The age and crime relationship: Social variation, social explanations

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Discussion Questions

CHAPTERS 21 AND 22

1. Sociologists argue that there are difficulties in measuring crime over time because the definition of crime has varied over time. Are there any limitations to this argument? How does evolution define antisocial behavior? Is there enough evidence to support the social etiology of crime?
2. What have community-level trajectories revealed about crime trends? What do we know about criminal offending in the population? For example, is there evidence to believe that a very small proportion of the population accounts for a large number of crime? Can this evidence be used to explain findings from community-level trajectories?
3. Describe the differences between proximal and ultimate explanations. Of the two explanation types, which do sociologists provide? How does a biosocial approach unite the two explanations?
4. Discuss the influences human cooperation has had on our ancestral environment. In other words, how does the idea of the "non-zero-sum" explain the decline in violence?
5. As noted by Drs. Boutwell and Barnes, employment has been found to have no effect on crime rates. What reason do the authors provide for this finding? How might IQ levels be used to predict crime rates?
6. Why would an evolutionary argument for crime rates remain intact even if crime rates began to rise and fall? Likewise, if crime rates began to rise, would sociological arguments have any clout?

23

The Age and Crime Relationship

Social Variation, Social Explanations

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The relationship between aging and criminal activity has been noted since the beginnings of criminology. For example, Adolphe Quetelet (1831/1984) found that the proportion of the population involved in crime tends to peak in adolescence or early adulthood and then decline with age. In contemporary times, the FBI's *Uniform Crime Report* (UCR) arrest data (1935–1997), particularly the Crime Index (homicide, robbery, rape, aggravated assault, burglary, larceny-theft, auto theft), document the consistency of the age effect on crime. They also reveal a long-term trend toward *younger* age-crime distributions in more modern times. Today, the peak age-crime involvement (the age group with the highest age-specific arrest rate) is younger than 25 for all crimes reported in the FBI's UCR program except gambling, and rates begin to decline in the late teenage years for more than half of the UCR crimes. Even the median age (50% of all arrests occurring among younger persons) is younger than 30 for most crimes. The *National Crime Victimization Survey* (NCVS), self-report studies of juvenile and adult criminality,

and interview data from convicted felons also corroborate the robust effect of age on crime patterns (Elliott, Huizinga, & Morse, 1986; Rowe & Tittle, 1977). In fact, a significant portion of U.S. national crime rate trends over time can be explained by fluctuations in the proportion of the population in the crime-prone age group of 15- to 24-year-olds (Steffensmeier & Harer, 1987, 1999).

It is now a truism that age is one of the strongest factors associated with criminal behavior. In fact, some have claimed that the age-crime relationship is invariant, or universal across groups, societies, and times (Hirschi & Gottfredson, 1983), and that this invariance signals that the age-crime relationship is strongly biologically determined (Kanazawa & Still, 2000).

However, invariance in the age-crime relationship is a very bold claim, given that we have comparatively limited data. That is, we do not have an abundance of evidence about the age distribution of crime across countries, across time periods (especially times prior to the 1930s), and across population subgroups. Age-crime statistics covering the full range of ages across these comparisons are simply not available in many instances.

The claim of invariance in the age-crime relationship was contested soon after it was first articulated by Travis Hirschi and Michael Gottfredson in 1983 (see Greenberg, 1985; Steffensmeier, 1989). We also argue that a claim of invariance in the age-crime relationship is overstated, and that sociologically important variation exists across historical periods, societies, crime types, and groups in specific features of the age-crime relationship (e.g., peak age, median age, rate of decline from peak age). We note many social factors that are widely thought to shape and structure the patterns of criminal involvement in the life course.

It is also worth noting that consistencies in age differences in crime across space and time could indicate either that (a) differences have a biological basis, *or* (b) that age socialization and age-graded norms are remarkably constant across times and settings for reasons that are socially practical and only indirectly biological. For example, for any society to thrive, elder carriers of institutions must socialize youth to become productive members of the group that fills social structural roles, and must therefore ensure an adequate level of conformity among postyouth groups. One would expect that such socialization and pressures for conformity would inevitably be problematic and incomplete for some youth, but such pressures would increase with age.

More broadly, it is impossible to examine people, as social animals, apart from either their physical bodies or their social contexts. Our bodies are important instruments of action and social interaction. Obviously, there are biological dimensions to the age-crime relationship, since aging itself is a biological, neurological, psychological, and social process. Physical and neuropsychological development and aging over the life course (especially the early life course) set the parameters of possibility and limitation for behavior, including criminal behavior. The foundation of aging has long been seen as relevant to the age-crime connection by criminologists (Greenberg, 1985; Steffensmeier & Allan, 2000). In the early 21st century, evidence has amassed from neuropsychology that aspects of brain development relating to

emotional maturity, decision making, and risk taking continue into the mid-20s (Farrington, Loeber, & Howell, 2012). It was once thought that brain development was more or less completed in the mid to late teens. "However, unlike logical-reasoning abilities, which appear to be more or less fully developed by age 15, psychosocial capacities that improve decision making and reduce risk taking—such as impulse control, emotion regulation, delay of gratification, and resistance to peer influence—continue to mature well into young adulthood" (Steinberg, 2007, p. 56). "Biological changes in the prefrontal cortex during adolescence and the early 20s lead to improvements in executive functioning, including reasoning, abstract thinking, planning, anticipating consequences, and impulse control (Farrington et al., 2012).

However, physical and neuropsychological aging do not precisely track the typical age-crime curve of contemporary times. This suggests that, contrary to claims by Kanazawa and Still (2000), biological aging is not the whole story behind the age-crime relationship. For example, the neuropsychological development and maturity noted above does not exactly track the age peaks of most street crimes. Farrington et al. (2012) note that higher executive functioning relevant to impulse control, planning, emotional control, and so on are not developed fully until age 25. However, most street crimes have peak age involvement well before age 25, and many peak before age 20, and begin sharply declining well before age 25.

There is also the intriguing and plausible idea that the link between age and criminal involvement is explained by physical development and aging. This is no doubt partially true. In a general sense, physical abilities, such as strength, speed, prowess, stamina, and aggression, are useful for successful commission of many crimes, for protection, for enforcing contracts, and for recruiting and managing reliable associates (for a review, see Steffensmeier, 1983). Although some crimes are more physically demanding than others, persistent involvement in crime is likely to entail a lifestyle that is physically demanding and dangerous. Declining physical strength and energy with age may make crime too dangerous or unsuccessful, especially where there are younger or stronger criminal competitors who will not be intimidated, and thus might help explain the very low involvement in crime of small children and the elderly. Certainly, beyond middle age, aging is associated with notable declines in energy and physical strength.

However, available evidence on biological aging reveals very little correspondence between physical aging and crime's decline in late adolescence. The research literature on biological aging (see review in Steffensmeier & Allan, 2000; see also Shock, 1984) suggests that peak functioning is typically reached between the ages of 25 and 30 for physical factors plausibly assumed to affect one's ability to commit crimes (strength, stamina, aerobic capacity, motor control, sensory perception, and speed of movement). Although decline sets in shortly after these peak years, decline is very gradual until the early 50s, when the decline becomes more pronounced. Chronological age and physiological change, as well as subjective awareness of aging, are related but separate phenomena (White, 1988). Although chronological age increases regularly and inexorably, physiological declines and/or changes may occur at a much more variable pace across individuals, cohorts, and population groups.

Other commonly mentioned physical variables like testosterone levels peak in early adulthood but then typically remain near peak levels until about the mid-40s (Shock, 1984; Yesalis, 2006). In contrast, the age curves for crimes like robbery and burglary that presuppose the need for physical abilities peak in mid to late adolescence and then decline very rapidly. Although biological and physiological factors may contribute toward an understanding of the rapid increase in delinquent behavior during adolescence, they cannot by themselves explain the abrupt decline in the age-crime curve following mid to late adolescence (see Steffensmeier & Allan, 2000).

One of the most popular biological explanations of the age-crime relationship centers on testosterone. The general argument is that variation in the amount of testosterone is an important cause of criminality and of violence in particular. Testosterone differences, it is argued, explain why men commit more crime than women, why some men commit more crime than other men, and most important for our purposes, why youth commit more crime than young adults to middle-aged adults. However, Archer, Graham-Kevan, and Davies (2005) conducted a review and meta-analysis of research on the link between testosterone and aggression, and their findings call the testosterone-aggression-violence links into question. They observed that there was much misinformation in many prior studies and reviews of literature, and that there often existed a slant toward a finding of strong associations between testosterone levels and aggression. Their meta-analysis found little overall support for claims that (a) testosterone was strongly associated with aggression; (b) testosterone declined with age, for example, that base levels are higher in adolescence than young adulthood (21–35); and (c) the rapidly rising testosterone levels at puberty increase the likelihood that young males between roughly 12 and 25 years of age would be the principal perpetrators of violence (see also Halpern, Udry, Campbell, & Suchindran, 1994).

Evidence of Variation in the Age-Crime Relationship

Hirschi and Gottfredson (1983) claimed that the age-crime relationship is invariant, or universal across groups, societies, and times, a claim that has been reiterated as grounds for focusing on biological or evolutionary explanations for the age-crime relationship (i.e., Kanazawa & Still, 2000). It is important to note that Hirschi and Gottfredson's argument was not that social factors or existing criminological theories that emphasized social factors were invalid or not relevant to the explanation of crime. Rather, their argument was that the age-crime relationship was a constant, and therefore it was not necessary for crime theories focusing on social factors to explain it. Social factors plausibly differentiated offenders from nonoffenders at all ages, explaining variation in criminal involvement within all segments of the age-crime curve. This also was their grounds for arguing that longitudinal studies of criminal behavior across the life course were unnecessary.

If invariance in the age-crime relationship is taken to mean that crime is proportionately higher among young people and then declines with age at some point in the life span, to where offending is rare among older people, then it is true that this

pattern is commonly found across societies and time periods. Interestingly, there seem to be varying definitions of "young" or crime-prone young ages that are used in establishing the typical or invariant age-crime curve. Hirschi and Gottfredson have two somewhat different versions of the invariant age-crime parameters. In their initial and best known work (1983), they say that crime rises rapidly in early adolescence, *peaks in late adolescence, rapidly decreases throughout the 20s*, and levels off and declines slowly during the middle and older ages. Elsewhere, Gottfredson and Hirschi (1990) say that crime drops rapidly *in late adolescence and the early 20s*, then levels off and declines slowly. Kanazawa and Still (2000) expanded the boundaries of the crime-prone young ages further, by saying: "The proportion of *young men 15–34* in fact strongly predicts the incidence of murder, rape, assault, and robbery across all societies of the world" (p. 443, emphasis added). Of note here is, given the higher possibility of injury and death among active offenders, plus the realities of physical aging, that the realistic span of the age-crime curve is roughly ages 15 to 50. It is also notable that in past generations and still in some countries today, average life expectancy is only in the 40s or early 50s. Thus, if the realistic "at-risk" age span is roughly15 to 50, then Kanazwa and Still's 20-year span (15–34) makes up a sizable portion of the applicable life course concerning typical street crime.

Within the broad pattern of crime being typically committed by younger people and declining with increasing age, there are important dimensions of variation. Such variation is of great interest to social scientists, especially sociologists, and dimensions of variation in the age-crime relationship are likely shaped by structural, cultural, and historical factors. The biological facts of development and aging are obviously important, but they occur within social structures and cultures, which channel dispositions and characteristics in different ways, and define and give different forms to the patterning of criminal behavior across age groups. Even Hirschi and Gottfredson (1983) admitted that "Actually, in some social conditions, the effects of age [on crime] may be muted," and that the typical age effect on crime may be "obscured by countervailing social processes" (pp. 560–561).

Although crime tends to generally decline with age, substantial variation can be found in the parameters of the age-crime curve (such as peak age, median age, and rate of decline from peak age). "Flatter" age curves (i.e., those with an older peak age and/or a slower decline in offending rates among older age groups) are associated with at least three circumstances: (1) cultures and historical periods in which youth have greater access to legitimate opportunities and integration into adult society, (2) population groups for whom legitimate opportunities and integration into adult society do not markedly increase with age (i.e., during young adulthood), and (3) types of crime for which illegitimate opportunities increase rather than diminish with age.

HISTORICAL VARIATIONS

Unfortunately, reliable age statistics on criminal involvement are not available over extended historical periods. Nonetheless, we can compare age-crime distributions over the past 70 years or so in the United States and also compare these to

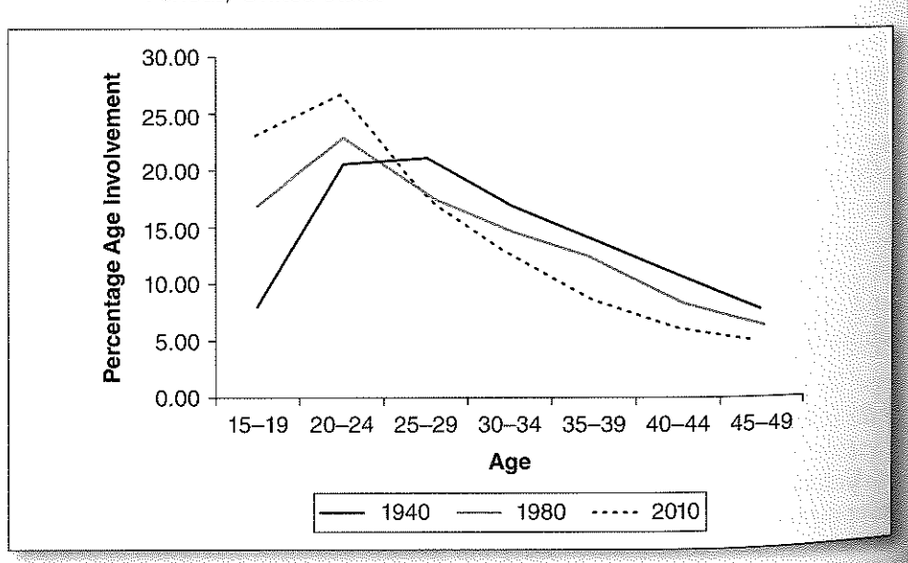
19th-century age-crime distributions reported in sources such as Quetelet's (1831/1984) pioneering study. Age-crime plots are shown in Figure 23.1 for U.S. homicide (the most reliable crime statistic) for 1940, 1980, and 2010.

The plots clearly show a trend toward younger age distributions and younger peak ages over the decades. That is, criminal involvement seems to have shifted to younger ages over time, into the late teens. The shift toward a greater concentration of offending among the young may be due partly to changes in law enforcement procedures and data collection. Nevertheless, the likelihood that real changes have in fact occurred is supported by the consistency of the changes from 1830 (reported by Quetelet, [1831/1984]) to 1940, 1980, and 2010. Cohen and Land (1987) also described a change in the age curve of homicide from the 1960s to the 1980s such that homicide involvement peaked earlier and offending rates for younger offenders increased relative to older offenders.

Greenberg (1985) reviewed research on historical and contemporary age-crime patterns across counties. This review found evidence for substantially older age peaks (into the early or mid-20s) for criminal involvement in the mid-1800s compared to the later 20th century in England, and a slower decline of criminal involvement with age in the 1800s than in the later 20th century. These historical differences, where criminal involvement peaked at later ages and declined more slowly with age in the past, were also evident in France, Norway, and the Netherlands (Greenberg, 1985).

Support for the conclusion that real change has taken place over the past century also is found in the age breakdown of U.S. prisoner statistics covering the years 1890 to 1980 (Steffensmeier, Allan, Harer, & Streifel, 1989; see also Steffensmeier & Streifel, 1991). As with the UCR statistics, the prison statistics show that age curves

Figure 23.1 Age Distribution of Homicide Offenders Across Three Historical Periods, United States



are more peaked today than a century ago. Moreover, research shows that more recent birth cohorts of juveniles are more violent than ones in the past (Shannon, 1988; Tracey, Wolfgang, & Figlio, 1990). Collectively, the research cited above suggests also that historical changes in the age-crime curve are likely gradual and can be detected only when a sufficiently large time frame is used.

There are several suggestive reasons that may explain why criminal involvement peaks at earlier ages in contemporary times, at least in Western industrialized countries, than in the past. In simple, nonindustrial societies, the passage to adult status is relatively simple and continuous. Formal "rites of passage" at relatively early ages avoid much of the status ambiguity and role conflict that torment modern adolescents in the developed world. Youths begin to assume responsible and economically productive roles well before they reach full physical maturity. It is not surprising, therefore, to find that such societies and time periods have significantly flatter and less skewed age-crime patterns (for a review, see Steffensmeier et al., 1989). Much the same is true for earlier periods in the history of the United States and other industrial nations, when farm youth were crucial for harvesting crops and working-class children were expected to leave school at an early age and do their part in helping support their families (Horan & Hargis, 1991).

By contrast, today teenagers typically live in a peer culture that emphasizes consumption, leisure, and peer status. If they work, they occupy marginal jobs that provide little self-pride or opportunities for adult mentorship, and instead segregate them into a separate peer culture. Although youth has always been seen as a turbulent time, social processes associated with the coming of industrialization and the postindustrial age have aggravated the stresses of adolescence, resulting in increased levels of juvenile criminality in recent decades than in the more distant past (Steffensmeier & Allan, 2000). The age status structure of modern societies, therefore, may foster crime and delinquency among the young because these societies "lack institutional procedures for moving people smoothly from protected childhood to autonomous adulthood" (Nettler, 1978, p. 241).

Together, these findings are consistent with the view that contemporary teenagers in industrialized nations are subject to greater status anxiety than in previous periods of history and that the transition from adolescence to adulthood is more turbulent now than in the past (Friday & Hage, 1976; Glaser, 1978; Greenberg, 1977, 1985). In comparison to earlier eras, contemporary youths have had less access to responsible family roles, valued economic activity, and participation in community affairs (Clausen, 1986). This generational isolation has fostered adolescent subcultures oriented toward consumption and hedonistic pursuits (Hagan, 1991; Hagan, Heffler, Classen, Boehnke, & Merkens, 1998). The weakened social bonds and reduced access to valued adult roles, along with accentuated peer-oriented youth culture influences, all combine to increase situationally induced pressures to obtain valued goods; display strength, daring, or loyalty to peers; or simply to engage in exciting and perhaps illicit leisure activities (Briar & Piliavin, 1965; Gold, 1970; Hagan et al., 1998).

Interestingly, recent arrest data by age for the time period from 1980 to 2010 shows slightly increasing (older) age peaks for all UCR index offending in 2000 and 2010 than in 1980. As in earlier time periods, there is also notable variation in age

curves between specific offenses. Furthermore, there are varying degrees of change across the time period in age curves for specific offenses—some offense specific age curves change hardly at all from 1980 to 2010 (such as robbery, aggravated assault), some look rather different (such as murder, rape, burglary, auto theft). Readers can explore the interactive Bureau of Justice Statistics website (http://bjs.ojp.usdoj.gov/index.cfm?ty=datool&surl=/arrests/index.cfm#) and construct age-arrest curves over time, as well as examine age and crime data.

Hirschi and Gottfredson (1983) and Kanazawa and Still (2000), along with scholars who are adherents of the age-crime invariance position, dismiss such historical variation as "trivial" or "minor." However, according to Greenberg (1985),

> Although a decline in criminality at older ages is common to all these distributions, the parameters of the distributions are quite different. In the course of industrialization, the age distribution of crime has changed substantially. Although it may be a mere matter of preference whether a glass of water is described as half full or half empty, it is not so inconsequential whether the changes in the age distribution that we have seen in the past century or two are regarded as modest or major. In the former case, they are casually dismissed; in the latter, they are given full attention. (p. 13)

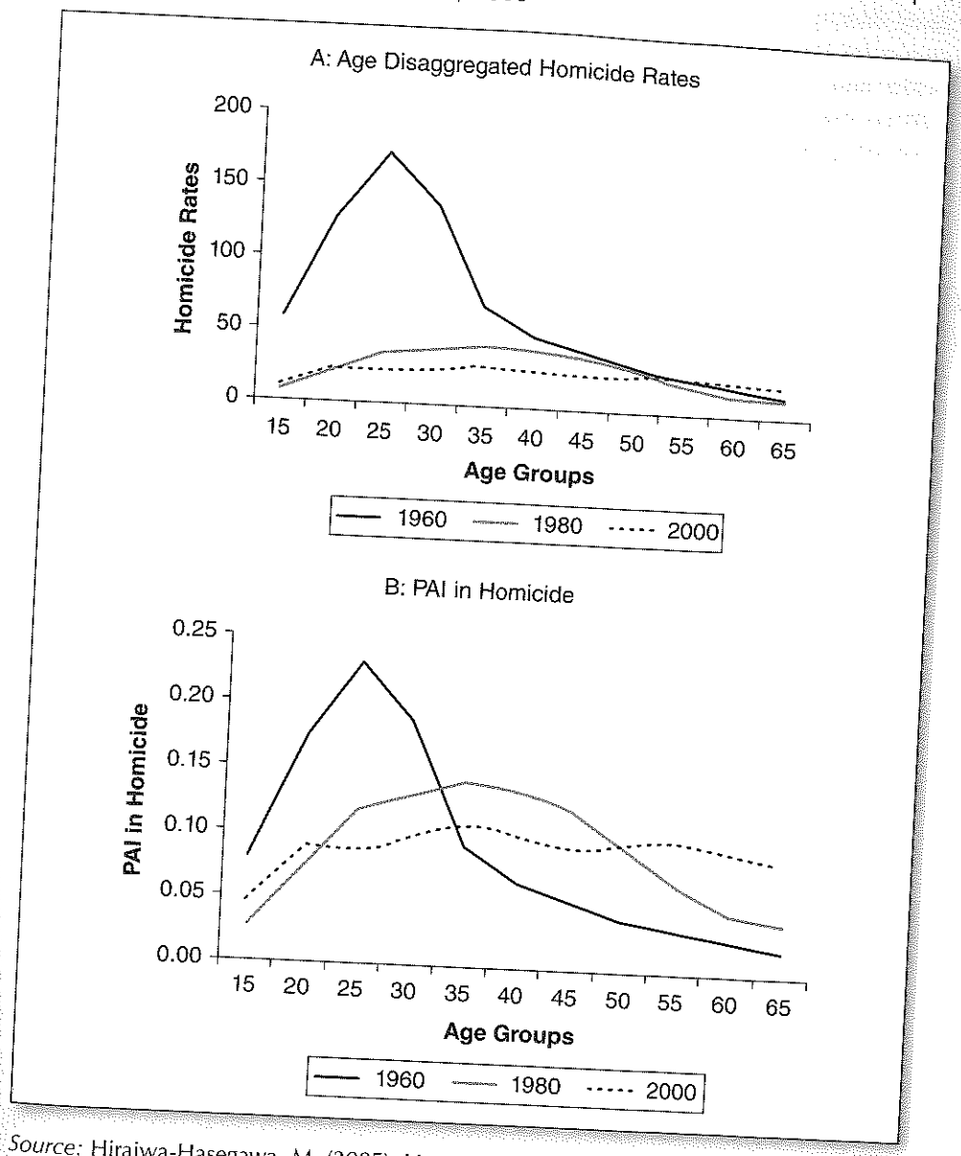
CROSS-NATIONAL VARIATION

International data can provide an intuitive and straightforward way to demonstrate the importance of social factors. If age differences in crime vary across countries, then this likely points to the importance of sociocultural factors. International variation also allows us to examine what kinds of countries have relatively larger or smaller age differences in crime, providing a sense of how macro-level societal factors influence the age-crime distribution. Again, this is not to say that biological factors are unimportant. International variation thus precludes a deterministic biological account, but may be compatible with social-biological interactions of various kinds.

Cross-national data on age and crime are mostly limited to homicide or total arrests. Global measures of arrests may be of suspect validity as indicators of serious crime, since they likely include minor offenses and because of considerable variability in reporting across jurisdictions or countries. Homicide statistics are likely a better (but far from perfect) measure, because it is the most reliable measure of crime. Notably, Kanazawa and Still (2000) argue that their evolutionary psychology theory of young male criminality applies most to serious and/or violent crime.

In his response to Hirschi and Gottfredson's (1983) invariance claim, Greenberg (1985) noted that in India in the 1980s, relatively few (3%) criminal arrests were of people under age 21, even though half the Indian population at that time was under 21. This contrasts sharply with the pattern in the United States and similar countries. An interesting example of recent evidence of cross-national variation in age-crime relationships comes from Japan. Figure 23.2 shows Japanese age disaggregated homicide rates and proportionate age involvement (PAI) in homicide for three decades, 1960, 1980, and 2000.

Figure 23.2 Age Disaggregated Homicide Rates and PAI in Homicide for Japan by Decade 1960, 1980, 2000



Source: Hiraiwa-Hasegawa, M. (2005). Homicide by men in Japan and its relationship to age, resources, and risk taking. *Evolution and Human Behavior, 26,* 332–343.

Several features of these data are impressive. First, the age curves for homicide in Japan change shape dramatically from 1960 to 1980 and 2000, because homicide rates among men in their 20s decreased drastically since 1960, when Japanese society was still disrupted by the aftermath of World War II (Hiraiwa-Hasegawa, 2005). The 1960 age-homicide curve, especially shown by the PAI (PAI = percentage age

involvement adjusting for age composition of Japan's population) figure, is much more sharply peaked, and much higher, than in the later decades. The age-homicide curves for 1980 and 2000 are much flatter, with more gradual increases, far shorter peaks, and slower declines compared to 1960. Second, in contrast to the recent U.S. pattern, none of the age-homicide curves peak in late adolescence or even in the early 20s. Rather, homicide peaked at 25 years of age in 1960 and around 35 in 1980 and 2000. Thus, Japanese homicide age curves not only show key differences with the United States, but differ within Japan across time.

Minority Differences in Dimensions of the Age-Crime Relationship[1]

For Black inner-city youths, the problems of youth described above are compounded by persistent racial discrimination and blocked conventional opportunity (W. J. Wilson, 1987, 1996). As inner-city Blacks move into young adulthood, they continue to experience limited access to high quality adult jobs and are more likely to associate primarily with same-sex peers. As UCR data show, adult offending levels among Blacks continue at higher levels than among Whites, and the proportion of total Black crime that is committed by Black adults is greater than the proportion of total White crime that is committed by White adults (Harris, Steffensmeier, Ulmer, & Painter-Davis, 2009; Steffensmeier & Allan, 2000).

Laub (1983) showed that the ratio of personal crimes in cities committed by White youth under 17 to those committed by Whites over 17 was 19.3, while this ratio for Blacks was 10.2. For rural areas, the ratio of personal crimes committed by White youth under 17 to Whites over 17 was 9.1, while for Blacks this ratio was 4.9. These findings also suggest a flatter age curve, and more criminal involvement at older ages, for African Americans.

VARIATION ACROSS CRIME TYPES

As mentioned above, there are notable differences in the age curves between specific offenses, such as the UCR index crime categories. Again, we refer readers to the interactive Bureau of Justice Statistics website (http://bjs.ojp.usdoj.gov/index.cfm?ty=datool&surl=/arrests/index.cfm#), where age curves can be interactively constructed for specific offenses for single years and across time.

Typically, the offenses that show the youngest peaks and sharpest declines are crimes that fit the low-yield, criminal mischief, "hell-raising" category: vandalism, petty theft, robbery, arson, auto theft, burglary, and liquor law and drug violations. Personal crimes like aggravated assault and homicide tend to have somewhat "older" age distributions (median ages in the late 20s), as do some of the public order offenses, public drunkenness, driving under the influence, and certain property crimes that juveniles have less opportunity to commit, like embezzlement, fraud, and gambling (median ages in late 20s or 30s). Furthermore, Laub and

Sampson (2003) find significantly differing age curves and peak ages for property (younger age peak), violent (age peaks in the mid-20s), and drug/alcohol (peak involvement in the mid-30s) crime types.

Those offenses with flatter age curves are often those for which the structure of illegitimate opportunities increases rather than disappears with age. For example, some opportunities for fraud exist for young people (such as falsification of identification to purchase alcohol or gain entry into "adult" establishments), but since they are too young to obtain credit, they lack the opportunities for common frauds such as passing bad checks, defrauding an innkeeper, or credit card forgery. Similarly, young people have more opportunities for some kinds of violence (e.g., street fights or gang violence) but less opportunity for other kinds of violence (e.g., spousal violence).

Older people may also shift to less visible criminal roles such as bookie, fence, or other criminal enterprise (Steffensmeier & Ulmer, 2005). Or as a spinoff of legitimate roles, they may commit surreptitious crimes, or crimes that, if discovered, are less likely to be reported to the authorities, such as workplace theft, embezzlement, stock fraud, bribery, or price-fixing. Unfortunately, we know relatively little about the age distribution of persons who commit these and related property crimes, but the fragmentary evidence that does exist suggests that they are likely to be in the 30s or older (Pennsylvania Crime Commission, 1991; Shapiro, 1984). Evidence also suggests that the age curves for lucrative crimes in the underworld like racketeering or loansharking not only peak much later but tend to decline more slowly with age (Steffensmeier & Allan, 2000; Steffensmeier & Ulmer, 2005). In addition, if offenders do not desist in early adulthood, they seem to be more likely to specialize in one category or niche of crimes.

Still less is known of the age distribution of "respectable" or upperworld offenders who commit lucrative business crimes, such as fraud, price-fixing, bribery, or official corruption. Data concerning these crimes are relatively scarce. However, data from *New York Times* articles on profitable business crimes (those involving gains of $25,000 or more) during the 1987–1990 period reveals a preponderance of middle-aged or older offenders, with a modal age between 40 and 50 (Steffensmeier & Allan, 2000). In addition, some research shows that white-collar offenders tend to begin offending and continue offending well into adulthood (see Benson, 2002; Steffensmeier, Schwartz, & Roche, 2013).

INDIVIDUAL VARIATION IN CRIMINAL INVOLVEMENT ACROSS AGES

The youthful peak and rapid drop-off in offending that constitutes the most common societal pattern for conventional crimes is actually but one of a number of patterns identified when criminal careers are tracked for individual offenders (see D'Unger, Land, McCall, & Nagin, 1998; Jolin & Gibbons, 1987; Nagin & Land, 1993). There is, in fact, a great deal of variability in criminal involvement over the life span (Laub & Sampson, 2003). In contrast to Hirschi and Gottfredson's claim

of invariance in the age-crime relationship, Nagin and Land (1993) and Nagin and Paternoster (2000) demonstrate discrete groups of offenders with differing age-crime curves.

There is some convincing evidence of substantial individual-level variation in the relationship between age and criminal involvement. Several studies have conducted latent class analyses of criminal careers, effectively examining individual variation in the patterning of age and criminal activity. For example, D'Unger et al.'s (1998) latent class analyses of data from several well-known birth cohort studies from London, Philadelphia, and Racine, Wisconsin, demonstrated four age-crime trajectory patterns in the London cohort and five in the Philadelphia and Racine cohorts. While some groupings of individuals displayed the familiar pattern of early or late adolescence onset and peak involvement in crime, two other groupings are noteworthy for their deviation from this pattern. Some individuals began involvement in crime in adolescence but continued offending (some at low rates, some at relatively high rates) into early adulthood and up to age 30. Another interesting group, called "late onset chronic offenders," did not begin offending until the late teen years, and then offended at high rates through their 20s, with involvement peaking in the late 20s and remaining high beyond age 30.

Laub and Sampson also subjected their data from the famous Glueck sample of delinquent boys to a latent class analysis. They found six types of individual age-crime trajectories for total crime, and five for property, violent, and drug/alcohol crime (see Laub & Sampson, 2003, pp. 104–106). Of particular interest were the 30% of the total crime sample that made up the "low," "moderate," and "high rate chronic" offenders, who offended well into middle adulthood (the 30s to early 40s), thus contradicting the typical and allegedly invariant age-crime pattern. Laub and Sampson (2003) characterize their findings from their latent class analysis this way: "The ultimate conclusion to be derived from these figures is that the age-crime relationship is *not* invariant for all offenders and offense types" (p. 104, emphasis in original). Another example of a latent class analysis showing variation in age-crime trajectories and transitions to adulthood comes from Massoglia and Uggen (2010), who identified multifaceted, socioeconomic, and problematic transitions to adulthood and patterns of desistence from crime. Those individuals displaying the multifaceted and socioeconomic transitions to adulthood desisted from crime and delinquency as they attained educational credentials, gained employment, and/or got married and had children. The problematic transition group was much more likely to persist in delinquency past adolescence and early adulthood because they failed to attain markers of conventional adult social status.

Our knowledge of individual variations in age patterns of criminal involvement is still incomplete. In addition, a lot of criminological research has focused rather myopically on the adolescence-young adulthood period, to the exclusion of later adulthood (Cullen, 2011). Thus, our knowledge base regarding the breadth, variation, and scope of criminal behavior in later adulthood is insufficient. According to Laub and Sampson (2003): "It is remarkable . . . how little agreement there is regarding the variability of the age-crime relationship for individual offenders. Moreover, little is known about the age-crime relationship over the full life course" (p. 17).

Social Dimensions of the Life Course

As we have seen, there is reason to question the notion that the age-crime relationship is truly invariant, at least in its specifics. At the least, there seems to us to be important variation within the broad pattern of youth crime and older desistence; variation across time periods, countries, races, offense types, and individual criminal involvement trajectories. This suggests that social factors remain relevant to explaining the age-crime relationship. Taking a life course approach, the rise in crime in adolescence to the edge of young adulthood, and crime's decline with age thereafter reflects both the biological process of aging as well as the roles, norms, and socially constructed perspectives that accompany aging (Siennick & Osgood, 2008). Greenberg (1985) put the argument this way:

> [I]t is not to deny the possibility that nonsocial causes may contribute to some part of the age distribution; this possibility has been acknowledged explicitly in sociological theorizing about the age distribution of crime. . . . It is to assert that a substantial part of the variation can be explained by familiar sociological concepts and to deny only that nonsocial factors such as biology are entirely responsible for it. (pp. 17–18)

Understanding how and why age affects crime from a social perspective is a complex matter, involving several dimensions of the life course and important social transitions (Siennick & Osgood, 2008). There are three main age patterns of crime to explain: (1) The rise in adolescence from the early through late teens—the extent of the rise may vary across societies, time, and for specific offense types because of social-cultural variation and the social structuring of criminal opportunities and costs; (2) the *sharp* decline in late adolescence or the edge of early adulthood—whether this sharp decline occurs and at what magnitude may vary across space, time, and crime types because of social-cultural factors; and (3) for the gradual decline with advancing age (e.g., post-30s)—as we have mentioned earlier, the general, broad form of the age-crime curve (crime committed more so by young people, and declining among older people) may be near-universal, but the point at which the gradual decline begins and the extent of the decline may vary across space, time, and crime.

Social-cultural explanations provide accounts for each of these age patterns, but they leave room for considerable variation in the particular shape and parameters of the age-crime relationship because it is affected by social structural and cultural factors. A variety of social and cognitive factors can help explain the rapid rise in age-specific rates of offending around mid-adolescence. An important study by Rowe and Tittle (1977) found that social integration, moral commitment, fear of sanctions, and utility of crime substantially explained, or mediated, the age-crime relationship for individuals. Teenagers generally lack strong bonds to conventional adult institutions, such as work and family (Warr, 1998). At the same time, teens are faced with strong potential rewards for offending: money, status, power, autonomy, identity claims, strong sensate experiences stemming from sex, natural

adrenaline highs or highs from illegal substances, and respect from similar peers (Steffensmeier et al., 1989; J. Q. Wilson & Herrenstein, 1985). Further, their dependent status as juveniles insulates teens from many of the social and legal costs of illegitimate activities, and their stage of cognitive development limits prudence concerning the consequences of their behavior. At the same time, they possess the physical prowess required to commit crimes. Finally, a certain amount of misbehavior is often seen as natural to youth and seen as simply a stage of growing up (Hagan et al., 1998; Jolin & Gibbons, 1987).

For those in late adolescence or early adulthood (roughly age 17–22, the age group showing the sharpest decline in arrest rates for many crimes), important changes occur in at least six spheres of life (see Greenberg, 1985; Laub & Sampson, 2003; Siennick & Osgood, 2008; Steffensmeier et al., 1989; Steffensmeier & Allan, 2000; Warr, 1998):

1. Greater access to legitimate sources of material goods and excitement: jobs, credit, alcohol, sex, and so on.
2. Patterns of illegitimate opportunities: with the assumption of adult roles, opportunities increase for crimes (e.g., gambling, fraud, and employee theft) that are less risky, more lucrative, or less likely to be reflected in official statistics.
3. Peer associations and lifestyle: reduced orientation to same-age/same-sex peers and increased orientation toward persons of the opposite sex or persons who are older or more mature.
4. Cognitive and analytical skill development leading to a gradual decline in egocentrism, hedonism, and sense of invincibility; becoming more concerned for others, more accepting of social values, more comfortable in social relations, and more concerned with the meaning of life and their place of things; and seeing their casual delinquencies of youth as childish or foolish.
5. Increased legal and social costs for deviant behavior.
6. Age-graded norms: externally, increased expectation of maturity and responsibility; internally, anticipation of assuming adult roles, coupled with reduced subjective acceptance of deviant roles and the threat they pose to entering adult status.

As young people move into adulthood or anticipate entering it, most find their bonds to conventional society strengthening, with expanded access to work or further education and increased interest in "settling down" and "acting like" or "being an adult" (Steffensmeier & Allan, 2000). Leaving high school, finding employment, going to college, enlisting in the military, and getting married all tend to increase informal social controls and integration into conventional society (Laub & Sampson, 2003). In addition, early adulthood typically involves a change in peer associations and lifestyle routines that diminish the opportunities for committing

these offenses (Benson, 2002; Warr, 1998). Furthermore, at the same time when informal sanctions for law violation are increasing, potential legal sanctions increase substantially.

"AGING OUT" OF CRIME

In adulthood and especially with advancing age (e.g., late 30s into middle age), one would expect crime to diminish. The pressures for conformity are robust and likely increase across the life span. These pressures change and/or increase rather abruptly compared to adolescence as adulthood role transitions truly begin, and then become ongoing and continuous with age.

A large body of research shows that desistence from crime or exiting a criminal career is typically tied to the acquisition of meaningful bonds to conventional adult individuals and institutions, such as work, marriage and family, and community institutions (see Benson, 2002; Giordano, Cernkovich, & Rudolph, 2002; Laub & Sampson, 2003; Sampson & Laub, 1993; Uggen, 2000; Warr, 1998; see reviews by Massoglia & Uggen, 2010; Siennick & Osgood, 2008; Steffensmeier & Allan, 2000). This is commonly accomplished as part of the transition from youth to adulthood. One key tie to the conventional order is a job that seems to have the potential for advancement and that is seen as meaningful and economically rewarding. A good job may shift a criminal's attention from the present to the future and may provide a solid basis for the construction of a noncriminal identity to which to aspire (Silver & Ulmer, 2012). It also alters an individual's daily routine in ways that make crime less likely (Meisenhelder, 1977; Shover, 1983, 1996). Marriage is another key adult social bond that fosters desistence (Laub, Nagin, & Sampson, 1998; Warr, 1998). Other bonds that may lead people away from crime include involvement in religion (see Johnson & Jang, 2012), sports, hobbies, or other conventional activities (Goldman, 1970; Steffensmeier & Ulmer, 2005).

In brief, then, several factors combine to foster declining criminal involvement with age, with several of those below being especially prominent for those in their 30s and 40s (see, for example, Shover, 1996). It is important to note that these factors below are likely to be accompanied by biological and psychological processes of aging involving a decline in strength and energy, and changing decision making.

1. Offenders gradually may learn that crime does not "pay," that gains from crime are typically small and not worth the risk or effort. In addition, increasingly severe criminal justice penalties for recidivists may finally make crime insufficiently rewarding. Aging offenders are more likely to view incarceration and legal sanctions as more serious threats, because they have more to lose than youthful offenders, and as they more fully realize that time is a diminishing and increasingly valuable resource (see Shover, 1983, 1996).

2. Individuals experience age-graded expectations and norms to "settle down" and "act your age." As offenders age, antisocial peer pressure may also diminish and be replaced by social disapproval at not "growing up."

3. As they age, offenders may lose suitable co-offenders as partners or accomplices are incarcerated, die, or turn out to be unreliable associates (see Steffensmeier & Ulmer, 2005).

4. Diminishing physical capabilities as one gets older (especially beyond the 30s and 40s) make crime too dangerous or less likely to succeed. Also, for offenders, the "wear and tear" of involvement in crime and the criminal lifestyle likely take their physical toll (Akerstrom, 1985). In addition, offenders tend to live fast and dangerously, and therefore are at greater risk of dying young or becoming physically incapacitated.

5. Age may be accompanied by a tempering of aspirations and goals due to cumulative life experience and "hard knocks." In addition, it may be that adjusting and responding to life experiences tends to weaken the attraction of the major reinforcements for criminal behavior, such as money, sex, status among criminal peers, excitement, and so on. This would especially be the case if legitimate sources of reward are available, as often is the case as individuals age.

Some of the points above regarding offenders who persist into adulthood bear elaboration. The development of conventional social bonds may be coupled with burnout or a belated deterrent effect as offenders grow tired of the hassles of repeated involvement with the criminal justice system and the hardships of a life of crime. They may also have experienced a long prison sentence that jolts them into quitting or that entails the loss of street contacts that makes the successful continuation of a criminal career difficult. Or offenders may develop a fear of dying alone in prison, especially since repeated convictions yield longer sentences. Still other offenders may quit or "slow down" as they find their abilities and efficiency declining with increasing age, loss of "nerve," or sustained narcotics or alcohol use (Adler & Adler, 1983; Prus & Sharper, 1977; Shover, 1983, 1996; Steffensmeier, 1986; Steffensmeier & Ulmer, 2005).

LEARNING FROM OLDER OFFENDERS

Of course, some offenders persist into their 30s, middle age, or perhaps beyond. Older, "career" criminals (not counting those with mental disorders or deficits) may provide important information about social processes, opportunities, and crime (Steffensmeier & Ulmer, 2005). That is, older offenders may be key examples of social influences at work. A great deal of what we know about older offenders comes from ethnographic research.

Older offenders typically fall into two categories: (1) those whose first criminal involvement occurs relatively late in life (particularly in shoplifting, homicide, and alcohol-related offenses) and (2) those who started crime at an early age and continue their involvement into their 40s and 50s and beyond. What evidence is available on first-time older offenders suggests that situational stress and lack of alternative opportunities play a primary role. The unanticipated loss of one's job or other disruptions of social ties can push some individuals into their first law violation at any age (Agnew, 1992; Jolin & Gibbons, 1987). Laub and Sampson's (2003)

quantitative and qualitative research on the later life courses of the men in the Glueck sample provides insight into the lives of later onset offenders as well as those who persist beyond young adulthood.

Older offenders who persist in crime are more likely to belong to the criminal underworld. These are individuals who are relatively successful in their criminal activities or who are extensively integrated into subcultural or family criminal enterprises. They seem to receive relational and psychic rewards (e.g., pride in their expertise) as well as monetary rewards from lawbreaking and consequently see no need to desist from lawbreaking (Klockars, 1974; Steffensmeier, 1986; Steffensmeier & Ulmer, 2005). Additionally, older persistent property offenders or those involved in the criminal underworld tend to be more criminally skilled than young offenders, tend to have greater criminal social capital, and tend to exhibit greater criminal specialization (Steffensmeier & Ulmer, 2005). Older offenders may be less likely to be caught when they break the law because they are more skilled than their younger counterparts and may be more likely to be in positions where they can commit crimes with greater "cover" or surreptitious crimes (such as switching from burglary to fencing and criminal enterprise: see Steffensmeier & Ulmer, 2005).

Alternatively, such offenders may "shift and oscillate" back and forth between conventionality and lawbreaking, depending on shifting life circumstances and situational inducements to offend (Adler, 1996; Adler & Adler, 1983; Akerstrom, 1985). These older offenders are also unlikely to see many meaningful opportunities for themselves in the conventional or law-abiding world. Consequently, "the straight life" may have little to offer successful criminals, who will be more likely to persist in their criminality for an extended period. But they, too, may slow down eventually as they grow tired of the cumulative aggravations and risks of criminal involvement, or as they encounter the diminishing capacities associated with the aging process.

Conclusion

Our approach in this chapter is *not* to define the age-crime issue as a simple dichotomy between genes and environment, nature and nurture, or biological and social processes. As sociologist Pierre Van den Bergh (1973) eloquently observed, human behavior is almost invariably the product of a complex interplay between at least three major classes of phenomena: our biology, our physical environment, and our social environment. Our biology is in good part genetically transmitted, but it is also modifiable through our physical and social environment. Our social environment is extraordinarily self-determined and modifiable compared to that of other species, but it is nevertheless subject to the constraints of both our biology and our physical environment (Van den Bergh, 1973).

Age is a consistent predictor of crime, both in the aggregate and for individuals. The most common finding across countries, groups, and historical periods shows that crime—especially "ordinary" or "street" crime—tends to be a young

persons' activity. However, there is strong reason to question whether the age-crime relationship is truly invariant except in a very broad sense. In fact, the age-crime curve appears to vary in its specific features according to crime types, the structural position of groups, and historical and cultural contexts. In our view, we should not regard the invariance of the age-crime relationship as "settled law." Furthermore, relatively little is known about older offenders in general (Cullen, 2011). Clearly, the structure, dynamics, and contexts of offending among older individuals is a rich topic for future research.

In sum, the social structuring of age-graded roles, opportunities, and resources strongly shapes the age patterning of crime. Aging is a biological process, to be sure, but the life course is a key part of social structure. The life course structures and is structured by society. And crime is an important component of the social structure of aging and the life course. As Steffensmeier and Allan (2000) stated: "To a large extent, variation in societal age-crime patterns reflect patterns of age-stratified inequality. Age is a potent mediator of inequality in both the legitimate and illegitimate opportunity structures of society" (p. 106).

In addition, consistency in the age-crime relationship does not, by definition, point to biological causes alone. There are social reasons to expect consistency in the patterning of age and crime. We agree with David Greenberg (1985), who put it this way:

> That involvement in crime diminishes to some extent with age in all societies for which we have information does not contradict the claim that the age distribution has a social origin. . . . It is probably true in all societies that adults have more of the good things in life (possessions, social status) than their juniors and thus have less to gain and more to lose from crime than youths. Adults also have more experience from which to assess the probable consequences of crime for their own well-being and may be more heavily penalized than youth. (p. 14)

If we want to understand age effects on crime, we cannot ignore either the human organism or his or her environment, physical or social. Empirical behavior is nearly always a complex blend of physical/biological and social factors. The relative causal weight of each set of factors will depend on what specific aspects of behavior we seek to understand. In our treatment of age effects on crime, we recognize the importance of both the biological and the social, but our main thrust has been on the social realm.

Note

1. Sex Differences in the Age-Crime Relationship: Although age-crime parameters differ as described above, there appears to be considerable similarity in the age-crime relationship between males and females (Steffensmeier & Streifel, 1991). UCR arrest statistics from 1940–2000 show that the age curves of male and female offenders are very similar within any given period and across all offenses, with the exception of prostitution. To the extent that age differences between the sexes exist, the tendency is for somewhat lower peak ages of offending among females—apparently because of their earlier physical maturity and the likelihood that young adolescent females might date and associate with older delinquent male peers. But overall, although male levels of offending are always higher than female levels at every age and for virtually all offenses, the female-to-male ratio remains fairly constant across the life span (Steffensmeier & Streifel, 1991). Also, the trend toward younger and more peaked age-crime distributions holds for both sexes.

References

Adler, P. (1996). *Wheeling and dealing: An ethnography of an upper level drug dealing and smuggling community.* New York, NY: Columbia University Press.

Adler, P., & Adler, P. (1983). Shifts and oscillations in deviant careers: The case of upper-level drug dealers and smugglers. *Social Problems, 31,* 195–207.

Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology, 39*(1), 47–87.

Akerstrom, M. (1985). *Crooks and squares: Lifestyles of thieves and addicts in comparison to conventional people.* New Brunswick, NJ: Transaction.

Archer, J., Graham-Kevan, N., & Davies, M. (2005). Testosterone and aggression: A reanalysis of Book, Starzyk, and Quinsey's (2001) study. *Aggression and Violent Behavior, 10,* 241–261.

Benson, M. (2002). *Crime and the life course.* Los Angeles, CA: Roxbury.

Briar, S., & Piliavin, I. (1965). Delinquency, situational inducements, and commitment to conformity. *Social Problems, 13,* 35–45.

Clausen, J. A. (1986). *The life course.* Englewood Cliffs, NJ: Prentice Hall.

Cohen, L., & Land, K. (1987). Age structure and crime. *American Sociological Review, 52,* 170–183.

Cullen, F. T. (2011). Beyond adolescence-limited criminology: Choosing our future. *Criminology, 49*(2), 287–330.

D'Unger, A., Land, K., McCall, P., & Nagin, D. (1998). How many latent classes of criminal careers? Results from mixed Poisson regression analyses. *American Journal of Sociology, 103*(6), 1593–1630.

Elliott, D. S., Huizinga, D., & Morse, B. (1986). Self-reported violent offending: A descriptive analysis of juvenile violent offenders and their offending careers. *Journal of Interpersonal Violence, 1,* 472–514.

Farrington, D. P., Loeber, R., & Howell, J. C. (2012). Young adult offenders: The need for more effective legislative options and justice processing. *Criminology and Public Policy, 11*(4), 729–750.

Federal Bureau of Investigation. (1935–1997). *Uniform Crime Report.* Washington, DC: Government Printing Office.

Friday, P. C., & Hage, J. (1976). Youth crime in postindustrial societies: An integrated perspective. *Criminology, 14,* 347–368.

Giordano, P., Cernkovich, S., & Rudolph, J. (2002). Gender, crime, and desistence: Toward a theory of cognitive transformation. *American Journal of Sociology, 107*(4), 990–1064.

Glaser, D. (1978). *Crime in our changing society.* New York, NY: Holt, Rinehart & Winston.

Gold, M. (1970). *Delinquent behavior in an American city.* Belmont, CA: Brooks/Cole.

Goldman, I. J. (1970). *Characteristics associated with recidivism: A study of youths discharged from treatment centers of the New York State Division for Youth.* Rensselaer, NY: New York State Office of Children and Family Services.

Greenberg, D. F. (1977). Delinquency and the age structure of society. *Contemporary Crisis, 1,* 66–86.

Greenberg, D. F. (1985). Age, crime, and social explanation. *American Journal of Sociology, 91*(1), 1–21.

Hagan, J. (1991). Destiny and drift: Subcultural preferences, status attainments, and the risks and rewards of youth. *American Sociological Review, 56,* 567–581.

Hagan, J., Heffler, G., Classen, G., Boehnke, K., & Merkens, H. (1998). Subterranean sources of subcultural delinquency beyond the American Dream. *Criminology, 36,* 309–342.

Halpern, C. T., Udry, J. R., Campbell, B., & Suchindran, C. (1994). Relationships between aggression and pubertal increases in testosterone: A panel analysis of adolescent males. *Social Biology, 40,* 8–24.

Harris, C. T., Steffensmeier, D., Ulmer, J. T., & Painter-Davis, N. (2009). Are Blacks and Hispanics disproportionately incarcerated relative to their arrests? Racial and ethnic disproportionality between arrest and incarceration. *Race and Social Problems, 1,* 187–199.

Hiraiwa-Hasegawa, M. (2005). Homicide by men in Japan and its relationship to age, resources, and risk taking. *Evolution and Human Behavior, 26,* 332–343.

Hirschi, T., & Gottfredson, M. (1983). Age and the explanation of crime. *American Journal of Sociology, 89,* 522–584.

Hirschi, T., & Gottfredson, M. (1990). Substantive positivism and the idea of crime. *Rationality and Society, 2,* 412–428.

Horan, P. M., & Hargis, P. G. (1991). Children's work and schooling in the late nineteenth-century family economy. *American Sociological Review, 56,* 583–596.

Johnson, B. R., & Jang, S. J. (2012). Crime and religion: Assessing the role of the faith factor. In R. Rosenfeld, K. Quinet, & C. Garcia (Eds.), *Contemporary issues in criminological theory and research: The role of social institutions* (pp. 117–151). Belmont, CA: Cengage-Wadsworth.

Jolin, A., & Gibbons, D. (1987). Age patterns in criminal involvement. *International Journal of Offender Therapy and Comparative Criminology, 31,* 237–260.

Kanazawa, S., & Still, M. C. (2000). Why men commit crimes (and why they desist). *Sociological Theory, 18,* 434–447.

Klockars, C. B. (1974). *The professional fence.* New York, NY: Free Press.

Laub, J. H. (1983). Urbanism, race, and crime. *Journal of Research in Crime and Delinquency, 20,* 183–198.

Laub, J. H., Nagin, D., & Sampson, R. (1998). Trajectories of change in criminal offending: Good marriages and the desistence process. *American Sociological Review, 63,* 225–238.

Laub, J. H., & Sampson, R. (2003). *Shared beginnings, divergent lives: Delinquent boys to age 70.* Cambridge, MA: Harvard University Press.

Massoglia, M., & Uggen, C. (2010). Settling down and aging out: Toward an interactionist theory of desistence and the transition to adulthood. *American Journal of Sociology, 116*(2), 543–582.

Meisenhelder, T. (1977). An exploratory study of exiting from criminal careers. *Criminology, 15,* 319–334.

Nagin, D., & Land, K. (1993). Age, criminal careers, and population heterogeneity: Specification and estimation of a nonparametric, mixed Poisson model. *Criminology, 31,* 327–362.

Nagin, D., & Paternoster, R. (2000). Population heterogeneity and state dependence: State of the evidence and directions for future research. *Journal of Quantitative Criminology, 16,* 117–144.

Nettler, G. (1978). *Explaining crime.* New York, NY: McGraw-Hill.

Pennsylvania Crime Commission. (1991). *1990 report—organized crime in America: A decade of change.* Commonwealth of Pennsylvania.

Prus, R. C., & Sharper, C. R. D. (1977). *Road hustler: The career contingencies of professional card and dice hustlers.* Lexington, MA: Lexington Books.

Quetelet, A. (1984). *Research on the propensity for crime at different ages* (S. Sylvester, Trans.). Cincinnati, OH: Anderson (Original work published 1831).

Rowe, A. R., & Tittle, C. (1977). Life cycle changes and criminal propensity. *The Sociological Quarterly, 18,* 223–236.

Sampson, R., & Laub, J. H. (1993). *Crime in the making: Pathways and turning points through life.* Cambridge, MA: Harvard University Press.

Shannon, L. (1988). *Criminal career continuity: Its social context.* New York, NY: Human Sciences Press.

Shapiro, S. (1984). *Wayward capitalists: Target of the Securities and Exchange Commission.* New Haven, CT: Yale University Press.

Shock, N. (1984). *Normal human aging: The Baltimore Longitudinal Study of Aging.* Washington, DC: Government Printing Office.

Shover, N. (1983). The later stages of ordinary property offender careers. *Social Problems, 30,* 208–218.

Shover, N. (1996). *Great pretenders: Pursuits and careers of persistent thieves.* Boulder, CO: Westview.

Siennick, S., & Osgood, D. W. (2008). A review of research on the impact on crime of transitions to adult roles. In A. M. Liberman (Ed.), *The long view of crime: A synthesis of longitudinal research* (pp. 161–187). New York, NY: Springer.

Silver, E., & Ulmer, J. T. (2012). Future selves and self-control motivation: Toward a conceptualization of the "self" in self-control theory. *Deviant Behavior, 33*(9), 699–714.

Steffensmeier, D. J. (1983). Organization properties and sex-segregation in the underworld: Building a sociological theory of sex differences in crime. *Social Forces, 61,* 1010–1032.

Steffensmeier, D. (1986). *The fence: In the shadow of two worlds.* Totowa, NJ: Rowman & Littlefield.

Steffensmeier, D. (1989). On the causes of "white-collar" crime: An assessment of Hirschi and Gottfredson's claims. *Criminology, 27,* 345–358.

Steffensmeier, D. (1999). Making sense of recent U.S. crime trends, 1980–98: Age composition effects and other explanations. *Journal of Research in Crime & Delinquency, 36,* 235–274.

Steffensmeier, D., & Allan, E. (2000). Criminal behavior: Gender and age. In J. Sheley (Ed.), *Criminology: A contemporary handbook* (pp. 83–114). New York, NY: Wadsworth.

Steffensmeier, D., Allan, E., Harer, M., & Streifel, C. (1989). Age and the distribution of crime. *American Journal of Sociology, 94,* 803–831.

Steffensmeier, D., & Harer, M. (1987). Did crime rise or fall during the Reagan presidency? The effects of an "aging" U.S. population on the nation's crime rate. *Journal of Research in Crime and Delinquency, 28,* 330–359.

Steffensmeier, D., & Harer, M. D. (1999). Making sense of recent US crime trends, 1980 to 1996/1998: Age composition effects and other explanations. *Journal of Research in crime and Delinquency, 36,* 235–274.

Steffensmeier, D., Schwartz, J., & Roche, M. (2013). Gender and corporate crime: Female involvement and gender gap in Enron-era corporate financial frauds. *American Sociological Review, 78*(3), 448–476.

Steffensmeier, D., & Streifel, C. (1991). Age, gender, and crime across three historical periods: 1935, 1960, and 1985. *Social Forces, 69,* 869–894.

Steffensmeier, D., & Ulmer, J. (2005). *Confessions of a dying thief: Understanding criminal careers and criminal enterprise.* New Brunswick, NJ: Transaction.

Steinberg, L. (2007). Risk taking in adolescence: New perspectives from brain and behavioral science. *Current Directions in Psychological Science, 16,* 55–59.

Tracey, P., Wolfgang, M., & Figlio, R. (1990). *Delinquency careers in two birth cohorts.* New York, NY: Plenum.

Uggen, C. (2000). Work as a turning point in the life course of criminals: A duration model of age, employment, and recidivism. *American Sociological Review, 65,* 529–546.

Van den Berghe, P. (1973). *Age and sex in human societies: A biosocial perspective.* Belmont, CA: Wadsworth.

Warr, M. (1998). Life-course transitions and desistance from crime. *Criminology, 36,* 183–216.

White, L. (1988). Gender differences in awareness of aging among married adults ages 20 to 60. *Sociological Quarterly, 29,* 487–502.

Wilson, J. Q., & Herrnstein, R. (1985). *Crime and human nature.* New York, NY: Simon & Schuster.

Wilson, W. J. (1987). *The truly disadvantaged.* Chicago, IL: University of Chicago Press.

Wilson, W. J. (1996). *When work disappears: The new world of the urban poor.* New York, NY: Knopf.

Yesalis, C. (2006). *Can steroids enhance athletic performance?* [Interview by R. Szivos.]. Retrieved from http://live.psu.edu/index.php?sec=vs&story=18511&pf

24

The Puzzling Relationship Between Age and Criminal Behavior

A Biosocial Critique of the Criminological Status Quo

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The age-crime curve is perhaps the best known yet least understood finding in the criminological literature (Shulman, Steinberg, & Piquero, 2013; Sweeten, Piquero, & Steinberg, 2013). The association has been a mainstay of criminological