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ORIGINAL ARTICLE

Life-Course and Developmental Criminology: Looking Back, Moving Forward—ASC Division of Developmental and Life-Course Criminology Inaugural David P. Farrington Lecture, 2017

John H. Laub[1] · Robert J. Sampson[2]

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Abstract

The interplay among data, analytic tools, and theory has been a defining feature of life-course and developmental criminology. In this paper, we briefly consider the intellectual history of each component before focusing on the prospects for future advancement. What are the most promising data sources and methodological tools that will advance life-course inquiry in criminology? Above all, what are the key questions and theoretical ideas for moving the field forward? Our argument is that by integrating new directions in data, tools, and ideas—especially (1) testing an augmented theory of turning points, (2) examining cohort differences in aging and crime that arise from macro level changes, and (3) designing criminal justice interventions that are both developmentally appropriate and socially supportive while not compromising public safety—the future of life-course and developmental criminology will be as bright, if not brighter, than the rich legacy of its past.

Keywords Life course · Human development · Longitudinal data · Theory · Analytic tools

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✉ John H. Laub
jlaub@umd.edu

✉ Robert J. Sampson
rsampson@wjh.harvard.edu

[1] University of Maryland, College Park, MD, USA

[2] Harvard University, Cambridge, MA, USA

Looking Back

In an article in *Science Magazine* on the frontiers of science, Butz and Torrey ([5]: 1898) argued that progress in the social sciences "usually reflects an interplay between theory, data, and tools." Nowhere is this more true than in life-course research. Whether in the social sciences at large or the field of criminology, the interplay among data, analytic tools, and theory has been a defining feature of life-course inquiry. Consider an abbreviated intellectual history of developmental and life-course criminology circa the late twentieth century.

Data have long been central to cohort studies and longitudinal surveys. Within criminology, research teams led by the Gluecks; West and Farrington; Wolfgang; Shannon, McCord, Blumstein, Thornberry; Loeber; Elliott; Moffitt; and the Project on Human Development in Chicago Neighborhoods all produced important longitudinal data. Outside of criminology, Robins, Vaillant, Rutter, and Elder did the same.

Analytic tools and improved statistical methods have also been crucial to growth. A number of methodological advances in the last decades have propelled the testing of life-course models of crime, including the following: Survival and Event History Analysis, Dynamic Structural Equation Models, Hierarchical Linear Change and Growth Curve Models, Group-based Trajectory Modeling, and the Unimodal Curve Registration Approach to Modeling Trajectories. The group-based modeling of developmental trajectories [38] has been especially influential in studies of criminal career patterns.[1]

Theoretical ideas, however, have helped organize data and the choice of tools, and as a result have been more generative. Within criminology, for example, scholars such as Blumstein (criminal careers), Hagan (life events), Reiss (desistance by death), Loeber (three pathways model), Thornberry (interactional theory), Moffitt (the dual taxonomy theory of life course persistent and adolescence-limited), Gottfredson and Hirschi (self-control and invariant age effects), Farrington (developmental criminology), Shover (aging offenders), and Nagin and Paternoster (population heterogeneity and state dependence)—among others—have contributed to the advancement of developmental and life-course theories of crime. Note that these scholars include proponents as well as the critics. This mixture and vigorous debate leads to a richness in life course and developmental work.

In our own work, we have advanced an age-graded theory of informal social control over the life course and the concept of turning points in criminology [27, 28, 51, 52]. Outside of criminology, scholars such as Elder, Dannefer, Becker, Coleman, Patterson, Tremblay, and Vaillant have also been influential, especially in our own work.

Our main point is that life-course and developmental criminology has proven to be an enormously productive enterprise within criminology. It has brought a fresh perspective to a series of key issues in the field, including age and crime, specialization and versatility in offending, persistence in and desistance from crime, trajectories of offending, life-course transitions and turning points, and theoretical accounts of behavioral continuity and change over the life course. The challenge now is how to sustain the momentum and not rest on our laurels or worse yet, become stagnant. What are the most promising data sources and methodological tools that will advance life-course criminology? Above all, what are the key theoretical ideas or directions for moving the

[1] For reviews of methodological advancements in these areas see Piquero [43] and Erosheva, Matsueda, and Telesca [12].

field forward? These questions are the focus of this paper. In putting forth our ideas for how best to move forward, we discuss the three pillars of life-course and developmental criminology—data, tools, and theory. Although we discuss each in turn, the best life-course criminology integrates all three, and in our discussion of theory, we therefore highlight, where appropriate, how promising data and tools can help assess new theoretical directions and hypotheses.

Moving Forward

Data Longitudinal surveys face distinct challenges in the future, threatening a foundational approach to life-course studies. Issues such as low response rates, attrition, and increasing cost are undermining the traditional survey method for studying individuals over time. Some have gone as far as to claim that surveys as we know them are dead. In the USA, we believe that linkages using administrative data will become more prominent as a result.

Already this is happening in social science, a prominent example being the use of millions of linked tax records to study intergenerational income mobility [7].[2] What is the analogy in criminology? One research question might focus on the linkage of large-scale recidivism data with employment earnings over time. Another example is the use of administrative records from over 140,000 adolescents to assess the effects of aggressive policing on educational attainment and its interaction with age [29]. Yet another example outside the USA is that researchers have used Norwegian administrative data on whole populations to great effect (see, e.g., [31, 32, 64]).

Tools New tools are also emerging with the potential to change how we model and think about the dynamics of crime. For example, machine learning and algorithms for decision making in the criminal justice are growing. Consider the proliferation of predictive models of policing with big data [47] and the use of machine learning to improve the bail decision [23]—these models have an inherent temporal framework and thus linkage to the life course. Although agent-based simulation models have been applied in criminology mainly to assess community-level theories [15], they are in principle another promising candidate for modeling the evolution of criminal behavior and testing life-course theory. Markov models have also recently been repurposed to study the progression over age of the probability of participation in legal employment and offending, especially how past participation in one regime is associated with the decision to remain in or switch regimes [30]. Yet another development is Boman and Mowen's [3] approach to estimate the differential effects of turning points on planned transitions such as release from prison as a function of baseline between-individual differences. We look forward to the development of other tools that will capture the unfolding of lives over time.

Theoretical Ideas Our most important concern is the state of theory, to which we now turn. There are many issues at stake but we see three challenges that are fundamental for moving life-course and developmental criminology forward: *the nature of turning points*, *cohort differences in exposure to social change*, and the *criminal justice system*.

[2] These data go well beyond income. In their most recent paper, Chetty et al. [6] use longitudinal tax and census records to examine racial disparities in adult incarceration among children born around 1980.

What Is A Turning Point? How Is Development Altered?

Sampson and Laub [51, 52] introduced a theory of turning points to criminology, drawing on the influential work of Glen Elder [9, 10] and other life-course scholars. A large body of research has now built up and been reviewed by others, including most recently Nguyen and Loughran [39] and Bersani and Doherty [2] in the *Annual Review of Criminology*. In our reading, while there are exceptions and critiques [14, 65], overall, the research supports the argument that key events, like marriage, employment, and military service, can explain change in crime or deflection in a criminal trajectory [26]. More recently, turning points such as physical relocation [21, 22, 57] and parenthood [24, 44] have been implicated in the desistance process. There are many questions that nonetheless remain about turning points that future research must resolve.[3]

One challenge is how to address the oft-cited concern of selection bias. Selection is not merely a methodological point—it is a theoretical issue as well that goes to the heart of how we conceive of choice, developmental processes, and causality. Perhaps most relevant is the body of recent research that embraces the counterfactual model of causality to address dynamic selection in longitudinal data. For example, marginal structural models have been introduced to counteract the common problem of controlling endogenous covariates on the pathway between a hypothesized cause and later crime [54]. Ironically, it may well be that criminologists in the life-course era, like in the study of neighborhood effects, have *over controlled* rather than *under controlled* so-called confounding variables [73]. Causal mediation models have also being advanced in life-course research to counteract naïve panel methods for controlling selection bias [74]. Furthermore, quasi-experimental and experimental studies of neighborhood relocation [21, 57] and employment [20] have demonstrated crime reduction effects that are relevant to or supportive of the theory of turning points in life-course criminology.

Another challenge, both theoretical and methodological in nature, is to reconsider some of our early notions of turning points. Sampson and Laub tended to focus on turning points as *positive* and typically involved moving from crime to non-crime in a trajectory of offending in adolescence and adulthood. Although this focus continues to be relevant, we need to expand the idea of turning points beyond desistance from crime and across the life course. For example, how do adverse events in childhood (e.g., exposure to lead, childhood trauma) lead *into* a pathway of crime? Although the study of childhood antisocial behavior is of course prominent in developmental criminology, counterfactual causal models of childhood turning points on long-term behavior are not typically conceived as such—especially negative turning points early in life. Note the difference from traditional understanding—there is no crime trajectory or "pre-treatment" criminal behavior for an infant or young child. Yet we believe it is relevant to think about the concept of turning points in the early years and consequences for long-term developmental trajectories.[4]

[3] In other writings, we address the problems and prospects for studying "human agency" and turning points [26, 53]. Given the structural focus of the present paper, in addition to what we see as severe limitations of approaches to the study of agency (including our own past efforts), we set aside further discussion.

[4] Nguyen and Loughran discuss the idea of trajectories as outcomes in their *Annual Review of Criminology* paper [39], contending that since desistance is widely regarded as a process, not the result of an abrupt change, "logically, then, an outcome of a turning point should itself be a trajectory, not a short-term outcome." This idea is consistent with looking at turning points in childhood, and long-term developmental trajectories.

In short, we need to expand the idea of turning points across all life stages as both positive and negative with respect to long-term outcomes. Consider two examples of potential negative turning points that emerge in childhood— exposure to violence and lead poisoning.

Violence

Sharkey and Sampson [60] assess the mounting evidence that extreme violence gets into the minds of children to affect cognitive functioning and behavior in school, with consequences for academic performance, impulsivity, and long-term developmental trajectories. Sharkey [58], for example, estimates the acute effect of exposure to a local homicide on the cognitive performance of children in Chicago. He identifies the effect of violence on vocabulary and reading assessments by exploiting exogenous variation in the relative timing of homicides and interview assessments among children in the same neighborhood but assessed at different times. Among African-Americans, exposure to homicide in the block group that occurs less than a week before the assessment reduces performance on vocabulary and reading assessments over half a standard deviation. In another study conducted with children in Chicago, Sharkey et al. [61] found that children exposed to a homicide in close proximity to their home exhibited lower levels of attention and impulse control within the classroom setting. Further, comparing across cities in the Moving to Opportunity study that randomized housing vouchers, Burdick-Will et al. [4] found that children's test scores improved the most when residential changes led to major reductions in exposure to violent crime.

Along with seminal research showing the cycle of violence traced to childhood maltreatment [70], this body of research provides evidence that exposure to violent crime alters children's capacity to regulate their behavior, to maintain attention, and to succeed on high-stakes assessments of academic achievement. Extended exposure to community violence is also associated with deficits in the development of cognitive skills and reading achievement, along with lower grades, elevated levels of non-attendance, and lower rates of high school graduation and college attendance.[5] The consequences of exposure to violent events accumulate and reinforce initial disadvantage, increasing the potential for yet further delinquency and crime. These kinds of temporal processes motivate us to think in new ways about turning points given that children have no "pre-treatment" crime trajectories—violence changes the developmental course that children would otherwise have followed. What could be more relevant to life-course and developmental criminology?[6]

Lead Exposure

Environmental hazards such as pollution and lead toxicity constitute another kind of context that deserves scrutiny as a source of children's capacities and the

[5] This argument is consistent with growing evidence showing the effects of poverty and scarcity on short-sighted decision making and time discounting [17].

[6] For fans of "Breaking Bad," this argument raises another question: is there a "Walter White" phenomenon, whereby negative events trigger "late onset" or adult entry into crime or violence? The evidence on late onset is small and mixed [66], but violent terrorist events committed by those with no apparent evidence of prior violence suggest that there is more to learn. Radicalization, we suggest, is ripe for life-course inquiry.

intergenerational transmission of inequality. As Muller, Sampson, and Winter [55] argue in an assessment of the literature in the *Annual Review of Sociology*, lead exposure is an important subject for analysis for social scientists because it is socially stratified and has important social consequences—consequences that themselves depend in part on children's social environments. In a paper in *Criminology*, Sampson and Winter [55] take the further step of conceptualizing lead exposure and crime in causal, life-course terms. They argue that lead exposure is structural in origin and its impact is age graded in nature, motivating them to consider childhood lead exposure from the theoretical perspective of life-course criminology. Infants and young children are more likely to be exposed to lead than older children or adults through normal hand to mouth behaviors while playing on the ground, leading to the ingestion of lead paint, contaminated dust, and dirt.

Lead's biological consequences are also age graded in compounded ways. Once exposed, young children absorb lead more efficiently than older children or adults, and young children's rapidly developing brains are more vulnerable to lead's effects than older individuals' more mature brains. Once in the body, lead mimics calcium, impairing brain development and neurotransmitter systems in ways that disrupt executive functioning and mood regulation, which in turn reduces impulse control and the inhibition of aggressive behaviors. Through the same age-graded mechanisms, lead exposure is associated with reduced cognitive ability and increased attention deficit/hyperactivity disorder, both of which are predictors of delinquent behavior in the criminological literature.

These processes motivate Sampson and Winter's conceptualization of childhood lead poisoning as an adverse transition in the early life course that is literally embodied and that exerts long-term influence on adolescent development and delinquent behavior. In this sense, like exposure to violence and direct victimization itself, individual lead exposure is akin to a turning point that alters long-term development. But, unlike traditional turning points that emerge in adolescence or adulthood (e.g., military service, marriage, employment) and that change ongoing criminal trajectories or promote desistance [39], in the present case, the triggering force of lead exposure is exerted in early childhood. The data support the hypothesis based on a long-term follow-up of the birth cohort of the Project on Human Development in Chicago Neighborhoods. Further, recent research in Chicago using other data shows that neighborhoods with high levels of lead exposure independently predict the adult incarceration of children who grew up in those neighborhoods [33].[7]

[7] Lead exposure offers distinct analytic advantage in identifying casual effects relative to traditional criminological predictors [55]. Compared to internal or subjective characteristics of the individual, such as attitudes or morality, or transitions in adulthood that have been criticized for being a function of individual choice, such as jobs or marriage (e.g., [52]), children, especially toddlers, do not control or select their lead exposure. Rather, the majority of contemporary lead exposure comes from lead-contaminated house dust generated by lead paint and remnants of lead in the soil that are unwittingly tracked into homes and ingested at very young ages through normal childhood behavior. Even parents are often unaware of lead levels in their children's environments. As an external toxin, lead is thus more exogenous to the child than many of the mainstays of developmental or life-course criminology. To control for residual confounding, Sampson and Winter [55] use both matching and an instrumental variable approach that provides exogenous variation in exposure to lead.

Implications

The fact that violence and lead exposure are environmental toxins has theoretical import for how we conceive of individual differences in human development over the life course. It is common to trace individuals' propensities to engage in criminal behavior to particular qualities of individuals or their immediate family or situational environments Individual differences in what the Nobel Memorial Prize Laureate James Heckman calls "character" [19], such as reflected in aggressive and impulsive behavior or low self-control, are not just properties of the individual, family, or situation, however [50]. Rather, the individual differences in character that predict delinquency are in part constituted by the broader environmental context and in this case, by structurally and historically shaped lead exposure and exposure to violent events [37, 55]. This theoretical framework does not undermine individual or family differences; it integrates these processes into a model that contextualizes the course of character development. It also calls for a deeper engagement with macrosocial change as a context.

Cohorts and Social Change

The central idea of the life-course paradigm as articulated by Glen Elder [10, 11] is "the embeddedness of individual development as it reflects social context changing through time and across place." This speaks to the power of social change and cohort effects. We suggest this is the second biggest frontier for life-course and developmental criminology.

The life-course perspective points to macrosocial change as manifested in cohort differences in aging [48]. Dramatic historical swings differentiate the life experience of cohorts growing up. The rapid growth in concentrated poverty in the 1970s and 1980s has been documented clearly [72], for example, and in the current era income, inequality has increased markedly [42]. Airborne lead levels have rapidly declined since the 1970s, and violence has gyrated from record highs in the early 1990s to low levels at present that we have not seen since the late 1950s, with some authors asserting a link between these two trends ([45]; for a review, see [37]). The labor market has also seen dramatic shifts (e.g., the Great Recession; technological revolution) that have rendered workers quickly dispensable in occupations for which they have been trained. Thus, some cohorts, simply as a function of when they were born, have been exposed to either disadvantaged or advantaged contexts that influence character development.

Three macro level changes in particular seem relevant for life-course criminology: altered transitions from adolescence to young adulthood with respect to turning points; the speed of development; and the great crime decline.

Transition to Adulthood

First, consider changes in the transition from adolescence to young adulthood for the cohorts in the Glueck study compared with cohorts today along traditional markers such as marriage, employment, and military service.

Marriage During the time of the Gluecks' study, marriage converged with the school-to-work transition and was normative between the ages of 18 and 24 ([36], 44). Fifty-five percent of the men had married at least once by age 25 and 80% were married at least once by age 32. The median age at first marriage was 21. Families provide many supportive benefits, but what was also crucial in this context is the significance of family networks in finding and securing jobs for men with a delinquent past.

We have witnessed declining rates of marriage since the 1970s. Also, the median age at first marriage has been increasing over the last several decades as well—it is now nearly 30 for men (29.8) and 28.1 for women [1]. This raises the question as to what the prospects are for marriage and household formation among those involved in serious crime today. It appears that who is getting married is dictated more and more by social class and educational attainment, and that those at the highest risk for crime are not marrying today at the same rate as in the past.

Work In our study, educational attainment was far less important during the 1940s and 1950s compared with today. Like many growing up during this historical era, fully 80% of the 1000 Glueck men did not graduate from high school, and only 65 of the 1000 men went to college. Unlike today, those without a high school diploma were not blocked from achieving economic success.

Part of the reason why education was not as important in the transition to adulthood during the 1940s and 1950s was that there were considerable options for entry-level employment. The decades after World War II have been referred to as "the golden age of wage labor for young men" [13]. With an expanding post-war economy, these entry-level jobs offered potential for advancement. For instance, at the age 25 interview, 6% of the delinquents and 20% of the nondelinquents were employed in skilled positions. By age 32, over a quarter (27%) of the delinquents and over half (56%) of the nondelinquents held skilled positions. Skilled jobs were primarily trade jobs such as a plumber, electrician, or bricklayer, but also included managerial jobs (a supervisor or foreman), salesmen, and office clerks.

In contrast, the level of training and education required for employment today has changed dramatically. In this context, William Julius Wilson's *The Truly Disadvantaged* ([1987] [72]) and *When Work Disappears* [71] have documented the transformation of work, especially in disadvantaged neighborhoods in US cities. Deindustrialization has led to a loss of jobs, especially entry-level jobs for low-skilled workers. Essentially, there is a disappearance of entry-level jobs for those without education. More recently, Robert Crutchfield's [8] *Get a Job* discusses the dual labor market and traces how primary sector jobs—good jobs—give way to secondary sector jobs—not so good jobs. He referred to this phenomenon as the "polarization in job quality." Pager [40] has also documented the persistent effects of a criminal record on the prospects of future employment in the current era.

Military Service Military service in the World War II era provided American men from economically disadvantaged backgrounds with an unprecedented opportunity to better their lives through on-the-job training and further education via the G.I. Bill. This was true of the delinquents in the Gluecks' sample as well.

In the USA, we now have an all-volunteer military with strict standards on admission. A high school diploma is required, you must pass the Armed Forces Vocational Aptitude Test, and you cannot have a "significant criminal record." There is evidence that nearly half of those who try to join today's military do not get in and that the military has virtually abandoned recruiting in disadvantaged neighborhoods in inner cities [46]. Simply put, at least in the USA, service in the military is not a pathway out of crime today for the most disadvantaged and especially criminalized population—it is instead a closed door.

Today, then, there are obstacles to the multiple pathways out of crime used by the Glueck men. There is simply less opportunity to overcome the odds through the turning points identified by Sampson and Laub. Yet, other unanticipated social changes offer new opportunities of a very different sort.

Speed of Development

We believe that changes in adolescent behaviors over the last 40 years is a second macro level trend that has not been fully appreciated by life-course and developmental criminology. We note in particular the decline in adult activities among US adolescents, 1976–2016 [68]. Drawing on seven large, nationally representative surveys, Twenge and Park find that adolescents in recent cohorts (since 2000) are less likely to engage in adult-like activities (e.g., having sex, dating, drinking alcohol, working for pay, going out without their parents, and driving) compared with older cohorts of adolescents in previous decades. The decline in adult-like activities appeared across gender, race, SES, region, and urban, suburban, and rural locales. The authors consider but reject the idea that these findings can be explained by increases in homework or extracurricular activities as well as use of the Internet. Twenge and Park [68] conclude that social and historical contexts influence the "speed of development," and in this case that the developmental trajectory of adolescence has slowed. The implications for crime are potentially large, and beneficial.

Crime Decline

Third, the great crime decline has had profound effects on the revitalization of urban life, especially the lives of children. The crucial role of violence in particular, and its localized effects [59, 60], have been underappreciated, which is paradoxical given the research noted earlier that documents the negative effects of violence on child development. But this very research implies a hopeful sign for future development. Confounding all predictions of urban collapse, violence began to plummet in the 1990s and formerly hemorrhaging cities began to grow. Child well-being improved, mortality rates, and exposure to lead declined, and rates of violence returned to levels not seen since the late 1950s. Cities like New York and Washington, DC, are now booming, at least in their central core. There is also evidence that the decline in violence is causally linked to improvements in intergenerational economic mobility [62].

It follows that the cohort differences in aging will ensue; in essence, unexpected macro level changes are reversing a negative turning point. Although there have been recent spikes in violence, we hypothesize in particular that areas that have seen the

largest crime declines—a truly macrosocial phenomenon—will lead to improvements in the individual life-course development of urban children in the coming years (see also [59]).

Criminal Justice and The State

The last big challenge we highlight is the role of the criminal justice system in development over the life course. The background facts are well known, especially "mass incarceration." The rate of imprisonment increased over fivefold from the 1970s to 2010 as a result of policy decisions [67, 69]. Implications for the life course are consequential. Simply by accident of birth year, reactions to character deficits, in this case criminal behavior, have shifted by orders of magnitude, feeding into the cumulative disadvantage process. As shown in Pettit and Western [41], macro level changes in incarceration not only reshaped the life course of recent cohorts, they made going to prison a normative transition for black men with low education. Nearly 60% of black males born in 1965–1969 and without a high school education could be expected to do time in prison by the end of the 1990s, compared to only 17% of black dropouts who were born in 1945–1949 (the corresponding figures for white male dropouts are only 11 and 4%). This is a classic life-course issue: the principle of cohort difference in aging and the principle of cohort influences on social change [48].

Besides the collateral consequences facing men and women when exiting prison in the mass incarceration era with respect to employment, education, housing, and civic life [67], the reach of the criminal justice system extends to the courts (e.g., "mass probation") and the police as well, with potential life-course consequences. For instance, policies stemming from the "broken-windows" policy led to large increases in the number of misdemeanor arrests. Nationwide, juvenile drug arrests increased almost 150% from 1990 to 2010, differentially affecting cohorts born in the 1980s and 1990s. Stop and frisks per citizen rose in many cities as well in targeted bursts, such as New York, but disproportionately in minority neighborhoods. These are the same neighborhoods that suffered historically high levels of violence in the 1980s and 1990s. Children in recent cohorts, especially minorities, have thus grown up in an era of historically high violence rates and then, as crime began to recede, a less forgiving environment emerged of criminal justice responses to delinquency and correlated deficiencies of "character" [50].

Another more hidden collateral consequence of justice system involvement stems from the financial obligations imposed by the courts on convicted offenders (for a review, see [34]). In an earlier paper, Martin et al. [35] identified five types of criminal justice financial obligations—fines, forfeiture of property, costs, fees, and restitution. These financial obligations have potential negative consequences for convicted offenders, especially the poor and people of color. Not only are convicted offenders harmed by these financial obligations, so are their children. Harris, Evans, and Beckett [16] found that courts in the state of Washington assessed monetary sanctions that ranged from a minimum of $500 dollars to a maximum of $256,257 dollars. For felons, the median amount assessed per person was $5254 and the mean was $11,471.

All of this is not to say that the criminal justice system is inherently criminogenic when it comes to human development. An idea we are exploring is that turning points themselves can be conceptualized and supported by criminal justice institutions (see

also [25]). The challenge is for the criminal justice system to assist in the facilitation of turning points for those involved in crime. At the very least, we should ensure that the responses of the criminal justice system do not block potential turning points from occurring. But more than that, can we design strategies whereby front-line agencies like the police enhance collective efficacy at the neighborhood level or turning points at the individual level? Creative research is asking these questions. For example, Neyroud's "Operation Turning Point" is a randomized controlled trial based in Birmingham, UK. The trial is designed to compare the relative effectiveness and cost benefit of police prosecuting low harm offenders with a "turning point contract" that combines a deferred prosecution with a set of conditions agreed with the offender that are intended to support desistance. Early results are encouraging [63].

Along similar lines, there is a growing movement to create developmentally appropriate programs, policies, and practices for emerging adults (defined as ages 18 to 25) involved in the justice system. The underlying belief is that this population is worthy of special attention [56]. The initiatives have taken many different forms; for example, some states have tried to raise the age of juvenile court jurisdiction, while others have created specialized facilities, courts, and caseloads for justice involved emerging adults. Whether these system changes constitute turning points in lives of emerging adults remains to be seen.

As states in the USA look to reduce both the rate and length of incarceration, attention must also be directed to probation and parole supervision and related services. The question is, what can be done to make probation and parole practices more "desistance-focused"? Through supervision of offenders in the community, probation and parole officers can in theory deter offenders from committing new crimes. At the same time, probation and parole officers can serve as resources for offenders regarding employment, housing, substance abuse treatment, and the like. In this manner, probation and parole officers can act as monitors and mentors who provide both supervision and social support, and as a result, hopefully triggering behavioral change away from crime [18]. These sorts of policies are theoretically driven by life-course and developmental criminology.

Our larger point is that developmental and life-course trajectories can be altered by government policy—both for good *and* for ill. Cohort differences in aging and in "second chances" are a form of macro level context that should not be neglected in life-course and developmental criminology (see also [49, 53]).

Conclusion

Our basic argument is that by pursuing new directions in data, tools, and ideas—especially (1) testing an augmented theory of turning points, (2) examining cohort differences in aging that arise from macro level changes, and (3) designing criminal justice interventions that are both developmentally appropriate and socially supportive while not compromising public safety—the future of life-course and developmental criminology will be as bright, if not brighter, than the rich legacy of the past. To meet this promise will require the energy and sustained commitment of the next generation of scholars. Life-course and developmental criminology, like crime itself, is intergenerational in nature.

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