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Crime Over the Life Course: The Empirical Implications of Three Theories

As noted in Chapter 1, this study focuses on several issues central to the continuity and discontinuity of the criminal careers of serious youthful offenders across the age span. This chapter focuses on the theoretical frameworks guiding this study and consists of four main sections. First, the general population heterogeneity, state dependence, and ‘mixed’ explanations of criminal behaviour will be described. The next three sections contain discussions of three specific theoretical perspectives (one from each framework): Gottfredson and Hirschi’s (1990) general theory of crime, Sampson and Laub’s (1993) age-graded theory of informal social control, and Moffitt’s dual taxonomy theory (1993). Attention will focus on how each theoretical perspective accounts for the processes of continuity and discontinuity in criminal offending patterns, the relationship between age and crime, and the relationship between past and subsequent criminal activity.

It is important to note at the outset that this study does not test the specific causal structures of a particular theory or set of theories, but rather it presents an empirical evaluation of the precise longitudinal implications of three leading criminological theories. Thus, this study is best viewed as providing evidence either supporting or refuting the direct empirical implications of each of these theoretical perspectives. To date, these implications have remained largely untested among the serious youthful offender population.

Population Heterogeneity and State Dependence

As indicated in Chapter 1, etiological explanations concerning continuity in criminal behaviour over time are broadly defined in terms of their basic presumption of either population heterogeneity

and/or state dependence processes. Heckman (1981a: 150) sharply describes the distinction between the two processes:

One [explanation] is that individuals who experience the event are altered by their experience in that the constraints, preferences, or prices (or any combination of the three) that govern future outcomes are altered by past outcomes. Such an effect of past outcomes is termed structural state dependence. A second explanation is that individuals differ in some unmeasured propensity to experience the event and this propensity is either stable over time, or if it changes, values of propensity are autocorrelated. Broadly defined, the second explanation is a consequence of population heterogeneity.

Drawing heavily on the ‘urn schemes’ analogies presented in Heckman (1981b) and Nagin and Paternoster (1991, 2000), this section explicates the basic principles of both the population heterogeneity and state dependence explanations as they pertain to crime.

To begin, assume that each individual in the population has an urn containing red and blue balls. The balls represent an individual’s propensity to engage in crime and pro-social activities, respectively. Over time, individuals pick balls (i.e. event trials) and replace the balls in the urn (i.e. sample with replacement). Further, allow a red ball to represent the commission of a crime, while a blue ball represents engaging in a conventional ‘pro-social’ activity. The proportion of red balls in an individual’s urn represents their criminal propensity. Thus, individuals with greater proportions of red balls in their urns have greater propensities to engage in criminal activities, whereas individuals with more blue balls have greater propensities to engage in ‘pro-social’ behaviors (Nagin and Paternoster 2000: 120).

**Population Heterogeneity**

Consider first the population heterogeneity urn scheme. According to this scheme, individuals are assigned urns, and the initial constellation of red balls to blue balls *varies across urns in the population*; in other words, there is population heterogeneity with respect to the mix of red and blue balls in individual urns. The critical assumption of the population heterogeneity argument is that for any given individual, once an urn is assigned, the proportion of red and blue balls is considered *fixed across time* or *time-invariant*. Individuals draw and replace balls over time,
but neither red nor blue balls are added to or extracted from a person’s urn.

Given the assumptions of sampling with replacement and the fixed nature of red and blue balls in any given urn, the odds of drawing a red ball or a blue ball never changes for each individual across the lifespan. Accordingly, some individuals in the population simply have a greater chance of drawing a red ball (because they have more red balls in their urn). Given the assumption of sampling with replacement, each draw from the urn is statistically independent of the prior draws in the sense that drawing a red ball does not increase (or decrease) the odds of drawing another red ball at the next draw. In retrospect, however, the knowledge of an individual’s past experience of drawing red balls will certainly be highly predictive of the odds of a future drawing of a red ball. For example, an individual who has never drawn a red ball will be unlikely to draw a red ball in the future. Conversely, an individual who has only picked red balls in the past is highly likely to continue picking red balls in future trials. Why is this so? According to the population heterogeneity perspective, the correlation between past and future draws is simply determined by the initial mix of red and blue balls in one’s urn.

As Nagin and Paternoster note (2000: 121), ‘the predictive power of past events is entirely due to the initial distribution of red and blue balls in the urn’ (emphasis in original). The observed correlation between past and subsequent criminal activity is deemed to be entirely due to the initial distribution of red balls in the urn. Since the probability of picking a red (or blue) ball is constant over time (i.e. from trial to trial), continuity in behavioral patterns (criminal or pro-social) is simply a consequence of the initial propensity to engage in those behaviors (i.e. the initial odds of drawing a red or blue ball). The correlation is not causal, but rather it simply (and spuriously) reflects the initial distribution of balls in the urns.

Under the assumption that it is not possible to see directly inside the urn to count the exact number of red and blue balls, past counts of red balls drawn can be used as an indicator of a given individual’s latent criminal propensity. Naturally, the greater the number of trials observed (i.e. the longer the length of follow-up period in a study of criminal behaviors), the more accurately one could measure the latent propensity variable.
State Dependence

Using the same urn analogy, the pure form of state dependence differs from the population heterogeneity explanation on two key assumptions. First, all individuals are initially assigned identical urns with the exact same number of red and blue balls. Second, while individuals still sample with replacement, under state dependence assumptions the number of red and blue balls is malleable over time. The critical assumption of the state dependence perspective is that the selection of a given ball results in the addition of one or more balls of the same color to the individual’s urn. Thus, if one selects a red ball, that drawn red ball is replaced and additional red balls are deposited in the individual’s urn. In other words, the commission of a criminal act (i.e. the selection of the red ball) is argued to causally increase the odds of future criminal acts as the additional red balls increase the proportion of red balls in the individual’s urn. The same process is assumed to occur for the selection of a blue ball; engaging in a conventional or pro-social activity is argued to increase the odds of future such activities.

Thus, the state dependence position views continuity in behavior as resulting from the fact that after the event of picking a ball of a given color, the odds of picking that color increase in the future because of the additional balls added to the urn. In other words, the proportion of red and blue balls is considered to vary over time and to be causally related to past events. Thus, the observed correlation between past and subsequent criminal activities is argued to be genuinely causal in nature rather than spuriously due to the initial distribution of red and blue balls. Thus, one can see why population heterogeneity theories are often referred to as static theories, while theories assuming a state dependence process are often referred to as dynamic theories (Paternoster et al. 1997). The key proposition of a state dependence theory, then, is that events have consequences, and those consequences can either increase or decrease the likelihood of future criminal behavior:

The state dependence position adopts the view that: (1) criminal behaviors may subsequently open up new opportunities for other criminal activities while closing off opportunities for noncrime, and (2) some noncriminal behaviors may subsequently open up opportunities for other noncriminal
behaviors while closing off criminal opportunities.

(Nagin and Paternoster 2000: 125)

In other words, criminal propensity can be significantly reduced over the life course by continued involvement or investment in pro-social activities (Nagin and Paternoster 1993, 1994).

**The Mixed Perspective**

While in their pure forms population heterogeneity and state dependence theories are diametrically opposed explanations, they are not mutually exclusive processes (Nagin and Paternoster 2000; Sampson and Laub 1997). That is, theories can both allow for population-level heterogeneity in the initial distribution of criminal propensity, while also allowing for consequences to result from engaging in criminal activity. As Sampson and Laub (1997: 155) state, ‘to assume that individual differences influence the choices one makes in life (which they certainly do), does not mean that social mechanisms emerging from those choices can then have no causal significance.’ Indeed there is a growing consensus in the field of criminology that persistent individual differences must be incorporated into any valid theoretical explanation of criminal behavior, since it has become clear that ‘there are persistent differences across individuals in the rates of offending over time’ (Land and Nagin 1996: 164). Whether those persistent differences are the ‘be all and end all’ of explaining crime and exactly how stable they are over time is a fundamental debate in criminology (Paternoster, Brame, and Farrington 2001).

In the next three sections, the theories of Gottfredson and Hirschi, Sampson and Laub, and Moffitt are discussed. A key distinction between each of these theories is in their different explanations of the stability of antisocial tendencies over the life course. The question of stability has direct implications for explaining the shape of the age–crime curve. Thus, particular attention is focused on each theory’s explanation of continuity in crime and its corresponding explanation of the age–crime relationship.

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1 Even though both Sampson and Laub’s (1993) age-graded informal social control theory and Moffitt’s dual taxonomy theory are conceptually distinct theories, each integrate elements of both population heterogeneity and state dependence propositions into their explanations.
Gottfredson and Hirschi’s General Theory of Crime

In their book, *A General Theory of Crime*, Gottfredson and Hirschi (1990) explicate their population heterogeneity theory centered around the notion of self-control. This theory has profound implications for sociological explanations of crime because it challenges the basic fundamental premisses of most sociological theories (Cohen and Vila 1996; Nagin and Paternoster 1994), and thus is highly deserving of both empirical testing and critical evaluation.

To begin, Gottfredson and Hirschi say that their theory is ‘meant to explain all crimes, at all times, and for that matter, many other forms of [risk-taking] behavior that are not sanctioned by the state’ (1990: 117), which is why they refer to their theory as a general theory of crime. Gottfredson and Hirschi place the concept of self-control as the centrepiece around which nearly every ‘fact’ of crime can be organized and explained, including continuity in crime, the age–crime relationship, the gap between male and female involvement in criminal activities, the disproportionate involvement of minorities in criminal activities, the role of peer groups, why prosocial activities are negatively correlated with criminal activity, and why criminal offenders tend to engage in a constellation of non-criminal yet similarly risk-taking behaviors that are ‘analogous to crime’ (e.g. alcoholism, drug abuse, smoking, excessive speeding in an automobile, automobile accidents, and promiscuous and unprotected sexual activity).

Crime versus Criminality

One of Gottfredson and Hirschi’s primary theoretical contributions is their argument for distinguishing between crime and criminality as a necessity for understanding the etiology of crime. They argue that the failure of positivistic etiological explanations to make this distinction renders most theories of crime seriously flawed in the conceptualization of their dependent variable (Gottfredson and Hirschi 1990: 144). In short, for Gottfredson and Hirschi, crime

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2 Wilson and Herrnstein (1985) have proposed another well-known population heterogeneity theory. Wilson and Herrnstein’s theory is more strongly rooted in the biological and constitutional determinants of criminal propensity, including the presence of a genetic predisposition (see Cohen 1987 for a brief review). Their theory has longitudinal implications similar to those of Gottfredson and Hirschi’s theory.
refers to the behavioral acts that people engage in, whereas criminality refers to the individual’s propensity to engage in crime.

To be consistent with the ‘characteristics of ordinary crimes’, Gottfredson and Hirschi define crime as ‘acts of force or fraud undertaken in the pursuit of self-interest’ (1990: 15–16). According to them, crimes are (1) simple behavioral acts that involve immediate gratification and satisfy ordinary and universal desires; (2) provide few long-term benefits to the actor and cause pain and suffering to the victim; and (3) are exciting, risk-taking behaviors that can be committed by every individual in society without specialized knowledge, training, or prior learning (Gottfredson and Hirschi 1990: 89).

While most criminological theories try to explain the ‘causes of crime’, they fail to clearly conceptualize their dependent variable. By distinguishing between crime and criminality, Gottfredson and Hirschi remove the confounding preoccupation with the ‘acts of crime’ from the real theoretical question of criminality—explaining the propensity of some individuals to engage in crime. This focus on the actor clearly sets the stage for the central mechanism they employ to explain criminality: self-control.

**Criminality and Self-Control**

To describe the type of individual most likely to repeatedly engage in behaviors fitting their definition of crime, Gottfredson and Hirschi offer a control theory. They posit (like all control theories) that people, in the absence of some ‘controlling’ force restraining or preventing them from satisfying their immediate desires, are free to commit crimes (Vold, Bernard, and Snipes 1998).

According to Gottfredson and Hirschi (1990: 90–1), individuals who repeatedly commit criminal acts ‘will tend to be impulsive, insensitive, physical (as opposed to mental), risk-taking, short-sighted, and nonverbal.’ The authors note that the above characteristics are the precise traits of individuals with low levels of self-control. Thus, their theory posits that the inclination to commit criminal acts in the pursuit of self-interest is a function of an individual’s lack of self-control. Importantly, they argue that those characteristics are positively correlated and tend to coalesce within certain individuals and to persist throughout the life course.

Stated succinctly, individuals are assumed to vary in their propensity to use force and fraud as a means of fulfilling their own
self-interests and/or obtaining resources; this varying propensity is what Gottfredson and Hirschi refer to as criminality. People have varying degrees of criminality because there is a population variation in the level of self-control. People with high levels of self-control have low levels of criminality, whereas individuals with low levels of self-control have high levels of criminality.

Again, the authors also argue that their theory explains not only criminal acts, but other ‘analogous’ behaviors as well (e.g. alcoholism, drug abuse, and automobile accidents). Individuals with low self-control tend to engage in a wide variety of risky acts consistent with the definition of ‘crime.’ Further, individuals with low self-control also have difficulty, for example, obtaining and keeping employment, maintaining friendships with spouses and others, completing educational endeavors, becoming effective parents, staying healthy, and keeping long-term financial commitments. In other words, low self-control does not enhance the quality (or longevity) of life and severely restricts the potential to have or build positive social relationships. As Gottfredson and Hirschi (1990: 96) argue, ‘Social life is not enhanced by low self-control and its consequences.’ If the propensity to engage in crime is a consequence of low self-control, the obvious question is: what are the causes of these varying levels of self-control? According to Gottfredson and Hirschi, levels of self-control arise largely from family teaching and child-rearing practices. Effective child rearing includes the following three components: (1) the parents must adequately monitor the child’s behavior; (2) deviant behavior must be recognized when it occurs; and (3) deviant behavior must be consistently and fairly punished when it is recognized (Gottfredson and Hirschi 1990: 97). These three external controls on the child’s behavior when employed consistently by effective parents eventually become internalized in the child through the process the authors call ‘socialization.’ Effective socialization develops the abilities to delay gratification, empathize with others, and to sacrifice personal needs for the well-being of others. In the absence of effective parenting/socialization, individuals fail to develop the self-restraint necessary to resist pursuing one’s self-interest in the easiest, quickest manner possible; or as Gottfredson and Hirschi (1990: 88) pointedly state, ‘money without work, sex without courtship, revenge without court delays.’

Considering both the concepts of crime and criminality together, Gottfredson and Hirschi claim to have produced an internally
consistent argument by making their conception of crime congruent with their conception of criminality: ‘people who commit crimes are assumed to possess traits that reflect the nature of those acts’ (Barlow 1991: 233). However, this internally consistent result has been criticized as tautological because their conception of low self-control is defined by the very behaviors assumed to be indicators of low self-control. For example, Akers (1991) argues that until measures of self-control are operationalized independent of the behaviors said to reflect low self-control, the theory will remain tautological. In their defense of this criticism, Gottfredson and Hirschi (1993: 52–3) retort, ‘the charge of tautology is in fact a compliment; an assertion that we followed the path of logic in producing an internally consistent result’ and that non-tautological theories will produce definitions of crime and criminality that are ‘independent of one another.’

**Explaining Continuity and Discontinuity in Crime**

A crucial proposition of Gottfredson and Hirschi is that criminal propensity is set very early in life (generally by around the age of 8), and that the degree of self-control instilled at that point will remain relatively stable throughout the remainder of the life course. From their perspective, the failure of socialization processes to instill adequate levels of self-control is extremely difficult to overcome in later life, and, similarly, high levels of self-control, once attained, cannot be easily unravelled. The authors clearly favor the position that it is easier to initially instill higher levels of self-control than it is to change the amount of self-control already instilled, and thus they ultimately contend that criminality is largely determined and intractable by around the age of 8 (Gottfredson and Hirschi 1990: 106–8). They do, however, admit that an individual’s level of self-control is somewhat flexible over time. They attempt to reconcile the discrepancy between the notion of self-control (criminal propensity) as a time-stable trait, on the one hand, and allowing for the possibility of it changing over time, on the other hand, in two ways. First, Gottfredson and Hirschi assert that changing from lower to higher levels of self-control is perhaps possible, but extremely unlikely because the pre-existing low level of self-control and all of its consequences essentially overwhelm the odds of such change. Second, Gottfredson and Hirschi (1990: 107) argue that while ‘socialization continues to occur throughout life’ for everyone in the
population, the relative position one occupies on the self-control distribution scale in the population continues to remain stable throughout life. In other words, they assume that while socialization may continue throughout the life course, ‘the rate at which socialization continues to occur is approximately the same for everyone’ (Nagin and Paternoster 2000: 122).

In sum, the relative positions of individuals with respect to the distribution of self-control present in the population at approximately the age of 8 will be equal to the relative distribution of criminality present in the population at age 20, age 30, age 40, and so on. In the words of Gottfredson and Hirschi (1990: 107), ‘differences between people in the likelihood that they will commit criminal acts persists over time.’ Barlow (1991: 235) refers to this as the ‘stability postulate.’

It is important to point out that Gottfredson and Hirschi’s argument of time-invariant individual differences in criminal propensity after age 8 essentially discredits nearly all modern positivistic theories of crime from the disciplines of psychology, economics, and sociology. If that assumption is true, then experiences in later childhood, adolescence, and adulthood are essentially irrelevant to crime causation, and an individual’s educational, economic, social, and psychological experiences are immaterial to explaining criminal involvement (Nagin and Paternoster 1994). Moreover, Gottfredson and Hirschi argue that all of those experiences are, in fact, determined by initial levels of self-control and thus none will have any effect on criminal behavior after one controls for this initial level of self-control. Thus, they argue that individuals self-select such conventional experiences, meaning that they will select or choose educational, economic, and social experiences that are entirely consistent with their level of self-control (Benson 2002).

For example, individuals with low self-control are uncomfortable in structured environments and do not perform well in school or traditional jobs that involve rote tasks. As a result, individuals with low self-control tend to do poorly in school and conventional work.

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3 It is worth noting that Gottfredson and Hirschi’s conceptualization of economic theories of crime (e.g. Beccaria 1963; Becker 1968) as ‘positivistic’ appears to be at serious odds with the main theoretical propositions of positivistic criminology (see e.g. Cohen and Land 1987; Jeffrey 1972; Vold, Bernard, and Snipes 1998) and stands in contrast with their earlier descriptions of economic theories of crime as distinct from positivistic theories (Gottfredson and Hirschi 1987b).
environments, often leave school before graduating and are unable to retain employment, and search for alternative environments that do not advocate following rules or being punctual, orderly, attentive, and quiet for extended periods of time. Parallel arguments are made by Gottfredson and Hirschi for the inverse correlation between criminal activity and the variables of marital stability and parental investment. The negative but significant correlations between crime and these events/experiences are entirely spurious and due to a lack of self-control itself. Thus, from Gottfredson and Hirschi’s perspective, individuals with low levels of self-control self-select or sort themselves over the life course into life experiences and choices (crime, non-marriage or bad marriages, ineffective parenting, high unemployment, low educational attainment, and frequent drug and alcohol abuse) that are consistent with their deficient level of this underlying characteristic or latent trait (Nagin and Paternoster 2000).

**Explaining the Age–Crime Curve**

If the propensity to engage in criminal activity is constant throughout life, how can Gottfredson and Hirschi explain the shape of the age–crime curve, especially the apparent sharp decline in crime after late adolescence? To get around such seeming incongruity, they draw on their initial distinction of crime and criminality and argue that criminality only predisposes people to engage in crime in the face of available criminal opportunities. In the absence of opportunities, criminal propensity is just that, criminal propensity. Individuals with high degrees of self-control will rarely commit crimes, even in the presence of opportunities, whereas individuals with low self-control will use force or fraud to pursue their own self-interest at a relatively high rate in the face of such opportunities to do so. The implication of their argument is that because of age roles, structural factors, and perhaps even biological processes, the opportunities to commit criminal acts tend to decline with age. Thus, since criminal propensity remains fixed across time, the authors clearly rely on a host of different social forces that lead to a ‘reduction in exposure to criminal opportunities, that, on average, decline as activity patterns change with age’, to explain the age–crime relationship (Cohen and Vila 1996: 131). It has been argued that Gottfredson and Hirschi are not exactly as clear as they could be on this topic (Cohen and Vila 1996; Tittle 1995).
For the purposes of this study, though, Gottfredson and Hirschi’s critical argument concerns ‘age invariance’ and its longitudinal implications. Their age-invariance argument, originally presented in their *American Journal of Sociology* article ‘Age, Crime, and Social Explanation’ (Hirschi and Gottfredson 1983), posits that the relationship between age and crime is ‘inherent, invariant, and inexplicable’ (Tittle and Grasmick 1998: 309). They claim that whether one uses self-report offense data or official police or court records of arrest, the data suggest that all people, everywhere, and within any historical period, tend to commit fewer crimes as they age. The authors argue that if the relationship between age and crime is invariant and *all* individuals commit fewer crimes as they age, then age is actually irrelevant to the study of crime and no sociological, psychological, or economic variables that covary with age (e.g. employment, marriage) can explain this ‘age effect’ (Greenberg 1985; Tittle and Grasmick 1998).

Because this is such a controversial argument, with far-reaching implications for both the explanation of and the proper methods for the study of crime, we consider their argument in further detail here. The authors have made it clear in several expositions of the invariance argument (Gottfredson and Hirschi 1986, 1987a, 1990; Hirschi and Gottfredson 1983, 1985, 1988) that they believe the shape of the age–crime curve is relatively robust across persons, groups, cultures, and time periods. All sources of data suggest that individuals will have their greatest involvement in criminal activity during the late adolescent years of life and offending will decline thereafter. The implication of this argument is that even individuals with vastly different life circumstances and experiences will have similarly shaped age–crime curves across the life course (Greenberg 1985). However, Greenberg (1985: 8) notes that if the age–crime curve results from the effects of social processes that develop with age, then those processes should affect ‘different groups differently, breaking the uniformity of the relationship between age and crime across groups.’ Gottfredson and Hirschi assert, however, that crime declines regardless of whether individuals experience such events as employment, completion of schooling, and marriage, an argument that directly counters the explanations of life-course researchers such as Sampson and Laub (1993) and Marxist-oriented criminologists such as Greenberg (1985).

Again, we reiterate that the key implication of Gottfredson and Hirschi’s invariance argument that we are concerned with here is
that the *differences between individuals are said to persist over time*. Both the relative differences of criminal propensity (criminality) and relative group differences in criminal offending (crime) should endure throughout life. Group differences in criminal offending histories reflect ‘no more than group variation in the propensity to commit offenses at any point in the life course’ (Shavit and Rattner 1988: 1459). Thus, the only explanation needed is why some individuals/groups have higher rates of involvement in crime at any given point in time compared to other individuals or groups. For Gottfredson and Hirschi, of course, this pattern is due to the different levels of self-control distributed throughout the population. Tittle and Grasmick (1998: 314) provide an excellent summary of the invariance argument of Gottfredson and Hirschi on this point: ‘variations in criminal behavior between those with different degrees of self-control at any age will be similar to such differences at any other age, even though the absolute amount of crime by everybody changes over the life cycle in conformity with the inverted-J curve.’

The implications of the age-invariance argument are profound and far-reaching. If the relationship between age and crime is invariant and between-group differences that exist at one point in the age–crime curve continue to exist at any other point in the age–crime curve, then only a single time point is necessary to measure the criminality of any group. To quote Gottfredson and Hirschi (1987a: 592), ‘if there is continuity over the life course in criminal activity (or its absence), it is unnecessary to follow people over time.’ Following individuals across time merely provides redundant information (available at any point in cross-section) at a hefty price because longitudinal research is vastly more expensive to conduct than is cross-sectional research (Gottfredson and Hirschi 1987a).4

If Gottfredson and Hirschi are wrong, however, and there are different criminal offending trajectories in the population that do not follow the overall aggregate age–crime curve, then it is

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4 Sampson (1992: 546) critiques Gottfredson and Hirschi’s argument that longitudinal data provide no empirical benefits to the study of crime (over cross-sectional research designs) and thus wastes research money. Sampson contends that ‘such data are necessary to verify the core assertions of their theory regarding stability and the lack of change across the life course.’
absolutely necessary for researchers to follow individuals over time to determine not only the actual empirical shape of their crime trajectories, but also if any events or experiences help explain the different trajectory shapes. If crime is a social event that takes on different meanings across the life course, then it is necessary to study trajectories of criminal offending as dynamic processes that unfold over time, with a particular emphasis on whether trajectories of crime are linked or interrelated with trajectories in other social, economic, psychological, and perhaps even biological domains of life (Benson 2002; Greenberg 1985; Hagan and Palloni 1988).

Explaining the Relationship of Past to Subsequent Criminal Activity

This discussion of Gottfredson and Hirschi’s self-control theory concludes by describing their position on the relationship of past to subsequent criminal activity. Recall that their self-control theory uses a population heterogeneity argument in which they argue that the correlation between past and subsequent criminal activity is merely a spurious correlation due to an unmeasured (omitted) variable—level of criminal propensity. It is a classic ‘variant of the familiar “omitted variable” bias argument’ (Nagin and Paternoster 1991: 166). In their view, individuals with high criminal propensity tend to commit crimes very frequently, including at adjacent ages and/or time periods, while individuals with very low criminal propensity rarely commit criminal offenses. Thus, there will naturally be a high correlation between criminal offending measured at two different time points. The high correlation, however, is argued to arise from the unmeasured variable denoting the level of criminal propensity. If the authors’ argument is correct, then including a variable to measure criminal propensity in an equation should eliminate the significant relationship between past and subsequent criminal offending. According to Gottfredson and Hirschi (1987a: 594), ‘subsequent delinquency cannot be predicted among groups homogeneous on current delinquency.’ Their assumption that criminal propensity is time-invariant is absolutely critical to their argument, for ‘if they were not enduring, the [population heterogeneity] theories could not explain the positive association of past to subsequent criminality’ (Nagin and Farrington 1992a: 237).
Sampson and Laub’s Age-Graded Social Control Theory

In contrast to Gottfredson and Hirschi, Sampson and Laub (1993) present an age-graded theory of informal social control that focuses on the changing/malleable strength of social bonds over the life course. Their theory draws heavily on the main principles of the life-course perspective in sociology (Elder 1985; Riley 1986). Before proceeding to a discussion of their theory, we first present a brief theoretical backdrop describing the life-course perspective.

The Life-Course Perspective

The life-course perspective is both a conceptual and a theoretical perspective (Elder 1992). As a theoretical perspective, the life course is ‘a theoretical orientation for the study of human development that incorporates temporal, contextual, and processual distinctions’ (Elder 1996: 31). As a concept, the life course refers to ‘the interdependence of age-graded trajectories, such as work and family, that are subject to changing conditions in the larger world, and to short-term transitions, ranging from birth to school entry to retirement’ (Elder 1996: 35). The life-course perspective envisions aging and development as a process that continues throughout life (Riley 1986).

Two key theoretical concepts of the life-course perspective are trajectories and transitions. A trajectory is a longitudinal pathway of linked states within a major domain of life (e.g. social, psychological, or biological states) (Benson 2002; Elder 1985; Sampson and Laub 1993). For example, individuals have educational trajectories, marital trajectories, physical and mental health trajectories, criminal offending trajectories, and employment trajectories, to name just a few. Trajectories are long-term patterns of behavior that often exhibit both change and stability, depending on whether they are interrupted by transitions (Sampson and Laub 1990).

Transitions are life events that represent discrete changes of state; they evolve over shorter periods of time and are embedded in trajectories (Elder 1985; Sampson and Laub 1990, 1992, 1993). Some examples of transitions include graduating from high school, getting married, or obtaining a job. Some transitions act as ‘turning points’ because they serve to redirect or change the course of the trajectory (Elder 1985; Sampson and Laub 1993). The long-term
view of trajectories implies a strong connection (i.e. continuity) between behaviors in childhood and adolescence, and between behaviors in adolescence and adulthood, but the short-term view implies that trajectories can be modified by transitions and even redirected by turning points (Laub et al. 1995).

One of the central premisses of the life-course perspective is that trajectories in different domains of life tend to be interconnected because of the ‘interplay’ of trajectories: changes or transitions in one domain of life are often associated with changes in other domains. In other words, trajectories can have reciprocal effects on one another (Elder 1985). Indeed, it is this interlocking nature of trajectories that allows for change. Other key premisses or themes of the life-course perspective include the idea that aging and development cannot be separated from the historical time and place in which it occurs, also known as the principle of contextualism (Dannefer 1984; Elder and O’Rand 1995), that the timing of events or the age at which the events occur is crucial for determining the effects of those events on individuals (the life-stage principle), and that our lives are linked or embedded in the lives of individuals around us (the linked-lives principle) (Elder 1985, 1996). Clearly, those who study the life course consider the acquisition of longitudinal data as imperative to any research design.

In the criminological literature, the life-course perspective is considered one branch of what has become known as ‘developmental criminology’ (Vold, Bernard, and Snipes 1998). The term ‘developmental criminology’ refers to ‘within-individual changes in offending’ and a major interest of this theoretical paradigm is the documentation and explanation of longitudinally dynamic patterns of offending from childhood through adulthood (LeBlanc and Loeber 1998: 117). According to Loeber and Stouthamer-Loeber (1996), there are three main goals of developmental criminology: (1) describing within-individual changes in offending patterns over the life course; (2) developing etiological explanations of the longitudinal patterns of offending; and (3) examining the impact of transitions on patterns of offending. On the basis of these three goals, Sampson and Laub’s theory definitely qualifies as a developmental theory, for it focuses precisely on these three goals.

embarked on this theoretical exposition to move criminologists past their preoccupation with adolescence by demonstrating the importance of explaining variation in criminal behavior over the entire life course. As Sampson and Laub note, they were interested in bringing ‘both childhood and adulthood back into the criminological picture’ (1993: 7) because sociological criminology ‘has not come to grips with the link between early childhood behaviors and later adult outcomes’ (Sampson and Laub 1990: 609). It was of special concern to Sampson and Laub to confront and reconcile the ‘paradox of persistence’ phenomenon discussed in Chapter 1.

**Varying Informal Social Control over the Life Course**

Sampson and Laub (like Gottfredson and Hirschi) posit a control theory that assumes people will normally often commit crimes in the absence of some ‘controlling’ force that restrains or prevents them from engaging in these acts to satisfy their desires. It is the source or locus of the ‘controlling’ force that is the quintessential difference between the two theories. To Gottfredson and Hirschi, the locus of the constraining force is a time-invariant internalized force (self-control) that is fixed after early childhood, whereas for Sampson and Laub, the constraining forces (informal social controls) dynamically vary across the life course. Sampson and Laub argue that crime is more likely to occur when an individual’s bond to society is weak or broken and, ironically, their theory draws heavily on Hirschi’s (1969) classic ‘social bond’ theory. According to Hirschi (1969: 16), ‘delinquent acts result when an individual’s bond to society is weak or broken.’ The bond is comprised of various attachments, commitments, involvements, and beliefs that when present constrain the individual from attempting to satisfy desires, wants, and needs through illegal means. Although Hirschi’s theory was originally constructed in static terms, Sampson and Laub provide a dynamic interpretation of the theory that allows the strength of social bonds to vary over time (Sampson and Laub 1997). Such a dynamic conceptualization of changing social bonds over individual lifetimes fits perfectly with the life-course perspective.

Utilizing the life-course perspective then, Sampson and Laub differentiate the life course by age or life stages and argue that the critical institutions of formal and (especially) informal social control vary across these stages. To Sampson and Laub, the key explanation of differential crime patterns across the life course is
the varying amount of informal social control present in childhood, adolescence, and adulthood. Over the life course, the key institutions responsible for varying levels of social control are:

- family, school, and peer groups in childhood and adolescence;
- higher education, vocational training, work, and marriage in young adulthood;
- work, marriage, parenthood, military service, and investment in the community in subsequent adulthood (Sampson and Laub 1990).

More importantly, Sampson and Laub emphasize the ‘role of age-graded informal social control as reflected in the structure of interpersonal bonds linking members of society to one another and to wider social institutions (e.g. work, family, school)’ (Laub et al. 1995: 93). Like Durkheim ([1897] 1951), Sampson and Laub define social control as the ability of a social group to regulate the behaviors of its members according to its accepted norms and values. Their crucial argument is that the most important sources of social control are actually the informal social bonds that emerge out of or from role relationships established for purposes other than social control. Thus, it is not the variability of age-graded social institutions themselves that serves to induce conformity, but rather it is the informal, interpersonal bonds between people that serve to link individuals to those institutions; informal social control is not maintained merely by having a teacher, parent, spouse, or child present.

The theory of Sampson and Laub thus highlights the quality of interpersonal relations between individuals (e.g. parent–child, student–teacher, and husband–wife) as a form of social investment or social capital (Coleman 1988, 1990), which is created when relationships of interdependence serve to facilitate action and provide social and psychological resources for those individuals to utilize (Laub et al. 1995). There are two critical points associated with the ‘social investment’ argument of Sampson and Laub.5 First, it is not simply the occurrence of an event (e.g. getting married or

5 Nagin and Paternoster (1993, 1994) make a similar theoretical argument in their discussion of personal capital and personal control. They argue that the social bond is a developmental ‘investment’ process whereby individuals who make investments in personal capital are, other things being equal, less likely to engage in criminal behavior because of their stake in conformity. Nagin and Paternoster note that
obtaining a job) per se that serves to reduce the likelihood of crime and deviance, but rather it is the strength of interpersonal ties in the relationship that dictates the negative, neutral, or positive benefits of the relationship (Laub, Nagin, and Sampson 1998; Sampson and Laub 1990, 1997). Although turning points are frequently envisioned as positive events, negative turning points can redirect a trajectory onto an even more ‘maladaptive path’ (Rutter and Rutter 1993: 244; Sampson and Laub 1997). For example, a male adult criminal who marries a female and has an unstable, conflict-riddled marriage may actually increase his rate of criminal activity. Second, because social capital is an investment process that develops over time, it is expected that the effects of the investment will also be gradual and accumulate over time. Thus, desistence from criminal activity is better viewed as a developmental process whereby one gradually reduces involvement in criminal and deviant activities over time, rather than ‘going cold turkey’ (Laub and Sampson 2001; see also Bushway et al. 2001; Nagin and Paternoster 1994).

Sampson and Laub’s theory of informal social control rests on three main themes (Laub et al. 1995; Sampson and Laub 1993). First, informal social controls derived through the social bonds to family and school inhibit delinquent activity during childhood and adolescence, and these two social control mechanisms mediate the effects of background structural (e.g. poverty) and individual factors (e.g. family disruption). During childhood, informal social control largely derives from family processes: monitoring and supervising behavior, consistent application of discipline, and attachment between the parent and child. During the adolescent years, schools are added to the list of important social institutions, as well as peer groups and the juvenile justice system.

Second, Sampson and Laub stress the importance of continuity in behavioral tendencies over the life course. Antisocial behavior during childhood and adolescence predicts negative adult outcomes individuals differ with respect to their inclination to make investments in other persons, institutions, and conventional activities, or in the words of the authors, individuals differ in their ‘discount rate’ (i.e. how they weight present consumption versus future consumption). Yet, the authors argue (and found support for in their study of college students) that even individuals with high discount rates can benefit (in terms of reduced criminal activity) by making investments in their social capital (which they call personal capital). This argument is congruent with the argument of Sampson and Laub.
in a variety of life domains (e.g. adult crime, incarceration, frequent unemployment, and marital instability). Third, even in the presence of a pattern of stability in behavior across time, salient life events (turning points) associated with social ties to the adult institutions of informal social control (attachment to the labor force, cohesive marriage, military service) can serve to modify or redirect trajectories of criminal offending, regardless of prior individual differences with respect to criminal propensity. Stated more pointedly, ‘childhood pathways to crime and deviance can be significantly modified over the life course by adult social bonds’ (Sampson and Laub 1990: 611).

**Explaining Continuity and Discontinuity in Crime**

According to Sampson and Laub, continuity and discontinuity are the result of two processes. First, they agree with Gottfredson and Hirschi that there are individual differences with respect to criminal propensity and that the self-selection argument cannot simply be dismissed. Thus, Sampson and Laub do agree that part of the observed patterns of continuity in criminal behavior results from persistent individual differences in criminal propensity and that low self-control tends to be relatively stable for periods of time (Laub and Sampson 1993: 306; Sampson and Laub 1997: 155). However, they completely disagree with Gottfredson and Hirschi that persistent individual differences rooted in early childhood are the end of the story. They take exception with Gottfredson and Hirschi’s assertion that individual differences in crime propensity persist over time and that social processes and experiences during adolescence and adulthood have no ability to alter patterns of criminal behavior. Rather, Sampson and Laub argue in support of a process of state dependence, which for better or for worse is also responsible for patterns of both continuity and change in crime. This is why their theory is best described as a ‘mixed’ theory, allowing for both population heterogeneity and state dependence effects (Nagin and Paternoster 2000).⁶

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⁶ To make this point more emphatic, consider the following quote of Laub and Sampson (1993: 306): ‘the cumulative continuity of disadvantage is thus not only a result of stable individual difference in criminal propensity, but a dynamic process whereby childhood antisocial behavior and adolescent delinquency foster adult crime through the severance of adult social bonds’ (see Bernberg and Krohn 2003 for a recent empirical examination of this issue).
To start, Sampson and Laub (1992: 73; 1993: 21) argue that levels of criminal propensity can change over time as a direct consequence of life events and social processes that modify the strength of one’s social bonds. Of course, state dependence is a ‘double-edged sword’ that can serve to either reduce or increase the strength of one’s social bonds, and which thus could either increase or decrease the likelihood of future participation in crime and deviance. They posit that criminal involvement at any point in time can weaken or sever the social bond through a process known as *cumulative continuity* (Caspi *et al.* 1993; Sampson and Laub 1993). Cumulative continuity refers to the process whereby the consequences of behavior at one point in time serve to directly influence both opportunities and behavioral choices at later points in time. ‘Cumulative continuity is generated by the negative structural consequences of delinquency for life chances’ (Sampson and Laub 1993: 124). From Sampson and Laub’s (1997) viewpoint, social processes that result from criminal activity, including negative labelling effects, tend to channel individual traits such that people with low self-control often have a diminishing social bond to the social order as a direct *consequence* of criminal activity. Criminal behavior early in life tends to evoke repressive social responses that serve to further weaken the individual’s social bond and make future crime and deviance more likely (Sampson and Laub 1997: 144, 154).

In other words, there is a ‘closing down’ of future conventional opportunities or ‘closed doors’ that leave fewer options for a conventional life (Caspi and Moffitt 1993; Moffitt 1993). As Laub and Sampson (1993: 306) note, ‘delinquency incrementally mortgages the future by generating negative consequences for the life chances of stigmatized and institutionalized youths.’ Over time, the effects of cumulative continuity build into a process known as *cumulative disadvantage* (Dannefer 1987) such that escape from the criminal lifestyle becomes increasingly more difficult.

Yet, Sampson and Laub point out that even though the process of cumulative continuity (state dependence) encourages continuity in behavior, change can and frequently does occur because things can get better (even for persistent chronic offenders), just as they can get worse (Nagin and Paternoster 2000). Thus, they contend that desistance from crime can occur to the degree that there is a positive shift in the social bond between a repeat offender and the sources
of informal social control, which in adulthood are argued to come primarily from marital cohesion and attachment to the labor market. In other words, qualitative changes in the social bond can occur during adulthood, and the social capital resulting from experiencing positive transitional life events or turning points can help build other conventional relationships that both further strengthen social bonds and simultaneously decrease criminal propensity. Sampson and Laub argue that positive adult experiences can increase an individual’s stake in conformity, as well as provide further opportunities to experience other sources of informal social control. In sum, both stability and change are often embedded in adult life events, which can modify the propensity to engage in criminal and deviant behavior (for better or for worse) despite the level of the individual’s prior criminal propensity.

Sampson and Laub have also criticized the casual operationalization of the concepts of ‘continuity’ and ‘stability.’ For example, Sampson (1998) questions a recent study of continuity in criminal careers, aptly titled *Continuity and Discontinuity in Criminal Careers* (Tracy and Kempf-Leonard 1996), for defining continuity in crime as anyone with one juvenile arrest before age 17 and at least one arrest between ages 18 and 26. Sampson (1998) finds a contradiction between the authors’ conclusion that ‘continuity was by far the most likely transition’ because individuals with an arrest as a juvenile were more likely to be arrested as adults, while the same authors simultaneously report that two-thirds of the individuals with arrests as juveniles were never arrested as adults. Sampson (1998: 1150) notes, ‘some readers might reasonably interpret this pattern as discontinuity imposed on an aggregate pattern of normative stability’ that entirely ignores the amount of within-individual change that actually occurred among two-thirds of the juvenile delinquents. Sampson and Laub (1992) have argued that this concept of ‘normative’ or ‘relative’ stability serves to reify the concept of stability such that there is a misconception about the amount of within-individual change that is taking place over time (see also Cline 1980; Loeber and Stouthamer-Loeber 1998; Sampson 2000). As Sampson (2000: 712) has recently argued, ‘despite aggregate stability, that is, there is far more heterogeneity in criminal behavior over time within-individuals…change is near ubiquitous.’

In essence, the key theme of Sampson and Laub’s theory is the ‘theoretical commitment to the idea of behavioral malleability
across the life course and the focus on the constancy of change’ (Laub and Sampson 2001: 44–5). This has important implications for the explanation of both the shape of the age–crime curve and the relationship between past and subsequent criminal activity.

**Explaining the Age–Crime Curve**

Sampson and Laub’s theory of age-graded informal social control can be used to explain the observed age–crime curve. Recall that Gottfredson and Hirschi see the general decline in crime with age as occurring for all individuals largely due to maturational processes and reductions in criminal opportunities (presumably as a result of aging). Sampson and Laub, on the other hand, see the general decline in crime with age as a result of ‘institutional forces associated with employment, marriage, prison, and former military service that affect bonds to conformity in adulthood’ (Cohen and Vila 1996: 144). Thus, the rapidly increasing offending rates in the mid- to late teen years can be viewed as a weakening of the social bond as individuals enter adolescence, a period of time when their social bond with their family/parents is strained and they are not yet experiencing the changes in the social bond that generally occur with the positive transitional events of adulthood.\(^7\) As adolescents enter adulthood and experience the informal social control from their investments in marriage, parenthood, and work, crime becomes less attractive due to risks that have accrued through the formation of attachments and commitments of adult life. Thus, the decrease in offending is not due to ‘inexorable aging of the organism’ (Gottfredson and Hirschi 1990: 141), but results from the strengthening of the social bond that often accompanies movement into the various adult roles and responsibilities (Cernkovich and Giordano 2001: 372).

Sampson and Laub (1990, 1992, 1993) are especially critical of the stability and invariance hypotheses of Gottfredson and Hirschi (1990), arguing that such hypotheses are a classic example of the ontogenetic fallacy described by Dannefer (1984). According to Dannefer (1984), the ontogenetic fallacy refers to attributing an outcome solely as a consequence of a pre-existing personal trait of the individual rather than recognizing that the outcome is actually

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the result of interactions between the social environment and the personal trait. Dannefer’s (1984: 106) argument, directed at biological and psychological models of adult development, was that ‘sociological research and theory provide the basis for understanding human development as socially organized and socially produced, not only by what happens in early life, but also by the effects of social structure, social interaction, and their effects on life chances throughout the life course’ (emphasis added). Sampson and Laub (1990: 612) reiterate that many sociological theories of crime (such as pure state dependence arguments) are problematic because they ignore the developmental consequences of the events and processes of early childhood and are excessively fixated on the adolescent years.\(^8\)

Building on the comments of Dannefer (1984), Sampson and Laub (1990: 609) argue that their model is ‘sociogenic’ because it explicitly incorporates not only individual differences, but also acknowledges how salient life events in adulthood play an important role in determining the amount of change in an individual’s criminal offending trajectory over time. Sampson and Laub challenge the invariance argument because it cuts at the core conceptual foundations of the life-course perspective on several fronts, especially the presumption that time and place matter in the lives of individuals (Benson 2002). The invariance argument posits that trajectories do not vary even as social conditions change, which is a direct attack on the principle of contextualism discussed above. As Laub and Sampson (2001: 44) note:

Life-course accounts embrace the notion that lives are often unpredictable and dynamic and that exogenous changes are ever present. Some changes in the life course result from chance or random events, while other changes stem from macrolevel exogenous shocks largely beyond the pale of individual choice (e.g. war, depression, natural disasters, revolutions, plant closings, industrial restructuring). Another important aspect of life-course criminology is a focus on situations—time-varying social contexts—that impede or facilitate criminal events.

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\(^8\) Baltes and Nesselroade (1984: 842), in response to Dannefer’s (1984) article, criticized sociological theories of adult development for overemphasizing the ‘intra-individual plasticity (modifiability)’ of individuals and for explicitly ignoring the developmental consequences of the ‘first half of life.’ Sampson and Laub’s mixed theory (allowing for both state dependence and population heterogeneity processes) can be viewed as incorporating the critical arguments of both Baltes and Nesselroade (1984) and Dannefer (1984).
Explaining the Relationship of Past to Subsequent Criminal Activity

Before moving on to the dual taxonomy theory of Moffitt, a final comment is in order concerning the implication of Sampson and Laub’s theory for the relationship of past to subsequent criminal activity. Their use of the concept of cumulative continuity is a state dependence argument, whereby past criminal activity increases the likelihood of subsequent criminal activity as a result of its weakening the individual’s social bond to society. As Sampson and Laub (1997: 144) state, ‘the state dependence component [of our theory] implies that committing a crime has a genuine behavioral influence on the probability of committing future crimes.’ Therefore their theory predicts a persistent significant effect between past criminal activity and subsequent criminal activity even after controlling for persistent (unobserved) heterogeneity.

Moffitt’s Dual Taxonomy Theory

According to the general theories of Sampson and Laub (1993) and Gottfredson and Hirschi (1990), a single theory of crime is applicable to all individuals in the population, and offenders are merely different in degree; variations in criminal offending patterns over time are explained purely by variation in the key theoretical constructs of each theory, but the same theoretical explanation applies to all individuals (Dean, Brame, and Piquero 1996; Paternoster and Brame 1997; Paternoster et al. 1997). Moffitt (1993, 1997), on the other hand, proposes a typological theory of criminal behavior based on the presumption that offenders are different in kind, with each ‘kind’ or type requiring a separate, distinct etiological explanation. In the words of Gibbons (1982: 219), the adage ‘different strokes for different folks’ explains the core assumption of any typological theory of criminal behavior. Typological theories of crime have a long-standing history in the field of criminology, but the basis for creating the distinct categories or typologies of offenders has changed from differentiating offenders on the basis of offense type (e.g. property offenders, violent offenders, and sex offenders) or skill level (e.g. professional thief versus amateur thief) to more recently differentiating offenders on the basis of broader behavioral categories and/or longitudinal
pathways/trajectories of criminal behavior across the life course (Loeber, Farrington, and Waschbusch 1998).

Moffitt’s dual taxonomy theory is an example of this recent brand of typological theoretical expositions and was posited by Moffitt as a direct response to the paradox of persistence findings. Moffitt’s theory proposes two distinct, unique groups of offenders in the population: ‘life-course-persistent’ offenders and ‘adolescent-limited’ offenders. Moffitt argues that each of these offender types follows a distinctly different longitudinal trajectory of criminal/antisocial behaviour and that the explanation for each trajectory must use variables that are proximally related to the shape of each offending trajectory. Moffitt proposes one trajectory consisting of individuals who begin offending early in life and then consistently engage in criminal/antisocial activities across adulthood, whereas the other trajectory does not begin offending until the onset of adolescence and then confines or limits their offending largely to the adolescent years (i.e. desists by early adulthood). During adolescence, both of these groups are actively offending and Moffitt argues that it is difficult to separate the two groups of offenders using only a cross-section of data; longitudinal data is absolutely necessary to separate out the two distinct groups (Moffitt 1993, 1997).

Since these offender types are argued to be distinct, the causes of their criminal activity must explain why their offending begins and then either persists (life-course-persistent) or desists (adolescent-limited), and the relevant predictors of each type must be proximally related to their predicted offending trajectory (Paternoster and Brame 1997; Paternoster et al. 1997). Like the theory of Sampson and Laub, Moffitt’s theory is a mixed theory incorporating both population heterogeneity and state dependence processes; however

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9 Patterson and colleagues (Patterson 1995; Patterson and Yoerger 1993; Patterson, DeBaryshe, and Ramsey 1989; Patterson et al. 1992) have presented a theory that similarly divides the population into two groups, labeled ‘early starter’ and ‘late starter’ groups. Similar to the distinction between the theories of Gottfredson and Hirschi (1990) and Wilson and Herrnstein (1985), both of these theories present theoretical explanations that have identical longitudinal implications about continuity and discontinuity in patterns of offending, the relationship between age and crime, and the relationship between past and future criminal activity. Paternoster and colleagues (Paternoster and Brame 1997; Paternoster et al. 1997) have noted that there is a great deal of similarity between the two theories even in terms of the theoretical exposition of each offender type, but that the etiological explanations of each are not entirely identical.
each process is hypothesized to operate on only one of the distinct offender types (Nagin and Paternoster 2000). In Moffitt’s theory, a set of dynamic, state dependence variables is responsible for the offending patterns of the adolescent-limited offenders, whereas a set of static/population heterogeneity variables is responsible for the criminal behavior of life-course-persistent offenders (Paternoster and Brame 1997).

The Life-Course-Persistent Group

The life-course-persistent group, as defined by Moffitt, accounts for roughly 4 to 9 per cent of the male population who (as the name suggests) begin offending early in life (prior to the onset of adolescence/puberty) and persistently engage in criminal/antisocial activities over the duration of the life course.10 Because of this group’s early and persistent criminal behavior, Moffitt grounds her theory of the life-course-persistent offender type (hereafter referred to as LCP) using factors present very early in life (i.e. proximal to the start of their offending).

The life-course-persistent group consists of individuals who during the early formative years of life are faced with neuropsychological deficits caused by their mother’s drug use during pregnancy, poor prenatal nutrition, complications during delivery, pre- and post-natal exposure to toxic agents (e.g. lead), and/or child abuse/neglect shortly after their birth. The neuropsychological deficits leave the ‘vulnerable and difficult infant’ with early deficits in cognitive functioning, emotional reactivity, and verbal and social skills, as well having a generally ‘difficult’ temperament that results in the child being irritable, inattentive, impulsive, aggressive, having poor judgement, and low self-control. According to Moffitt (1997: 18), ‘children with neuropsychological problems evoke a challenge to even the most resourceful, loving and patient families.’

Unfortunately, however, these difficult children are generally born into families that do not have the social, psychological, and/or

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10 Patterson’s theory (Patterson 1995; Patterson and Yoerger 1993; Patterson, DeBaryshe, and Ramsey 1989; Patterson et al. 1993) of the ‘early starter’ is more heavily grounded in the effects of poor parenting as largely responsible for producing this class. Poor or ineffective socialization clearly plays a definitive causal role in both theories. More importantly, both theories agree that by the end of childhood, this class of individuals has been formed and there is little that can be done to change their offending propensity thereafter.
financial resources or the parenting skills necessary to deal with the unruly, difficult child. Thus, Moffitt argues that these neuropsychological deficits (i.e. personal traits) then reciprocally interact with environmental variables that serve to further exacerbate the child’s already difficult personality as a result of being socialized in a criminogenic home environment (Moffitt 1997: 18). Parents with difficult children tend also to have often suffered neuropsychological deficits and difficult temperaments themselves, resulting in ineffective and counterproductive parenting. As a result, ‘the juxtaposition of a vulnerable and difficult infant with an adverse rearing context initiates risk for the LCP pattern of antisocial behavior. The ensuing process is a transactional one in which the challenge of coping with a difficult child evokes “a chain of failed parent–child encounters”’ (Moffitt 1993: 682). By the end of the childhood years, the socialization process has broken down and failed, resulting in an individual with a strong, time-stable proclivity to engage in various criminal and antisocial activities (e.g. serious violent offenses, property offenses, drug offenses, and sexual promiscuity) across the remaining duration of the life course. The interaction of a problem child with problem parents is the nexus of the LCP offender.

While the theoretical propositions related to the LCP offender are often characterized as static because of the time-invariant nature of the criminal propensity of such offenders after childhood, it is important to note that the theory is a dynamic theory in the early, formative childhood years (Paternoster et al. 1997). However, by the end of childhood, Moffitt argues that the option for future changes in the antisocial propensity of LCP individuals is limited because: (1) they fail to successfully engage in or learn pro-social alternatives to their antisocial behavior as a direct consequence of their neuropsychological deficits that make it extremely unlikely they will perform well in school or pro-social activities (i.e. self-selection), and (2) they become increasingly ensnared in the criminal/deviant lifestyle as a direct result of the consequences of engaging in such activities (cumulative continuity). Interestingly, Moffitt describes LCP individuals in terms very similar to Gottfredson and Hirschi’s description of a low self-control individual, and thus it is not surprising that Moffitt echoes sentiments similar to Gottfredson and Hirschi with respect to the poor odds of LCP individuals changing their behavior over time (Cohen and Vila 1996; Paternoster and Brame 1997; Paternoster et al. 1997).
The ineffective socialization of the LCP offenders (a consequence of the interaction of the personal traits and criminogenic environments in which they are raised) produces individuals destined to fail in virtually all aspects of their family, academic, and interpersonal lives who are likely to engage in criminal activities throughout their entire lifespan. For example, in contrast to Sampson and Laub’s proposition that marriage and job ties can decrease the offending propensity of any offender, Moffitt argues that LCP individuals will simply select both jobs and wives that serve to support rather than change their antisocial lifestyles (assuming they can relate to jobs and wives at all). In other words, these transitional life events do not function as turning points in the life courses of LCP individuals according to Moffitt. Thus, by the beginning of adolescence, the lives of LCP individuals are dominated by a static process that resulted from a dynamic process that began at (or before) birth. Their propensity to engage in criminal and antisocial behavior is therefore hypothesized to be ‘tenacious across time and in diverse circumstances’ (Moffitt 1997: 24). LCP offenders have trouble getting along with individuals in any social setting in which they find themselves, and further, they engage in impulsive, aggressive antisocial behavior in all social settings as children, adolescents, and adults. As Paternoster et al. (1997: 237) describe this group, they ‘are “bad apples” who exhibit significant deficits in early childhood socialization and rarely get back on track.’

The Adolescent-Limited Group

The second offender type in Moffitt’s dual taxonomy theory is the adolescent-limited offender group (hereafter referred to as AL). The AL offender type is the near ubiquitous offender group, and in a statistical sense, their behavior is entirely normal in modern society. Individuals in this offender group only offend for a very short period of time, and that period of time is limited to the adolescent years.\textsuperscript{11} They begin offending in early adolescence (around ages 14–15), commit offenses that are less serious in nature

\textsuperscript{11} Patterson’s theory (Patterson and Yoerger 1993; Patterson, DeBaryshe, and Ramsey 1989; Patterson et al. 1993) of the ‘late starter’ is heavily grounded in the causal effects of ‘family disruption’ variables. Family disruption variables (such as divorce) are said to decrease parental supervision, which in combination with accessible delinquent peers, provides the social setting for excursions into antisocial and delinquent activity.
compared to those committed by the LCP group, and have all but ended their criminal offending patterns by the end of adolescence. According to Moffitt (1997: 16), individuals following the AL trajectory of criminal offending ‘have no notable history of anti-social behavior and little future for such behavior in adulthood.’

Importantly, and in stark contrast to the generalized offending pattern of the LCP offender type, this group of offenders engages in ‘situation-specific’ behaviors. In some situations they may well behave in a criminal or antisocial manner, while in other situations they may show no such tendency to engage in such behaviors. According to Moffitt, their tendency to engage in criminal/antisocial behaviors is the result of dynamic variables that represent changes in local life circumstances that shift or alter the reinforcement contingencies (i.e. costs and benefits) of engaging in such behaviors. Given that their offending patterns are hypothesized to be entirely bounded by the adolescent years, the causal factors for this group must be proximal to these ages and account for both the start and stop of their offending patterns. For the AL group, Moffitt emphasizes the importance of dynamic variables that rapidly evolve over a short period of time (the years of adolescence). Moffitt’s argument is that changes in these variables lead the AL individuals into starting their offending, and changes in these variables will also be responsible for extinguishing their offending behavior.

The AL group of offenders, unlike the LCP group, is hypothesized to lack any underlying, persistent criminal propensity and to have been effectively socialized by their parents. So why do they offend at all? According to Moffitt, individuals in the AL type engage in criminal activity as a result of the strain-inducing *maturity gap* that exists between biological and social maturity.\(^\text{12}\) In all modern societies, adolescents occupy an ambiguous status between childhood and adulthood, leaving them in ‘five-to-ten year role vacuum’ (Moffitt 1997: 26). For example, adolescents want to have their own families (or at least engage in frequent sexual activity) and their own places of residence, but they are socially admonished to complete their schooling trajectories prior to beginning their families of procreation or establishing their own housing. As Moffitt (1997: 26) states, ‘they want desperately to establish intimate bonds with

\(^{12}\) Greenberg (1977, 1985) provides a similar sociological ‘strain’ explanation for the age–crime curve.
the opposite sex, to accrue material belongings, to make their own decisions, and to be regarded as consequential by adults...[they are] chronological hostages of a time warp between biological and social age.’

Eventually, the strain of the cognitive dissonance caused by the maturity gap leaves the adolescents looking for an alternative means to obtain the resource they so desire: mature status. Moffitt (1993: 686) argues that the AL group of offenders engages in a process of social mimicry in order to obtain the desired resource: ‘Social mimicry occurs when two animal species share a single niche and one of the species has cornered the market on a resource that is needed to promote fitness. In such circumstances, the “mimic” species adopts the social behavior of the more successful species in order to obtain access to the valuable resource.’

Members of the AL group view the behavior of the LCP offender groups as the embodiment of mature status. LCP offenders resist and fight the powers of authority, they smoke, drink, have sex, are frequently truant from school, often have (stolen) cars, attorneys, and offspring, and generally go about making decisions concerning when and what they will do regardless of what other people want them to do (i.e. they act independently). Thus, members of the AL group begin to mimic the behavior of the ‘more successful species’ (the LCP group) in order to obtain access to the valuable resource (mature status). In essence, the AL group emulates the behavior of the LCP group because their lifestyle resembles the experiences of adulthood rather than childhood.

It is important to note that access to delinquent peers is one of the most critical dynamic variables in the explanation of the AL offending pattern, as there must be behaviors to emulate or mimic. Essentially, Moffitt argues that first a few AL boys mimic the behaviors of the LCP individuals, more AL boys join in, and eventually a critical mass is obtained in which offending during adolescence is near ubiquitous. Moffitt argues this access to delinquent peers can be as simple as watching the LCP offenders ‘at work’ from a distance. Mimicry need not involve exchanges of affection (which LCP offenders are presumably incapable of anyway) or actual direct communication.

In sum, Moffitt’s explanation of the causes of AL offending is that engaging in criminal/antisocial behaviors allows these individuals (who are trapped in the maturity gap) to have access to
mature status and all of its resulting power, privilege, and resources. During the adolescent years, delinquent/criminal behavior holds ‘symbolic value as evidence that teens have the ability to resist adult demands and the capacity to act without adult permission’ (Moffitt 1997: 31). The independence and maturity symbolized by delinquent acts is so intrinsically rewarding to the AL individuals that it reinforces the delinquent behavior while they are trapped in the maturity gap. Thus, criminal activity is likely to be followed by subsequent criminal activity in this group because the perceived rewarding consequences of engaging in criminal activity (i.e. obtaining mature status) serve to reinforce the behavior itself.

As members of the AL group near the end of the adolescent years, however, they begin to desist from their criminal offending for two reasons: (1) eventually the perceived rewarding properties of delinquent activities are outweighed by the severe negative costs and consequences (i.e. incarceration) associated with continued engagement in such activities (i.e. the reinforcement contingencies change); and (2) the members of this group begin to obtain access to the valuable resource of mature status through more conventional routes (parenthood, employment) that they did not have access to, but desired, during the adolescent years. Thus, as the AL offenders exit the maturity gap, they begin to desist from committing criminal/delinquent acts because ‘they realize that continued participation in crime could threaten their newfound and long-awaited autonomy’ (Moffitt 1997: 35).

AL offenders, unlike their LCP counterparts, are able to effectively desist from committing crimes and delinquent acts for three primary reasons. First, unlike the LCP offenders, the AL offenders still have family, occupational, and marital opportunities that they could lose if they continue to engage in criminal activities. Second, the AL offenders are assumed to have no underlying criminal propensity, and thus they do not have the usual characteristics associated with that criminal propensity such as poor social skills, poor academic performance, the inability to forge and keep close relationships with other individuals, and low self-control. Because their antisocial and criminal activity did not begin until adolescence, they were able to avoid accumulating these negative personal characteristics and are still eligible for post-secondary educational and occupational training opportunities, have good
marital prospects, and able to obtain desirable jobs. In short, AL offenders have both good and available options for change, and have the personal characteristics that allow them to take advantage of the pro-social opportunities that become available in early adulthood.

Finally, because their antisocial and criminal activity began at a later age than the LCP offenders, the process of cumulative continuity operated for fewer years for AL offenders. This is especially true, since the AL offenders are hypothesized to engage in less serious offenses (e.g. theft, vandalism, drug and alcohol offenses) that do not carry the same severe consequences as the serious offenses in which the LCP offenders are hypothesized to be involved. Moffitt acknowledges that some AL offenders, however, will become ensnared in the damaging consequences of their criminal activities (e.g. incarceration, drug addiction) and that these offenders will have a more protracted period of desistance, even into early adulthood.

**Explaining Continuity and Discontinuity in Crime**

Moffitt began the exposition of her dual taxonomy theory with the explicit goal of accounting for both the shape of the age–crime curve and the paradox of persistence. Moffitt’s account for the paradox of persistence (e.g. adult criminal behavior is best predicted by criminal activity during the juvenile years, but most juvenile offenders do not become adult offenders) is that the aggregate mixture of the two offender types is responsible for this finding. One of the offender types, the LCP group, is responsible for the pattern of continuity, while the other offender type, the AL group, is responsible for the change or discontinuity in criminal offending patterns. Since the LCP group begin their offending at an early age and continue offending well into adulthood, ‘continuity is the hallmark of the small group of life-course-persistent antisocial persons’ (Moffitt 1993: 679). The AL group, on the other hand, begins offending during early adolescence and desists shortly thereafter, and thus discontinuity is the hallmark pattern of this group. Since one group is characterized by a pattern of continuity (LCP) and the other is characterized by a pattern of discontinuity (AL), longitudinal data should be able to empirically separate or tease out the two different groups of offenders.
**Explaining the Age–Crime Curve**

In a manner identical to her explanation of the paradox of persistence, Moffitt argues that it is the mixture of the two hypothesized offender types that makes the age–crime curve assume its observed shape. Indeed, Moffitt argues that her typology ‘addresses the shape of the curve of crime over age…by drawing attention to two trajectories concealed within the curve of crime over age’ (Moffitt 1997: 11–12). The upward surge of the curve results from the increasing participation rates of the AL group, whereas the downward surge results from the patterns of desistance of this group. Given that the members of the AL group are assumed to greatly outnumber the LCP group, their offending patterns are argued to dominate the shape of the curve, while the small number of LCP offenders are responsible for composing the childhood and adulthood offenders in the tails of the curve.

Again, the implicit assumption in this argument is that upon empirically separating the two hypothesized groups, one should find two distinct trajectories: (1) the criminal offending trajectory of the LCP group should be relatively flat because they are hypothesized to engage in criminal activities across the life course at a relatively constant rate (i.e. they do not desist); and (2) the offending trajectory of the AL group should show a strong upward surge at the beginning of the adolescent years and a similar downward surge at the end of the adolescent years (and which may extend into young adulthood as a consequence of the AL offenders who become more ensnared in the consequences of their criminal activity). To be clear, Moffitt (1993: 695) is adamant that age is not a predictor of subsequent criminal activity within the LCP group (because they engage in criminal activity at a persistent rate), whereas age is a strong predictor of future criminal activity of the AL group (because of their trajectory’s bounded dependence on the adolescent years).13

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13 According to Moffitt (1993: 695), the variables that predict membership in the LCP offender type are ‘health, gender, temperament, cognitive abilities, school achievement, personality traits, mental disorders (e.g. hyperactivity), family attachment bonds, child-rearing practices, parent and sibling deviance, and socioeconomic status, but not age’ (emphasis in original). For the AL type, Moffit hypothesizes that ‘individual differences should play little or no role in the prediction of short term adolescent offending careers. Instead the strongest predictive factors should be knowledge of peer delinquency, attitudes toward adulthood and autonomy, cultural and historical context, and age’ (emphasis in original).
Before concluding this section, it is important to re-emphasize that one of the key assumptions embodied in the dual taxonomy theory of Moffitt is that the heterogeneity of criminal offending across the life course can be decomposed into two discrete groups of offenders (and two only) with distinctly different age–crime curves. Theoretically, because we are dealing in our sample with serious repeat offenders, we should not find an AL group among our data. On the other hand, if several groups of LCP offenders were to be uncovered in a study, this would cast serious doubt on the empirical validity of any theory that advocates a ‘dual taxonomy’ approach to the explanation of criminal offending. In Chapter 3, we review the results of previous empirical investigations that present evidence on this assumption. For now, we note that these studies all shed considerable doubt on the claim that the aggregate age–crime curve can be adequately and sufficiently decomposed into only two discrete offender groups. This empirical result is very important for two primary reasons. First, Moffitt, in fact, discursively presented her theory by largely drawing on a number of cross-sectional epidemiological studies and she has not yet (to the best of our knowledge) presented a longitudinal analysis clearly showing that two groups are adequate to explain criminal offending patterns across the age distribution.

Second, and perhaps more importantly, the dual offender types described by Moffitt are frequently used in empirical applications for both interpreting results and completing analyses on the two ‘offender groups’ after dividing the sample into two groups (which are then labelled LCP and AL) solely on the basis of age of onset (see, e.g., Aguilar et al. 2000; Cernkovich and Giordano 2001; Dean, Brame, and Piquero 1996; Ge, Donnellan, and Wenk 2001; Klevens et al. 2000; Mazesolle et al. 2000; Piquero and Brezina 2001; Piquero et al. 1999; Scholte 1999). If there are more than two offender groups, analyses and interpretations based on this dual taxonomy distinction are not only of questionable theoretical import, but they also are at risk of being potentially misleading. If populations/samples cannot be neatly and discretely divided into two groups (especially arbitrarily on the basis of age of onset), then completing analyses on two groups (derived on the basis of age of onset) is likely to do nothing other than reify the dual offender categories as if they actually exist in the offender population. In Chapter 7 of this study, we present empirical results from the
application of recently developed statistical models that allow one to test this empirical assumption of the dual taxonomy theory (see also Nagin 1999).

**Explaining the Relationship of Past to Subsequent Criminal Activity**

The dual taxonomy theory of Moffitt has two implications regarding the relationship of past to subsequent criminal activity, one implication for each offender type. First, for the LCP individuals, the correlation between past and subsequent criminal acts should be largely nonexistent within this group (Paternoster and Brame 1997). These individuals, as a result of their poor socialization, engage in criminal activities persistently across time due to their time-invariant propensity to engage in such acts. Thus, there is a natural correlation between past and subsequent criminal acts, but it is spuriously due to their underlying propensity that predisposes them to consistently engage in these behavioral acts. For the AL individuals, there is an opposite expectation that there will be a strong causal, state dependence effect resulting from both the consequences (i.e. ensnarement into the lifestyle) and benefits (i.e. the positive reinforcement contingencies of achieving mature status) of engaging in criminal activity. Thus, the dynamic reinforcement contingencies and possible ensnarement consequences of criminal behavior are argued to increase the probability that such behavioral acts will be repeated again in the future. Paternoster and Brame (1997) point out that Moffitt allows for a possible small state dependence effect for the LCP group due to the potential continuing ensnarement (cumulative continuity) processes during adolescence. They also note, however, that most of the correlation should be almost entirely due to the time-invariant high level of criminal propensity in this group and that any observed state dependence effect for the LCP group should pale in comparison to the observed effect in the AL group.

**Theoretical Summary**

In this section we provide a brief summary of the main theoretical points of the discussions above. In a nutshell, the theoretical controversy between these three theories boils down to a single question (Cohen and Vila 1996): how stable or inflexible are individual
differences in the propensity to engage in criminal/antisocial activities across the life course? Because each theory envisions the stability (or instability) of criminal propensity very differently, each makes different predictions regarding both the relationship between age and crime and the relationship between past and subsequent criminal acts, the questions central to this study.

To Gottfredson and Hirschi, between-individual variation in criminal propensity (i.e. amount of self-control) is sufficient to explain both the relationship between age and crime and the relationship between past and subsequent criminal activity. All offenders decrease their offending over time, and the between-individual differences that exist at any one point in time (around age 8) continue to exist at all other points in time. The shape of the age–crime curve is hypothesized to be robust from person to person (i.e. the shape is invariant). According to Gottfredson and Hirschi (1990), the propensity to engage in criminal activities is stable over time; change is only ‘apparent.’ The age effect (which applies to all offenders equally) cannot be explained by ‘impotent’ sociological variables such as marriage, parenthood, jobs, or education. To be succinct, their viewpoint is that desistance ‘just happens.’ Further, controlling for stable criminal propensity (which naturally induces a correlation between offending at any two points in time), the correlation between past and subsequent criminal acts will disappear, as the correlation is spuriously due to population heterogeneity in the distribution of criminal propensity.

To Sampson and Laub, the relationship between age and crime is due to the varying levels of informal social control across the life course. Adolescence is a period of time when these forces are the weakest (the social bond undergoes strain and is weakened during this segment of the life course), but in late adolescence and early adulthood the bond is re-established and the increasing forces of social control that come with the salient life events of adulthood serve to reduce criminal activity throughout adulthood. It is important to note that Sampson and Laub foresee change as a possibility for all offenders, whether of high or low criminal propensity. The opportunity for change is available for all individuals even though some individuals may not experience change at all, and it may come at later ages compared to others. Sampson and Laub’s theory posits that there will be a causal relationship between past and subsequent criminal activity, even after controlling for
persistent differences in the propensity to offend, because criminal activity serves to reduce opportunities for pro-social activities and makes continuing in a lifestyle of crime more likely.

Moffitt’s dual taxonomy theory predicts separate patterns of both continuity and change, but each is applicable to only one of the offender types. Change is open to and required from the adolescent-limited offender group, whereas continuity defines the life-course-persistent offenders. After all, they would not be labeled as ‘life-course-persistent’ if they were expected to desist from criminal activities during their life course. Moffitt also proposes that it is the consequence of mixing the dual offender categories together in the aggregate age–crime curve that is responsible for the observed shape of the aggregate age–crime curve. If one were to separate out the two hypothetical groups, one should find two types (and two types only) with radically different offending trajectories. One trajectory should have relatively stable crime rates across time, while the other group’s trajectory should have a rapid surge in early adolescence and a similar decline at the end of adolescence. With respect to the relationship between past and subsequent criminal activity, Moffitt implies that the effect should be nonexistent in the LCP group (their offending patterns are largely driven by a failed socialization process during childhood), whereas there should be a strong, causal state dependence effect in the AL group (whose reduced offending patterns are largely the result of the ‘mature status’ benefits of criminal activity).

To make the implications of each theory for the relationship between age and crime more concrete, consider the graphical representations of each theory’s age–crime explanation as displayed in Figures 2.1–2.3. The ‘invariance argument’ of Gottfredson and Hirschi is presented in Figure 2.1, by three longitudinal offending trajectories—one for high-, medium-, and low-rate offenders—using hypothetical data generated to represent their argument. Each one of the curves follows the inverted-J pattern, and, further, the relative differences between each of the curves are proportional across the age span. The offending rate for the medium-rate group is always one-half the offending rate of the high-rate group, whereas the low-rate group’s offending rate is one-tenth of the high-rate group’s rate. What causes the differences between the groups is varying levels of self-control, but the actual shape of
Figure 2.1. Graphical representation of the Gottfredson and Hirschi argument concerning the age–crime relationship, by offender type.

Figure 2.2. Graphical representation of the Sampson and Laub argument concerning the age–crime relationship, by offender type.

The curves is identical. The low self-control (high-rate) offenders will start their offending earlier, indefinitely commit offenses at higher rates than the two other groups, and will persist in offending further into adulthood. Thus, varying ages of onset and varying ages at termination from criminal activity merely reflect differences in the distribution of self-control across the population.
Figure 2.2 portrays the pattern suggested by Sampson and Laub, only instead of three trajectories as in Figure 2.1, this figure contains six longitudinal trajectories. All three trajectories that appear in Figure 2.1 also appear in Figure 2.2, only now three trajectories that do not display the ‘decline in crime’ with age pattern (i.e. desistance) are also included. For illustrative purposes, consider just the two high-rate trajectories. The trajectory that displays a pattern of desistance (‘high rate, desist’) would correspond to a group of high-rate offenders that experienced the salient life events or ‘turning points’ (e.g. cohesive marriages and stable jobs) during their adulthood. This group of offenders would be theorized to have come under increasing informal social control during adulthood as a consequence of the transitions, and thus their trajectory exhibits a downward pattern during this time (as a consequence of their growing social capital ‘investment’). The other group, however, would be thought to have missed out on experiencing the key transitional events of adulthood (for a variety of reasons, including just pure bad luck), and thus they have not experienced the benefits of increasing informal social control during this time; their trajectory simply maintains itself. Two final points concerning Figure 2.2 are in order. First, the trajectories in this figure were generated to explicitly illustrate Sampson and Laub’s notion that change is possible for any offender type, regardless of their prior offending behavior. Even high-rate offenders can
experience change. Second, Sampson and Laub posit that adulthood is the precise period of time when pre-existing differences become less important than whether they experience the salient life events that lead to increasing levels of informal social control. Some offenders will experience the sources of informal social control (i.e. have cohesive marriages and stable jobs), but others will not experience such benefits (in terms of reduced crime) of those sources of social control. In other words, Sampson and Laub would expect significant amounts of change during adulthood that cannot be simply explained away as the mere unfolding of pre-existing differences carrying over from the childhood years (Sampson 2000).

Finally, Figure 2.3 graphically represents Moffitt’s argument with respect to the age–crime relationship. The life-course-persistent group maintains a persistent offending rate across time, whereas the adolescent-limited group confine their high rates of offending to the adolescent years. It is important to note that, as argued by Moffitt, the two groups are indistinguishable during the adolescent years, and any cross-sectional data gathered during this time period will not be able to separate out the two groups (nor their unique etiological explanation of crime). Similar to the implications of the Sampson and Laub explanation, longitudinal data is viewed as absolutely critical for understanding criminal behavior.

Having now completed the presentation of the theoretical framework that informs this study, attention in the next chapter is focused on reviewing the previous research on the age–crime and continuity–discontinuity issues.