early arrest always a harbinger of habitual criminality? Do some chronic offenders delay arrest until later in adulthood? While the negative relationship between age at first arrest and subsequent criminal career is well known, it lacks specificity. The current study sought answers to these questions and sought to specify the early arrest-criminal career relationship.

Conceptual and theoretical framework

For decades, criminologists identified conceptually similar conduct that represented a behavioral link be-

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tween delinquency occurring in childhood, adolescence, and adulthood. Oftentimes, childhood misbehavior was a prerequisite for later delinquency and the idea of behavioral continuity had been central to criminal career research (Farrington & West, 1993; Robins, 1978). Clifford Shaw's (1930) classic, *The Jack-Roller*, chronicled the delinquent career of Stanley, a habitual offender who amassed thirty-eight arrests and criminal commitments between the ages of six and seventeen. The biographical account demonstrated how early delinquency forestalled successful development and propelled individuals into a life of crime and criminal justice system involvement.

Glueck and Glueck (1930) spent much of their careers devising ways to identify problem delinquents at the earliest possible point in the life course. Their research showed consistent commonalities in the family lives of antisocial youth. These included erratic paternal discipline, uneven maternal supervision, indifferent or hostile parental affection, and poor family cohesiveness. Early delinquents also tended to be assertive, defiant, hyperactive, suspicious, destructive, emotionally unstable, stubborn, and adventurous. Although the Gluecks' research was criticized for its lack of analytical sophistication (Sampson & Laub, 1993), their findings were consonant with more recent research. For example, Miller and Lynam (2001) conducted a meta-analysis of fifty-nine studies of the crime-personality link and found that criminals had relatively time-stable antisocial temperaments. Antisocial persons tended to score low on agreeableness, conscientiousness, constraint, self-directedness, cooperativeness, and reward dependence. The critical point was that problem behaviors emerged early in the life-course, and the earlier this onset occurred, generally the more difficult the developmental path.

Contemporary researchers produced similar results. Huesmann, Eron, Lefkowitz, and Walder (1984) conducted a twenty-two-year longitudinal study of over six hundred youths and found considerable behavioral stability by comparing aggression levels when subjects were age eight to life outcomes when the subjects were age thirty. Kratzer and Hodgins (1997) examined the case histories of nearly 13,000 persons from a Swedish birth cohort and followed until age thirty. They found that the most common outcome for males with histories of childhood misconduct problems was criminality. Moreover, the most antisocial adult males experienced problems in multiple areas of life and tended to demonstrate lifelong behavioral problems. The pernicious effects of early onset were not limited to males. For example, Leve and Chamberlain (2004)

studied the onset characteristics of a sample of seriously delinquent females and found that the most antisocial youths were raised in homes characterized by severe parental criminality and abuse. Even among serious and violent criminal offenders, early onset was a significant risk factor. Piquero, Brame, and Lynam (2004) examined a cohort of parolees from the California Youth Authority and found that those offenders who were arrested earlier in life tended to demonstrate the longest, most serious offending careers. Similarly, DeLisi (2001a, 2005) demonstrated that the preponderance of extreme criminal offenders, defined as persons who commit predatory crimes such as murder, rape, and kidnapping, were first arrested during childhood or early adolescence.

Finally, Broidy et al. (2003) conducted one of the most methodologically and substantively impressive investigations of onset and offending careers. They used longitudinal data from six projects in Canada, New Zealand, and the United States, and found that across these disparate locations, childhood physical aggression was the most consistent predictor of subsequent criminal violence and juvenile delinquency. In sum, empirical research made clear that early life problem behaviors engendered an assortment of social disadvantages that helped pave the way for a life of crime. Those arrested early in life were beset with a multitude of serious and difficult to surmount problems (Blumstein, Cohen, Roth, & Visser, 1986; DeLisi, 2005; Loeber & Dishion, 1983; McCord, 1979; Nagin & Farrington, 1992a, 1992b; Nagin & Paternoster, 2000; Piquero, Paternoster, Mazerolle, Brame, & Dean, 1999; Raine, 2002).

Early onset and its deleterious effects figure prominently across the theoretical spectrum. To those who viewed criminal behavior as the outcome of some general individual-level trait (e.g., DeLisi, 2005; Gottfredson & Hirschi, 1990; Wilson & Herrnstein, 1985), early onset was simply the manifestation of one's underlying criminal propensity. To those who viewed criminal behavior as the outcome of developmental processes related to social institutions, early onset was an important risk factor that potentially launched persons on antisocial pathways. Robert Sampson and John Laub's (1993, 2003; Laub & Sampson, 2003) thesis was the dominant work in this area. Briefly, Sampson and Laub acknowledged that persons varied in their underlying risks for crime and recognized that there was strong continuity in antisocial behavior from childhood to adulthood. They asserted that informal family and school social controls explained changes in criminal behavior over the life span, independent of

prior individual differences in criminal propensity. In other words, criminal careers were dynamic and susceptible to change via normal processes like marriage and employment.

Two additional theoretical perspectives make the specific connection between early onset and subsequent offending career. Gerald Patterson proposed that parental monitoring determines a child's social and academic capital. The appropriate inculcation of social skills influences both adolescent successes (e.g., strong attachment to school) and failures (e.g., resultant association with delinquent peers). Patterson was among the first scholars to differentiate two general types of offenders, early starters and late starters. Early starters are exposed to coercive and authoritarian parenting, an experience that leads to rejection by conventional peers, academic strife, anger, low self-esteem, and mental health problems. As early as fourth grade, these youngsters are identifiable for their school failure and are especially prone to associate with similarly situated delinquent peers, experience an arrest or police contact by age fourteen, and become chronic offenders (Patterson, 1986, 1995). By comparison, late starters are delinquents who are particularly prone to the influences of delinquent peers if their parents insufficiently monitor their behavior. Their deviance is more likely to include peccadilloes such as vandalism, shoplifting, and underage drinking than serious crimes. Moreover, the offending of late starters is ephemeral and usually terminates upon entering adulthood.

The second theory is Moffitt's developmental taxonomy. Moffitt's (1993) theory synthesized the various criminal trajectories into two groups, adolescence-limited and life-course persistent. Adolescence-limited offending characterizes the typical teenager dabbling in minor forms of delinquency such as shoplifting, truancy, and alcohol use. Most people engage in this variety of benign, short-lived deviance. Life-course persistent offending, on the other hand, is a different story. It is a rare form of criminality, occurring in less than 10 percent of the male population. As suggested by the name, life-course persistent offenders engage in crime and analogous problem behaviors beginning in childhood and continuing through adulthood. The onset of pathology results from the interaction between neuropsychological defects (e.g., temperament, cognitive, and behavioral factors controlled by the central nervous system) and environmental deprivations in the early family. Moffitt's theoretical ideas received strong empirical support (e.g., DeLisi, 2001c; Kratzer & Hodgins, 1999; Mazerolle, Brame, Paternoster, Piquero, & Dean,

2000; McCabe, Hough, Wood, & Yeh, 2001; Moffitt & Caspi, 2001; Moffitt, Lynam, & Silva, 1994; Piquero, 2001; Tibbetts & Piquero, 1999).

Literature review

Early onset and chronicity

The negative relationship between the initiation of the delinquency career and chronicity was well established. In their landmark examination of a 1945 Philadelphia birth cohort, Wolfgang, Figlio, and Sellin (1972, pp. 134–135) found that boys who began their delinquency at age thirteen committed more offenses from the onset years through age seventeen than boys who began at any other year. Kempf-Leonard, Tracy, and Howell (2001) examined the offending careers of the 1958 Philadelphia birth cohort and found that early arrest offenders continued to amass arrests well into adulthood. This finding was replicated using an array of samples and populations, official and self-reported data, and spanning geographically and culturally heterogeneous areas in the United States (Blumstein, Farrington, & Moitra, 1985; Dean, Brame, & Piquero, 1996; Decker & Salert, 1986; Elliott, 1994; Elliott, Huizinga, & Morse, 1986; Loeber & Snyder, 1990; Nagin, Farrington, & Moffitt, 1995; Simons, Wu, Conger, & Lorenz, 1994).

Early onset and seriousness

Early starting criminals not only accrued numerous police contacts and arrests, but also tended to engage in the most serious forms of criminal conduct. This was another seminal finding from the first Philadelphia birth cohort study. Indeed, Wolfgang and his collaborators (1972; Tracy, Wolfgang, & Figlio, 1990) found that the zero-order correlation between age of onset and a mean offense seriousness score was $r = -.57$. The early onset-crime seriousness link also appeared among offenders sampled from Iowa (Simons et al., 1994), rural New York (Huesmann et al., 1984), London (Nagin et al., 1995), and a national sample of prisoners (Decker & Salert, 1986). Using data from the Philadelphia Collaborative Perinatal Project, Piquero and Chung (2001) recently examined the effects of early onset on seriousness of offending. They found that the five persons with the earliest onset were arrested at age eight! Moreover, these five offenders had a higher summary offense seriousness score than any of the other onset ages. Early onset was also predictive of criminal convictions (Farrington & Hawkins, 1991).

Early onset and dangerousness

Early starting criminals disproportionately engage in the most dangerous forms of criminal violence, such as murder, rape, robbery, and aggravated assault. This finding had been produced using classic criminal career datasets, including the 1945 and 1958 Philadelphia birth cohorts (Piquero et al., 1999; Wolfgang et al., 1972). Thornberry, Huizinga, and Loeber (1995) compared the delinquency careers of offenders from the Rochester Youth Development Study, Denver Youth Survey, and Pittsburgh Youth Study. They found strong effects of early onset on later violent offending. Among Rochester youth who reported delinquency by age nine, 37 percent became chronic violent offenders. Among the Denver sample, 62 percent of youth who reported delinquent involvement by age nine became chronic violent criminal offenders. Overall, chronic violent offenders reported that their criminal careers began between ages nine and twelve.

Early onset and career span

Criminals with an onset occurring in childhood or early adolescence are more likely than later onset offenders to continue their criminal careers into middle adulthood. The most active offenders are both early starters and late finishers—therefore they tend to have a lengthier career span. For example, Piquero and his colleagues (2004) recently examined the career length of a sample of parolees and found that the average criminal career lasted seventeen years. The lengthiest criminal careers, ranging from twenty to thirty years, were found among offenders with the earliest arrest onset. Others had also found that early starting criminals tended to have the lengthiest criminal careers (DeLisi, 2001a, 2005; Huesmann et al., 1984; Moffitt, 1993; Snyder, 2001).

Early onset and versatility

Early-starting delinquents are disproportionately likely to commit an assortment of offenses. This versatility in offending had been found among offenders in the Pittsburgh Youth Study (Van Kammen & Loeber, 1994), the Cambridge Study in Delinquent Development (Nagin et al., 1995), rural New York (Huesmann et al., 1984), and a national sample of prisoners (Decker & Salert, 1986). Using a Swedish cohort of nearly 14,000 males and females, Kratzer and Hodgins (1999) found that early-onset offenders committed

more and a greater diversity of crimes than did later onset delinquents. Similarly, Mazerolle et al. (2000) found that individuals with an early onset committed a greater array of offenses. Thornberry and his colleagues (1995) examined the offending patterns of offenders from the Rochester Youth Development Study. Among the chronic violent offenders, 82 percent also committed property crime, 71 percent also committed public-order crimes, 82 percent committed status offenses, 91 percent used alcohol, and 76 percent used marijuana. Thus, even violent offenders are likely to engage in an assortment of nonviolent behaviors.

Finally, Cottle, Lee, and Heilbrun (2001) recently conducted a meta-analysis of the studies of the predictors of recidivism among juveniles. Their analysis of twenty-three studies encompassing 15,265 offenders found that the strongest predictors of recidivism were age at first commitment and age at first contact with the law. The respective weighted mean effect sizes were $z = -.346$ and $z = -.341$. The early onset effects far exceeded the influence of well-known correlates of crime such as sex, race, social class, delinquent peer associations, substance abuse, and school failure.

Methods

Sampling issues and research subjects

Career criminals pose a number of methodological challenges for researchers. By definition, the most severe offenders are also the most rare (Moffitt, 1993), thus they scarcely appear in general population samples and even cohort designs. For example, DeLisi (2001a) found that little was known about the offending careers of killers, rapists, and kidnappers because most criminal career datasets lacked sufficient numbers of the most serious offenders. The paucity of most severe offenders even characterized prospective birth cohort studies. For all of its reach, a census of the general population will not produce adequate numbers of the most involved career offenders. Consequently, an offender sample is needed to yield enough severe offenders (Cernkovich, Giordano, & Pugh, 1985).

From 1995 to 2000, the author was employed as a pretrial services officer or bond commissioner at a large urban jail located in Colorado. In this jurisdiction, bond commissioners served as judicial officers and worked in conjunction with sheriff deputies within the county jail. Their function was to interview all criminal defendants brought to the jail and to obtain employment, residency, and criminal history for setting bond. Bond commissioners had the authority to release eligible defendants

on recognizance bonds. This work experience permitted constant access (the bond commissioner unit was staffed around the clock) to all arrestees who were brought to the jail during this period.

In this jurisdiction, the bond commissioner unit conducted a pilot study to identify the most recidivistic offenders to determine their eligibility for various social service policies (e.g., a program designed to meet the needs of indigent, transient offenders) and prosecutorial efforts (e.g., selective prosecution using habitual offender statutes). Approximately fifty offenders comprised the original “frequent offender” roster, and their criminal histories contained an average of thirty arrest charges. Based on this selection criterion, any offender whose record contained thirty arrest charges was classified as a frequent offender upon approval from the chief district judge and district attorney’s office. Frequent offenders, because of their habitual criminal conduct, were precluded from receiving personal recognizance bonds. From 1995–2000, the bond commissioner unit processed 25,640 defendants, 500 of whom (less than 2 percent) qualified for frequent/habitual offender status. These 500 offenders were, in effect, the population of a six-year census of official criminal offenders processed in this jurisdiction. Importantly, although the offenders were processed at one facility, their criminal activity can and did occur in multiple jurisdictions.

Data and measures

During bond interviews (which were legal proceedings conducted under oath), defendants self-reported their criminal history, including all police contacts, arrests, court actions, and sentences. Self-reports can yield arrests and other criminal activities that do not appear on official records, arguably rendering them a more accurate reflection of an individual’s true criminal past (Dunford & Elliott, 1984; Elliott et al., 1986). The self-report method is problematic with career criminals, however. The most serious career criminals have offending careers that include potentially hundreds of arrests, convictions, and various punishments. Their careers often span decades and chronicle events when defendants were frequently intoxicated on alcohol and illicit substances. For these and other reasons, the validity and internal consistency of self-reports from the worst offenders may be the least reliable (DeLisi, 2001b; Simon, 1999). Therefore, self-reported criminal histories were supplemented with official records from the Interstate Identification Index (III) system. Under the III system, the FBI maintains an automated criminal record containing an FBI number and state identifica-

tion number (SID) for each state holding criminal history information on an individual. The III records are accessed using the National Crime Information Center (NCIC) telecommunications lines that retrieve criminal records from repositories (U.S. Department of Justice, 2000).

Increasingly, criminal career researchers are using both official and self-reported measures of criminal offending (Brame, Fagan, Piquero, Schubert, & Steinberg, 2004; Eggleston & Laub, 2002; Geerken, 1994). In addition to filling the gaps produced by missing data, the use of both self-report and official records increases the concurrent validity and reliability of the criminal career information. Indeed, Farrington, Jolliffe, Hawkins, Catalano, Hill, and Kosterman (2003, p. 953) recently concluded, “There was a significant overlap between chronic offenders identified in court referrals and chronic offenders identified in self-reports. Therefore, to a considerable extent, self-reports and court referrals identified the same people as the worst offenders.”

Dependent variables

Five dependent variables were used to assess the relationships between early arrest onset and various components of the criminal career. Chronicity was measured by the total number of arrests ($M = 59.76$, $SD = 30.64$, range = 30–267). Legal seriousness was measured by the total number of prison sentences ($M = 3.48$, $SD = 4.29$, range = 0–28). This operationalization captured the legal seriousness of behavior that necessitated a punitive response. Dangerousness was measured by total arrests for *mala in se* offenses which were murder, rape, armed robbery, aggravated assault, and kidnapping/abduction ($M = 3.64$, $SD = 4.46$, range = 0–43). Career span was the length in years of the total criminal career ($M = 20.97$, $SD = 9.68$, range = 4–53). Versatility or specialization was measured (by Σ arrests for *mala in se* offenses divided by total arrests). Low values indicated versatility and higher values indicated specialization in serious violent crime ($M = .07$, $SD = .08$, range = 0–0.57).

Independent variables

The age of arrest onset was disaggregated to include only those offenders who were arrested prior to the age of maturity at eighteen, resulting in ten categories of childhood or adolescent onset, ages eight through seventeen inclusive. Three ascribed demographic characteristics were used as controls. Age ($M = 39.61$, $SD =$

10.74) was continuously coded from eighteen to seventy-four. Race (52 percent White, 48 percent minority) was dichotomized (0 = White, 1 = non-White). Sex (89 percent male, 11 percent female) was dichotomized (0 = male, 1 = female). The focus of this study was upon arrest onset, thus, regression output for the demographic controls was not reported but is available upon request.

Data estimation

Data were presented in three ways. Descriptive analyses indicated the group means for total arrests, violent and property index arrests, felony convictions, and prison sentences for all onset groups (ages eight through fifty-seven). Descriptive analyses also indicated the prevalence of official onset for each age. The dependent variables were regressed on each of the early onset categories (ages eight through seventeen) and the controls. Due to multicollinearity among the early onset dummy codes, ten separate regression models were run for each dependent variable. Negative binomial regression analyses were conducted for chronicity, seriousness, dangerousness, and career span because they were count data. Count data assume only integer values, are highly skewed, and have heteroscedastic error terms. Diagnostic tests of preliminary Poisson regression models indicated overdispersion (the variances exceeded the means) suggesting that the negative binomial approach was appropriate. The continuous dependent variable versatility was estimated with conventional ordinary least-squares (OLS) regression.

Findings

As shown in Table 1, the offenders who experienced the earliest arrest had among the most severe criminal careers. Two offenders were first arrested at age eight and averaged 125 arrests, including more than fifty arrests for index crimes. Those first arrested at age nine demonstrated even greater chronicity. These two offenders averaged 136.5 arrests, more than fifty index arrests, thirteen felony convictions, and eight separate commitments to state or federal prison. Most significant was the exceptionality of these four offenders compared to the remaining early onset criminals. Offenders with the youngest arrest onset (less than 1 percent of the sample) averaged more than twice as many arrests as the later starting habitual offenders.

Clearly, the entire sample demonstrated a sustained involvement in criminal activity. Interestingly, the modal ages of arrest onset were eighteen, nineteen,

Table 1
Univariate statistics by age of arrest onset (group means)

Age	n (%)	Total arrests	Violent index	Property index	Felony convictions	Prison sentences
8	2 (0.4)	125.0	3.5	49.0	7.5	2.5
9	2 (0.4)	136.5	3.0	49.5	13.0	8.0
10	7 (1.4)	59.7	5.6	13.9	8.4	5.3
11	11 (2.2)	64.8	3.6	14.9	6.1	2.1
12	24 (4.8)	56.1	3.0	14.9	6.1	2.5
13	27 (5.4)	58.3	4.0	13.9	5.4	2.7
14	26 (5.2)	70.9	5.7	15.6	7.4	4.5
15	30 (6.0)	69.2	5.2	14.5	7.0	3.8
16	31 (6.2)	66.3	3.9	15.1	7.9	6.0
17	32 (6.4)	63.6	4.1	19.6	8.3	5.9
18	67 (13.4)	54.8	3.9	13.0	5.2	3.2
19	69 (13.8)	57.4	3.1	12.3	5.4	3.6
20	47 (9.4)	56.7	2.8	11.4	4.8	3.5
21	28 (5.6)	69.2	3.5	11.6	4.4	2.1
22	26 (5.2)	48.4	2.7	9.7	5.0	3.2
23	16 (3.2)	50.9	4.6	10.2	4.6	2.8
24	3 (0.6)	47.3	4.0	12.7	6.3	2.0
25	16 (3.2)	43.7	2.4	11.8	3.6	2.1
26	7 (1.4)	67.6	1.9	8.6	1.1	0.7
27	4 (0.8)	62.0	2.5	9.8	2.3	2.3
28	3 (0.6)	80.7	4.7	12.3	4.7	2.7
29	4 (0.8)	47.8	2.3	6.3	3.0	1.5
30	3 (0.6)	46.0	1.3	5.3	0.7	0.3
31	1 (0.2)	35.0	2.0	2.0	0.0	0.0
32	3 (0.6)	71.0	4.3	4.0	1.0	0.7
33	1 (0.2)	39.0	0.0	16.0	4.0	0.0
34	2 (0.4)	43.0	0.0	2.0	0.5	0.0
36	3 (0.6)	62.3	7.3	3.7	6.7	6.0
39	1 (0.2)	49.0	0.0	6.0	0.0	0.0
44	2 (0.4)	50.5	3.5	10.5	2.0	1.0
46	1 (0.2)	108.0	0.0	1.0	0.0	0.0
57	1 (0.2)	39.0	1.0	0.0	0.0	0.0

and twenty. These data also indicated that the relationship between arrest onset and criminal career severity was not linear. After those whose onset occurred at ages eight or nine, the next most severe group in terms of average arrests were those first arrested at age twenty-eight. In fact, nearly 62 percent of the offenders were not first arrested until adulthood! Moreover, 25 percent of the current offenders did not experience their arrest onset until age twenty-one. Among the late onset extreme offenders, inconsistency reigned. For example, the offender who was first arrested at age thirty-one amassed thirty-five arrests, the three offenders with an onset at age thirty-two averaged seventy-one arrests, and the offender first arrested at age thirty-two was arrested thirty-nine times. One offender was not arrested until age forty-six, but managed to total 108 arrests during his subsequent offending career.

As shown in Table 2, although all offenders amassed long criminal histories, not all ages of onset were necessarily predictive of chronicity. The earliest starting

Table 2
Early onset and chronicity (negative binomial regression model)

Age of first arrest	b	SE	z-score	p value	n
8	.774	.294	2.64	.008*	500
9	.849	.289	2.93	.003*	498
10	.072	.161	0.45	.656	496
11	.176	.130	1.35	.176	489
12	.030	.092	0.33	.741	478
13	.066	.089	0.75	.455	454
14	.267	.088	3.03	.002*	427
15	.266	.084	3.18	.001*	401
16	.130	.081	1.61	.108	371
17	.081	.077	1.05	.293	340

criminals who were arrested at ages eight ($b = .774$, $z = 2.64$) or nine ($b = .849$, $z = 2.93$) were significantly likely to continue accumulating arrests throughout the life course. Other predictive ages of arrest onset were fourteen ($b = .267$, $z = 3.03$) and fifteen ($b = .266$, $z = 3.18$). No other age of childhood or adolescent arrest onset significantly predicted chronicity.

As Table 3 indicates, only offenders who first experienced an arrest at the end of adolescence, age sixteen ($b = .495$, $z = 2.23$) and age seventeen ($b = .550$, $z = 2.55$) were significantly likely to accrue prison terms throughout their criminal career. No other early arrest onset significantly predicted a “revolving door” criminal career whereby offenders repeatedly entered and exited prison. In fact, offenders who were first arrested at ages eleven or twelve were not significantly likely to be imprisoned.

One of the most important functions of criminal career research is to identify, prospectively if possible, those offenders who are most likely to commit extreme forms of violence such as murder, rape, armed robbery, and kidnapping (DeLisi, 2001a). Among the current research subjects, those who were first arrested at age fourteen ($b = .663$, $z = 2.98$) or fifteen ($b = .392$, $z = 1.85$) were significantly likely to engage in violent

Table 3
Early onset and legal seriousness/imprisonment (negative binomial regression model)

Age of first arrest	b	SE	z-score	p value	n
8	.079	.909	0.09	.931	500
9	.820	.828	0.99	.322	498
10	.579	.454	1.28	.202	496
11	-.221	.402	0.55	.582	489
12	-.026	.273	0.10	.924	478
13	.013	.255	0.05	.959	454
14	.338	.246	1.37	.171	427
15	.305	.239	1.27	.203	401
16	.495	.221	2.23	.026*	371
17	.550	.216	2.55	.011*	340

Table 4
Early onset and dangerousness (negative binomial regression model)

Age of first arrest	b	SE	z-score	p value	n
8	-.033	.779	0.04	.967	500
9	-.378	.797	0.48	.635	498
10	.433	.401	1.08	.281	496
11	.170	.338	0.50	.615	489
12	.011	.244	0.04	.965	478
13	.274	.228	1.20	.230	454
14	.663	.222	2.98	.003*	427
15	.392	.212	1.85	.065*	401
16	.147	.213	0.70	.491	371
17	.158	.207	0.76	.448	340

index crimes. None of the other early arrest onset ages reached statistical significance in either direction, although ages eight and nine indicated a negative involvement in dangerous crimes. Coefficients for the dangerousness model appear in Table 4.

As shown in Table 5, every age of early onset significantly predicted career span. The earlier one initiated an offending career, generally the longer the career persisted. Offenders first arrested at age ten ($b = .365$, $z = 4.10$), thirteen ($b = .186$, $z = 3.49$), fifteen ($b = .178$, $z = 3.91$), sixteen ($b = .184$, $z = 4.79$), or seventeen ($b = .155$, $z = 4.06$) achieved the greatest statistical significance, each at the $p = .000$ confidence level.

Finally, only persons with an official onset at age fourteen demonstrated any form of criminal specialization ($b = .030$, $\beta = .045$, $t = 1.96$). The offender with the maximum specialization value (coefficient = 0.57) warranted additional discussion. He was a serial rapist who totaled thirty-one arrest charges for rape. His seventy-six-arrest career also included nine arrests for armed robbery and three arrests for aggravated assault. This offender was convicted of twenty felony convictions and served eleven prison terms in a fifty-one-year criminal career. The versatility/specialization measure here indicated the number of arrests for the most serious forms of violence as a proportion of one's total arrests.

Table 5
Early onset and career span (negative binomial regression model)

Age of first arrest	b	SE	z-score	p value	n
8	.388	.157	2.46	.014*	500
9	.273	.155	1.76	.078*	498
10	.365	.089	4.10	.000*	496
11	.213	.083	2.58	.010*	489
12	.188	.057	3.28	.001*	478
13	.186	.053	3.49	.000*	454
14	.139	.049	2.80	.005*	427
15	.178	.045	3.91	.000*	401
16	.184	.038	4.79	.000*	371
17	.155	.038	4.06	.000*	340

Table 6
Early onset and violence versatility (OLS regression model)

Age of first arrest	b	SE	β	t value	p value	n
8	-.034	.052	-.029	0.66	.508	500
9	-.045	.052	-.038	0.87	.383	498
10	.033	.028	.053	1.20	.231	496
11	.002	.022	.005	0.11	.916	489
12	-.005	.016	-.014	0.31	.757	478
13	.015	.015	.048	1.00	.317	454
14	.030	.015	.045	1.96	.050*	427
15	.019	.014	.067	1.34	.182	401
16	.003	.013	.013	0.26	.793	371
17	.002	.013	.009	0.17	.863	340

Coefficients for the OLS regression model for criminal versatility/specialization appear in Table 6.

Discussion and conclusion

Krohn, Thornberry, Rivera, and Le Blanc (2001, pp. 92–93) reviewed nineteen criminal career studies that were conducted between 1940 and 1999. Overall, they found that early onset criminals committed between 40 to 700 percent more criminal acts than late onset criminals. Moreover, early onset youths were more than forty times likely than late onset persons to development into chronic offenders. The inverse effects of onset on criminal career severity are well known, however specific knowledge about the effects of first arrest at particular ages are less clear. The current study was uniquely situated to empirically examine arrest onset with a population of extreme career criminals collected in census-like fashion over a six-year period. It contained arguably the most violent, recidivistic, and exceptional offenders to date. The preliminary findings herein, most of them descriptive, should serve as an impetus for future research. Hopefully, future research could improve upon three key limitations of the current effort. First, the current study contained no control group of “non-extreme” offenders, thus the findings were only generalizable to habitual offenders. Second, some of the onset categories contained relatively few cases. A larger data collection effort could ensure adequate numbers of early starting offenders to conduct further quantitative analysis. Third, despite the admonitions discussed earlier, correctional samples always face scrutiny because of sample selection bias. Perhaps combining correctional and general samples would reduce potential sampling error.

Several researchers used age fourteen to distinguish between early and late starting criminals (e.g., Moffitt et al., 1994; Patterson, 1995; Piquero & Chung, 2001) although they generally acknowledged that there was no agreed-upon parameter for early onset (DeLisi,

2001c; Eggleston & Laub, 2002; Paternoster, Dean, Piquero, Mazerolle, & Brame, 1997). The current study concurred with prior investigators who found that age fourteen was useful in differentiating early- and late-starters. Those first arrested at age fourteen amassed multitudes of arrests for a variety of offenses, were convicted of multiple felonies, and served several prison terms. In the regression analyses, age fourteen was significantly predictive of chronicity, dangerousness, offending frequency (Table 7), career span, and violence specialization.

Three onset categories averaged more than one hundred arrests during their criminal careers, persons first arrested at ages eight, nine, or forty-six. Perhaps the earliest arrest offenders had some form of psychopathology as articulated in Moffitt’s (1993) theory. This discussion was obviously speculative without measures of neuropsychological defects, but the exceptionality and extremity of the careers of persons arrested before age ten was compelling. More vexing was the offender with an onset age of forty-six who still managed more than one hundred arrests. What explained that? Recent researchers (e.g., Eggleston & Laub, 2002; Elander, Rutter, Simonoff, & Pickles, 2000) had undertaken an under-explored question in criminal career research, the late onset habitual offender. While the importance of early onset cannot be denied, it is also the case that some habitual offenders do not officially come into contact with the criminal justice system until middle adulthood. Late onset chronic offenders have mental health and substance abuse problems that do not manifest themselves until later. When these problems do surface, problems quickly occur.

Easily the most surprising finding from this study was the proportion of habitual offenders who were not arrested until adulthood. Indeed, 62 percent were not first arrested until age eighteen and 25 percent were not initially arrested until age twenty-one. Despite the concurrent use of self-reported and official data, perhaps

Table 7
Early onset and annual offending rate (λ) (OLS regression model)

Age of first arrest	b	SE	β	t value	p value	n
8	2.020	1.390	.053	1.45	.149	500
9	3.740	1.390	.099	2.70	.007*	498
10	-1.420	0.744	-.071	1.91	.057*	496
11	0.165	0.606	-.010	0.27	.785	489
12	-0.572	0.426	-.053	1.34	.180	478
13	-0.384	0.409	-.039	0.94	.348	454
14	1.390	0.401	.145	3.49	.001*	427
15	0.507	0.354	.065	1.43	.153	401
16	-0.011	0.334	-.001	0.03	.974	371
17	-0.212	0.326	-.033	0.65	.515	340

offenders were reticent to discuss their juvenile offending careers particularly when their adult records were already extensive. Similarly, it was unknown to what degree juvenile records were omitted from the NCIC records of the current offenders. Finally, the study focused on crimes and did not explore analogously deviant behaviors during childhood and early adolescence that could have alerted social service and juvenile justice officials. Still, the majority of offenders did not start getting arrested until precisely the age when extant criminological theories suggested that desistance from crime should occur (Blumstein et al., 1986; Hirschi & Gottfredson, 1983; Moffitt, 1993).

Early onset is important for a variety of reasons. Career criminals who begin their careers in childhood and early adolescence will grow to become socially isolated people living unsuccessful lives characterized by continued involvement in crime (Farrington & West, 1993). In terms of their criminal behavior and the magnitude of the efforts of the criminal justice system required to control them, career criminals are among the most costly individuals in American society (DeLisi & Gatling, 2003). The knowledge of career offenders is extensive, but more work is needed before they can be prospectively identified with accuracy in order to preclude future victimization. Evidenced by the current study, career criminals are a diverse group whose commonalities are recurrently breaking the law, injuring others, and congesting the nation's prisons. At a time when theory suggests that individuals should be terminating their criminal career, some of the fiercest and most recidivistic offenders are only beginning to attract the attention of the criminal justice system.

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